Appendix E
Natural Resources
(Part 1)

Appendix E-1
Public Interest Review

A. INTRODUCTION

As discussed in 33 Code of Federal Regulation (CFR) Part 320.4, all applications submitted to the US Army Corps of Engineers (USACE) for Department of Army permits must undergo a public interest review. The decision whether to issue a permit is based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest. 33 CFR 320.4(a)(1) identifies the 21 public interest factors (see **Tables 1** and **2**) that must be reviewed by the USACE in determining whether to issue a permit. The following sections present a review of the Breakwaters Project without the Shoreline Project (Alternative 3) and the Shoreline Project without the Breakwaters Project (Alternative 4) with respect to the 21 public interest factors, considering benefits and detriments that may result from each alternative and reasonably foreseeable cumulative adverse effects that may occur. The review of the public interest factors for the preferred alternative, Alternative 2, comprising the Breakwaters Project and the Shoreline Project together as a layered shoreline resiliency strategy is represented by the individual reviews of Alternatives 3 and 4.

B. PUBLIC INTEREST FACTORS: BREAKWATERS PROJECT

The following Breakwaters Project elements require a permit from the USACE under Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act:

- Installation of breakwater segments occupying 11.4 acres in Raritan Bay comprising a total of 117,880 cubic yards (CY) of rock and bio-enhancing concrete placed below mean high water spring (MHWS); and
- Placement of 12,341 CY of clean sand over 2.7 acres below MHWS along 806 linear feet of the shoreline of Conference House Park between Manhattan Street and Loretto Street to be used for a one-time shoreline restoration.

Table 1
Public Interest Factors: Breakwaters Project (Alternative 3)

Public Interest Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	N/A
1. Conservation				X		
2. Economics					X	
3. Aesthetics				X		
4. General Environmental Concerns			X			
5. Wetlands						X
6. Historic Properties	X					
7. Fish and Wildlife Values			X			
8. Flood Hazards					X	
9. Floodplain Values				X		
10. Land Use	X					
11. Navigation				X		
12. Shoreline Erosion and Accretion					X	
13. Recreation			X			
14. Water Supply and Conservation						X
15. Water Quality				X		
16. Energy Needs				X		
17. Safety				X		
18. Food and Fiber Production						X
19. Mineral Needs						X
20. Consideration of Property Ownership						X
21. Needs and Welfare of the People					X	

CONSERVATION

Negligible—No conservation sites are present in the project area. The activities of the Breakwaters Project will modify the natural resource characteristics of the project area. The breakwaters will result in the conversion of 11.4 acres of shallow sand/gravel habitat to complex rocky structure in Raritan Bay. This will include the placement of 117,880 cubic yards of rock and ecologically enhanced concrete below spring mean high water (MHWS) in the Bay, which will provide complex habitat for encrusting organisms and fish. The habitat conversion and establishment of a benthic community will provide foraging opportunities for small forage species and structure-oriented species, which will in turn provide foraging opportunities for higher trophic-level predators. This conversion of sandy substrate to hard substrate will represent a small percentage of the sandy substrate within Raritan Bay. Sand and gravel substrates are the most common substrate in the approximately 33,500 acres of nearshore habitat in the Raritan Bay-Sandy Hook Bay complex[1] and the 11.4 acres impacted by construction of the breakwaters will constitute just 0.03 percent of sandy substrate within this complex, and 2 percent of nearshore habitat present

[1] United States Fish and Wildlife Service (USFWS). 1997. Significant habitat complexes of the New York Bight watershed, Raritan Bay and Sandy Hook Bay Complex. U.S. Fish and Wildlife Service, Southern New England—New York Bight Coastal Ecosystems Program, Charlestown, RI. Available from: http://nctc.fws.gov/resources/knowledge-resources/pubs5/web_link/text/rb_form.htm#Raritan Bay—Sandy Hook Bay Complex.

within the approximately 610-acre study area established within Raritan Bay (the open water area bounded to the north by the shoreline of Staten Island and to the south by the navigation channel). Sandy substrate will continue to be available in the waters surrounding the breakwaters, and will continue to provide foraging opportunities for species that occur over sand. One-time shoreline restoration will place 12,341 cubic yards of sand below MHWS over a 2.7-acre area of the beach. This will not adversely impact the availability of sandy bottom habitat for organisms in the area. Infaunal organisms will likely re-adjust to the substrate depth as sand is added in layers. Once the shoreline restoration is complete, additional benthic organisms will recolonize the area, and horseshoe crabs may use the wider beach for spawning. Since the project will enhance aquatic habitat and reduce the rates of beach erosion, the adverse effects of the Breakwaters Project on conservation will be minimal.

Cumulative Effects—The Breakwaters Project, when considered with the Hudson-Raritan Estuary Comprehensive Restoration Plan (HRE-CRP) projects identified in the Lower Bay that are closest to the Breakwaters Project that would provide direct or indirect benefits to the overall aquatic resources of the area (Mt. Loretto Unique Area, Butler Manor Woods, Paw-paw Hybrid Oaks Coastal Woods, Lemon Creek, Crookes Point, Great Kills Gateway NRA and Great Kills Park in Staten Island, and Treasure Lake, Whale Creek/Long Neck Creek, and Marquis Creek in New Jersey), will have the potential to result in beneficial effects to aquatic resources of Raritan Bay. HRE-CRP projects at these sites typically include one or more of the following activities: coastal and upland land acquisition and protection, coastal habitat restoration, restoration of tidal connections of tributaries, restoration and protection of riparian and upland areas around the bay's tributaries, debris removal, and/or contaminated sediment removal. The HRE-CRP also recommends oyster reef restoration off of the Great Kills Park peninsula's shoreline in Staten Island, a few miles northeast from the project area for the Living Shorelines project area. The City-wide initiatives, including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC will also result in positive cumulative impacts to aquatic resources with the Breakwaters Project. Focal areas of these plans include expanded usage of green infrastructure throughout the city, reduced pollution from stormwater runoff, improved flushing of constrained water bodies, and optimization of existing sewer systems through improvements to drainage, interceptors, and tide gates.

The Breakwaters Project will create complex reef-like habitat that will help to establish communities of macroalgae and encrusting organisms, as well as providing refugia and foraging habitat for macroinvertebrates and juvenile fish in an area of Raritan Bay where such habitat is not currently available. This is consistent with the goal of the HRE-CRP to enhance aquatic habitat across 12 Target Ecosystem Characteristics and the actions listed above. The breakwaters will offer sheltering and/or foraging habitat for HRE-CRP target species, including black sea bass, striped bass, American eel, and blue crab, and the one-time shoreline restoration could enhance spawning habitat for horseshoe crab. Stabilization of the shoreline and reduction or reversal of erosion that will result from the Proposed Actions will be consistent with efforts to restore and protect coastal habitats in Raritan Bay under the HRE-CRP actions (e.g., wetland restoration, coastal forest protection, marsh improvements).

ECONOMICS

Beneficial—The construction and maintenance of the Breakwaters Project will have positive impacts on the local economy. Direct employment from construction of the Breakwaters Project is estimated at 183 person-years of employment. Assuming a two-year construction schedule for

this alternative, the 183 person-years estimate equates to approximately 92 people working full-time over that two-year period.

Cumulative Effect—City-wide actions, and the goals of the HRE-CRP to increase recreational, educational and public access while also increasing the resiliency of the shoreline, will complement and be consistent with the Breakwaters Project and will have the potential to result in positive cumulative impacts to socioeconomic conditions.

AESTHETICS

Negligible—The components of the Breakwaters Project will not result in significant adverse effects on aesthetics or visual resources. Because of their distance from shore and the low, linear scale of the breakwaters and the common color and lack of contrast of the breakwaters to land forms in the distance, the visibility of the breakwaters will be similar to existing views of land masses visible from the shoreline toward Raritan Bay. Changes to existing aesthetics will be minimal and will not impair the character or quality of the Tottenville shoreline, or the public's enjoyment and/or appreciation of Raritan Bay.

Cumulative Effects—The Breakwaters Project will not have the potential to result in cumulative impacts when considered with HRE-CRP projects in the Lower Bay, City-wide initiatives, including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC, and New York City Parks and Recreation (NYC Parks) projects within Conference House Park such as invasive plant removal, and maritime forest restoration.

GENERAL ENVIRONMENTAL CONCERNS

Neutral (mitigated)—During construction, the Breakwaters Project will have temporary effects on general environmental concerns, such as water quality, air quality, and noise pollution. These effects will be minor. Sediment resuspension during placement of the breakwater materials, movement of construction barges and vessels, and one-time shoreline restoration will have the potential to result in temporary impacts to water quality. Increases in suspended sediment and localized turbidity will be minor, and will dissipate upon cessation of sediment disturbing activities. Measures would be taken to minimize air pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. These measures would include dust suppression measures, idling restrictions, and the use of ultra-low sulfur diesel (ULSD) fuel and best available technologies (BAT) for equipment at the time of construction. With these measures in place, construction activities associated with the Breakwaters Project would not result in any significant adverse local (microscale) and (mesoscale) air quality impacts. Noise level increments related to in-water equipment activity would be perceived as imperceptible to barely perceptible when boats are at least 100 feet from shore to readily noticeable when boats are as close as possible to shore. Given the relative infrequency of the barge operations and the magnitude of the associated noise increment, the noise levels predicted to be generated by in-water transportation associated with the Breakwaters Project would not be expected to result in significant adverse impacts at any nearby noise receptors.

The breakwater segments have been designed to minimize changes to tidal flushing and water residence time in order to avoid adverse impacts to water quality of Raritan Bay. This has been confirmed through simulations using the Delft 3-D software. As such, fines will continue to be flushed from the area between the breakwaters and shoreline during normal (and spring) tide events.

The breakwaters will result in the conversion of 11.4 acres of shallow sand/gravel habitat to complex rocky structure in Raritan Bay. This will include the placement of 117,880 cubic yards of rock and ecologically enhanced concrete below spring mean high water (MHWS) in the Bay, which will provide complex habitat for encrusting organisms and fish. The habitat conversion and establishment of a benthic community will provide foraging opportunities for small forage species and structure-oriented species, which will in turn provide foraging opportunities for higher trophic-level predators. This conversion of sandy substrate to hard substrate will represent a small percentage of the sandy substrate within Raritan Bay. The placement of the breakwaters in Raritan Bay will result in a loss of approximately 3.6 acres of Waters of the U.S. and associated habitat that will no longer be available to aquatic organisms due to the portion of the breakwater structures above MHW. This loss will result in adverse impacts to aquatic resources and will be mitigated pursuant to the Clean Water Act through measures that may include available credits from an approved mitigation bank, and restoration/enhancement of Waters of the U.S. within the Raritan Bay watershed in New York. One-time shoreline restoration will place 12,341 cubic yards of sand below MHWS over a 2.7-acre area of the beach. This will not adversely impact the availability of sandy bottom habitat for organisms in the area. Infaunal organisms will likely re-adjust to the substrate depth as sand is added in layers. Once the shoreline restoration is complete, additional benthic organisms will recolonize the area, and horseshoe crabs may use the wider beach for spawning.

Cumulative Effects—The Breakwaters Project will not have the potential to result in cumulative adverse impacts water quality, air quality, and noise pollution when considered with HRE-CRP projects in the Lower Bay, City-wide initiatives, including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC, and New York City Parks and Recreation (NYC Parks) projects within Conference House Park such as invasive plant removal, and maritime forest restoration.

HISTORIC PROPERTIES

None—The Breakwaters Area of Potential Effect (APE) is an approximately 230-acre area within the Raritan Bay where the breakwaters will be installed on the bay floor. The Shoreline APE includes the area proposed for the Shoreline Project elements as well as an area of shoreline restoration (as part of the Breakwaters Project). As described above, the Breakwaters Project elements that require a permit from the USACE under Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act include: installation of the breakwater segments occupying 11.4 acres in Raritan Bay (within the Breakwaters APE), and the placement of 12,341 CY of clean sand over 2.7 acres below MHWS (within the Shoreline APE).

As part of the Phase 1A study conducted for the project, the Breakwaters APE was determined to have no sensitivity for archaeological resources dating to the historic period and low to moderate sensitivity for precontact archaeological resources at depths between 25 and 35 feet below the bay floor. As such, the proposed project will not result in impacts to archaeologically sensitive depths. Also, since the shoreline restoration element of the Breakwaters Project will involve only the deposition of sand with no in-ground disturbance, it is expected that this component of the project will serve to protect archaeological resources from continued erosion. Therefore, the shoreline restoration component will have no adverse effect on archaeological resources within this portion of the project site.

No architectural resources are located in the Breakwaters APE and there are no known or potential architectural resources within the Shoreline APE.

FISH AND WILDLIFE VALUES

Neutral (mitigated)—The Breakwaters Project will result in the permanent loss of approximately 11.4 acres of benthic habitat and associated benthic invertebrates within the footprint of the breakwaters, and the conversion from soft-bottom to high-relief hard structured habitat in this footprint. The reef-like breakwater structures would occupy approximately 117,880 CY of water column within Raritan Bay below MHWS (115,990 CY below MHW) which will constitute an equivalent conversion of open water habitat to hard structure (a habitat that was historically present but currently scarce in Raritan Bay). This conversion of habitat will not result in significant adverse impacts to aquatic species. The breakwater structures will provide reef-like habitat in the subtidal and intertidal zones, on which encrusting organisms and macroalgae are expected to establish, especially with the incorporation of bio-enhancing concrete units. The habitat conversion and establishment of a benthic community will provide foraging opportunities for small forage species and structure-oriented species, which will in turn provide foraging opportunities for higher trophic-level predators. This conversion of sandy substrate to hard substrate will represent a small percentage of the sandy substrate within Raritan Bay. Sand and gravel substrates are the most common substrate in the approximately 33,500 acres of nearshore habitat in the Raritan Bay-Sandy Hook Bay complex[2] and the 11.4 acres impacted by construction of the breakwaters will constitute just 0.03 percent of sandy substrate within this complex, and 2 percent of nearshore habitat present within the approximately 610-acre study area established within Raritan Bay (the open water area bounded to the north by the shoreline of Staten Island and to the south by the navigation channel). Sandy substrate will continue to be available in the waters surrounding the breakwaters, and will continue to provide foraging opportunities for species that occur over sand. The one-time shoreline restoration will not result in significant adverse effect to infaunal organisms within the 2.7 acres below MHWS, as they will re-adjust to the substrate depth as sand is added in layers. Additional benthic organisms will recolonize the area once sand placement is complete. The increased shoreline stability and greater beach widths provided by the Breakwaters Project, including the one-time shoreline restoration, will likely benefit spawning horseshoe crabs and other organisms that use beach habitat.

While the Breakwaters Project will result in the conversion of sand/gravel substrate to high-relief rocky structure and the loss of water column below MHW, this impact will be mitigated through the habitat enhancements provided for aquatic organisms. The varying sizes and textures of rocks and bio-enhancing concrete will provide crevices and void space for encrusting organisms and fish. This habitat conversion will be expected to provide long term benefits in the form of increased ecosystem productivity and diversity. Porous rock structures have been shown to provide effective habitat for many species, especially juvenile fish. The newly created habitat will be designed to attract habitat forming and augmenting invertebrates and algae that would attract both forage and predator species and further facilitate development of a rich and diverse aquatic community. The Breakwaters Project will result in a loss of approximately 3.6 acres of Waters of the U.S. and associated habitat that will no longer be available to aquatic organisms due to the portion of the breakwater structures above MHW. This loss will result in adverse impacts to aquatic resources and will be mitigated pursuant to the Clean Water Act through measures that may include available

[2] United States Fish and Wildlife Service (USFWS). 1997. Significant habitat complexes of the New York Bight watershed, Raritan Bay and Sandy Hook Bay Complex. U.S. Fish and Wildlife Service, Southern New England—New York Bight Coastal Ecosystems Program, Charlestown, RI. Available from: http://nctc.fws.gov/resources/knowledge-resources/pubs5/web_link/text/rb_form.htm#Raritan Bay—Sandy Hook Bay Complex.

credits from an approved mitigation bank, and restoration/enhancement of Waters of the U.S. within the Raritan Bay watershed in New York.

Cumulative Effects—The Breakwaters Project, when considered with the HRE-CRP projects in the Lower Bay, will have the potential to result in beneficial effects to aquatic resources of Raritan Bay. The Breakwaters Project will create complex reef-like habitat that will help to establish communities of macroalgae and encrusting organisms, as well as providing refugia and foraging habitat for macroinvertebrates and juvenile fish in an area of Raritan Bay where such habitat is not currently available. This is consistent with the goal of the HRE-CRP to enhance aquatic habitat across 12 Target Ecosystem Characteristics and the actions listed above. The breakwaters will offer sheltering and/or foraging habitat for HRE-CRP target species, including black sea bass, striped bass, American eel, blue crab, and eastern oyster, and the one-time shoreline restoration could enhance spawning habitat for horseshoe crab. The complex structured habitat would lead to improved survival for juvenile fish, which may lead to a greater number of certain species occurring in the study area, including those currently targeted by recreational fishing in Raritan Bay (i.e., summer flounder, striped bass). The active fisheries management plans for these species would continue to protect their populations through sustainable harvest regulations.

FLOOD HAZARDS

Beneficial—The Breakwaters Project will improve the resilience of the project area to coastal erosion and the impact of waves during severe coastal storm events by reducing wave height and energy where buildings and infrastructure are vulnerable to storm wave action. Considering up to 30 inches of sea level rise, the breakwaters were designed to reduce wave heights 3 feet or less in up to a 100-year storm event, thereby reducing wave energy at the shoreline and minimizing risk to onshore assets previously exposed to wave action. The one-time shoreline restoration will limit the impacts of shoreline erosion and widen the beach in its narrowest sections, providing additional protection from waves associated with flooding.

Cumulative Effects—City-wide actions and the goals of the HRE-CRP to increase the resiliency of the shoreline, will complement and be consistent with the Breakwaters Project. The measures proposed by the USACE as part of the South Shore of Staten Island Coastal Storm Risk Management project risk reduction USACE are located far north of the study area between Fort Wadsworth to Oakwood Beach and would not have the potential to result in cumulative impacts to floodplains.

FLOODPLAIN VALUES

Negligible—The shoreline restoration area is within the 100-year floodplain. The placement of sand for the shoreline restoration will not adversely affect flood elevations or increase risks due to flooding in areas adjacent to the project area.

Cumulative Effects—The Breakwaters Project will not have the potential to result in cumulative impacts when considered with the USACE South Shore of Staten Island Coastal Storm Risk Management project. The measures proposed by the USACE South Shore Project are located far north of the project area (between Fort Wadsworth to Oakwood Beach) and will not have the potential to result in cumulative impacts to the floodplain.

LAND USE

None—The breakwaters will be located in underwater lands owned by the State of New York, and the shoreline restoration area will be located on underwater lands owned by the City of the New

York and are consistent with existing land uses. Conference House Park will continue to operate as a non-swimming beach and recreational boating and fishing will continue within Raritan Bay.

NAVIGATION

Negligible— The vast majority of the breakwater structures would be located more than 1,700 feet from the Federal Navigation Channel with the closest breakwater segment located more than 700 feet from the channel and will be spaced far enough apart so as not to interfere with the movement of shallow draft vessels outside the Channel. It is anticipated that the U.S. Coast Guard will require navigation aids at the breakwaters to provide visibility to mariners as is typically done for these types of structures. The type and location of the navigation aids will be provided in accordance with federal regulations for the structure's classification. The Breakwaters Project will not interfere with navigation for commercial shipping in the Federal Navigation Channel, and will have minimal effects on the movement of smaller boats through the Bay.

Cumulative Effects—For the reasons presented above the Breakwaters Project will have minimal effects on navigation and will not have the potential to result in cumulative navigation impacts.

SHORELINE EROSION AND ACCRETION

Beneficial—The Breakwaters Project will have direct effects on shoreline erosion and accretion processes, since one of the objectives of the project is to reduce erosion and promote accretion along the Tottenville shoreline. The breakwaters were designed to promote shoreline growth in places where the beach is most narrow, as well as to reverse the pattern of historic land loss, promoting the stabilization or accretion of beach in areas of the greatest observed historic land loss. The one-time placement of sand between Manhattan and Loretto Streets—the shoreline restoration area— will augment the accretion potential that can be provided by the breakwaters by adding sediment to the overall system and particularly contributing to one of the narrowest and most erosion-prone areas of the beach. Shoreline change modeling of the breakwater design indicates that the breakwaters will generate a net growth in beach over a period of time. Down-drift erosion issues are not anticipated, as the direction of longshore transport is generally east to west and there is no beach southwest of the project area. The wave attenuation provided by the breakwaters on a day-to-day basis will help to maintain beach conditions by reducing long term beach erosion rates, reducing exposure of shoreline structures to erosion, and encouraging accretion in priority beach zones.

Cumulative Effects— The Breakwaters Project will not have the potential to result in cumulative impacts when considered with the USACE South Shore of Staten Island Coastal Storm Risk Management project. The measures proposed by the USACE South Shore Project are located far north of the project area (between Fort Wadsworth to Oakwood Beach) and will not have the potential to result in cumulative impacts to shoreline erosion and accretion.

RECREATION

Neutral (mitigated)—The breakwater segments will be spaced far enough apart to minimize interference with recreational boating in Raritan Bay. Adverse effects to recreational boating will be mitigated through public safety measures that will include U.S. Coast Guard required navigation aids to provide visibility to mariners as is typically done for these structure types. The type and location of the navigation aids will be provided in accordance with federal regulations for the structure's classification. NOAA's navigation charts are regularly updated to reflect local conditions, and Chart number 12332 (Raritan River Bay to New Brunswick) will likely be updated to include the breakwaters. Additionally, should seals be attracted to the proposed breakwaters,

resulting in the potential for interaction between seals and recreational boaters or fishermen, signage indicating that interaction with seals is prohibited will be installed in consultation with State and Federal agencies, if deemed necessary.

The breakwaters themselves will provide complex rocky habitat that is expected to provide forage for recreational fish species (e.g., striped bass, bluefish, summer flounder, weakfish), thereby enhancing recreational fishing opportunities in the Bay. The shoreline restoration area will result in a wider beach that will be more accessible to visitors to Conference House Park. This one-time placement of sand will augment the accretion potential that will be provided by the breakwaters elements and add sediment to the overall system, generally enhancing overall beach growth potential within Conference House Park, benefiting recreational opportunities provided to Park visitors along the Raritan Bay shoreline.

Cumulative Effects—The Breakwaters Project, when considered with the HRE-CRP projects identified in the Lower Bay which will promote public access, will result in beneficial cumulative effects to recreation.

WATER QUALITY

Negligible—Construction of the Breakwaters Project will have the potential to result in temporary impacts to water quality resulting from sediment resuspension during placement of the breakwater materials, movement of construction barges and vessels, and one-time shoreline restoration. Increases in suspended sediment will be minor, temporary, and localized, and will dissipate upon cessation of sediment disturbing activities. To construct the breakwaters, geotextile fabric will be installed on the bottom and the rocks will be placed on top in a manner that limits sediment resuspension. Rocks used for armoring and to construct the segments will be made of clean material, minimizing the potential for release of suspended material into the water column. Construction vessels will maintain at least two feet of clearance from the Bottom of the Bay during all tide phases.

The Breakwaters Project will have negligible, if any, impact on water circulation and flushing and thus water quality within the study area. The use of multiple shorter structures with sufficient spacing between them, rather than one continuous breakwater, along with their placement at least 200 feet from the shoreline, will allow for continuous water exchange through the study area. There will be little to no impact on flushing times in the project area, based on water circulation modeling. The breakwaters are also designed to minimize scour effects and related sediment resuspension. While some scour may occur around the edges of the breakwaters, the associated resuspension of sediment will be localized and will not result in a significant adverse impact to water quality.

Cumulative Effects—The Breakwaters Project will not have the potential to result in adverse cumulative effects to water quality of Raritan Bay. The HRE-CRP projects identified in the Lower Bay and City-wide initiatives including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC which include expanded usage of green infrastructure throughout the city, reduced pollution from stormwater runoff, improved flushing of constrained water bodies, and optimization of existing sewer systems through improvements to drainage, interceptors, and tide gates will benefit water quality by improving the quality of stormwater runoff being discharged to the bay.

ENERGY NEEDS

Negligible—During construction of the Breakwaters Project, there will be increases in energy consumption (i.e., electricity, petroleum products) due to the operation of construction vessels and equipment. Increases in energy consumption will be temporary.

Cumulative Effects—The Breakwaters Project will not have the potential to result in adverse cumulative impacts to energy needs.

SAFETY

Negligible—Safety measures associated with the Breakwaters Project will include U.S. Coast Guard navigational markings and signage for the public to minimize vessel safety issues. Similar to behavior observed in other areas of Staten Island, seals may be attracted to the breakwaters. Signage, if deemed necessary, indicating that interaction with seals is prohibited will be installed in consultation with State and Federal Agencies. Conference House Park does not have a swimming beach. In accordance with NYC Parks rules and regulations, kayakers and canoers accessing Raritan Bay from Conference House Park are prohibited from swimming and scuba diving in Raritan Bay. The Breakwaters Project is not expected to result adverse impacts to human health and public safety.

Cumulative Effects— The Breakwaters Project, when considered with the HRE-CRP projects identified in the Lower Bay will not result in cumulative effects with respect to safety.

NEEDS AND WELFARE OF THE PEOPLE

Beneficial—Staten Island is exposed to extreme wave action and coastal flooding during storm events due to its location at the mouth of the New York Bight, which funnels storm-driven waves into New York Harbor, Raritan Bay, and the shoreline of Staten Island. It is also vulnerable to both event-based and gradual coastal erosion and land loss. The Breakwaters Project will attenuate wave energy, address event-based and long-term shoreline erosion, preserve the beach width, and reduce the risks of coastal flooding, while also enhancing aquatic habitat in Raritan Bay. Through these functions, it will protect critical infrastructure and facilities, residences, businesses, and ecological resources during hurricanes and other severe weather storm events.

Cumulative Effects—The Breakwaters Project, considered with the USACE South Shore of Staten Island Coastal Storm Risk management project, will result in improved resilience of the south shore of Staten Island.

C. PUBLIC INTEREST FACTORS: SHORELINE PROJECT

The following Shoreline Project elements require a permit from the USACE under Section 404 of the Clean Water Act:

- Placement of 1,176 CY of clean sand, rock, concrete, and path material within 0.14 acres of a 0.8-acre delineated tidal wetland for the installation of a portion of an eco-revetment between Brighton Street and Manhattan Street and a portion of the hybrid dune/revetment near Manhattan Street, and removal of an approximately 0.01-acre sand bridge and culvert (approximately 90 CY below MHWS) comprising unpermitted fill resulting in a net change in fill within the wetland of 0.13 acres and 1,176 CY below MHWS; and
- Within the segment of the proposed raised edge near Tricia Way, excavation of unpermitted riprap and soil fill material with a 6,480-square-foot area below MHWS resulting in a net reduction in fill of approximately 430 CY below MHWS.

Table 2
Public Interest Factors: Shoreline Project (Alternative 4)

Public Interest Factor	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	N/A
1. Conservation				X		
2. Economics					X	
3. Aesthetics				X		
4. General Environmental Concerns				X		
5. Wetlands			X			
6. Historic Properties			X			
7. Fish and Wildlife Values				X		
8. Flood Hazards					X	
9. Floodplain Values				X		
10. Land Use	X					
11. Navigation						X
12. Shoreline Erosion and Accretion					X	
13. Recreation					X	
14. Water Supply and Conservation						X
15. Water Quality				X		
16. Energy Needs				X		
17. Safety	X					
18. Food and Fiber Production						X
19. Mineral Needs						X
20. Consideration of Property Ownership						X
21. Needs and Welfare of the People					X	

CONSERVATION

Negligible—There are no conservation sites present in the project area. The Shoreline Project will result in permanent impacts to 0.14 acres of a 0.8-acre delineated wetland, which is primarily dominated by the invasive common reed. Removal of an existing sand bridge and culvert comprising 0.01 acres of unpermitted fill will result in a net change in fill within the wetland of 0.13 acres. The removal of the unpermitted fill will remove an existing impediment to tidal exchange within the eastern portion of this wetland. Enhancement of the tidal wetland plant community resulting from the increased tidal exchange, removal of common reed, and planting of native salt marsh vegetation will enhance the wetland and the habitat it provides to wildlife.

Cumulative Effects—The Shoreline Project, when considered with the HRE-CRP projects in the Lower Bay, City-wide initiatives, including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC, and NYC Parks projects within Conference House Park such as invasive plant removal and maritime forest restoration, will have the potential to result in beneficial effects to natural resources in the study area. HRE-CRP projects at these sites typically include one or more of the following activities: coastal and upland land acquisition and protection, coastal habitat restoration, restoration of tidal connections of tributaries, restoration and protection of riparian and upland areas around the bay's tributaries, debris removal, and/or contaminated sediment removal. Focal areas of these plans include expanded usage of green infrastructure throughout the

city, reduced pollution from stormwater runoff, improved flushing of constrained water bodies, and optimization of existing sewer systems through improvements to drainage, interceptors, and tide gates. The Shoreline Project will contribute to these goals through the removal of invasive species and improved flushing of constrained waterbodies through the wetland enhancement.

ECONOMICS

Beneficial—The construction activities in the vicinity of the delineated tidal wetland and associated with the removal of unpermitted fill for the portion of the Shoreline Project near Tricia Way will have positive impacts on the local economy through direct employment opportunities

Cumulative Effects—City-wide actions, and the goals of the HRE-CRP to increase recreational, educational and public access while also increasing the resiliency of the shoreline, will complement and be consistent with the portion of the Shoreline Project in the delineated wetland and near Tricia Way and will have the potential to result in positive cumulative impacts to socioeconomic conditions.

AESTHETICS

Negligible—The Shoreline Project components within the delineated wetland and near Tricia Way (i.e., a portion of eco-revetment, hybrid dune/revetment and raised edge) will result in minimal changes to existing waterfront aesthetics. The eco-revetments and raised edge will be planted with native coastal vegetation and will be consistent with the surrounding aesthetics and will be consistent with similar existing elements in Conference House Park.

Cumulative Effects—The eco-revetment and hybrid dune/revetment near the delineated wetland and raised edge near Tricia Way will result in negligible impacts to aesthetics and will not have the potential to result in cumulative impacts when considered with HRE-CRP projects in the Lower Bay, City-wide initiatives, including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC, and New York City Parks and Recreation (NYC Parks) projects within Conference House Park such as invasive plant removal, and maritime forest restoration.

GENERAL ENVIRONMENTAL CONCERNS

Negligible—All construction for the Shoreline Project will be conducted landside. Materials for the Shoreline Project are anticipated to be delivered to the project site via construction trucks and will not have the potential to affect Waters of the US. Construction activities in the vicinity of the delineated wetland and for the removal of unpermitted fill near Tricia Way will be undertaken in accordance with erosion and sediment control plans and best management practices incorporated into the stormwater pollution prevention plan (SWPPP), minimizing the potential effects of stormwater runoff during construction of these Shoreline Project elements. Green infrastructure measures such as bioswales will minimize the potential impacts to water quality of the delineated wetland and Raritan Bay once the Shoreline Project is constructed. Measures will be taken to minimize air pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. These measures would include dust suppression measures, idling restrictions, and the use of ultra-low sulfur diesel (ULSD) fuel and best available technologies (BAT) for equipment at the time of construction. With these measures in place, construction activities associated with the Shoreline Project will not result in any significant adverse local (microscale) and (mesoscale) air quality impacts. Due to the limited duration of construction activities associated with the Shoreline Project, noise resulting from construction will be temporary and not be considered significant adverse construction noise impacts.

Cumulative Effects—The Shoreline Project will not have the potential to result in cumulative adverse impacts water quality, air quality, and noise pollution when considered with HRE-CRP projects in the Lower Bay, City-wide initiatives, including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC, and New York City Parks and Recreation (NYC Parks) projects within Conference House Park such as invasive plant removal, and maritime forest restoration.

WETLANDS

Neutral (mitigated)—The Shoreline Project will result in unavoidable permanent impacts to 0.14 acres of a 0.8-acre delineated wetland, which is primarily dominated by the invasive common reed. Removal of an existing sand bridge and culvert comprising 0.01 acres of unpermitted fill will result in a net change in fill within the wetland of 0.13 acres. The removal of the unpermitted fill will remove an existing impediment to tidal exchange within the eastern portion of this wetland. The unavoidable adverse impacts to this tidal wetland will be mitigated through the enhancement of the delineated wetland due to removal of the sand bridge, removal of phragmites from within the wetland, restoration of a native tidal wetland plant community and increased tidal exchange (e.g., tidal sluice gates). Increased tidal exchange between Raritan Bay and the delineated tidal wetland will increase the frequency and extent of inundation and increase the salinity of the water inundating the wetland. Increased flooding and salinity within the wetland will provide more suitable conditions for native vegetation (e.g., saltmarsh cordgrass [*Spartina alterniflora*], spike grass [*Distichlis spicata*], and salt hay grass [*Spartina patens*]), and limit or reverse the spread of common reed, an invasive species, within the wetland. Biological benchmarks (i.e., elevations at which desirable plants typically grow in the immediate vicinity of the project site) will be established to help determine the range of design elevations for the wetland enhancements following the removal of phragmites. Onsite and offsite biological benchmark locations will be identified for survey, and hydrologic data will be collected in order to inform the design of the enhancement. The existing native salt marsh plants will be preserved to the extent possible during construction for re-use at the site. Phragmites, or common reed, would be removed from the wetland, and native saltmarsh plants would be re-established through seeding or planting plugs to supplement the native saltmarsh vegetation that already occurs in the wetland. Monitoring activities will be conducted following the completion of wetland enhancement measures, in accordance with a monitoring plan developed in consultation with the appropriate agencies.

Cumulative Effects—The Shoreline Project, considered with projects such as the Bluebelt Project and other wetland restoration activities within Conference House Park, will have the potential to result in positive cumulative impacts to wetlands resources.

HISTORIC PROPERTIES

Neutral (mitigated)—The Shoreline APE includes the area proposed for the Shoreline Project elements. As described above, the Shoreline Project elements within the Shoreline APE that require a permit from the USACE under Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act include: placement and removal of material within a 0.8-acre delineated tidal wetland, and excavation of unpermitted riprap and soil fill material (within the segment of the proposed raised edge near Tricia Way) below MHWS. The Phase 1A Study concluded that it is not likely that intact archaeological deposits will be within the sandy beaches within the Shoreline APE. However, limited portions of the upland areas within the APE were determined to possess moderate sensitivity for precontact archaeological resources and moderate sensitivity for historic period archaeological resources. A Phase 1B archaeological investigation was recommended for those areas of archaeological sensitivity within the Shoreline APE that will be impacted by the proposed project. The 0.8-acre tidal wetland within which material will be

placed and removed is not within an identified area of archaeological sensitivity. The segment of the proposed raised edge near Tricia Way is within an identified area of archeological sensitivity and therefore a Phase 1B archaeological investigation has been recommended for this area.

All Phase 1B testing within the previously identified areas of archaeological sensitivity will be completed in consultation with SHPO, LPC, and the Tribal Nations. Any additional archaeological investigation or consultation with the consulting parties will be completed pursuant to the terms outlined in the Programmatic Agreement executed in May 2013 among the Federal Emergency Management Agency (FEMA), SHPO, the New York State Office of Emergency Management, the Delaware Nation, the Delaware Tribe of Indians, the Shinnecock Nation, the Stockbridge-Munsee Community Band of Mohicans, LPC, and ACHP and specifically pursuant to Appendix D to the Programmatic Agreement, which pertains to the Community Development Block Grant-Disaster Recovery (CDBG-DR) grant program for activities in New York City. Any additional archaeological investigations completed subsequent to the Phase 1B investigation (e.g., a Phase 2 archaeological survey or Phase 3 Data Recovery) will be completed prior to construction in consultation with SHPO, LPC, and the Tribal Nations.

Pursuant to Section 106 and CEQR, should significant (e.g., National Register-eligible) archaeological resources be identified in sensitive areas through Phase 1B and Phase 2 archaeological investigations, disturbance or removal of such resources through construction would constitute an adverse effect under Section 106 and a significant adverse impact under CEQR. However, as outlined above, at this time only the potential for archaeological resources has been identified in certain locations on the project site. As set forth in the 2014 CEQR Technical Manual, a "site's actual, rather than potential, sensitivity cannot be ascertained without some field testing or excavation." Therefore, it is conservatively assumed for purposes of Section 106 and CEQR that the proposed project could potentially result in an adverse effects and significant adverse impacts, with the actual presence of any significant resources to be determined through additional archaeological investigations and consultation as set forth in the Programmatic Agreement, described above. However, should no significant archaeological resources be identified through Phase 1B or any subsequent Phase 2 archaeological investigations, and LPC, SHPO, and the Tribal Nations concur with the conclusions of those investigations, no actual adverse effects or significant adverse impacts would occur.

There are no known or potential architectural resources within the Shoreline APE.

Cumulative Effects—The Shoreline Project components are consistent with the existing uses and conditions within Conference House Park and will not result in cumulative impacts to historic and cultural resources.

FISH AND WILDLIFE VALUES

Negligible—The portion of the eco-revetment within the delineated wetland and the area of unpermitted fill removal near Tricia Way will result in minimal habitat loss and disturbance, and temporary, indirect disturbances to wildlife which will not result in significant adverse impacts or alter the wildlife community composition within this portion of the Shoreline Project. Because of the close proximity of streets and residential development to the north, and the fragmentation and human activity associated with these streets and neighborhoods, wildlife occurring in this portion of the Shoreline Project is likely limited to disturbance-tolerant, generalist species. These species may avoid active construction areas, but this displacement will be temporary and wildlife will be expected to return to the area following construction. Given the availability of contiguous woodland habitat in Conference House Park, wildlife will be expected to utilize similar habitat

nearby. Enhancement of the delineated wetland through the removal of common reed, increased tidal exchange and establishment of native wetland vegetation will result in improved habitat for wildlife, benefiting wildlife resources. Additionally, the removal of the unpermitted fill below MHWS will restore habitat for terrestrial and aquatic biota.

Cumulative Effects—When considered with the maritime forest and coastal habitat restoration actions associated with HRE-CRP sites in the Lower Bay, the Shoreline Project would result in positive cumulative impacts to wildlife. The potential short-term impacts due to noise and increased human activity during construction are not expected to result in negative cumulative impacts to wildlife. Reconstruction of the Pavilion within Conference House Park is separated from the Shoreline Project by a sufficient distance such that cumulative construction effects to wildlife will not occur.

FLOOD HAZARDS

Beneficial—The portion of the eco-revetement and hybrid dune/revetment within the delineated wetland, in conjunction with the remaining portions of the Shoreline Project will stabilize the shoreline, reduce wave action, and provide some level of risk reduction from coastal flooding. Each component of the Shoreline Project has been designed with the consideration of up to 30 inches of sea level rise and is intended to provide resilience and risk reduction.

Cumulative Effects—City-wide actions and the goals of the HRE-CRP to increase the resiliency of the shoreline, will complement and be consistent with the Shoreline Project. When considered with the USACE South Shore of Staten Island Coastal Storm Risk Management project, the components of the Shoreline Project under USACE jurisdiction (portions of the eco-revetment and hybrid dune revetment) will result in positive cumulative impacts to flood hazards.

FLOODPLAIN VALUES

Negligible—The eco-revetment and portion of the hybrid dune/revetment within the delineated tidal wetland, like the remaining portions of the Shoreline Project is functionally dependent on being located in the floodplain and will provide protection for upland areas from wave energy and erosion. While the eco-revetment and portion of the hybrid dune/revetment adjacent to the delineated wetland will include construction in the floodplain, these elements, along with the remaining portions of the Shoreline Project will provide protection against wave energy and erosion.

Cumulative Effects—The eco-revetment and hybrid dune/revetment at the delineated wetland will not have the potential to result in cumulative impacts when considered with the USACE South Shore of Staten Island Coastal Storm Risk Management project. The measures proposed by the USACE South Shore Project are located far north of the project area (between Fort Wadsworth to Oakwood Beach) and would not have the potential to result in cumulative impacts to the floodplain.

LAND USE

None—All components of the Shoreline Project will be located within Conference House Park and constitute compatible uses with the Park and the abutting City street rights-of-way. They will be compliant with local zoning, including special districts, and with all applicable public policies. As a result, the portion of the eco-revetment within the delineated wetland and the area of unpermitted fill excavation will have no effect on land use in the study area.

SHORELINE EROSION AND ACCRETION

Beneficial—The eco-revetment and portion of the hybrid dune/revetment at the delineated wetland will enhance and stabilize the shoreline.

Cumulative Effects—Stabilization of the shoreline through the actions of the Shoreline Project is consistent with efforts to restore and protect coastal habitats in Raritan Bay under the HRE-CRP actions (e.g., wetland restoration, marsh improvements) and is consistent with the goal of the HRE-CRP to control erosion and sediment retention.

RECREATION

Beneficial—The portion of the eco-revetment and portion of the hybrid dune/revetment at the delineated wetland will include a portion of the continuous pathway that will run through each of the Shoreline Project components, enhancing recreational access to the waterfront for the public.

Cumulative Effects—The Shoreline Project is consistent with the existing passive recreational uses within Conference House Park and with the goals of the HRE-CRP to increase recreational and public access to the waterfront, and will result in positive cumulative impacts to recreation.

WATER QUALITY

Negligible—Construction activities associated with the construction of the eco-revetment and portion of the hybrid dune/revetment at the delineated wetland and the removal of unpermitted fill portion of the raised edge near Tricia Way will be conducted entirely landside. Construction of these Shoreline Project elements will be undertaken in accordance with erosion and sediment control plans and best management practices incorporated into the SWPPP prepared for the project and will not result in adverse impacts to water quality from stormwater discharge during construction. This will include all staging areas and any areas used for the temporary storage of excavated material. Integration of green infrastructure measures such as bioswales into the designs for the eco-revetment and raised edge will minimize potential impacts to water quality from discharge of stormwater.

Cumulative Effects—The Shoreline Project will not have the potential to result in adverse cumulative effects to water quality of Raritan Bay. The HRE-CRP projects in the Lower Bay and City-wide initiatives including New York City's Green Infrastructure Plan, PlaNYC, and OneNYC, which include expanded usage of green infrastructure throughout the city, reduced pollution from stormwater runoff, improved flushing of constrained water bodies, and optimization of existing sewer systems through improvements to drainage, interceptors, and tide gates, will benefit water quality by improving the quality of stormwater runoff being discharged to the bay.

ENERGY NEEDS

Negligible—During construction of the eco-revetment and portion of the hybrid dune/revetment at the delineated wetland and the excavation of the unpermitted fill near Tricia Way there will be increases in energy consumption (i.e., electricity, petroleum products) due to the operation of construction vehicles and equipment. Increases in energy consumption will be temporary. None of the shoreline improvements will consume additional energy once constructed.

Cumulative Effects—The Shoreline Project will not have the potential to result in adverse cumulative impacts to energy needs.

SAFETY

None—The eco-revetment and portion of the hybrid dune/revetment at the delineated wetland and the excavation of the unpermitted fill near Tricia Way will be subject to Federal, state, and local safety laws and regulations and will at completion will operate under the procedures as the current operations within Conference House Park. Therefore, the Shoreline Project will not adversely affect the safety of the project area.

NEEDS AND WELFARE OF THE PEOPLE

Beneficial—Staten Island is exposed to extreme wave action and coastal flooding during storm events due to its location at the mouth of the New York Bight, which funnels storm-driven waves into New York Harbor, Raritan Bay, and the shoreline of Staten Island. It is also vulnerable to both event-based and gradual coastal erosion and land loss. The eco-revetment and portion of the hybrid dune/revetment at the delineated wetland, along with the remaining portions of the Shoreline Project will withstand storm wave action and overtopping of the shoreline structures in order to provide risk reduction, and enhance recreational access along the shoreline within Conference House Park.

Cumulative Effects—The Shoreline Project, considered with the USACE South Shore of Staten Island Coastal Storm Risk management project, will result in improved resilience of the south shore of Staten Island.

Appendix E-2
T & E Consultations

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

MAY 14 2015

Chad Seewagen, Ph.D.
Senior Wildlife Biologist
AKRF Environmental and Planning Consultants
34 South Broadway, Suite 401
While Plains, NY 10601

Re: Living Breakwaters and Tottenville Dune Projects in Richmond County, New York

Dear Dr. Seewagen:

This is in response to your letter received on May 7, 2015, requesting information on species listed or proposed to be listed under the Endangered Species Act of 1973, as amended, that may be in the vicinity of the proposed Living Breakwaters Project and Tottenville Dune Project.

The proposed project is located along the Tottenville shoreline of the South Shore of Staten Island (Richmond County) in Raritan Bay.

Several listed species of whales occur seasonally in the waters off of New Jersey and New York. Endangered North Atlantic right whales (*Eubalaena glacialis*) are found off the coasts of New Jersey and New York from September 1 to March 31. Endangered humpback whales (*Megaptera novaeangliae*) are found off the coasts of New Jersey and New York from February through April and from September through November. Fin (*Balaenoptera physalus*), sei (*Balaenoptera borealis*) and sperm (*Physter macrocephalus*) whales are also seasonally present in waters off of New Jersey and New York, but are typically found in deeper offshore waters. Listed species of whales can be found in the offshore waters of New Jersey and New York, although due to the depths and near shore location of the project site, listed whales will not occur in the project area.

Several species of threatened and endangered sea turtles occur seasonally in New Jersey and New York waters. Sea turtles occur along the coasts of New York and New Jersey, including many bays and harbors, during the warmer months, typically from May to mid-November. The sea turtles in these waters are typically small juveniles, with the most abundant being the threatened Northwest Atlantic Distinct Population Segment (DPS) of loggerhead (*Caretta caretta*) followed by the endangered Kemp's ridley (*Lepidochelys kempi*). New Jersey waters have also been found to be warm enough to support endangered green sea turtles (*Chelonia mydas*) from June through October. While endangered leatherback sea turtles (*Dermochelys coriacea*) may be found in the waters off New York and New Jersey during the warmer months

as well, this species is less likely to occur in the action area for this project, as it is typically found in more offshore waters.

You can find more information on listed sea turtle species at: http://www.nmfs.noaa.gov/pr/species/turtles/.

Populations of endangered shortnose sturgeon occur in New Jersey in the Delaware River from the lower bay upstream to at least Lambertville, New Jersey and in the Hudson River from upper New York Harbor to the Troy Dam. Raritan Bay has never supported a historical population of shortnose sturgeon and to date, no shortnose sturgeon have been observed in this system. No shortnose sturgeon will occur in the project site.

Atlantic sturgeon occur in estuarine and marine waters along the U.S. Atlantic coast and may be present in the project area. The New York Bight, Chesapeake Bay, South Atlantic, and Carolina DPSs of Atlantic sturgeon are endangered; the Gulf of Maine DPS is threatened. Individuals originating from any of these DPSs could occur in the project area. You can find more information on sturgeon species at: http://www.nero.noaa.gov/prot_res/esp/index.html.

As listed species are likely to be present in the vicinity of the proposed project, a consultation, pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, may be necessary. As project plans develop, we recommend you consider the following effects of the project on sea turtles and sturgeon:

- Effects of increased suspended sediment;
- Suspension of contaminated sediments;
- Discharge of any other pollutant;
- Loss of prey;
- Any impacts to habitat or conditions that make affected water bodies suitable for these species and,
- Effects of underwater sound pressure waves.

The federal action agency (e.g., the permitting agency) will be responsible for determining whether the proposed action is likely to affect listed species. When project plans are complete, the federal agency should submit its determination of effects, along with justification for the determination, and a request for concurrence to the attention of the Section 7 Coordinator, NMFS, Greater Atlantic Regional Fisheries Office, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930. After reviewing this information, NMFS would then be able to conduct a consultation under section 7 of the ESA.

Should you have any questions about these comments or about the section 7 consultation process in general, please contact Jennifer Goebel at (978)281-9373or by email (Jennifer.Goebel@noaa.gov).

Fish and Wildlife Coordination Act
Raritan Bay and the Arthur Kill provide habitat for a wide variety of NOAA trust resources including resident, migratory, benthic, and forage species such as striped bass, bluefish, winter flounder, summer flounder, windowpane flounder, alewife, blueback herring, weakfish, striped bass, American shad, blue crabs, hard clams, bay anchovy, and silversides. Blue crabs overwinter in the channels of the bays and winter flounder spawns throughout. To minimize impacts to some of these species, seasonal restrictions on in-water work may be necessary depending upon the scope and nature of the work proposed.

Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat
The waterways within the project area have been designated as Essential Fish Habitat (EFH) for one or more species. Further EFH consultation by the federal action agency will be required as part of the federal permit process. Should project plans change that would change the basis for determination, or if new species or EFH are designated, the federal action agency should reinitiate consultation. For a listing of EFH and further information, please go to our website at http://www.nero.noaa.gov/hcd. If you wish to discuss this further, please call Melissa Alvarez at 732-872-3116 or email at melissa.alvarez@noaa.gov.

Sincerely,

Mark Murray-Brown
Section 7 Coordinator
for Protected Resources Division

Ec: Goebel, NER/PRD; Greene, Alvarez NER/HCD.
File Code: Sec 7/Nonfisheries/PrivateFirms/AKRF Living Breakwaters and Tottenham

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Fish, Wildlife & Marine Resources
New York Natural Heritage Program
625 Broadway, 5th Floor, Albany, New York 12233-4757
Phone: (518) 402-8935 • **Fax:** (518) 402-8925
Website: www.dec.ny.gov

Joe Martens
Commissioner

May 29, 2015

Chad Seewagen
AKRF Environmental and Planning Consultants
34 South Broadway, Suite 401
White Plains, NY 10601

Re: Living Breakwaters and Tottenville Dune Project, Staten Island, NY
Town/City: New York. County: Richmond.

Dear Chad Seewagen :

In response to your recent request, we have reviewed the New York Natural Heritage Program database with respect to the above project.

Enclosed is a report of rare or state-listed animals and plants, and significant natural communities, that our database indicates occur, or may occur, on your site or in the immediate vicinity of your site.

For most sites, comprehensive field surveys have not been conducted; the enclosed report only includes records from our database. We cannot provide a definitive statement as to the presence or absence of all rare or state-listed species or significant natural communities. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

Our database is continually growing as records are added and updated. If this proposed project is still under development one year from now, we recommend that you contact us again so that we may update this response with the most current information.

The presence of the plants and animals identified in the enclosed report may result in this project requiring additional review or permit conditions. For further guidance, and for information regarding other permits that may be required under state law for regulated areas or activities (e.g., regulated wetlands), please contact the appropriate NYS DEC Regional Office, Division of Environmental Permits, as listed at www.dec.ny.gov/about/39381.html.

Sincerely,

Andrea Chaloux

Andrea Chaloux
Environmental Review Specialist
New York Natural Heritage Program

509

The following rare plants, rare animals, and significant natural communities have been documented at your project site, or in its vicinity.

We recommend that potential onsite and offsite impacts of the proposed project on these species or communities be addressed as part of any environmental assessment or review conducted as part of the planning, permitting and approval process, such as reviews conducted under SEQR. Field surveys of the project site may be necessary to determine the status of a species at the site, particularly for sites that are currently undeveloped and may still contain suitable habitat. Final requirements of the project to avoid, minimize, or mitigate potential impacts are determined by the lead permitting agency or the government body approving the project.

The following plants are listed as Endangered or Threatened by New York State, and/or are considered rare by the New York Natural Heritage Program, and so are a vulnerable natural resource of conservation concern.

COMMON NAME	*SCIENTIFIC NAME*	*NY STATE LISTING*	*HERITAGE CONSERVATION STATUS*
Vascular Plants			
Sweetbay Magnolia	*Magnolia virginiana*	Endangered	Critically Imperiled in NYS

[redacted] 1995-03-22: This area is a wetland that was formerly part of the woods to the south. It has been dissected by streets and house yards and is presently being bulldozed for more homes. The house lots extend far back from the street and the back portions of the yards are still wooded. This is where the magnolias are. Other trees here are *Quercus phellos*, *Quercus bicolor*, *Quercus montana*, *Quercus rubra* and sweetgum. *Dicentra eximia* was seen in the herbaceous layer. In 1949 this area was described as a swamp. 2217

Northern Gama Grass	*Tripsacum dactyloides*	Threatened	Imperiled in NYS

[redacted] 1998-09-16: Weedy opening between quiet dead end street and dry hybrid oak woods. Soil moist to dry sand. Roadside dominated by mugwort and *Panicum* grass. Woodland a thick canopy of oak species, beech and red maple above an almost impenetrable layer of green brier. 3372

Willow Oak	*Quercus phellos*	Endangered	Critically Imperiled in NYS

[redacted] 2006-09-12: This a tree that had a schoolyard built around it. 12382

Willow Oak	*Quercus phellos*	Endangered	Critically Imperiled in NYS

[redacted] 1995-03-22: Relatively mature mesic woodland more characteristic of southern states. Trees on high sandy soil with clay. Seasonally wet degraded habitat. *Smilax rotundifolia* is the predominant understory plant. The community is most like successional maritime oak forest and red maple-hardwood swamp. The soil is gray sandy clay. 4504

Wild Potato-vine	*Ipomoea pandurata*	Endangered	Critically Imperiled in NYS

[redacted] 2006-09-12: The plant is in a small shrub border next to the fence of a schoolyard in an area that is not mowed. 12381

Yellow Giant-hyssop	*Agastache nepetoides*	Threatened	Imperiled in NYS

[redacted] 1998-09-15: Regrowth after severe bulldozing. Weedy trees and ragweed. Disturbed moist woods. 4923

White-bracted Boneset	*Eupatorium leucolepis var. leucolepis*	Endangered	Critically Imperiled in NYS	
[redacted] 1990-09-30: Old roadway next to *Celtis* forest.				5108
Persimmon	*Diospyros virginiana*	Threatened	Imperiled in NYS	
[redacted] 1998-09-15: Slightly disturbed oak forest with a thick understory layer of *Smilax rotundifolia*.				8845
Dune Sandspur	*Cenchrus tribuloides*	Threatened	Imperiled in NYS	
[redacted] 1998-09-15: A small unmanaged maritime beach between the mouth of the Arthur Kill and a steep sandy hill. No homes are visible from the largest portion of the beach, but there are a few present along the southeast side. This gives the beach a relatively secluded feeling, leading to many night time gatherings. This is evidenced by fire rings, bottles, cans, and other littered articles. Wild cats were observed wandering in the brush and tall grass, and dog excrement is common. The area appears somewhat weedy.				2348

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Information about many of the natural community types in New York, including identification, dominant and characteristic vegetation, distribution, conservation, and management, is available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org. For descriptions of all community types, go to www.dec.ny.gov/animals/97703.html for Ecological Communities of New York State.

The following rare plants and rare animals have historical records at your project site, or in its vicinity.

The following rare plants and animals were documented in the vicinity of the project site at one time, but have not been documented there since 1979 or earlier, and/or there is uncertainty regarding their continued presence. There is no recent information on these plants and animals in the vicinity of the project site and their current status there is unknown. In most cases the precise location of the plant or animal in this vicinity at the time it was last documented is also unknown.

If suitable habitat for these plants or animals is present in the vicinity of the project site, it is possible that they may still occur there. We recommend that any field surveys to the site include a search for these species, particularly at sites that are currently undeveloped and may still contain suitable habitat.

COMMON NAME	*SCIENTIFIC NAME*	*NYS LISTING*	*HERITAGE CONSERVATION STATUS*	
Vascular Plants - The following plants were documented in Tottenville in the mid-1800s to mid-1900s.				
Wild Potato-vine	*Ipomoea pandurata*	Endangered	Critically Imperiled in NYS	11
Smooth Tick-trefoil	*Desmodium laevigatum*	Endangered	Historical Records Only in NYS	300
Round-leaf Boneset	*Eupatorium rotundifolium*	Endangered	Historical Records Only in NYS	778
Scirpus-like Rush	*Juncus scirpoides*	Endangered	Critically Imperiled in NYS	1729
Slender Spikegrass	*Chasmanthium laxum*	Endangered	Critically Imperiled in NYS	3041
Little-leaf Tick-trefoil	*Desmodium ciliare*	Threatened	Imperiled in NYS	3680
Retrorse Flatsedge	*Cyperus retrorsus var. retrorsus*	Endangered	Critically Imperiled in NYS	5723
White Milkweed	*Asclepias variegata*	Endangered	Critically Imperiled in NYS	6349
Tiny Blue-curls	*Trichostema setaceum*	Endangered	Critically Imperiled in NYS	7519
Pink Wild Bean	*Strophostyles umbellata*	Endangered	Critically Imperiled in NYS	6847
Flax-leaf Whitetop	*Sericocarpus linifolius*	Threatened	Imperiled in NYS	6870

COMMON NAME	*SCIENTIFIC NAME*	*NYS LISTING*	*HERITAGE CONSERVATION STATUS*	
Nuttall's Tick-trefoil	*Desmodium nuttallii*	Endangered	Historical Records Only in NYS	8353
Dwarf Hawthorn	*Crataegus uniflora*	Endangered	Critically Imperiled in NYS	6729
American Ipecac	*Euphorbia ipecacuanhae*	Endangered	Critically Imperiled in NYS	9253
Bead Pinweed	*Lechea pulchella var. moniliformis*	Endangered	Critically Imperiled in NYS	9590
Saltmarsh Aster	*Symphyotrichum subulatum var. subulatum*	Threatened	Imperiled in NYS	7901
Persimmon	*Diospyros virginiana*	Threatened	Imperiled in NYS	8372
Sand Blackberry	*Rubus cuneifolius*	Endangered	Historical Records Only in NYS	784

This report only includes records from the NY Natural Heritage database. For most sites, comprehensive field surveys have not been conducted, and we cannot provide a definitive statement as to the presence or absence of all rare or state-listed species. Depending on the nature of the project and the conditions at the project site, further information from on-site surveys or other sources may be required to fully assess impacts on biological resources.

If any rare plants or animals are documented during site visits, we request that information on the observations be provided to the New York Natural Heritage Program so that we may update our database.

Information about many of the rare animals and plants in New York, including habitat, biology, identification, conservation, and management, are available online in Natural Heritage's Conservation Guides at www.guides.nynhp.org, from NatureServe Explorer at www.natureserve.org/explorer, and from USDA's Plants Database at http://plants.usda.gov/index.html (for plants).

Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

LISA BOVA-HIATT
Executive Director

May 12, 2017

NOAA'S National Marine Fisheries Service
Protected Resources Division
55 Great Republic Drive
Gloucester, MA 01930

Attn: Mrs. Kimberly Damon-Randall

RE: Coastal and Social Resilience Initiatives for Tottenville Shoreline Project – Staten Island, Richmond County, NY

Dear Ms. Damon-Randall:

On behalf of Grantee the State of New York, the Governor's Office of Storm Recovery (GOSR), serving under the auspices of the New York State Homes and Community Renewal's Housing Trust Fund Corporation (HTFC), and acting under authority of the U.S. Department of Housing and Urban Development's (HUD) regulations at 24 CFR Part 58, and in cooperation with other involved, cooperating, interested agencies, is requesting Endangered Species Act (ESA) concurrence from your office for the Coastal and Social Resilience Initiatives for Tottenville Shoreline Project, Staten Island, Richmond County, NY. GOSR has made the determination that the Proposed Actions may affect, but is not likely to adversely affect, any species listed as threatened or endangered by NMFS under the ESA of 1973, as amended. Our supporting analysis is provided below.

GOSR has prepared a Draft Environmental Impact Statement (DEIS) for compliance with NEPA for the proposed Coastal and Social Resilience Initiatives for Tottenville Shoreline Project located in Staten Island, Richmond County, NY (the "Proposed Actions"). These initiatives include the Living Breakwaters Project (Breakwaters Project) and Tottenville Shoreline Protection Project (Shoreline Project). The Breakwaters Project and Shoreline Project each have independent utility, but both projects would be located in the same geographic region. The two projects would largely be funded through New York State's Community Development Block Grant-Disaster Recovery (CDBG-DR) grant. The proposed Breakwaters Project, a layered resiliency approach to promote risk reduction through erosion prevention, wave energy attenuation, and enhancement of ecosystems and social resiliency, was awarded $60 million through HUD's June 2013 Rebuild by Design (RBD) competition. Additional project funding will be leveraged as required by HUD for RBD projects. The proposed Shoreline Project includes a series of shoreline risk reduction measures, including an earthen berm, a hardened dune system, an eco-revetment, raised edge (revetment with trail), wetland enhancement, and shoreline plantings. Approximately $9.3 million of CDBG-DR funds from the NY Rising Community Reconstruction Program will be used to implement this project.

In accordance with the Endangered Species Act, GOSR has evaluated the potential for the Proposed Actions to adversely affect threatened or endangered species under the responsibility of the National Marine Fisheries Service (NMFS), as indicated in the May 14, 2015 correspondence from NMFS[1] (see Table 1) in the DEIS. The DEIS was completed and made available for public download on March 24, 2017 and is currently undergoing a 45-day comment period, ending on May 8, 2017. GOSR submitted a Joint Application to the US Army Corps of Engineers (USACE) and to the New York State Department of Environmental Conservation (NYSDEC) on March 31, 2017, including the DEIS as an attachment. Through the inclusion of your organization in the EIS and permitting process at this juncture it is the intention of GOSR to ensure that permit issuance will coincide, to the maximum extent practicable, with the FEIS completion date.

PROPOSED ACTIONS

The Proposed Actions comprise a Layered Strategy consisting of the implementation of two individual projects that, when integrated as one initiative may provide greater overall coastal risk reduction and promote social resilience along the Tottenville shoreline of the South Shore of Staten Island, NY. The Layered Strategy includes the Living Breakwaters Project (Breakwaters Project) and Tottenville Shoreline Protection Project (Shoreline Project).

The purpose of the Layered Strategy is to reduce wave action and coastal erosion along the shoreline in Tottenville while enhancing ecosystems and shoreline access and use. The specific goals and objectives of the Proposed Project are: (1) Risk Reduction, via attenuation of wave energy, minimization of both event-based and long-term shoreline erosion, preservation of beach width, and addressing the impacts of coastal flooding; (2) Ecological Enhancement, by increasing the diversity of aquatic habitats consistent with Hudson-Raritan Estuary Plan priorities (e.g., fish and shellfish habitat); and (3) Social Resiliency, by fostering community education on coastal resiliency directly tied to and building off the structural components of this initiative, increasing physical and visual access to the water's edge, enhancing community stewardship of on-shore and in-water ecosystems, and increasing access to recreational opportunities.

The Breakwaters Project comprises the following:

Ecologically Enhanced Breakwater System-This system is designed to reduce wave energy at the shoreline, and prevent or reverse shoreline erosion while creating hard/structured marine habitat, described in greater detail below. The breakwater system as currently proposed (30 percent design) would have a total length of approximately 3,900 linear feet within Raritan Bay and would be located between 500 and 2,100 feet from the shoreline. Additionally, the vast majority of the breakwater structures would be located more than 1,500 feet from the Federal Navigation Channel with one breakwater segment located more than 700 feet from the channel. The breakwater structures would occupy approximately 551,094 square feet (approximately 12.7 acres) on the bottom of Raritan Bay and result in the placement of 197,164 CY of rock and ecologically enhanced concrete within Raritan Bay, approximately 150,685 CY of which would be placed below mean high water (MHW). The breakwaters would be positioned and designed to optimize reduction in both wave height and shoreline erosion, while enhancing habitat and minimizing habitat displacement and navigational impacts. The breakwaters will be rubble mound structures made of a combination of hard stone and biologically enhanced concrete armor units. While materials and the basic construction of the breakwaters will be the same across all segments, three types of breakwaters, defined largely by their differences in crest elevation (in North American Vertical Datum of 1988 [NAVD88]) and overall height, are proposed as indicated in Attachment 1 to the enclosed EFH Assessment Worksheet:

[1] M. Murray-Brown, NMFS, to C. Seewagen, AKRF, May 14, 2015

- Type A—overall height of 11 feet with a crest elevation of +5 feet NAVD88,
- Type B—overall height of 22 feet with a crest elevation of +14 feet NAVD88; and
- Type C—overall height of 25 feet with a crest elevation of +14 feet NAVD88.

The overall breakwater system layout has been designed to reduce or reverse shoreline erosion along the length of the project area. Breakwater crest elevations, orientation and locations were also based on the relative need for storm wave attenuation at different locations along the shoreline. To construct the breakwater segments, prefabricated geotextile would be floated out to its final location, and then lowered to the bottom by the weight of large rocks to minimize sediment resuspension. Rock and bio-enhancing concrete would be placed on the geotextile in a manner that limits sediment resuspension. Rocks used for armoring and to construct the breakwaters would be made of "clean" material, further minimizing the potential for release of suspended material into the water column. Construction of the breakwaters would last approximately 8-9 months per year for two years, or up to 18 months in total.

Shoreline Restoration—One time shoreline restoration would occur along approximately 800 feet of shoreline between Manhattan Street and Loretto Street. The shoreline restoration would place sand within an approximately 3.8 acres, of which 2.0 acres would be below mean high water (MHW). About 20,701 cubic yards (CY) of sand, approximately 15,369 CY of which would be below MHW, would be placed in this location to widen the beach in what is currently a narrow and erosion-prone section of the beach. This component would be conducted from land using bulldozers, frontend loaders, and excavators rather than from a discharge pipe. Materials for the Shoreline Project are anticipated to be delivered to the project site via construction trucks. Water-based delivery of material is unlikely for the Shoreline Project but would be explored as design progresses.

Water Hub-The proposed Water Hub would promote social resilience through educational and community programs with water access via a temporary floating boat launch approximately 8-foot-wide and no more than 210-feet long. One of two potential locations under consideration will be selected for siting the Water Hub—Potential Location 1 would be in the vicinity of the southern terminus of Page Avenue (involving the construction of a new structure). Potential Location 2 would be in the north-western portion of Conference House Park (involving the rehabilitation and adaptive reuse of an existing NYC Parks building). Potential Location 1 would be an enclosed 5,000-square-foot building elevated above the 100-year flood elevation by 3 feet and would include approximately 35,500 square feet of site improvements(landscaping, parking, and utility spaces and designated space for the use of New York City Department of Parks and Recreation (NYC Parks) vehicles and equipment). Potential Location 1 would also include a 8-foot by 210-foot boat launch that would extend from about 1 foot above MHW to water depths between 4 and 5 feet at Mean Low Water (MLW), sufficient for docking of a shallow draft research vessel. Potential Location 2 would include water access from a similarly sized temporary floating boat launch near one of the existing NYC Parks buildings selected for adaptive reuse. . Should Potential Location 2 be selected, a small facility (1,600 square feet or less) would be constructed at Potential Location 1 to provide seating, wayfinding and potential storage for kayaks and beach cleaning equipment. Details regarding the installation of the seasonal boat launch have not been developed at this time. Anchoring in the bay would be accomplished without piles and pile driving.

Seasonal Floating Dock-A 30 by 50-foot-wide seasonal floating dock would be located near the shoreward side of the breakwater segments to facilitate monitoring and research activities and a total of 600 linear feet of floating oyster nursery structures. The oyster nursery structure would comprise a series of floating oyster trays housing spat-on-shell, most likely arranged as two 300-foot-long by 10-foot-wide segments, which would be anchored just northeast of the

floating dock in the lee of the Type C breakwaters. Responsibility for the maintenance and monitoring of the oyster nursery structures will be determined in later design phases. Details regarding the installation of the seasonal floating dock and associated oyster nursery have not been developed at this time. Anchoring will be done without piles or pile driving.

Project vessels- Project vessels used during construction will include barges and smaller vessels for transport of personnel to the work sites. Details regarding the size, number, travel routes, and trip numbers of project vessels to be used during construction are currently unknown. Any vessel used will likely need to have a shallow draft in order to operate in the relatively shallow waters at the project site. Crane barges would be continually moved during construction, and vessels carrying construction materials would make an average of less than one trip per day over the entire construction period. Construction of the breakwaters would require the use of various barges used to transport materials and equipment to construction locations. Two types of barges could be used, either spud and anchor or jack-up type barges. One barge would be used as a crane barge used to install breakwaters materials, while additional barges would be cycled continuously to deliver materials. A typical crane barge covers 7,500 feet squared and material barges would likely be of similar size.

It is anticipated that the crane barge draft will be approximately four to eight feet with an average draft of six feet. Material barge drafts are anticipated to be up to 10 feet when fully loaded; material barges can be light loaded when working in shallow waters to as little as two to three foot drafts. Tugs used to move the barges will have drafts suitable for the water depths at the project site.

While construction of the in-water components would require additional vessel traffic in the project, Raritan Bay is a high commercial vessel traffic region with over 26,459 commercial trips made in 2014 (approximately 72.5 trips/day) from the ship channel near Sandy Hook to Raritan Bay and upriver through Arthur Kill and Kill Van Kull to Upper New York Bay (USACE 2014).When the project is completed, the increased vessels in the area as a result of the project will include a shallow-draft research vessel operated by the Billion Oyster Project and small recreational boats (e.g., kayaks).

The Shoreline Project would provide on-shore risk-reduction measures that would work in tandem with the risk reduction potential provided by the Breakwaters Project. The Shoreline Project would consist of a series of shoreline protection measures that would include an earthen berm, hybrid dune system, eco-revetment, a raised edge (a revetment with a trail), along with wetland enhancements and landscaping with native coastal plant species. It would extend from approximately west of the intersection of Swinnerton Street and Billop Avenue to Page Avenue. All of these elements would be located landward of MHW.

Based on preliminary projections, construction of both projects is anticipated to begin in mid-2018 and be complete by early 2020 (an anticipated 21-month construction duration). The in-water construction would comply with timing restrictions for winter flounder and horseshoe crab.

Minimization and Mitigation Measures

- Groundwater recovered during dewatering would be tested and treated in accordance with NYSDEC requirements prior to discharge to Raritan Bay.
- Implementing erosion and sediment control measures and stormwater management measures in accordance with the SWPPP prepared as required under the SPDES General Permit GP-0-15-002 for Stormwater Discharges from Construction Activity.

- Designing the Breakwaters Project to reduce wave energy at the shoreline, and reduce, prevent or reverse shoreline erosion, without adversely affecting tidal flushing along the shoreline within the NYSDEC littoral zone tidal wetland.
- Incorporating ecological enhancements into the design of the breakwater segments through the creation of three-dimensional hard/rocky structured reef-like habitat with reef streets and eco-enhanced concrete units that would increase the quantity and diversity of the aquatic habitats available for habitat forming plants and invertebrates found in Raritan Bay.
- Maintaining at least 2 feet of clearance from the bottom of the Bay, or work only at tide levels sufficient to keep construction barges and vessels off the bay.
- Timing the placement of sand for the shoreline restoration to avoid the peak spawning season for horseshoe crabs (late May to early June).
- Timing the construction of the breakwaters and shoreline restoration to avoid winter flounder spawning (early January through late May).
- Development of a post-construction monitoring plan in consultation with NYSDEC, NMFS and USACE to assess use of breakwaters segments by target species groups and fish and benthic communities adjacent to the breakwaters structures.
- Development of a post-construction monitoring and adaptive management plan to assess the structural integrity and condition of breakwater structures, their effectiveness at attenuating storm waves and reducing shoreline erosion, along with establishing what corrective measures may be needed should an issue arise and when such corrective measures should be implemented.

DESCRIPTION OF THE ACTION AREA

The action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 CFR §402.02). For this project, the action area includes the portion of Raritan Bay from the edge of the navigation channel to the southern Staten Island shoreline and adjacent to the outboard side of the proposed breakwater structures (approximately 40°29'46"N, 74°14'13"W) (see **Figure 1**), all areas in the immediate vicinity of the shoreline restoration project to account for suspended sediment, and the surrounding area where any increase in vessel traffic may occur. Previous studies have reported that elevated total suspended sediment (TSS) concentrations associated with the type of shoreline restoration proposed for the Breakwaters Project are limited to areas within the swash zone (defined as the area of the nearshore that is intermittently covered and uncovered by waves) and close to where the sand is being placed (Wilber et al. 2006, Burlas et al. 2001). Thus, elevated suspended sediment levels are expected to occur only in the swash zone and in bottom waters in the immediate vicinity of shoreline restoration and would be contained within the study area indicated in Figure 1. This area is expected to encompass all of the effects of the proposed project. No aquatic resources will be exposed to the effects of land-based activities and, thus, will not be considered further.

Raritan Bay, off the southern and eastern shorelines of Staten Island, is a shallow estuary that contains significant habitat for shellfish and marine, estuarine, and anadromous fish. It supports multiple commercial fisheries and recreationally important fish species. The open waters of the bay provide important habitat for overwintering and staging waterfowl and marine mammals can occur in the area. However, Raritan Bay is an urban estuary, and the bay

and its tributaries have been impacted by decades of continuous development and organic and inorganic pollution that has degraded water and habitat quality, and has contaminated sediment. In turn, the overall richness and diversity of organisms occurring within the bay has been reduced relative to pre-industrial times.

Raritan Bay is part of the Lower New York Bay Complex in the New York-New Jersey Harbor. The Lower Bay Complex consists of three connected bays (Lower Bay, Raritan Bay, and Sandy Hook Bay) and is bounded by Brooklyn, the Atlantic Ocean, and Sandy Hook in the east, New Jersey to the south, and Staten Island to the west. Raritan Bay extends from Staten Island to New Jersey's Monmouth and Middlesex counties, and is generally bounded by the Arthur Kill tidal strait to the west and integrates with the Lower New York Bay in the east around Great Kills. Water depths within the portion of Raritan Bay within the study area range from 1 to 27 feet at Mean Lower Low Water (MLLW) (NOAA Nautical Chart #12331). The results of the hydrographic survey conducted within the study area for the Breakwaters Project found water depths of less than 2 feet at MLW to about 24 feet at MLW, with a few depressional areas where the water depths are deeper in the eastern and western portions of the study area.

The Raritan Bay-Sandy Hook Complex receives direct freshwater inflow from the Raritan River, the Shrewsbury and Navesink Rivers, and various smaller tributaries along the shorelines of Staten Island and New Jersey (USFWS 1997). Waters of the Lower Bay Complex also exchange and mix with the waters of the Upper Bay through the Narrows and with the Atlantic Ocean between Sandy Hook and Rockaway Point (Brinkhuis 1980).

The estuary is generally well mixed, however fresh water discharge from the Raritan River can produce density gradients which drive eastward movement of surface waters and westward movement of bottom waters (Kastens et al. 1978). The average tidal range for the Raritan Bay-Sandy Hook Complex is about 5.5 feet (USFWS 1997), and flushing time[2] has been estimated at 16 to 21 days (or 32 to 42 tidal cycles) (Jeffries 1962, as cited in Steimle and Caracciolo-Ward 1989).

At the southern tip of Staten Island, the shoreline consists mainly of mud or sand flats and sand or gravel beaches, with some scattered vegetated areas (NOAA 2001). The side-scan sonar, hydrographic survey and grain size analysis conducted for the Breakwaters Project indicate that sediments within the study area consist primarily of sand with areas of gravel in the central portion of the study area and in the vicinity of hard-bottom features. Smaller areas of finer silty sand and mud also exist along the seaward edge of the study area near the navigation channel. Areas of coarse gravel exist along the western edge of the study area near the navigation channel and piles of rocks and debris occur near the shoreline. Areas of fine-grained silty sediment (i.e., mud) also occur off the southwest corner of Conference House Park and along the eastern portion of the study area. On average throughout the study area, more than 91 percent of the sediments were sand or gravel, with the remainder consisting of clay and silt.

In general, sediment samples collected for the project indicated low levels of contamination that were generally at concentrations considered Class A (Technical and Operational Guidance Series [TOGS] 5.1.9, NYSDEC 2004). No Class C concentrations of contaminants were collected. Class B concentrations of arsenic, copper, lead, mercury, the sum of DDT, DDE, and DDT, and the sum of PAHs were generally concentrated at the southwest tip of Staten Island, off the southwestern portion of Conference House Park. Additionally, one sample location within Raritan Bay, south of Conference House Park, contained Class B concentrations of biphenyl, and two sample locations in Raritan Bay close to the shoreline and east of Page Avenue contained Class B concentrations of mercury. The pesticides aldrin, dieldrin, 4,4'-DDD, 4,4'-DDE, and 4,4'-DDT were not detected in the samples but when one half of the reporting limits that were achieved for each of these parameters was used as the concentration, all sites exceeded the NYSDEC 6 NYCRR Part 375

[2] Flushing time is defined as the time required to replace the existing freshwater accumulated in the estuary by the river discharge.

thresholds for unrestricted use. The contaminant 4,4'-DDD was only detected at one site west of Staten Island, and 4,4-DDE was detected at two sites west of Staten Island. Total chromium was detected at each site sampled and exceeded the Part 375 threshold for unrestricted use.

Salinity levels fluctuate seasonally and with the ebb and flood of the tidal cycle. While salinity was similar between New York City Department of Environmental Protection (NYCDEP) Harbor Survey stations, it increased slightly from the western station K5 at the mouth of the Arthur Kill to the eastern most station K6 closest to the Atlantic Ocean. At Station K5 at the mouth of the Arthur Kill, salinity ranged from 7 to 22 psu[3] at the surface and from 9 to 24 psu at the bottom, averaging 22 and 24 psu, respectively. Salinity at Station K5A in Raritan Bay ranged from 8 to 29 psu at the surface and from 8 to 24 psu at the bottom, averaging 22 psu and 24 psu, respectively. At Station K6, salinity ranged from 8 to 31 psu at the surface and from 9 to 31 psu at the bottom, averaging 24 and 25 psu, respectively. Site-specific salinity measurements taken within the study area in June and September of 2015 were consistent with those for the Harbor Survey sites.

At the mouth of Lemon Creek, a tidal tributary to Raritan Bay on the eastern side of Staten Island and near the study area, Goto and Wallace (2009) found benthic invertebrate biomass to be dominated by polychaetes, followed by bivalves, gastropods, crustaceans, oligochaetes, and insects. Based on the soft-bottom survey conducted in June 2015 for the project, dominant species included the polychaete worm *Mediomastus ambiseta* (33%), the amphipod *Unciola serrata* (11%), oligochaete worms (10%), and the polychaete worm *Polydora cornuta* (7%). Dominant taxa from the soft-bottom survey conducted in September 2015 included *M. ambiseta* (40%), oligochaete worms (17%), the polychaete worm *Streblospio benedicti* (14%), and the amphipod *Grandidierella japonica* (4%).

Based on the hard-bottom surveys conducted for the project in July and September of 2015, *Amphibalanus improvisus* was the dominant hard-bottom species, accounting for 43% of all taxa observed.

Dominant benthic macroalgae species near the mouth of the Arthur Kill at the southwestern point of Staten Island were *Agardhiella* spp., a red branching algae, and *Ulva lactuca*, a sea lettuce. *Ulva* spp. and red filamentous algae were most abundant at sites farther east along the southern edge of Staten Island.

The fish community of Raritan Bay and neighboring waters includes prey species (e.g., bay anchovy, Atlantic menhaden, Atlantic silverside) that provide forage for higher-level predators in the ecosystem, species that support recreational and commercial fisheries (e.g., summer flounder, striped bass, winter flounder, bluefish), and those species protected under the Endangered Species Act such as Atlantic sturgeon (Berg and Levinton 1985; MacKenzie 1990; USACE 2004a; ASSRT 2007; SSSRT 2010).

NMFS LISTED SPECIES AND CRITICAL HABITAT IN THE ACTION AREA

According to the NOAA Fisheries Section 7 website and previous correspondence with NMFS (2015), there is one species of fish and four species of sea turtles listed under the ESA that occur or have the potential to occur in the action area and may be adversely affected by the proposed action. No critical habitat has been designated within the action area. ESA species include:

[3] Salinity has traditionally been defined in parts per thousand (ppt), but is commonly measured in practical salinity units (psu). According to NOAA, psu and ppt are nearly equivalent.

- Fish—Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)-Endangered for Distinct Population Segments (DPS) New York Bight, Chesapeake Bay, Carolina, and South Atlantic, Threatened for Gulf of Maine DPS(77 FR 5880 and 77 FR 5914)

- Sea Turtles:

    - Kemp's Ridley Turtle (*Lepidochelys kempii*)-Endangered (35 FR 18319; Recovery plan: NMFS et al. 2011)
    - Leatherback Turtle (*Dermochelys coriacea*)-Endangered (35 FR 849; Recovery plan: NMFS & USFWS 1992)
    - Loggerhead Turtle (*Caretta caretta*)-Threatened (76 FR 58868; Recovery plan: NMFS & USFWS 2008)
    - Green Turtle (*Chelonia mydas*)-Threatened (81 FR 20057; Recovery plan: NMFS & USFWS 1991)

Atlantic Sturgeon

There are four DPSs of Atlantic sturgeon listed as endangered (New York Bight, Chesapeake Bay, Carolina, and South Atlantic) and one DPS listed as threatened (Gulf of Maine) under the ESA. The marine range for all five DPSs includes marine waters, coastal bays, and estuaries, from the Labrador Inlet in Labrador, Canada to Cape Canaveral, Florida. NMFS (2015) notes that individuals from any of the five DPSs of Atlantic sturgeon may be present in Raritan Bay.

Atlantic sturgeon is an anadromous species that spawns in freshwater habitats. Atlantic sturgeon is a bottom-dwelling fish that inhabits large freshwater rivers when spawning and primarily marine waters when not breeding; they can also be found in bays, river mouths, and estuaries. They primarily feed on benthic invertebrates and fish like sand lance. The principal spawning grounds of Atlantic sturgeon are in the freshwater reaches of the Hudson River well outside the range of the action area. While Atlantic sturgeon are not expected to occur in significant numbers within the action area, transient sub-adults may be present as they move through shallower marine waters along the Atlantic coast; adults are more likely found in deeper offshore waters of the continental shelf. Early life stages (i.e., eggs, larvae, and smaller juveniles) are relatively intolerant of salinity, young-of-year Atlantic sturgeon exhibit poor survival at salinities ranging from 5 to 10 ppt, and slightly older sturgeon (Age-1 and Age-2) may tolerate salinities up to 12 ppt (Kynard and Horgan 2002; ASMFC 2012). Juvenile Atlantic sturgeon remain in these fresh to low salinity waters upstream of the study area until reaching 70 centimeters at about 3 years of age, when they begin their migration to marine waters. Because of the saline conditions, there will be no eggs and early life stages present in the action area.

In the New York Harbor, Atlantic sturgeon typically occur in deeper waters than those in the study area. According to recent surveys conducted by NMFS and multiple state agencies in the region, the majority of Atlantic sturgeon occurred in waters between 10 and 15 meters (32 to 49 feet) in depth; many of these sturgeon were found off the west coast of Long Island (Dunton et al. 2010). Adult and sub-adult Atlantic sturgeon from this congregation could potentially be found in Raritan Bay opportunistically foraging and as transient individuals.

Sea Turtles

Four species of federally listed threatened or endangered sea turtles may be seasonally found in coastal waters of the action area. These include the threatened Northwest Atlantic DPS of loggerhead sea turtle and the North Atlantic DPS of green, and the endangered Kemp's ridley, and leatherback sea turtles. NMFS (2015) indicates that New York and New Jersey waters may be warm enough to support loggerhead (*Caretta Caretta*) and Kemp's ridley turtles (*Lepidochelys kempi*) from May through mid-November, and green sea turtles (*Chelonia mydas*) from June through October; those that do occur in these waters are typically small juveniles. Leatherback sea turtles (*Dermochelys coriacea*) may be found

in the waters off New York and New Jersey during the warmer months, but this species generally prefers deep, pelagic waters over shallow, nearshore waters, and would not be expected in the vicinity of the Raritan Bay shoreline where the proposed breakwater would be located. Loggerhead, green, and Kemp's ridley sea turtles in New York waters are uncommon as far west as New York Harbor. Mark-recapture and satellite tracking studies of these species documented extensive usage of eastern Long Island Sound, the Atlantic Ocean off of eastern Long Island's south shore, and eastern Long Island's Peconic Bay, but did not record any sea turtles in inshore waters west of Suffolk County (Morreale and Standora 1994, 1998). The New York-New Jersey Harbor complex, of which Raritan Bay is a part, is considered to be of marginal or lower quality as sea turtle habitat, and observations of sea turtles in these waters are infrequent despite extensive monitoring and surveying efforts (Ruben and Morreale 1999; USACE 2001). However, the USFWS (1997) notes that loggerhead and Kemp's ridley sea turtles occur off of Sandy Hook, NJ, approximately 10 miles from the study area. Additionally, a dead, unidentified sea turtle was observed washed up on the beach within Conference House Park during the September 1, 2015 vegetation survey. Overall, sea turtles are considered to have the potential to occur within the action area as occasional transient individuals who may opportunistically forage, and do not depend on habitats in the region for breeding, wintering, or growth.

EFFECTS DETERMINATION

Sediment Disturbing Activities

Construction of the Breakwaters Project in-water components would have the potential to result in sediment resuspension during placement of the breakwater materials, the placement of sand, discharge of groundwater recovered during dewatering and movement of construction barges and vessels. Increases in suspended sediment would be temporary, localized, and would dissipate upon cessation of sediment disturbing activities. To construct the breakwater segments, prefabricated geotextile would be floated out to its final location, and then lowered to the bottom by the weight of large rocks to minimize sediment resuspension. Rock and bio-enhancing concrete would be placed on the geotextile in a manner that limits sediment resuspension. Rocks used for armoring and to construct the breakwaters would be made of "clean" material, further minimizing the potential for release of suspended material into the water column. Crane barges would be continually moved during construction, and vessels carrying construction materials would make an average of less than one trip per day over the entire construction period. Construction vessels would maintain at least 2 feet of clearance from the bottom of the Bay, or work only at tide levels sufficient to keep the barges off the bay bottom in order to further minimize sediment disturbance. Expected increases to suspended sediment concentrations related to vessel activity during construction would likely be minimal relative to background levels Temporary increases in suspended sediment would occur during the shoreline restoration component. However, this component would be conducted from land using bulldozers, frontend loaders, and excavators rather than from a discharge pipe. As such, the one-time shoreline restoration will use sand and not a slurry mixture. Any increase in turbidity is expected to be limited to the swash zone and bottom waters in the immediate vicinity of the placement site, and would be temporary, localized. Sediment suspended during the sand placement activity would dissipate quickly upon completion of the sand placement. The majority of the shoreline restoration area is above MLW, and the sand placement and subsequent grading will be conducted from land at low tide in order to minimize potential impacts to aquatic resources.

TSS is most likely to affect sea turtles or subadult and adult Atlantic sturgeon if a plume causes a barrier to normal behaviors or if sediment settles on the bottom affecting sea turtle or sturgeon prey. While the increase in suspended sediments may cause Atlantic sturgeon and sea turtles to alter their normal movements, any change in behavior is not

able to be measured or detected, as it will only involve minor movements that alter their course out of the sediment plume which will not disrupt any essential life behaviors. As sturgeon and sea turtles are highly mobile, they are likely able to avoid any sediment plume. Temporary increases in suspended sediment during construction of the Breakwaters Project would be below thresholds shown to have an adverse effect on fish (580.0 mg/L for the most sensitive species, with 1,000.0 mg/L more typical; see summary of scientific literature in Burton 1993) and benthic communities (390.0 mg/L [USEPA 1986]). Thus, any potential effects of sediment disturbance to sea turtles or sturgeon would be too small to be meaningfully measured or detected, and are insignificant.

Project Vessels

In our analysis we considered three elements: (1) the existing baseline conditions, (2) the action and what it adds to existing baseline conditions, and (3) new baseline conditions (the existing baseline conditions and the action together). We have determined that vessel traffic added to baseline conditions as a result of the proposed project is not likely to adversely affect ESA-listed species for the following reasons.

Adding project vessels (i.e. barges during construction and recreational and shallow-draft research vessels during operation of the proposed project) to the existing baseline will not increase the risk that any vessel in the area will strike an individual, or will increase it to such a small extent that the effect of the action (i.e., any increase in risk of a strike caused by the project) cannot be meaningfully measured or detected. The baseline risk of a vessel strike within Raritan Bay is unknown. The increase in traffic associated the proposed project is extremely small. During the project activities, a minimal number of project vessels will be added to the baseline. The addition of project vessels will also be intermittent, temporary, and restricted to a small portion of the overall action area on any given day. As such, any increased risk of a vessel strike caused by the project will be too small to be meaningfully measured or detected. As a result, the effect of the action on the risk of a vessel strike in the action area is insignificant.

The new oyster nursery structure, boat ramps, and floating docks will increase the vessel capacity of the navigation channel and, as a result, additional vessels may transit through the action area in the future. Although the baseline risk of vessel interaction is unknown, any increases in vessel capacity may not directly correlate to more vessels in the action area since active vessels in the action area may move elsewhere, or be retired from use. At this time, we assume there will only be a slight increase in risk from the minimal number of additional vessels added to baseline activity in the action area and that any associated increase in risk of a vessel strike would be too small to be detected or measured and effects are therefore insignificant.

In-water/Over-water Structures and Material Placed on Bottom/Shoreline

Three types of breakwaters are proposed: Type A, Type B, and Type C, all of which would extend some height above MHW. Two segments of Type A breakwaters would be installed in the western portion of the project site near Ward's Point. Together the two segments would be approximately 900 feet long, and result in the placement of 18,472 CY in the bay, of which 16,696 CY would be below MHW within a 2.0-acre footprint. In the middle portion of the project site, offshore of the shoreline restoration area, six segments of Type B breakwaters would be installed. Together these segments would be approximately 1,800 feet long and result in the placement of approximately 98,323 CY in the bay, of which 72,115 CY would be below MHW within a 6.4-acre footprint. Two Type C breakwaters would be installed offshore from the Water Hub location in the eastern portion of the project site. Together, these segments would be approximately 1,200 feet long and result in the placement of approximately 80,369 CY within the bay, of which approximately 61,875 CY would be below MHW within a 4.2-acre footprint.

A temporary seasonal floating dock measuring about 30 feet by 50 feet, with a total area of 1,500 square feet, would be installed near the breakwaters segments on the shore side of the Type C breakwater farthest from shore.

A floating nursery structure comprising a series of floating oyster trays housing spat on shell, most likely arranged as two 300-foot-long by 10-foot-wide segments totaling approximately 6,000 square feet (0.2 acres) would also be located in the lee of the breakwaters. At the Water Hub, access to the water from the shore would be provided by means of a seasonally deployed temporary floating boat launch. Anchored about a foot above MHW, the approximately 8-foot-wide temporary boat launch would extend approximately 210 feet and would provide a separation of approximately 18 inches between the bottom of a vessel located at the end of the launch and the bay bottom at MLW.

The proposed area of one-time shoreline restoration would include approximately 163,820 square feet (3.8 acres), of which 87,975 square feet (2.0 acres) would be below MHW. The proposed shoreline restoration would extend along approximately 800 feet of shoreline between Manhattan Street and Loretto Street. About 20,701 cubic yards (CY) of sand, approximately 15,369 CY of which would be below MHW, would be placed in this location to establish a wider beach and in what is currently a narrow and erosion-prone section of the beach.

The Breakwaters Project would displace 12.7 acres of existing benthic habitat that could be used by Atlantic sturgeon to forage for benthic fish and invertebrates. However, there is no indication that the study area could provide unique ecological opportunities; thus, the loss of this specific bottom forage habitat would represent only 0.05 percent of the available nearshore habitat in the New York and New Jersey waters of Raritan Bay (and 2 percent of existing benthic habitat in the study area, which would not be lost all at once, but rather sequentially over the 18 month construction period). Shading may reduce photosynthesis in these areas, which forms the basis of benthic food chains, and may reduce the forage base in the shaded area. Although some benthic habitat will be permanently shaded, the area of the floating dock and nursery is small relative to the habitable area of the Raritan Bay. Because of the small area of the floating dock and nursery and the lack of forage opportunities, shading effects on the availability of prey resources to sturgeon will be too small to be meaningfully measured or detected, and therefore, insignificant.

In addition, subadult and adult Atlantic sturgeons consume a greater proportion of fish in their diets compared to younger life stages and would be expected to forage on and in the vicinity of the breakwater segments. The New York-New Jersey Harbor complex, of which Raritan Bay is a part, is considered to be of marginal or lower quality as sea turtle habitat, and observations of sea turtles in these waters are infrequent. Sea turtles do not depend on habitats in the region for breeding, wintering, or growth and are only considered to have the potential to occur within the study area as occasional transient individuals. Those sturgeon and sea turtles that do choose to opportunistically forage in the action area will be physically able to shift to other nearby areas in the estuary where the preferred benthic community is more readily accessible. Thus, any potential effects of habitat modification to sea turtles or sturgeon would be too small to be meaningfully measured or detected, and are insignificant.

CONCLUSIONS

Based on the analysis that all effects of the proposed action will be insignificant and/or discountable, we have determined that the Coastal and Social Resilience Initiatives for Tottenville Shoreline Project is not likely to adversely affect any listed species or critical habitat under NMFS' jurisdiction. We certify that we have used the best scientific and commercial data available to complete this analysis. GOSR requests your concurrence with this determination.

If you have questions or require additional information regarding this request, please contact me at (212) 480-4644 or daniel.greene@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Daniel Greene
General Counsel and Certifying Officer
New York State Governor's Office of Storm Recovery

Enclosures: Figure 1

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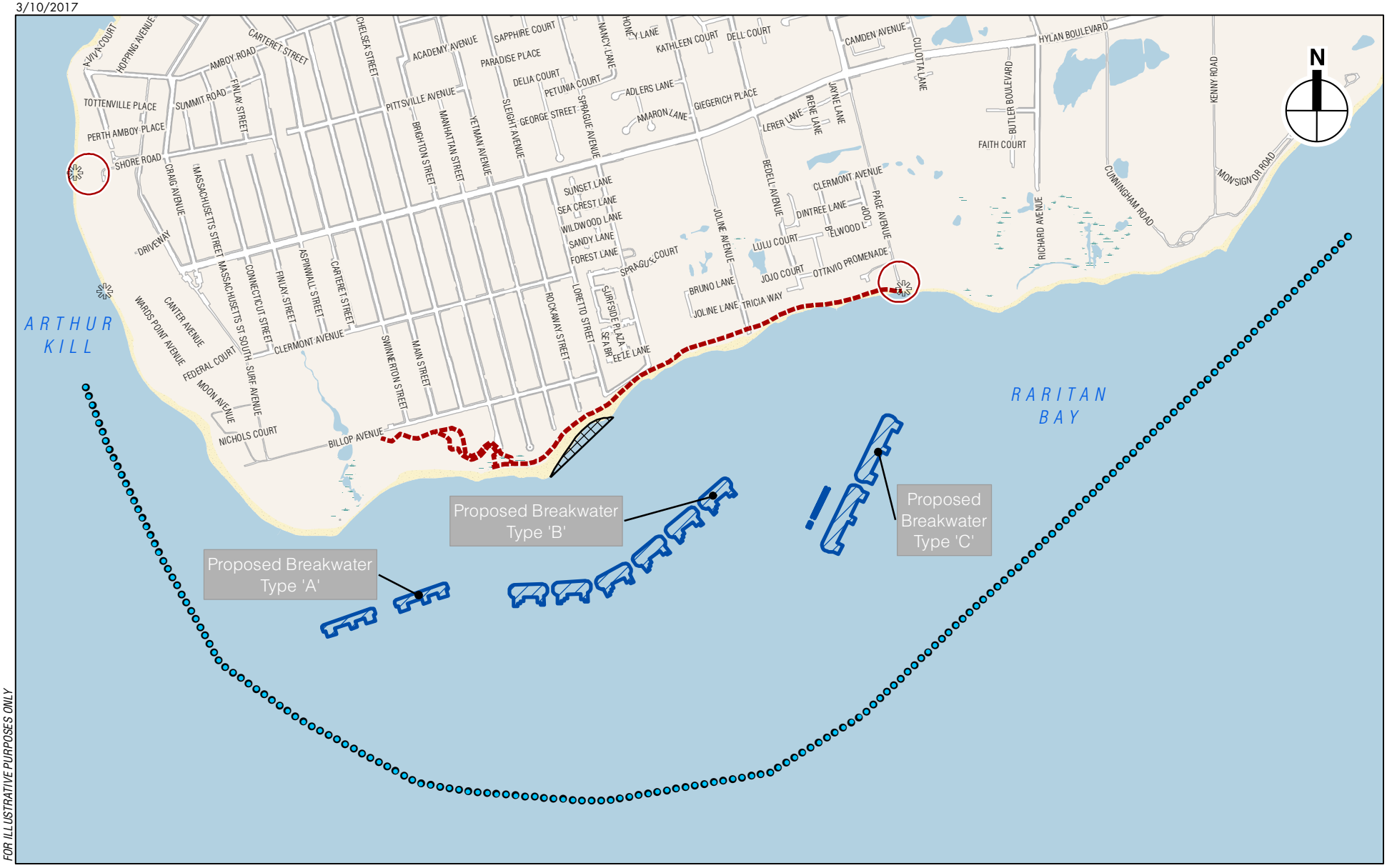
3/10/2017



Proposed Breakwater Features

Proposed Shoreline Restoration Area

Proposed Shoreline Project Elements

Potential Location of Proposed Water Hub (exact location to be determined)

Proposed Floating Dock and Oyster Nursery

Aquatic Resources Study Area (Outer Boundary)

Potential Water Access

0 2,000 FEET

Project Location

FIGURE 1

Coastal and Social Resiliency Initiatives for Tottenville Shoreline

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

MAY 19 2017

Daniel Greene
New York State Governor's Office of Storm Recovery
25 Beaver Street
New York, NY 10004

Re: Coastal and Social Resilience Initiatives for Tottenville Shoreline Project – Staten Island, Richmond County, NY

Dear Mr. Greene:

We have completed our consultation under section 7 of the Endangered Species Act (ESA) in response to your letters received April 19, 2017 and May 12, 2017 regarding the above-referenced proposed project. We reviewed the action agency's consultation request document and related materials. Based on our knowledge, expertise, and the action agency's materials, we concur with the action agency's conclusion that the proposed action is not likely to adversely affect the ESA-listed species and/or designated critical habitat under our jurisdiction. Therefore, no further consultation pursuant to section 7 of the ESA is required.

We have two conclusions to clarify from your letter. In your letter, you did not include the best available information on the TSS levels and estimated distance of the plume of beach nourishment activities. According to Wilber *et al.* 2006 and Burlas *et al.* 2001, turbidity levels created by the beach fill operations along the shoreline are expected to be between 34.0-64.0 mg/L; limited to an area approximately 1,640 feet down current from the placement site. In the vessel traffic section of the effects analysis, you do not identify the types of additional vessels that will be in Raritan Bay as a result of the project. From looking at the project description, we see that those vessels include a shallow-draft research vessel and small recreational boats (e.g., kayaks).

Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this consultation; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. No take is anticipated or exempted. If there is any incidental take of a listed species, reinitiation would be required. Should you have any questions about this correspondence please contact Edith Carson at 978-282-8490 or Edith.Carson@noaa.gov. For questions related to Essential

Fish Habitat please contact Ursula Howson with our Habitat Conservation Division at 732-872-3116 or Ursula.Howson@noaa.gov.

Sincerely,

Kimberly B. Damon-Randall
Assistant Regional Administrator
for Protected Resources

EC: Carson NMFS/PRD; Howson NMFS/HCD
PCTS: NER-2017-14169
File Code: \Section 7\Non-Fisheries\HUD\2017\Pilot_HUD GOSR Tottenville Breakwater Shoreline Oyster Raritan Bay

Governor's Office of
Storm Recovery

ANDREW M. CUOMO
Governor

December 12, 2017

Ms. Kerri Dikun
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967

Consultation Code: 05E1LI00-2017-SLI-0153

RE: Revised Informal Section 7 Consultation for the Coastal and Social Resiliency Initiatives for Tottenville Shoreline Project – Staten Island, Richmond County, NY

Dear Ms. Dikun:

On behalf of Grantee the State of New York, the Governor's Office of Storm Recovery (GOSR), serving under the auspices of the New York State Homes and Community Renewal's Housing Trust Fund Corporation (HTFC), and acting under authority of the U.S. Department of Housing and Urban Development's (HUD) regulations at 24 CFR Part 58, and in cooperation with other involved, cooperating, interested agencies, is requesting Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) concurrence from your office for the Coastal and Social Resilience Initiatives for Tottenville Shoreline Project, Staten Island, Richmond County, NY. GOSR has made the determination that the Proposed Actions may affect, but are not likely to adversely affect, any species listed as threatened or endangered by USFWS under the ESA of 1973, as amended.

This request is a revision to the previously submitted April 17, 2017 request for concurrence. Revisions include the inclusion of red knot and an evaluation of potential for future use of the project site by shorebirds. We have also evaluated the project for compliance with the Migratory Bird Treaty Act of 1918 (MBTA) (40 Stat. 755, as amended; 16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act of 1940 (BGEPA) (54 Stat. 240, as amended; 16 U.S.C. 668-668c) and concluded that the Proposed Actions would not adversely affect birds protected under the MBTA, and would have no impact on bald and golden eagles. Our supporting analysis is provided below.

GOSR is preparing a Final Environmental Impact Statement (FEIS) for compliance with NEPA for the proposed Coastal and Social Resiliency Initiatives for Tottenville Shoreline Project located in Staten Island, Richmond County, NY (the "Proposed Actions"). These initiatives include the Living Breakwaters Project (Breakwaters Project) and Tottenville Shoreline Protection Project (Shoreline Project). The Breakwaters Project and Shoreline Project each have independent utility, but both projects would be located in the same geographic region. The two projects would largely be funded

through New York State's Community Development Block Grant-Disaster Recovery (CDBG-DR) grant. The proposed Breakwaters Project, a layered resiliency approach to promote risk reduction through erosion prevention, wave energy attenuation, and enhancement of ecosystems and social resiliency, was awarded $60 million through HUD's June 2013 Rebuild by Design (RBD) competition. Additional project funding will be leveraged as required by HUD for RBD projects. The proposed Shoreline Project includes a series of shoreline risk reduction measures, including an earthen berm, a hardened hybrid dune/revetment system, eco-revetments, raised edge (revetment with trail), wetland enhancement, and shoreline plantings. Approximately $9.3 million of CDBG-DR funds from the NY Rising Community Reconstruction Program will be used to implement this project.

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and with the May 22, 2017 letter from the National Marine Fisheries Services (NMFS), GOSR has conducted an expanded Essential Fish Habitat (EFH) Assessment for the Proposed Actions that will be included in the FEIS and the Joint Application for permit submitted for the Proposed Actions. The DEIS for this project was completed and made available for public download on March 24, 2017 and underwent a 45-day comment period, ending on May 8, 2017. GOSR submitted a Joint Application to the US Army Corps of Engineers (USACE) and to the New York State Department of Environmental Conservation (NYSDEC) on March 31, 2017 and is coordinating with the USACE and NYSDEC in providing additional information requested by both agencies. GOSR is currently preparing the FEIS and through the inclusion of your organization in the EIS and permitting process at this juncture it is the intention of GOSR to ensure that permit issuance will coincide, to the maximum extent practicable, with the FEIS completion date.

Proposed Actions

The Proposed Actions comprise the implementation of two individual projects that, when integrated as one initiative may provide greater overall coastal risk reduction and promote social resilience along the Tottenville shoreline of the South Shore of Staten Island, NY. The Proposed Actions include the Living Breakwaters Project (Breakwaters Project) and Tottenville Shoreline Protection Project (Shoreline Project).

The purpose of the Proposed Actions is to reduce wave action and coastal erosion along the shoreline in Tottenville while enhancing ecosystems and shoreline access, use, and stewardship. The specific goals and objectives of the Proposed Project are: (1) Risk Reduction, via attenuation of wave energy, minimization of both event-based and long-term shoreline erosion, preservation of beach width, and addressing the impacts of coastal flooding; (2) Ecological Enhancement, by increasing the diversity of aquatic habitats consistent with Hudson-Raritan Estuary Plan priorities (e.g., fish and shellfish habitat); and (3) Social Resiliency, by fostering community education on coastal resiliency directly tied to and building off the structural components of this initiative, increasing physical and visual access to the water's edge, enhancing community stewardship of on-shore and in-water ecosystems, and increasing access to recreational opportunities.

The Breakwaters Project comprises:

- An ecologically enhanced breakwater system designed to reduce wave energy at the shoreline, and prevent or reverse shoreline erosion while creating hard/structured marine habitat, described in greater detail below. The breakwater system as currently proposed (60 percent design) would have a total length of approximately 3,200 linear feet within Raritan Bay and would be located between approximately 790 and 1,170 feet from the shoreline. Additionally, the vast majority of the breakwater structures would be located more than 1,700 feet from the Federal Navigation Channel with the closest breakwater segment located more than 700 feet from the channel. The breakwater structures would occupy approximately 495,900 square feet (approximately 11.4 acres) on the bottom of Raritan Bay and result in the placement of 151,780 CY of rock and ecologically enhanced concrete within Raritan Bay, approximately 115,990 CY of which would be placed below mean high water (MHW). The breakwaters would

be positioned and designed to optimize reduction in both wave height and shoreline erosion, while enhancing habitat and minimizing habitat displacement and navigational impacts. The breakwaters will be rubble mound structures made of a combination of hard stone and biologically enhanced concrete armor units. While materials and the basic construction of the breakwaters will be the same across all segments, three types of breakwaters, defined largely by their differences in crest elevation (in North American Vertical Datum of 1988 [NAVD88]) and overall height, are proposed: Type A, Type B, and Type C, as indicated in Attachment 1 to the enclosed EFH Assessment Worksheet. All would extend some height above MHW. The overall breakwater system layout has been designed to reduce or reverse shoreline erosion along the length of the project area. Breakwater crest elevations, orientation and locations were also based on the relative need for storm wave attenuation at different locations along the shoreline.

- One time shoreline restoration along approximately 800 feet of shoreline between Manhattan Street and Loretto Street. The shoreline restoration would place sand within an approximately 3.1 acres, of which 2.6 acres would be below mean high water (MHW). About 17,404 cubic yards (CY) of sand, approximately 11,637 CY of which would be below MHW, would be placed in this location to widen the beach in what is currently a narrow and erosion-prone section of the beach.

- A proposed Water Hub to promote social resilience through educational and community programs with water access via a floating boat ramp. One of three potential locations under consideration will be selected for siting the Water Hub—Potential Location 1 would be in the vicinity of the southern terminus of Page Avenue (involving the construction of a new structure). Potential Location 2 would be in the north-western portion of Conference House Park (involving the rehabilitation and adaptive reuse of an existing NYC Parks building). Potential Location 1 would be an enclosed 5,000-square-foot building elevated above the 100-year flood elevation by 3 feet and would include approximately 35,500 square feet of site improvements(landscaping, parking, and utility spaces and designated space for the use of New York City Department of Parks and Recreation (NYC Parks) vehicles and equipment). Potential Location 1 would also include a boat launch that would extend from about 1 foot above MHW to water depths between 4 and 5 feet at Mean Low Water (MLW), sufficient for docking of a shallow draft research vessel. Potential Location 2 would include water access near one of the existing NYC Parks buildings selected for adaptive reuse, or at the existing Conference House Park Pavilion, where water access would be provided by a ramp extending from the Pavilion to a floating dock. Should Potential Location 2 be selected, a small facility (1,600 square feet or less) would be constructed at Potential Location 1 to provide seating, wayfinding and potential storage for kayaks and beach cleaning equipment. Potential Location 3 would be a “floating” Water Hub, or vessel operated by a non-profit organization (e.g., Billion Oyster Project). The vessel would operate out of existing facilities in the City and would visit the project area periodically from April through November, anchoring near the breakwater structures for observation and education. Should the Water Hub be located at Potential Location 3, a potential small storage facility for kayaks would be constructed on-shore near the terminus of Page Avenue. Additional wayfinding and signage locations would be integrated along the length of the shoreline as part of the Water Hub’s educational programming. No additional parking facilities would be required with this option. Also, because this option does not include an on-shore facility, a seasonally deployed temporary floating boat launch would not be included as part of the project.

- Should Water Hub programming be located at Potential Location 1 or 2, a 30 by 50-foot-wide seasonal floating dock would be installed near the Type C eastern breakwaters segments for observations, monitoring, maintenance and stewardship, including specifically, for vessels operated by the Billion Oyster Project and any other anticipated

project stewards. The floating dock would not be required for Potential Location 3, because education and monitoring activities could occur directly from the vessel of the "floating" Water Hub.

The Shoreline Project would provide on-shore risk-reduction measures that would work in tandem with the risk reduction potential provided by the Breakwaters Project. The Shoreline Project would consist of a series of shoreline protection measures that would include an earthen berm, hybrid dune/revetment system, eco-revetments (one section between Brighton Street and Manhattan Street, and one section between Loretto Street and Sprague Avenue), a raised edge (a revetment with a trail), along with wetland enhancements and landscaping with native coastal plant species. It would extend from approximately west of the intersection of Swinnerton Street and Billop Avenue to Page Avenue. All of these elements would be located landward of MHW.

Based on preliminary projections, construction of both projects is anticipated to begin in mid-2019 and be complete by 2020 (over an anticipated 19-month construction period with approximately 15 months of active construction). The in-water construction would comply with timing restrictions for winter flounder and horseshoe crab.

Compliance

Endangered Species Act – According to the USFWS Species List dated March 22, 2017 (see **Attachment 1**), there is one threatened species (piping plover [*Charadrius melodus*]) and one endangered species (roseate tern [*Sterna dougallii dougallii*]) that are potentially associated with the project site. The Species List for the proposed project indicated that although critical habitat has been designated for piping plover, there is no critical habitat within the project area. No critical habitat has been designated for roseate tern. Although the USFWS IPaC resource list did not include red knot (*Calidris canutus rufa*, threatened), the potential for the Proposed Actions to result in the future use of the project area by red knots is assessed.

The breeding range of the piping plover within New York State is limited to the coastlines of Long Island, where plovers nest from Queens to eastern Suffolk County (Wasilco 2008). Nesting of piping plovers within New York City is limited to a colony on Rockaway Peninsula in Queens County (Boretti et al. 2007) and a few individual pairs that have sporadically nested within the Jamaica Bay Unit of the Gateway National Recreational Area in Queens and Kings Counties on isolated occasions (Wells 1996, Wasilco 2008). Piping plovers also nest within the Sandy Hook Unit of the Gateway National Recreational Area in New Jersey, more than 10 miles west of the study area. Piping plovers do not nest on Staten Island, and any potential occurrences of piping plovers within the study area would be limited to migrants associated with breeding populations elsewhere briefly passing through en route to their nesting or wintering areas.

The breeding range of the roseate tern within New York State is limited to the coastlines of Long Island and more than 90 percent of the population is made up by a single colony on Great Gull Island, off Long Island's eastern end. The remainder occurs in small groups of often just one or two breeding pairs in variable locations along Long Island's south shore (Mitra 2008). Roseate terns have sporadically nested towards the western end of Long Island in the past (e.g., 2 pairs in Jamaica Bay in 1996; Wells 1996), but during the most recent New York State Breeding Bird Atlas (2000-2005), they were not documented anywhere west of Suffolk County (Mitra 2008), and no roseate terns were found nesting anywhere on western Long Island during the most recent NYSDEC Long Island Colonial Waterbird Census for which data are available (NYSDEC 2013). Roseate terns are migratory and overwinter in the southern hemisphere. Therefore, any potential occurrences of roseate terns within the study area would be limited to migrants briefly passing through on their way to their breeding or wintering grounds.

The *rufa* subspecies of the red knot migrates up to 30,000 miles round trip between primary wintering grounds in South America and breeding grounds in the high arctic, with conditions for refueling at staging areas along the Atlantic coast

being critical determinants of migration and reproductive success and overall survival (Baker et al. 2004, Morrison et al. 2007). Delaware Bay is the most significant migration staging area for *rufa* red knots, which time their springtime arrival in the bay to coincide with the peak horseshoe crab spawning period (Baker et al. 2004, Niles et al. 2009). Red knots are dependent on a superabundance of horseshoe crab eggs as a food source in order to almost double their body mass and fuel the remaining leg of their migration to the high arctic (Baker et al. 2004, Morrison and Hobson 2004). Delaware Bay is the only place in the Western Hemisphere where horseshoe crabs spawn in numbers that enable red knots to do so (Niles 1999). Steep declines in the number of horseshoe crabs spawning in Delaware Bay in recent decades, despite stricter harvest restrictions, has significantly hindered the ability of red knots to refuel at sufficient rates, and in turn, led to rapid population declines (Niles et al. 2008, 2009). Monomoy National Wildlife Refuge in Cape Cod, Massachusetts appears to be among the most significant staging areas for red knots during their southbound autumn migration (Harrington et al. 2010, Burger et al. 2012). In addition to these primary staging areas in Delaware Bay and Cape Cod, migrating red knots may commonly stage, albeit in much lower densities, elsewhere along the Atlantic coast (Harrington 2010, Burger et al. 2012). Therefore, any potential occurrences of red knots within the study area would likely be limited to migrants briefly passing through on their way to their breeding or wintering grounds.

All three species are found to nest and overwinter in locations outside of Staten Island. Any potential occurrence of the three species would likely be limited to migrants briefly passing through on their way to their breeding or wintering grounds. In the event that piping plovers or roseate tern are found to nest on the beach, NYC Parks will enact similar management and protection measures as those used for the Rockaway Beach colony of piping plovers and other shorebirds. It is expected that red knots and other shorebirds may occur on the beach during spring and fall migration with the same likelihood as at present. The shoreline restoration and breakwaters may improve benthic invertebrate communities as well as horseshoe crab nesting habitat, and in turn, improve refueling conditions for migrating shorebirds.

Migratory Bird Treaty Act (MBTA) – According to the USFWS IPaC resource list (accessed December 11, 2017, see **Attachment 2**), there are several migratory birds of concern that could potentially be affected by the proposed project. In order to minimize impacts to migratory birds with the potential to breed within the portion of Conference House Park where the earthen berm would be constructed, construction activities would avoid the early May through July primary bird breeding season to the extent practicable. Should construction activities requiring tree clearing be necessary during April or August (i.e., the beginning and end of the breeding period), GOSR will coordinate with the USFWS with respect to conducting active nest surveys that may support the minimal tree cutting that would be needed for the Proposed Actions during this period. These surveys would be focused on the presence of active nests, eggs, or young in trees targeted for removal. In the event that active nests, eggs, or young are not present, GOSR will inform USFWS of the results before commencing any tree cutting. With these measures in place, GOSR determined that the project would not adversely affect, migratory birds or their habitat.

Bald and Golden Eagle Protection Act (BGEPA) – Neither the Bald nor Golden Eagle were identified by the IPaC resource list (**Attachment 2**) as having the potential to be affected by the proposed project. GOSR has determined that the proposed action would have no impact on Bald or Golden Eagles.

If you have questions or require additional information regarding this request, please contact me at (212) 480-4644 or daniel.greene@stormrecovery.ny.gov. Thank you for your time and consideration.

Sincerely,

Matt Accardi
Assistant General Counsel and Certifying Officer
New York State Governor's Office of Storm Recovery

Enclosures:
Figure 1: Project Location Map
Attachment 1: USFWS Species List
Attachment 2: USFWS Resource List

Cc: Steve Papa, USFWS
Laurie Boullianne, USFWS

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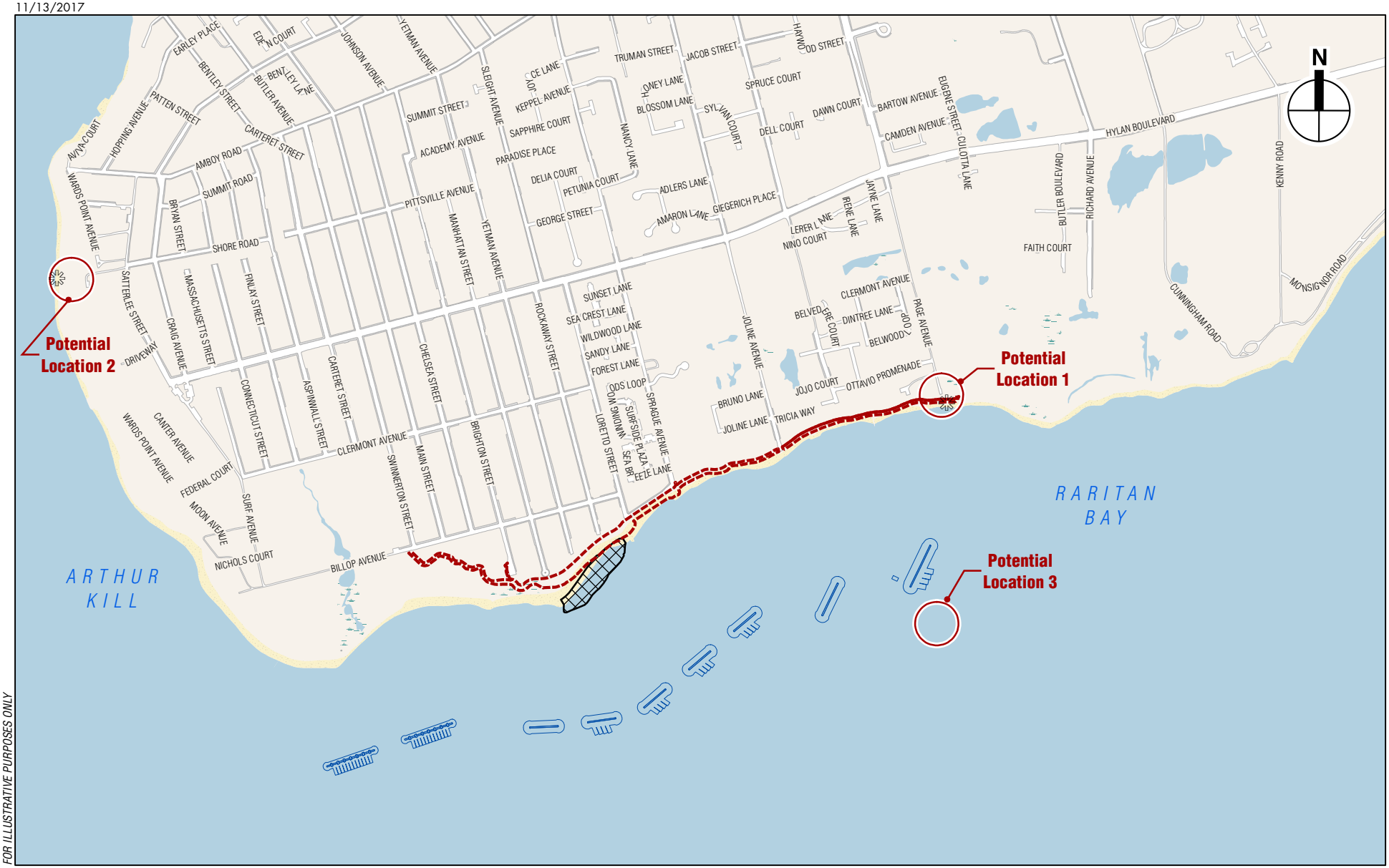
11/13/2017



FOR ILLUSTRATIVE PURPOSES ONLY

Proposed Breakwater Features

Proposed Shoreline Restoration Area

Proposed Shoreline Project Elements

Potential Location of Proposed Water Hub (exact location to be determined)

Proposed Floating Dock (associated with Water Hub Potential Locations 1 and 2 only)

Potential Water Access

0 2,000 FEET

Project Location

Coastal and Social Resiliency Initiatives for Tottenville Shoreline

Figure 1

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967
Phone: (631) 286-0485 Fax: (631) 286-4003

In Reply Refer To: December 11, 2017
Consultation Code: 05E1LI00-2018-SLI-0140
Event Code: 05E1LI00-2018-E-00309
Project Name: the Coastal and Social Resiliency Initiatives for Tottenville Shoreline Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Long Island Ecological Services Field Office
340 Smith Road
Shirley, NY 11967
(631) 286-0485

Project Summary

Consultation Code: 05E1LI00-2018-SLI-0140

Event Code: 05E1LI00-2018-E-00309

Project Name: the Coastal and Social Resiliency Initiatives for Tottenville Shoreline Project

Project Type: ** OTHER **

Project Description: The Proposed Actions comprise the implementation of two individual projects that, when integrated as one initiative may provide greater overall coastal risk reduction and promote social resilience along the Tottenville shoreline of the South Shore of Staten Island, NY. The Proposed Actions include the Living Breakwaters Project (Breakwaters Project) and Tottenville Shoreline Protection Project (Shoreline Project). The Breakwaters Project comprises an ecologically enhanced breakwater system designed to reduce wave energy at the shoreline, and prevent or reverse shoreline erosion while creating hard/structured marine habitat. The breakwater system as currently proposed (60 percent design) would have a total length of approximately 3,200 linear feet within Raritan Bay and would be located between approximately 790 and 1,170 feet from the shoreline, with the closest breakwater segment located more than 700 feet from the Federal Navigation Channel. The breakwater structures would occupy approximately 495,900 square feet (approximately 11.4 acres) on the bottom of Raritan Bay and result in the placement of 151,780 CY of rock and ecologically enhanced concrete, approximately 115,990 CY of which would be placed below mean high water (MHW). The breakwaters will be rubble mound structures made of a combination of hard stone and biologically enhanced concrete armor units.
The Breakwaters Project also includes a shoreline restoration that would place sand within an approximately 3.1 acres, of which 2.6 acres would be below MHW. About 17,404 cubic yards (CY) of sand, approximately 11,637 CY of which would be below MHW, would be placed in this location to widen the beach in what is currently a narrow and erosion-prone section of the beach.
The Breakwaters Project also includes a proposed Water Hub facility to promote social resilience through educational and community programs with water access via a floating boat ramp. One of three potential locations under consideration will be selected for siting the Water Hub—Potential Location 1 would be in the vicinity of the southern terminus of Page Avenue (involving the construction of a new structure). Potential Location 2 would be in the north-western portion of Conference House Park (involving the rehabilitation and adaptive reuse of an existing

NYC Parks building). Potential Location 3 would be a vessel operated by a non-profit organization that would visit the breakwaters periodically. Should the Water Hub be located at Potential Location 1 or 2, a 30 by 50-foot-wide seasonal floating dock would be installed near the Type C eastern breakwaters segments for observations, monitoring, maintenance and stewardship, The floating dock and boat ramp would not be required for Potential Location 3. A potential small storage facility for kayaks would be constructed on-shore near the terminus of Page Avenue for Potential Locations 1 and 3.

The Shoreline Project would provide on-shore risk-reduction measures that would work in tandem with the risk reduction potential provided by the Breakwaters Project. The Shoreline Project would consist of a series of shoreline protection measures that would include an earthen berm, hybrid dune/revetment system, eco-revetments (one section between Brighton Street and Manhattan Street, and one section between Loretto Street and Sprague Avenue), a raised edge (a revetment with a trail), along with wetland enhancements and landscaping with native coastal plant species. It would extend from approximately west of the intersection of Swinnerton Street and Billop Avenue to Page Avenue. All of these elements would be located landward of MHW.

Construction of both projects is anticipated to begin in mid-2019 and be complete by 2020. The in-water construction would comply with timing restrictions for winter flounder and horseshoe crab.

Project Location:

Approximate location of the project can be viewed in Google Maps:
https://www.google.com/maps/place/40.496993842417965N74.23539254090645W

Counties: Richmond, NY

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Roseate Tern *Sterna dougallii dougallii* Population: northeast U.S. nesting pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2083	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

the Coastal and Social Resiliency Initiatives for Tottenville Shoreline Project

LOCATION

Richmond County, New York

DESCRIPTION

The Proposed Actions comprise the implementation of two individual projects that, when integrated as one initiative may provide greater overall coastal risk reduction and promote social resilience along the Tottenville shoreline of the South Shore of Staten Island, NY. The Proposed Actions include the Living Breakwaters Project (Breakwaters Project) and Tottenville Shoreline Protection Project (Shoreline Project).
The Breakwaters Project comprises an ecologically enhanced breakwater system designed to reduce wave energy at the shoreline, and prevent or reverse shoreline erosion while creating hard/structured marine habitat. The breakwater system as currently proposed (60 percent design) would have a total length of approximately 3,200 linear feet within Raritan Bay and would be located between approximately 790 and 1,170 feet from the shoreline, with the closest breakwater segment located more than 700 feet from the Federal Navigation Channel. The breakwater structures would occupy approximately 495,900 square feet (approximately 11.4 acres) on the bottom of Raritan Bay and result in the placement of 151,780 CY of rock and ecologically enhanced concrete, approximately 115,990 CY of which would be placed below mean high water (MHW). The breakwaters will be rubble mound structures made of a combination of hard stone and biologically enhanced concrete armor units.
The Breakwaters Project also includes a shoreline restoration that would place sand within an approximately 3.1 acres, of which 2.6 acres would be below MHW. About 17,404 cubic yards (CY) of sand, approximately 11,637 CY of which would be below MHW, would be placed in this location to widen the beach in what is currently a narrow and erosion-prone section of the beach.
The Breakwaters Project also includes a proposed Water Hub facility to promote social resilience through educational and community programs with water access via a floating boat ramp. One of three potential locations under consideration will be selected for siting the Water Hub—Potential Location 1 would be in the vicinity of the southern terminus of Page Avenue (involving the construction of a new structure). Potential Location 2 would be in the north-western portion of Conference House Park (involving the rehabilitation and adaptive reuse of an existing NYC Parks building). Potential Location 3 would be a vessel operated by a non-profit organization that would visit the breakwaters periodically. Should the Water Hub be located at Potential Location 1 or 2, a 30 by 50-foot-wide seasonal floating dock would be installed near the Type C eastern breakwaters segments for observations, monitoring, maintenance and stewardship, The floating dock and boat ramp would not be required for Potential Location 3. A potential small storage facility for kayaks would be constructed on-shore near the terminus of Page Avenue for Potential Locations 1 and 3.
The Shoreline Project would provide on-shore risk-reduction measures that would work in tandem with the risk reduction potential provided by the Breakwaters Project. The Shoreline Project would consist of a series of shoreline protection measures that would include an earthen berm, hybrid dune/revetment system, eco-revetments (one section between Brighton Street and Manhattan Street, and one section between Loretto Street and Sprague Avenue), a raised edge (a revetment with a trail), along with wetland enhancements and landscaping with native coastal plant species. It would extend from approximately west of the intersection of Swinnerton Street and Billop Avenue to Page Avenue. All of these elements would be located landward of MHW.

NOT FOR CONSULTATION

Construction of both projects is anticipated to begin in mid-2019 and be complete by 2020. The in-water construction would comply with timing restrictions for winter flounder and horseshoe crab.

Local office

Long Island Ecological Services Field Office

(631) 286-0485
(631) 286-4003

340 Smith Road
Shirley, NY 11967

NOT FOR CONSULTATION

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Roseate Tern *Sterna dougallii dougallii* No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2083	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any activity that results in the take (to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct) of migratory birds or eagles is prohibited unless authorized by the U.S. Fish and Wildlife Service[3]. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured. Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

NOT FOR CONSULTATION

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or are known to have particular vulnerabilities in your project location. To learn more about the levels of concern for birds on your list, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your specific project area. To see maps of where birders and the general public have sighted birds in and around your project area, visit E-bird tools such as the E-bird data mapping tool (search for the scientific name of a bird on your list to see specific locations where that bird has been reported to occur within your project area over a certain time-frame) and the E-bird Explore Data Tool (perform a query to see a list of all birds sighted in your county or region and within a certain time-frame). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list can be found below.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC), but is of concern in this area either because of the Eagle Act, or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Mar 20 to Sep 15
Eastern Whip-poor-will *Antrostomus vociferus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 20
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC), but is of concern in this area either because of the Eagle Act, or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds elsewhere
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds elsewhere
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Red-throated Loon *Gavia stellata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

NOT FOR CONSULTATION

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was

found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

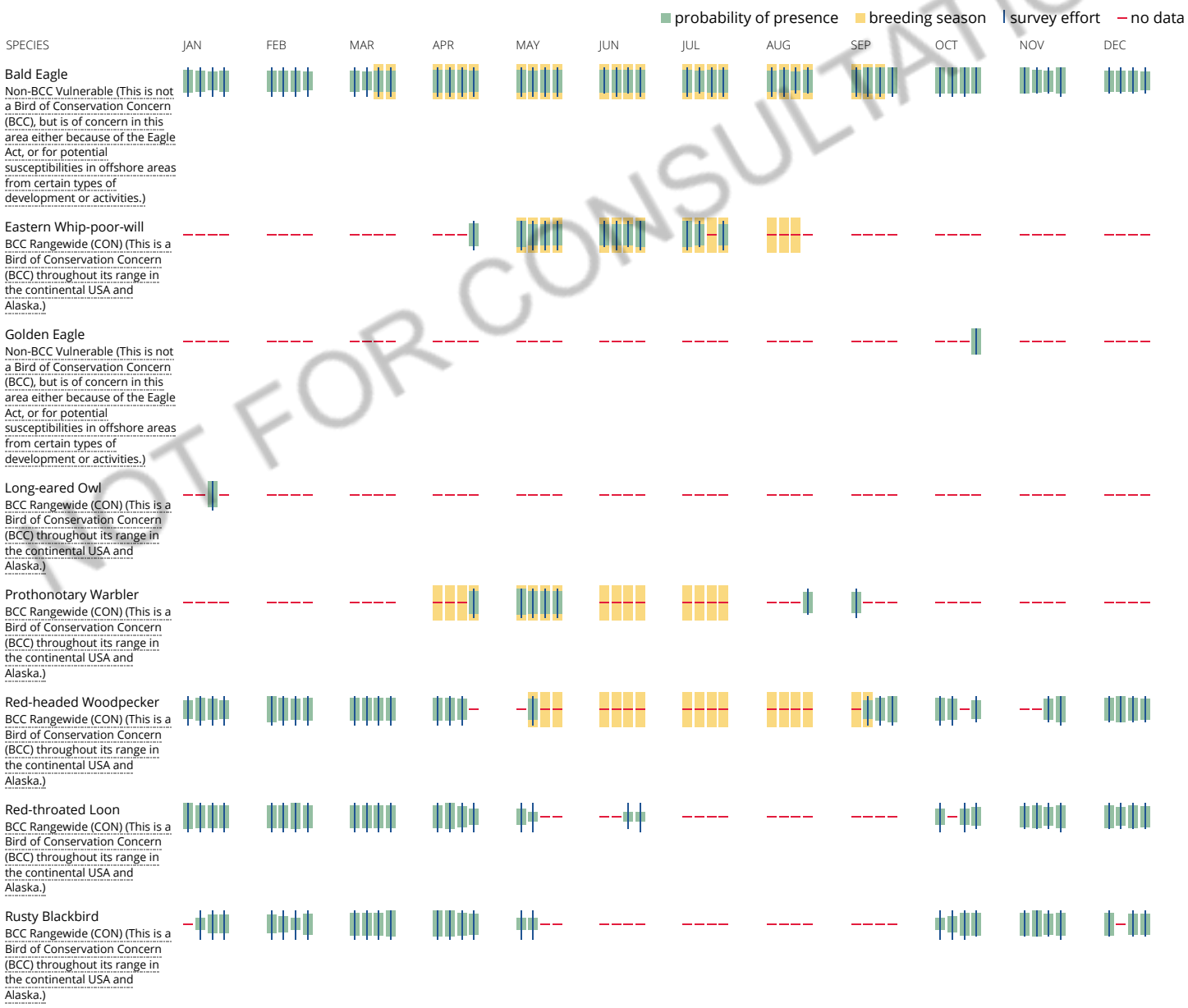
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.



NOT FOR CONSULTATION

Wood Thrush
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Such measures are particularly important when birds are most likely to occur in the project area. To see when birds are most likely to occur in your project area, view the Probability of Presence Summary. Special attention should be made to look for nests and avoid nest destruction during the breeding season. The best information about when birds are breeding can be found in Birds of North America (BNA) Online under the "Breeding Phenology" section of each species profile. Note that accessing this information may require a subscription. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) that might be affected by activities in your project location. These birds are of priority concern because it has been determined that without additional conservation actions, they are likely to become candidates for listing under the Endangered Species Act (ESA).

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets. The AKN list represents all birds reported to be occurring at some level throughout the year in the counties in which your project lies. That list is then narrowed to only the Birds of Conservation Concern for your project area.

Again, the Migratory Bird Resource list only includes species of particular priority concern, and is not representative of all birds that may occur in your project area. Although it is important to try to avoid and minimize impacts to all birds, special attention should be made to avoid and minimize impacts to birds of priority concern. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable the bird breeds in your project's counties at some point within the time-frame specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Avoidance and minimization measures should be implemented to reduce impacts to birds on your list, and all other birds that may occur in your project area. Nationwide Standard Conservation Measures can be applied for any project, regardless of project type or location.

If measures exist that are specific to your activity or to any of the species on your list that are confirmed to exist at your project area, these should also be considered for implementation in addition to the Nationwide Standard Conservation Measures. Implementation of avoidance and minimization measures is particularly important for BCC birds of rangewide concern.

If your project has the potential to disturb or kill eagles, you will need to obtain a permit to avoid violating the BGEPA should such impacts occur.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

Facilities

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National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location overlaps the following wetlands:

ESTUARINE AND MARINE DEEPWATER
- E1UBL
- E1UBL6

ESTUARINE AND MARINE WETLAND
- E2US2P
- E2US2N
- E2EM5P6
- E2EM1P
- E2USN
- E2EM1P6

FRESHWATER EMERGENT WETLAND
- PEM1/FO1C

FRESHWATER FORESTED/SHRUB WETLAND
- PFO1C
- PSS1/EM1R

FRESHWATER POND
- PUB/SS1T

A full description for each wetland code can be found at the National Wetlands Inventory website: https://ecos.fws.gov/ipac/wetlands/decoder

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or

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adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
3817 Luker Road
Cortland, NY 13045

January 17, 2018

Mr. Matt Accardi
Bureau of Environmental Review and Assessment
Assistant General Counsel
Governor's Office of Storm Recovery
25 Beaver Street, 5th Floor
New York, NY 10004

Dear Mr. Matt Accardi:

This is the U.S. Fish and Wildlife Service's (Service) response to the Governor's Office of Storm Recovery's (GOSR) letter dated December 12, 2017, requesting consultation pursuant to the Endangered Species Act (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) for the proposed project entitled, *"Coastal and Social Resilience Initiatives for Tottenville Shoreline Project."* The GOSR requested concurrence with their ESA determination that the proposed action may affect, but is not likely to adversely affect, the federally-listed piping plover (*Charadrius melodus*; threatened), roseate tern (*Sterna dougallii dougallii*; endangered), and red knot (*Calidris canutus rufa*; threatened).

Proposed Action

The Proposed Actions which are the subject of this consultation are described in the preliminary Final Environmental Impact Statement (EIS) dated January 2018 that was provided to our agency for review. The major components of the project include offshore breakwaters and shoreline protection features such as an earthen berm, hybrid dune system, and wetland enhancements.

GOSR Determination

The GOSR has determined that the project may affect, but is not likely to adversely affect, piping plover, roseate tern, and red knot. The basis for their determination is as follows:

> All three species are found to nest and overwinter in locations outside of Staten Island. Any potential occurrence of the three species would likely be limited to migrants briefly passing through on their way to their breeding or wintering grounds. In the event that piping plovers or roseate terns are found to nest on the beach, New York City Department

of Parks and Recreation will enact similar management and protection measures as those used for the Rockaway Beach colony of piping plovers and other shorebirds. It is expected that red knots and other shorebirds may occur on the beach during spring and fall migration with the same likelihood as at present. The shoreline restoration and breakwaters may improve benthic invertebrate communities, as well as horseshoe crab nesting habitat, and, in turn, improve refueling conditions for migrating shorebirds.

Service Comments

Piping plovers, roseate terns, and red knots have not been observed in the project area. Their status, along with the commitment to provide protection to these species should they be attracted to the site as a result of the project, enable us to concur with the GOSR's determination that the project may affect, but is not likely to adversely affect, these species.

For further information please contact Kerri Dikun of the Long Island Field Office at (631) 286-0485.

Sincerely,

David A. Stilwell
Field Supervisor

cc: NYSDEC, Stony Brook, NY (G. Hammarth, K. Jennings)

Appendix E-3
Summary of Aquatic Sampling Programs

A. BENTHIC MACROINVERTEBRATE STUDY

GRAB, SEDIMENT, AND WATER QUALITY SAMPLING

The benthic macroinvertebrate study program included sampling for benthic macrofauna, sediment characteristics (grain size and total organic carbon), and water quality sampling at the bottom and surface at 60 sampling locations (**Figures 9-2a and 9-2b**). Sampling was conducted in June and September of 2015 and 2017 at the same time fish were sampled. Separate grab samples for benthic macrofauna and sediment characteristics were collected using a 0.04-m^2 (0.43 sf) Young-modified van Veen grab and photographed prior to processing. Macrofauna samples were washed through a 0.5-mm (0.2-inch) mesh sieve, preserved in buffered formalin, and stained with rose Bengal. Grain size and total organic carbon analyses were performed by ALS Environmental on 60 grab samples during both the June and September surveys.

In-situ water quality data were also collected at each benthic sampling location during the June and September surveys. A secchi disc was deployed to record depth, and temperature, dissolved oxygen, pH, and salinity were recorded with a YSI Pro instrument at the surface and bottom of the water column. Surface grab samples were collected for total nitrogen and fecal coliform analysis, which was completed in a laboratory by ALS Environmental.

HARD-BOTTOM DESTRUCTIVE AND PHOTOGRAPH SURVEYS

Benthic communities found on five target locations of hard substrate in shallow nearshore areas of Raritan Bay were surveyed by destructive sampling in July and September of 2015 (**Figures 9-3a and 9-3b**). Hard-bottom destructive and photograph surveys were not repeated in 2017. A 100-ft line transect was set at each site and was centered on the hard-bottom feature parallel to its longest dimension. At each sampling location, divers collected at least two destructive samples (1/16 m^2) via scraping, photographic still images for 25 quadrats (1 m^2, approximately 11 square feet), and underwater video footage, if conditions allowed. Destructive samples were preserved using 6% buffered formalin. The number of samples collected at each site depended on the size of the hard-bottom area. Destructive sampling provided data to quantify algal biomass and invertebrate population densities. Photographic quadrats provided estimates of percent cover for both macroalgae and epibenthic macroinvertebrates. Composite photographic still images were used to quantify (as percent present) hard-bottom macroalgae and epibenthic fauna at 4 of the 5 stations in July and September of 2015 (all stations but the western-most stations in each month). Divers used a 0.5 x 0.5 meter quadrat frame for each image. Four photos were taken at each location to provide one square meter of imagery for analysis.

HARD CLAM AND SEDIMENT CHEMISTRY

Paired samples for hard clams (*Mercenaria mercenaria*) and sediment were collected at 30 of the benthic macroinvertebrate sampling locations during the September 2015 survey for purpose of tissue analysis (**Figure 9-4**). This sampling effort was not repeated in 2017. Hard clams were collected using a combination of methods to ensure sufficient samples for tissue analysis which

included hand collection by divers, van Veen grab, and clam rake during both the hard and soft bottom benthic surveys. Each clam was counted and measured, and a wet-weight total biomass of clams per sample was collected in the field. Some hard clams were packaged and refrigerated for tissue chemistry. Dry weight and ash free dry weight were estimated in the laboratory using clams other than those sampled for chemistry. Clam tissue was analyzed for dioxins/furans, metals, PAHs, PCBs, pesticides, lipids, organic chlorides, and SVOCs.

Sediment samples were collected at clam sampling locations using a Young-modified van Veen grab sampler mounted near the center of each towed clam dredge sample, placed in sample containers. Sediments were analyzed for metals, cyanide, pesticides, PCBs, SVOCs, and VOCs.

B. HORSESHOE CRAB SURVEY

Horseshoe crab egg surveys were conducted on the beach within Conference House Park approximately between Swinnerton Street and Page Avenue in June 2015 and June 2017 to investigate horseshoe crab breeding activity in the area (**Figure 9-5**). The methodology of the surveys was adapted from Sclafani et al. (2009)[1] and Botton et al. (2006)[2]. Specifically, three sand cores (2 cm x 20 cm) (0.79 inch by 7.9 inch) were taken with a PVC pipe along a number of transects within the study area oriented perpendicular to the waterline within approximately 2 hours of low tide. Sampling occurred along 8 transects on June 9th in 2015 and 10 transects each on June 7th and 10th in 2017, for a total of 24 cores in 2015 and 60 cores in 2017. Of the 3 sampling locations along each transect, the uppermost location was at the high tide line, and the second and third locations were approximately 10 and 20 m (32.8 and 65.6 feet), respectively towards the water, in the intertidal zone. Along narrower sections of the beach, the second and third sampling locations were spaced evenly between the high tide line and the water line. The transects were spaced approximately evenly from east to west, roughly between Swinnerton Street and Page Avenue. Sand cores were transferred to Ziplock bags and refrigerated for up to 1 week until analysis. The samples were examined for horseshoe crab eggs using a series of 4 mm (0.16 inch), 2 mm (0.08 inch), 1 mm (0.04 inch), and 500 µm (0.002 inch) sieves, as described by Sclafani et al. 2009.

In 2017, a visual survey was conducted at high tide on June 7th in Conference House Park from Hylan Boulevard to Ward's Point, and on June 8th between Swinnerton Street and Manhattan Street. NYC Parks conducts regular horseshoe crab monitoring and tagging during spawning season approximately between Hylan Boulevard and Ward's Point. Cornell University also conducts regular horseshoe crab monitoring during spawning season in locations throughout the New York City area, including Conference House Park. At the Conference House Park monitoring site, total count and distance from shore data are collected for adult males and females.

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[1] Sclafani, M., L. Brousseau, K. McKown, J. Maniscalco, and D.R. Smith. 2009. Horseshoe Crab Spawning Activity Survey – Final Report. Cornell University Cooperative Extension of Suffolk County. Available from: http://www.nyhorseshoecrab.org/

[2] Botton, M.L., R.E. Loveland, J.T. Tanacredi, and T. Itow. 2006. Horseshoe crabs (*Limulus polyphemus*) in an urban estuary (Jamaica Bay, New York) and the potential for ecological restoration. Estuaries and Coasst 29: 820-830.

C. FISH STUDY

Fish were sampled in June, July, and September of 2015 and 2017; June and September samples took place in conjunction with benthic sampling (see **Figures 9-6a through 9-6c**). The 2015 sampling used a combination of paired baited sea bass traps, otter trawl, and beam trawl to characterize the fish community in the study area. In 2017, the same methods were used with the exception of the use of the beam trawl. In both years, twenty 3-ft sea bass traps were set at 10 randomly selected sites. The 3.2-cm (1.3-inch) mesh otter trawl (2015 and 2017) and 2-m (6.6-ft) beam trawl (2015 only) were towed on parallel tracks at 10 additional randomly selected sites; tows were performed at a rate of approximately 1.5-meters per second (4.9 feet per second (fps)) over a duration of 10 minutes per station. The beam trawl was equipped with a calibrated flowmeter to estimate sample volumes. Beach seine sampling was conducted at 20 randomly selected sites using a 30-meter x 2.4-meter (98 ft by 8 ft) deep beach seine towed counterclockwise along each selected beach. All collected fish were identified and counted; 20 individuals of each species were measured to the nearest millimeter.

Appendix E-4
Field Sampling Reports
(Part 1)

Assessment of Existing Condition of Benthic and Fish Communities for the Living Breakwaters and Tottenville Dune Projects: July 2015 Survey Results

Prepared by:
Normandeau Associates, Inc.
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November 2015

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1.0 Introduction

1.1 Background

The New York State Governor's Office of Storm Recovery (GOSR) proposes to build the "Living Breakwaters and Tottenville Dune Projects" (Breakwaters Project), which includes construction of a breakwater in the shallow waters of Raritan Bay along the south shore of Staten Island, NY. The GOSR, acting under authority of the U.S. Department of Housing and Urban Development, and in cooperation with other involved and interested agencies, is preparing an Environmental Impact Statement (EIS) to analyze potential impacts of this project. Environmental review for the proposed actions will require additional data to characterize existing benthic and fish communities in the project area.

Normandeau Associates, Inc. (Normandeau), as a subcontractor to AKRF, Inc (AKRF), was contracted to collect ecological data to satisfy requirements for the Breakwaters Project EIS. Work on this project includes ecological surveys to support a "Fish Study" and a "Benthic Macroinvertebrate Study" in Raritan Bay. These studies were designed to assess both the spatial distribution of fish and invertebrate communities within the project area, and the temporal variation in those communities during summer and fall.

The Fish Study was designed to include collection of fish and epibenthic invertebrates using beach seines, fish traps, beam and otter trawls. The Benthic Macroinvertebrate Study includes surveys of water quality, sediment conditions, soft-bottom macroinvertebrate communities, and hard clams (*Mercenaria mercenaria*). The hard clam studies comprise an assessment of chemical contaminants in clam tissues, and in the sediments where clams are collected, along with characterization of clam distributions in the project area. After isolated areas of hard substrate were identified on the seafloor in the project area, sampling by SCUBA divers was added to the overall study plan to characterize hard-bottom benthic communities.

Sampling for these studies was conducted during the summer and early fall of 2015. Surveys for the Fish Study were conducted during June, July and September; and for the Benthic Macroinvertebrate Study, during June and September only. Sampling to characterize hard-bottom communities was conducted in July and September. Results for each of these seasonal surveys will be reported separately as laboratory results and quality-checked data become available.

This report presents results for surveys conducted during July 2015 to support the Fish Study. The contents of this report provide the raw data, data summaries, and other supporting materials and information that were delineated in the project work scope. Results reported herein provide the basis for analyses of these data as part of an in-depth environmental review for the Breakwaters Project EIS. An overview of the July surveys, including the dates and locations of sampling activities, is presented below in Section 1.2. Field and data handling methods are described in Section 2.0. Survey results are provided in Section 3.0, and Section 4.0 provides a brief summary of the July surveys.

1.2 July 2015 Surveys

Normandeau conducted surveys from 21 to 28 July, 2015, to support the Fish Study in Raritan Bay. Surveys were conducted using beach seines, fish traps, beam and otter trawls, at locations identified by AKRF based on a stratified random sampling design. The list of randomly-selected locations included alternate locations that were used if sampling could not be conducted at the primary locations (i.e., due to depth, obstructions, etc.). Station information including sampling coordinates, bottom depth, and the date and collection time for each sample, are provided in Appendix A.

Normandeau conducted beach seine sampling at 20 locations along the south shore of Staten Island on 28 July, collecting one sample at each location (Figure 1-1, Appendix A-1). Fish trap samples were collected at 21 locations in Raritan Bay from 22 to 23 July (Figure 1-1, Appendix A-2). Paired fish traps were deployed at each location. Two sets of paired traps that were set on 21 July were missing on 22 July when the field crew returned to retrieve the traps, resulting in the loss of four fish trap samples. Additional traps were purchased and deployed in an attempt to collect the lost samples. One pair of replacement traps was moved to an alternate location in case the trap lines had been cut due to set location. Those traps were successfully retrieved on 23 July (Samples 515_22_1, 515_22_2). The second pair of fish traps was lost; buoys and lines were found floating. The buoy lines had been cut with a knife near the traps (traps were probably stolen), and identifying information on the buoys had been removed. A total of 38 out of 40 fish trap samples were collected during the July survey. Beam and otter trawl sampling was conducted at 10 locations on 21 and 22 July, with one haul for each gear type collected at each location (Figure 1-1, Appendices A-3 and A-4). Except for the loss of two fish trap samples, all samples for the July Fish Study were collected as planned.

During the July surveys, field crews observed large schools of Bluefish feeding at the surface on Atlantic Menhaden in the project area. Although some individuals of these species were collected in beach seine samples, these pelagic species were not targeted by the fishing gears being used in the areas where these fish were observed.

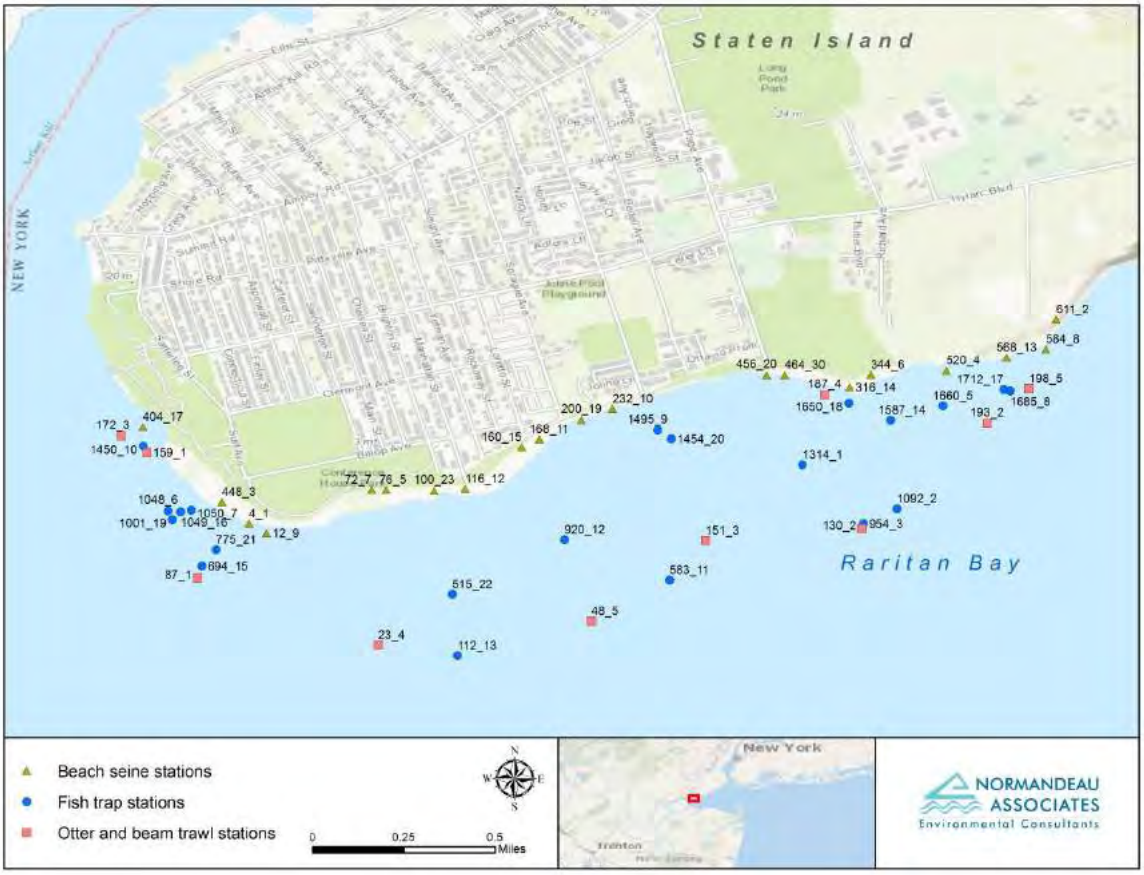

Figure 1-1. Location of fish sampling stations in Raritan Bay for the July 2015 Fish Study.

2.0 Methods

2.1 Field Methods

Field collection methods for the Fish Study, including quality assurance and quality control procedures, are described in the project Field SOP ("Field Standard Operating Procedures for an Ecological Survey in Raritan Bay to Assess Existing Condition of Benthic and Fish Communities for the Living Breakwaters and Tottenville Dune Projects"; Appendix B).

2.2 Data Handling and Reduction Methods

Data handling methods, including data entry and quality control procedures, are described in the project Field SOP (Appendix B).

Data preparation, reduction, and univariate analyses including summary statistics were run in SAS system software (version 9.3). Catch per unit effort (CPUE) for both beam trawl and otter trawl was standardized to the number of specimens per five-minute tow. Volumetric Density was calculated for the beam trawl as the number of specimens per 500 cubic meters of water passing through the trawl net. CPUE for fish trap was calculated as the number of specimens per trap set. CPUE for beach seine was calculated as the number of specimens per haul.

3.0 Results for the Fish Study

Four gear types were used during the July Fish Study: beach siene, fish traps, beam trawl and otter trawl. The beach seine collected the highest abundance and diversity of species (16,475 organisms and 26 species; Table 3-1). A total of 21 species of fish and 5 species of invertebrate were collected from the 20 beach seine hauls. Atlantic Silverside was the most abundant, with a total count of 14,676 followed by Atlantic Menhaden and Striped Killifish (514 each), and Northern Kingfish (155). Longwrist hermit crab was the most abundant invertebrate sampled with the beach seine (39), followed by blue crab (30). Three fish were collected from the 38 fish trap samples; one each of Northern Pipefish, Black Sea Bass, and Scup (Table 3-1). Of the three species of invertebrates collected from the fish traps, portly spider crab was most abundant (179) followed by blue crab (14), and Say mud crab (12). Four fish species and two invertebrate species were collected in the 10 beam trawl hauls (Table 3-1). Bay Anchovy was most abundant (278), followed by Atlantic Silverside (49), Atlantic Menhaden (27), and Summer Flounder (1). Blue crab and lady crab (3 and 2, respectively) were collected in the beam trawl. Ten otter trawl samples yielded 14 fish species and 5 invertebrate species (Table 3-1). Bay Anchovy was the most abundant fish (168) followed by Winter Flounder (19), and Atlantic Menhaden (13). Lady crab was the most abundant invertebrate species (19) followed by Say mud crab (12), and blue crab (11). Catch data for each gear type and sample are in Appendix C.

Catch per unit effort (CPUE) results reflect the abundance data standardized for each gear type (Table 3-2). In the beach seine hauls, Atlantic Silverside had the highest mean CPUE, with an average of 733.8/haul, a minimum of 3 and maximum of 1,810/haul followed by Atlantic Menhaden and Striped Killifish with a mean CPUEs of 25.7/haul. In the beam trawl samples, Bay Anchovy had the highest mean and maximum CPUE of 23.4 and 104.2/tow

followed by Atlantic Silverside and Atlantic Menhaden with mean CPUEs of 4.1 and 2.3/tow. In the otter trawl collections, Bay Anchovy had the highest mean and maximum CPUE of 16.8 and 145/tow. Winter Flounder was the second most abundant with a mean CPUE of 1.9/tow followed by Atlantic Menhaden at 1.3/tow. CPUE was uniformly low in the fish traps with Black Sea Bass, Northern Pipefish, and Scup all at 0.03/haul.

Among invertebrates in the fish traps, portly spider crab had the highest CPUE with a mean and maximum of 4.7 and 75/trap. In the otter trawl, lady crab had the highest mean and maximum CPUE of 1.9 and 5/tow followed by Say mud crab and blue crab with 1.2 and 1.1/tow. For the beach seine, long-wrist hermit crab had the highest mean and maximum CPUE of 1.95 and 9/tow followed by blue crab at 1.5/tow.

Volumetric density, calculated for the beam trawl, provides a standardized measure of the number of specimens per volume of water sampled by the trawl net (Table 3-3). Densities of fish and invertebrates followed similar patterns to CPUE for beam trawl (Tables 3-2 and 3-3). Bay Anchovy had the highest mean density across all samples (15.5/500 m^3), followed by Atlantic Silverside (2.9/500 m^3).

Length frequency measurements from the July survey are in Table 3-4. Atlantic Silverside, the most abundant species, had a modal length of 60-69 mm and minimum, mean and maximum length measurements of 33, 64, and 132 mm, respectively. Atlantic Menhaden, the second-most abundant species, ranged from 30-93 mm in length, with a modal length of 40-49 mm and an average length of 49 mm. Bay Anchovy had a modal length of 30-39 mm with a mean length of 34 mm. Maximum and minimum lengths were 28 and 51 mm. Striped Killifish had a modal length of 40-49 mm, averaging 46 mm in length and ranged from 30 to 59 mm in length.

Table 3-1. Total abundance of fish and invertebrate species by gear type during the July 2015 Fish Survey.

Common and scientific names			Beach seine (n=20)	Fish trap (n=38)	Beam trawl (n=10)	Otter trawl (n=10)
Fish	Alewife	*Alosa pseudoharengus*	1			
	Atlantic Menhaden	*Brevoortia tyrannus*	514		27	13
	Atlantic Silverside	*Menidia menidia*	14676		49	4
	Bay Anchovy	*Anchoa mitchilli*	88		278	168
	Bluefish	*Pomatomus saltatrix*	63			
	Crevalle Jack	*Caranx hippos*	21			
	Mummichog	*Fundulus heteroclitus*	44			
	Northern Kingfish	*Menticirrhus saxatilis*	155			2
	Northern Pipefish	*Syngnathus fuscus*	14	1		2
	Northern Puffer	*Sphoeroides maculatus*	5			
	Northern Stargazer	*Astroscopus guttatus*	1			
	Oyster Toadfish	*Opsanus tau*	1			1
	Sheepshead Minnow	*Cyprinodon variegatus*	4			
	Spot	*Leiostomus xanthurus*	1			
	Striped Bass	*Morone saxatilis*	9			
	Striped Killifish	*Fundulus majalis*	514			
	Striped Searobin	*Prionotus evolans*	3			3
	Tautog	*Tautoga onitis*	150			9
	Weakfish	*Cynoscion regalis*	35			
	White Mullet	*Mugil curema*	81			
	Winter Flounder	*Pseudopleuronectes americanus*	20			19
	Black Sea Bass	*Centropristis striata*		1		
	Scup	*Stenotomus chrysops*		1		5
	Summer Flounder	*Paralichthys dentatus*			1	4
	Lined Seahorse	*Hippocampus erectus*				1
	Northern Searobin	*Prionotus carolinus*				1
	Windowpane	*Scophthalmus aquosus*				6
Invertebrates	Blue crab	*Callinectes sapidus*	30	14	3	11
	Estuarine mud crab	*Rithropanopeus harrisii*	1			
	Green crab	*Carcinus maenus*	1			
	Lady crab	*Ovalipes ocellatus*	5		2	19
	Longwrist hermit crab	*Pagurus longicarpus*	39			1
	Portly spider crab	*Libinia emarginata*		179		2
	Say mud crab	*Dyspanopeus sayi*		12		12

Table 3-2. Summary statistics on CPUE[a] by gear type, species and sample total[b] for the July 2015 Fish Survey.

Gear, Group, and Species			CPUE			
			N	Min	Mean	Max
Beach seine	Fish	Alewife	20	0	0.1	1
		Atlantic Menhaden	20	0	25.7	305
		Atlantic Silverside	20	3	733.8	1810
		Bay Anchovy	20	0	4.4	73
		Bluefish	20	0	3.2	20
		Crevalle Jack	20	0	1.1	7
		Mummichog	20	0	2.2	9
		Northern Kingfish	20	0	7.8	46
		Northern Pipefish	20	0	0.7	4
		Northern Puffer	20	0	0.3	2
		Northern Stargazer	20	0	0.1	1
		Oyster Toadfish	20	0	0.1	1
		Sheepshead Minnow	20	0	0.2	1
		Spot	20	0	0.1	1
		Striped Bass	20	0	0.5	4
		Striped Killifish	20	0	25.7	162
		Striped Searobin	20	0	0.2	2
		Tautog	20	0	7.5	28
		Weakfish	20	0	1.8	22
		White Mullet	20	0	4.1	36
		Winter Flounder	20	0	1.0	7
		Total	20	74	820.0	1952
	Invertebrates	Blue crab	20	0	1.5	6
		Estuarine mud crab	20	0	0.1	1
		Green crab	20	0	0.1	1
		Lady crab	20	0	0.3	3
		Longwrist hermit crab	20	0	2.0	9
		Total	20	0	3.8	12
Fish trap	Fish	Black Sea Bass	38	0	0.0	1
		Northern Pipefish	38	0	0.0	1
		Scup	38	0	0.0	1
		Total	38	0	0.1	1
	Invertebrates	Blue crab	38	0	0.4	2
		Portly spider crab	38	0	4.7	75
		Say mud crab	38	0	0.3	3
		Total	38	0	5.4	77

(continued)

Table 3-2. (Continued)

Gear, Group, and Species			CPUE			
			N	Min	Mean	Max
Beam trawl	Fish	Atlantic Menhaden	10	0	2.3	14.2
		Atlantic Silverside	10	0	4.1	30.8
		Bay Anchovy	10	0	23.4	104.2
		Summer Flounder	10	0	0.1	0.9
		Total	10	0.9	29.9	106.7
	Invertebrates	Blue crab	10	0	0.3	1.8
		Lady crab	10	0	0.2	0.9
		Total	10	0	0.4	1.8
Otter trawl	Fish	Atlantic Menhaden	10	0	1.3	10
		Atlantic Silverside	10	0	0.4	2
		Bay Anchovy	10	0	16.8	145
		Lined Seahorse	10	0	0.1	1
		Northern Kingfish	10	0	0.2	2
		Northern Pipefish	10	0	0.2	2
		Northern Searobin	10	0	0.1	1
		Oyster Toadfish	10	0	0.1	1
		Scup	10	0	0.5	3
		Striped Searobin	10	0	0.3	1
		Summer Flounder	10	0	0.4	2
		Tautog	10	0	0.9	5
		Windowpane	10	0	0.6	4
		Winter Flounder	10	0	1.9	5
		Total	10	2	23.8	159
	Invertebrates	Blue crab	10	0	1.1	5
		Lady crab	10	0	1.9	5
		Longwrist hermit crab	10	0	0.1	1
		Portly spider crab	10	0	0.2	1
		Say mud crab	10	0	1.2	5
		Total	10	1	4.5	8

[a]Catch per unit effort (CPUE) for both beam trawl and otter trawl was calculated as the number of specimens per five minute haul. CPUE for fish trap was calculated as the number of specimens per trap set. CPUE for beach seine was calculated as the number of specimens per haul.

[b]Total = CPUE across all species combined (by taxonomic group) in a sample (i.e., Min = Minimum CPUE across all fish or invertebrate species combined in a sample; Max = Maximum CPUE across all fish or invertebrate species combined in a sample.).

Table 3-3. Summary statistics on volumetric density[a] by species and sample total[b] for beam trawl samples collected during the July 2015 Fish Survey.

Gear, Group, and Species			Volumetric Density (number/500 m³)			
			N	Min	Mean	Max
Beam trawl	Fish	Atlantic Menhaden	10	0	1.6	9.4
		Atlantic Silverside	10	0	2.9	20.5
		Bay Anchovy	10	0	15.5	52.7
		Summer Flounder	10	0	0.1	0.9
		Total	**10**	**0.9**	**20.1**	**53.9**
	Invertebrates	Blue crab	10	0	0.2	1.2
		Lady crab	10	0	0.1	0.7
		Total	**10**	**0**	**0.3**	**1.2**

[a]Volumetric Density was calculated as the number of specimens per 500 cubic meters of water passing through the beam trawl.

[b]Total = Volumetric Density across all species combined (by taxonomic group) in a sample.

Table 3-4. Length distribution by species and gear type for fish collected during the July 2015 Fish Survey

Common name, Gear type		Frequency by length group (mm)														
		20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	=>120	N	Min	Mean	Max
Alewife	Beach seine										1		1	113	113	113
Atlantic Menhaden	Beach seine		21	17	1	2	14	7	1				63	32	54	93
	Beam trawl		8	19									27	32	40	48
	Otter trawl		4	7	2								13	30	42	55
	Total		**33**	**43**	**3**	**2**	**14**	**7**	**1**				**103**	**30**	**49**	**93**
Atlantic Silverside	Beach seine		11	21	92	120	111	19	3	3	1	2	383	33	65	132
	Beam trawl			3	16	10	3						32	43	58	74
	Otter trawl			2	2								4	44	50	55
	Total		**11**	**26**	**110**	**130**	**114**	**19**	**3**	**3**	**1**	**2**	**419**	**33**	**64**	**132**
Bay Anchovy	Beach seine	2	33										35	29	32	36
	Beam trawl	12	87	24	1								124	28	35	51
	Otter trawl	1	31	10	1								43	29	36	51
	Total	**15**	**151**	**34**	**2**								**202**	**28**	**34**	**51**
Black Sea Bass	Fish trap											1	1	155	155	155
Bluefish	Beach seine			1				1			2	59	63	48	138	174
Crevalle Jack	Beach seine			10	4	7							21	41	53	66
Lined Seahorse	Otter trawl											1	1	125	125	125
Mummichog	Beach seine			3	11	8	11	9	2				44	40	68	94
Northern Kingfish	Beach seine						7	19	32	24	34	13	129	73	102	133
	Otter trawl					1	1						2	61	66	71
	Total					**1**	**8**	**19**	**32**	**24**	**34**	**13**	**131**	**61**	**101**	**133**
Northern Pipefish	Beach seine					1	1		1	4	2	5	14	68	111	145
	Fish trap											1	1	203	203	203
	Otter trawl								1			1	2	95	125	155
	Total					**1**	**1**		**2**	**4**	**2**	**7**	**17**	**68**	**118**	**203**
Northern Puffer	Beach seine				1							4	5	52	144	171
Northern Searobin	Otter trawl											1	1	174	174	174
Northern Stargazer	Beach seine						1						1	70	70	70

(continued)

Table 3-4. (Continued)

Common name, Gear type		Frequency by length group (mm)														
		20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	100-109	110-119	=>120	N	Min	Mean	Max
Oyster Toadfish	Beach seine	1											1	29	29	29
	Otter trawl							1					1	89	89	89
	Total	**1**						**1**					**2**	**29**	**59**	**89**
Scup	Fish trap											1	1	150	150	150
	Otter trawl											5	5	126	149	161
	Total											**6**	**6**	**126**	**149**	**161**
Sheepshead Minnow	Beach seine						2	1	1				4	70	80	93
Spot	Beach seine											1	1	160	160	160
Striped Bass	Beach seine					1	3					5	9	65	201	384
Striped Killifish	Beach seine		29	92	57								178	30	46	59
Striped Searobin	Beach seine						1	1	1				3	78	86	94
	Otter trawl				1		1	1					3	59	72	80
	Total				**1**		**2**	**2**	**1**				**6**	**59**	**79**	**94**
Summer Flounder	Beam trawl											1	1	304	304	304
	Otter trawl											4	4	280	318	338
	Total											**5**	**5**	**280**	**315**	**338**
Tautog	Beach seine		9	37	46	27	10	2			2	6	139	30	59	157
	Otter trawl			1	1	4	1					2	9	45	122	391
	Total		**9**	**38**	**47**	**31**	**11**	**2**			**2**	**8**	**148**	**30**	**62**	**391**
Weakfish	Beach seine						1	5	12	11	4		33	78	98	118
White Mullet	Beach seine				1	14	11	17	13	1			57	59	79	102
Windowpane	Otter trawl					1	1	1	2	1			6	60	85	102
Winter Flounder	Beach seine				2	9	6	2			1		20	54	71	110
	Otter trawl			1	1	1	3	1				12	19	48	122	173
	Total			**1**	**3**	**10**	**9**	**3**			**1**	**12**	**39**	**48**	**96**	**173**

4.0 Summary

The July 2015 surveys to support the Fish Study in Raritan Bay were designed to characterize the fish and epibenthic invertebrates occurring in the vicinity of the project area during summer. These surveys were conducted using beach seines, fish traps, beam and otter trawls.

Twenty-seven fish species and seven invertebrate species were collected during the July surveys. The highest abundance and diversity of fish species (16,400 organisms and 21 species) were collected in the beach seine samples. Atlantic Silverside was the most abundant fish (14,676) in seine samples, followed by Atlantic Menhaden (514) and Striped Killifish (514). Five species of crab were also collected in beach seine samples. The otter trawl captured 14 fish species and five invertebrate species; the beam trawl captured four fish species and two invertebrate species. Bay Anchovy was the most abundant fish collected in both the beam (278) and otter trawl (168), followed by Atlantic Silverside (49) in the beam trawl and Winter Flounder (19) in the otter trawl. Three species each of fish and crabs were collected in fish traps. These included only one individual of each fish species (Black Sea Bass, Scup, and Northern Pipefish), and fairly high total numbers (179) of the portly spider crab.

The July surveys have documented fish and epibenthic invertebrate communities in the project area of Raritan Bay during mid-summer. These data provide a valuable resource to support an in-depth evaluation of the potential ecological impacts of the Living Breakwaters and Tottenville Dune Projects, as required by an Environmental Impact Statement.

Appendices

Appendix A

Sampling Coordinates and Other Station Information for the June 2015 Fish Study.

Appendix Table A-1. Station information for beach seine samples collected during the July 2015 Fish Surveys.

Site ID	Sample ID	Station	Sample	Date	Time	Latitude (degrees N)	Longitude (degrees W)
611	2	611_2	611_2	7/28/2015	9:30	40.5043	74.2169
584	8	584_8	584_8	7/28/2015	10:05	40.5031	74.2173
568	13	568_13	568_13	7/28/2015	10:30	40.5028	74.2188
520	4	520_4	520_4	7/28/2015	11:00	40.5023	74.2212
344	6	344_6	344_6	7/28/2015	11:32	40.5021	74.2242
316	14	316_14	316_14	7/28/2015	11:56	40.5016	74.2250
464	30	464_30	464_30	7/28/2015	12:16	40.5021	74.2276
456	20	456_20	456_20	7/28/2015	12:44	40.5021	74.2283
232	10	232_10	232_10	7/28/2015	13:10	40.5008	74.2344
200	19	200_19	200_19	7/28/2015	13:30	40.5004	74.2357
168	11	168_11	168_11	7/28/2015	13:49	40.4996	74.2373
160	15	160_15	160_15	7/28/2015	14:05	40.4993	74.2380
116	12	116_12	116_12	7/28/2015	14:26	40.4976	74.2403
100	23	100_23	100_23	7/28/2015	15:15	40.4976	74.2415
76	5	76_5	76_5	7/28/2015	15:25	40.4976	74.2434
72	7	72_7	72_7	7/28/2015	15:55	40.4976	74.2440
12	9	12_9	12_9	7/28/2015	16:26	40.4959	74.2481
4	1	4_1	4_1	7/28/2015	16:46	40.4963	74.2488
448	3	448_3	448_3	7/28/2015	17:10	40.4971	74.2499
404	17	404_17	404_17	7/28/2015	18:01	40.5001	74.2530

Appendix Table A-2. Station information for fish trap samples collected during the July 2015 Fish Surveys. | (Date, time and depth when traps were pulled.)

Site ID	Sample ID	Station	Trap number	Sample	Depth (ft)	Date	Time	Soak time (hrs)	Latitude (degrees N)	Longitude (degrees W)	Comment
112	13	112_13	1	112_13_1	9.7	7/23/2015	10:43	23.72	40.4910	74.2406	
112	13	112_13	2	112_13_2	9.5	7/23/2015	10:51	23.83	40.4911	74.2406	
515	22	515_22	1	515_22_1	7.8	7/23/2015	11:00	23.83	40.4935	74.2408	Alternate station sampled
515	22	515_22	2	515_22_2	7.8	7/23/2015	10:56	23.75	40.4934	74.2409	Alternate station sampled
583	11	583_11	1	583_11_1	9.5	7/23/2015	7:54	23.03	40.4940	74.2322	
583	11	583_11	2	583_11_2	9.9	7/23/2015	7:58	23.07	40.4939	74.2322	
694	15	694_15	1	694_15_1					40.4946	74.2507	Trap missing, no sample collected
694	15	694_15	2	694_15_2					40.4946	74.2505	Trap missing, no sample collected
775	21	775_21	1	775_21_1					40.4952	74.2501	Trap missing, no sample collected
775	21	775_21	2	775_21_2					40.4951	74.2512	Trap missing, no sample collected
920	12	920_12	1	920_12_1	6.4	7/23/2015	8:52	23.92	40.4956	74.2363	
920	12	920_12	2	920_12_2	6.4	7/23/2015	8:54	23.93	40.4956	74.2365	
954	3	954_3	1	954_3_1	15.2	7/22/2015	8:14	22.47	40.4962	74.2245	
954	3	954_3	2	954_3_2	15	7/22/2015	8:17	22.45	40.4963	74.2246	
1001	19	1001_19	1	1001_19_1	5.3	7/23/2015	9:11	23.73	40.4964	74.2519	
1001	19	1001_19	2	1001_19_2	6	7/23/2015	9:14	23.77	40.4962	74.2518	
1048	6	1048_6	1	1048_6_1	5.5	7/22/2015	9:23	22.33	40.4968	74.2520	
1048	6	1048_6	2	1048_6_2	5.8	7/22/2015	9:26	22.37	40.4967	74.2520	
1049	16	1049_16	1	1049_16_1	3	7/23/2015	9:06	23.77	40.4967	74.2515	
1049	16	1049_16	2	1049_16_2	3.5	7/23/2015	9:09	23.80	40.4967	74.2514	
1050	7	1050_7	1	1050_7_1	4	7/22/2015	9:15	22.28	40.4968	74.2511	
1050	7	1050_7	2	1050_7_2	3.8	7/22/2015	9:18	22.28	40.4968	74.2511	
1092	2	1092_2	1	1092_2_1	22.3	7/22/2015	8:03	22.42	40.4968	74.2232	

(continued)

Appendix Table A-2. (Continued)

Site ID	Sample ID	Station	Trap number	Sample	Depth (ft)	Date	Time	Soak time (hrs)	Latitude (degrees N)	Longitude (degrees W)	Comment
1092	2	1092_2	2	1092_2_2	16.8	7/22/2015	8:09	22.48	40.4969	74.2233	
1314	1	1314_1	1	1314_1_1	13.1	7/22/2015	8:31	22.62	40.4986	74.2269	
1314	1	1314_1	2	1314_1_2	10.8	7/22/2015	8:29	22.55	40.4985	74.2271	
1450	10	1450_10	1	1450_10_1	6.7	7/22/2015	9:32	22.38	40.4995	74.2530	
1450	10	1450_10	2	1450_10_2	8	7/22/2015	9:37	22.43	40.4993	74.2530	
1454	20	1454_20	1	1454_20_1	5	7/23/2015	7:46	23.00	40.4996	74.2321	
1454	20	1454_20	2	1454_20_2	5.1	7/23/2015	7:49	23.03	40.4996	74.2322	
1495	9	1495_9	1	1495_9_1	4.5	7/22/2015	8:39	21.95	40.4999	74.2326	
1495	9	1495_9	2	1495_9_2	4.5	7/22/2015	8:42	21.95	40.4999	74.2327	
1587	14	1587_14	1	1587_14_1	11	7/23/2015	7:26	23.45	40.5003	74.2234	
1587	14	1587_14	2	1587_14_2	11.1	7/23/2015	7:29	23.47	40.5002	74.2235	
1650	18	1650_18	1	1650_18_1	3.4	7/23/2015	7:40	23.28	40.5010	74.2251	
1650	18	1650_18	2	1650_18_2	4.6	7/23/2015	7:35	23.17	40.5009	74.2251	
1660	5	1660_5	1	1660_5_1	11.4	7/22/2015	7:53	22.37	40.5009	74.2214	
1660	5	1660_5	2	1660_5_2	11.8	7/22/2015	7:56	22.38	40.5008	74.2214	
1685	8	1685_8	1	1685_8_1	16.6	7/22/2015	7:41	22.27	40.5015	74.2187	
1685	8	1685_8	2	1685_8_2	17	7/22/2015	7:44	22.27	40.5014	74.2187	
1712	17	1712_17	1	1712_17_1	7.4	7/23/2015	7:16	23.47	40.5016	74.2189	
1712	17	1712_17	2	1712_17_2	7.4	7/23/2015	7:20	23.50	40.5016	74.2190	

Appendix Table A-3. Station information for beam trawl samples collected during the July 2015 Fish Surveys.

Site ID	Sample ID	Station	Sample	Depth (ft)	Date	Time	Duration (min)	Volume (cubic meters)	Start Latitude (degrees N)	Start Longitude (degrees W)	End Latitude (degrees N)	End Longitude (degrees W)
198	5	198_5	198_5	21.1	7/21/2015	12:31	6.0	673.0	40.5014	74.2181	40.5000	74.2213
193	2	193_2	193_2	21.3	7/21/2015	12:53	6.0	1186.4	40.5006	74.2191	40.4993	74.2227
187	4	187_4	187_4	11.6	7/21/2015	13:12	5.7	708.8	40.5004	74.2255	40.4994	74.2291
151	3	151_3	151_3	11.6	7/21/2015	13:31	5.7	749.0	40.4982	74.2280	40.4972	74.2316
130	2	130_2	130_2	32.0	7/21/2015	13:51	6.5	1004.2	40.4965	74.2234	40.4942	74.2275
48	5	48_5	48_5	12.8	7/21/2015	14:08	5.7	811.9	40.4926	74.2346	40.4918	74.2380
23	4	23_4	23_4	8.5	7/21/2015	14:22	5.5	661.7	40.4917	74.2446	40.4921	74.2478
87	1	87_1	87_1	19.8	7/21/2015	14:42	6.0	904.0	40.4947	74.2513	40.4968	74.2530
159	1	159_1	159_1	11.2	7/21/2015	15:18	5.7	551.2	40.4989	74.2531	40.5004	74.2538
172	3	172_3	172_3	11.3	7/21/2015	15:32	5.7	519.9	40.4997	74.2538	40.5013	74.2545

Appendix Table A-4. Station information for otter trawl samples collected during the July 2015 Fish Surveys.

Site ID	Sample ID	Station	Sample	Depth (ft)	Date	Time	Duration (min)	Start Latitude (degrees N)	Start Longitude (degrees W)	End Latitude (degrees N)	End Longitude (degrees W)
151	3	151_3	151_3	12.0	7/22/2015	11:33	5.0	40.4956	74.2307	40.4978	74.2278
187	4	187_4	187_4	9.1	7/22/2015	11:58	5.0	40.5013	74.2260	40.5008	74.2230
130	2	130_2	130_2	22.0	7/22/2015	12:16	5.0	40.4961	74.2246	40.4978	74.2221
193	2	193_2	193_2	21.1	7/22/2015	12:42	5.0	40.5002	74.2196	40.5019	74.2176
198	5	198_5	198_5	21.5	7/22/2015	13:02	5.0	40.5016	74.2179	40.5000	74.2202
48	5	48_5	48_5	12.9	7/22/2015	13:28	5.0	40.4924	74.2353	40.4916	74.2385
23	4	23_4	23_4	8.7	7/22/2015	13:48	5.0	40.4915	74.2437	40.4924	74.2467
87	1	87_1	87_1	21.1	7/22/2015	14:12	5.0	40.4941	74.2509	40.4967	74.2527
159	1	159_1	159_1	9.9	7/22/2015	14:30	5.0	40.4991	74.2529	40.5006	74.2543
172	3	172_3	172_3	12.0	7/22/2015	14:50	5.0	40.4997	74.2539	40.5014	74.2550

Appendix B

Field Standard Operating Procedures; Fish and Benthic Macroinvertebrate Studies.

(Provided as a separate document.)

Appendix C

Species composition by sample for each gear type; July 2015 Fish Study.

Appendix Table C. Species composition by sample for each gear type; July 2015 Fish Surveys.

Gear type=Beach seine

Sample	Date	Scientific name	Common name	Count
4_1	7/28/2015	*Menidia menidia*	Atlantic Silverside	539
		Pomatomus saltatrix	Bluefish	3
		Caranx hippos	Crevalle Jack	1
		Pagurus longicarpus	Longwrist hermit crab	5
		Menticirrhus saxatilis	Northern Kingfish	13
		Fundulus majalis	Striped Killifish	130
		Pseudopleuronectes americanus	Winter Flounder	2
			Sample Total	**693**
12_9	7/28/2015	*Menidia menidia*	Atlantic Silverside	953
		Callinectes sapidus	Blue crab	5
		Pomatomus saltatrix	Bluefish	7
		Caranx hippos	Crevalle Jack	1
		Fundulus heteroclitus	Mummichog	1
		Menticirrhus saxatilis	Northern Kingfish	19
		Leiostomus xanthurus	Spot	1
		Morone saxatilis	Striped Bass	1
		Fundulus majalis	Striped Killifish	88
		Pseudopleuronectes americanus	Winter Flounder	2
			Sample Total	**1078**
72_7	7/28/2015	*Menidia menidia*	Atlantic Silverside	1756
		Pomatomus saltatrix	Bluefish	2
		Caranx hippos	Crevalle Jack	2
		Carcinus maenus	Green crab	1
		Pagurus longicarpus	Longwrist hermit crab	8
		Fundulus heteroclitus	Mummichog	3
		Menticirrhus saxatilis	Northern Kingfish	18
		Syngnathus fuscus	Northern Pipefish	1
		Morone saxatilis	Striped Bass	4
		Fundulus majalis	Striped Killifish	162
		Prionotus evolans	Striped Searobin	2
		Tautoga onitis	Tautog	1
		Pseudopleuronectes americanus	Winter Flounder	1
			Sample Total	**1961**
76_5	7/28/2015	*Brevoortia tyrannus*	Atlantic Menhaden	1
		Menidia menidia	Atlantic Silverside	980
		Anchoa mitchilli	Bay Anchovy	8
		Pomatomus saltatrix	Bluefish	7
		Caranx hippos	Crevalle Jack	7
		Fundulus heteroclitus	Mummichog	2

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
76_5 (cont'd)	7/28/2015 (cont'd)	*Menticirrhus saxatilis*	Northern Kingfish	10
		Fundulus majalis	Striped Killifish	12
		Prionotus evolans	Striped Searobin	1
		Cynoscion regalis	Weakfish	1
		Pseudopleuronectes americanus	Winter Flounder	1
			Sample Total	**1030**
100_23	7/28/2015	*Menidia menidia*	Atlantic Silverside	653
		Pagurus longicarpus	Longwrist hermit crab	1
		Menticirrhus saxatilis	Northern Kingfish	1
		Fundulus majalis	Striped Killifish	23
		Tautoga onitis	Tautog	2
		Cynoscion regalis	Weakfish	4
			Sample Total	**684**
116_12	7/28/2015	*Alosa pseudoharengus*	Alewife	1
		Brevoortia tyrannus	Atlantic Menhaden	179
		Menidia menidia	Atlantic Silverside	1033
		Anchoa mitchilli	Bay Anchovy	7
		Callinectes sapidus	Blue crab	2
		Pomatomus saltatrix	Bluefish	8
		Fundulus heteroclitus	Mummichog	2
		Syngnathus fuscus	Northern Pipefish	1
		Sphoeroides maculatus	Northern Puffer	1
		Cyprinodon variegatus	Sheepshead Minnow	1
		Fundulus majalis	Striped Killifish	25
		Tautoga onitis	Tautog	13
		Cynoscion regalis	Weakfish	22
		Mugil curema	White Mullet	1
			Sample Total	**1296**
160_15	7/28/2015	*Menidia menidia*	Atlantic Silverside	387
		Fundulus majalis	Striped Killifish	2
		Cynoscion regalis	Weakfish	3
			Sample Total	**392**
168_11	7/28/2015	*Menidia menidia*	Atlantic Silverside	471
		Callinectes sapidus	Blue crab	2
		Caranx hippos	Crevalle Jack	1
		Ovalipes ocellatus	Lady crab	2
		Fundulus heteroclitus	Mummichog	9
		Menticirrhus saxatilis	Northern Kingfish	2
		Syngnathus fuscus	Northern Pipefish	3
		Cyprinodon variegatus	Sheepshead Minnow	1
		Fundulus majalis	Striped Killifish	15
			Sample Total	**506**

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
200_19	7/28/2015	*Menidia menidia*	Atlantic Silverside	502
		Caranx hippos	Crevalle Jack	2
		Fundulus heteroclitus	Mummichog	3
		Menticirrhus saxatilis	Northern Kingfish	2
		Syngnathus fuscus	Northern Pipefish	2
		Opsanus tau	Oyster Toadfish	1
		Fundulus majalis	Striped Killifish	2
		Tautoga onitis	Tautog	6
			Sample Total	**520**
232_10	7/28/2015	*Menidia menidia*	Atlantic Silverside	479
		Caranx hippos	Crevalle Jack	3
		Pagurus longicarpus	Longwrist hermit crab	1
		Fundulus heteroclitus	Mummichog	3
		Menticirrhus saxatilis	Northern Kingfish	1
		Fundulus majalis	Striped Killifish	1
		Cynoscion regalis	Weakfish	1
			Sample Total	**489**
316_14	7/28/2015	*Menidia menidia*	Atlantic Silverside	407
		Callinectes sapidus	Blue crab	6
		Pomatomus saltatrix	Bluefish	1
		Caranx hippos	Crevalle Jack	2
		Fundulus heteroclitus	Mummichog	6
		Menticirrhus saxatilis	Northern Kingfish	5
		Astroscopus guttatus	Northern Stargazer	1
		Cyprinodon variegatus	Sheepshead Minnow	1
		Fundulus majalis	Striped Killifish	4
		Tautoga onitis	Tautog	12
		Pseudopleuronectes americanus	Winter Flounder	2
			Sample Total	**447**
344_6	7/28/2015	*Menidia menidia*	Atlantic Silverside	43
		Callinectes sapidus	Blue crab	2
		Pagurus longicarpus	Longwrist hermit crab	2
		Fundulus heteroclitus	Mummichog	2
		Menticirrhus saxatilis	Northern Kingfish	14
		Fundulus majalis	Striped Killifish	3
		Tautoga onitis	Tautog	12
		Mugil curema	White Mullet	9
			Sample Total	**87**
404_17	7/28/2015	*Brevoortia tyrannus*	Atlantic Menhaden	27
		Menidia menidia	Atlantic Silverside	586
		Callinectes sapidus	Blue crab	2
		Pomatomus saltatrix	Bluefish	3

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
404_17 (cont'd)	7/28/2015 (cont'd)	*Pagurus longicarpus*	Longwrist hermit crab	9
		Fundulus heteroclitus	Mummichog	1
		Menticirrhus saxatilis	Northern Kingfish	7
		Fundulus majalis	Striped Killifish	27
		Tautoga onitis	Tautog	1
		Pseudopleuronectes americanus	Winter Flounder	1
			Sample Total	**664**
448_3	7/28/2015	*Brevoortia tyrannus*	Atlantic Menhaden	305
		Menidia menidia	Atlantic Silverside	1426
		Anchoa mitchilli	Bay Anchovy	73
		Callinectes sapidus	Blue crab	3
		Pomatomus saltatrix	Bluefish	11
		Pagurus longicarpus	Longwrist hermit crab	9
		Fundulus heteroclitus	Mummichog	1
		Menticirrhus saxatilis	Northern Kingfish	10
		Fundulus majalis	Striped Killifish	4
		Pseudopleuronectes americanus	Winter Flounder	1
			Sample Total	**1843**
456_20	7/28/2015	*Menidia menidia*	Atlantic Silverside	1146
		Callinectes sapidus	Blue crab	1
		Fundulus heteroclitus	Mummichog	4
		Menticirrhus saxatilis	Northern Kingfish	1
		Tautoga onitis	Tautog	17
		Cynoscion regalis	Weakfish	2
			Sample Total	**1171**
464_30	7/28/2015	*Menidia menidia*	Atlantic Silverside	675
		Callinectes sapidus	Blue crab	6
		Pagurus longicarpus	Longwrist hermit crab	2
		Fundulus heteroclitus	Mummichog	3
		Menticirrhus saxatilis	Northern Kingfish	1
		Syngnathus fuscus	Northern Pipefish	4
		Tautoga onitis	Tautog	23
		Cynoscion regalis	Weakfish	2
		Pseudopleuronectes americanus	Winter Flounder	3
			Sample Total	**719**
520_4	7/28/2015	*Menidia menidia*	Atlantic Silverside	214
		Caranx hippos	Crevalle Jack	2
		Ovalipes ocellatus	Lady crab	3
		Pagurus longicarpus	Longwrist hermit crab	2
		Fundulus heteroclitus	Mummichog	1
		Menticirrhus saxatilis	Northern Kingfish	46
		Syngnathus fuscus	Northern Pipefish	1

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
520_4 (cont'd)	7/28/2015 (cont'd)	*Sphoeroides maculatus*	Northern Puffer	1
		Morone saxatilis	Striped Bass	2
		Fundulus majalis	Striped Killifish	12
		Tautoga onitis	Tautog	8
		Mugil curema	White Mullet	36
		Pseudopleuronectes americanus	Winter Flounder	7
			Sample Total	**335**
568_13	7/28/2015	*Brevoortia tyrannus*	Atlantic Menhaden	2
		Menidia menidia	Atlantic Silverside	3
		Fundulus heteroclitus	Mummichog	2
		Menticirrhus saxatilis	Northern Kingfish	5
		Syngnathus fuscus	Northern Pipefish	1
		Cyprinodon variegatus	Sheepshead Minnow	1
		Morone saxatilis	Striped Bass	2
		Fundulus majalis	Striped Killifish	2
		Tautoga onitis	Tautog	28
		Mugil curema	White Mullet	28
			Sample Total	**74**
584_8	7/28/2015	*Menidia menidia*	Atlantic Silverside	613
		Pomatomus saltatrix	Bluefish	1
		Syngnathus fuscus	Northern Pipefish	1
		Sphoeroides maculatus	Northern Puffer	2
		Fundulus majalis	Striped Killifish	2
		Tautoga onitis	Tautog	8
		Mugil curema	White Mullet	5
			Sample Total	**632**
611_2	7/28/2015	*Menidia menidia*	Atlantic Silverside	1810
		Callinectes sapidus	Blue crab	1
		Pomatomus saltatrix	Bluefish	20
		Rithropanopeus harrisii	Estuarine mud crab	1
		Fundulus heteroclitus	Mummichog	1
		Sphoeroides maculatus	Northern Puffer	1
		Tautoga onitis	Tautog	19
		Mugil curema	White Mullet	2
			Sample Total	**1855**
Gear Total				**16476**

(continued)

Appendix Table C. (Continued)

Gear type=Beam trawl

Sample	Date	Scientific name	Common name	Count
23_4	7/21/2015	*Brevoortia tyrannus*	Atlantic Menhaden	1
		Menidia menidia	Atlantic Silverside	4
		Anchoa mitchilli	Bay Anchovy	14
			Sample Total	**19**
48_5	7/21/2015	*Anchoa mitchilli*	Bay Anchovy	10
		Callinectes sapidus	Blue crab	2
			Sample Total	**12**
87_1	7/21/2015	*Brevoortia tyrannus*	Atlantic Menhaden	17
		Menidia menidia	Atlantic Silverside	37
		Anchoa mitchilli	Bay Anchovy	36
		Callinectes sapidus	Blue crab	1
			Sample Total	**91**
130_2	7/21/2015	*Anchoa mitchilli*	Bay Anchovy	8
			Sample Total	**8**
151_3	7/21/2015	*Brevoortia tyrannus*	Atlantic Menhaden	4
		Anchoa mitchilli	Bay Anchovy	20
			Sample Total	**24**
159_1	7/21/2015	*Paralichthys dentatus*	Summer Flounder	1
			Sample Total	**1**
172_3	7/21/2015	*Menidia menidia*	Atlantic Silverside	1
		Anchoa mitchilli	Bay Anchovy	2
			Sample Total	**3**
187_4	7/21/2015	*Brevoortia tyrannus*	Atlantic Menhaden	5
		Menidia menidia	Atlantic Silverside	1
		Anchoa mitchilli	Bay Anchovy	10
		Ovalipes ocellatus	Lady crab	1
			Sample Total	**17**
193_2	7/21/2015	*Menidia menidia*	Atlantic Silverside	3
		Anchoa mitchilli	Bay Anchovy	125
		Ovalipes ocellatus	Lady crab	1
			Sample Total	**129**
198_5	7/21/2015	*Menidia menidia*	Atlantic Silverside	3
		Anchoa mitchilli	Bay Anchovy	53
			Sample Total	**56**
Gear Total				**360**

(continued)

Appendix Table C. (Continued)

Gear type=Fish trap

Sample	Date	Scientific name	Common name	Count
112_13_1	7/23/2015	*Libinia emarginata*	Portly spider crab	75
		Dyspanopeus sayi	Say mud crab	2
			Sample Total	**77**
112_13_2	7/23/2015	*Libinia emarginata*	Portly spider crab	34
		Dyspanopeus sayi	Say mud crab	1
			Sample Total	**35**
515_22_1	7/23/2015	*Libinia emarginata*	Portly spider crab	6
		Dyspanopeus sayi	Say mud crab	3
			Sample Total	**9**
515_22_2	7/23/2015	*Callinectes sapidus*	Blue crab	1
		Libinia emarginata	Portly spider crab	57
			Sample Total	**58**
583_11_1	7/23/2015	*Callinectes sapidus*	Blue crab	1
		Dyspanopeus sayi	Say mud crab	2
			Sample Total	**3**
583_11_2	7/23/2015	No catch	No catch	0
			Sample Total	**0**
694_15_1		No catch	No catch	0
			Sample Total	**0**
694_15_2		No catch	No catch	0
			Sample Total	**0**
775_21_1		No catch	No catch	0
			Sample Total	**0**
775_21_2		No catch	No catch	0
			Sample Total	**0**
920_12_1	7/23/2015	No catch	No catch	0
			Sample Total	**0**
920_12_2	7/23/2015	*Dyspanopeus sayi*	Say mud crab	2
			Sample Total	**2**
954_3_1	7/22/2015	*Dyspanopeus sayi*	Say mud crab	1
			Sample Total	**1**
954_3_2	7/22/2015	No catch	No catch	0
			Sample Total	**0**
1001_19_1	7/23/2015	No catch	No catch	0
			Sample Total	**0**
1001_19_2	7/23/2015	No catch	No catch	0
			Sample Total	**0**
1048_6_1	7/22/2015	*Callinectes sapidus*	Blue crab	1
			Sample Total	**1**

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
1048_6_2	7/22/2015	No catch	No catch	0
			Sample Total	**0**
1049_16_1	7/23/2015	*Libinia emarginata*	Portly spider crab	1
			Sample Total	**1**
1049_16_2	7/23/2015	No catch	No catch	0
			Sample Total	**0**
1050_7_1	7/22/2015	No catch	No catch	0
			Sample Total	0
1050_7_2	7/22/2015	No catch	No catch	0
			Sample Total	**0**
1092_2_1	7/22/2015	*Libinia emarginata*	Portly spider crab	2
			Sample Total	**2**
1092_2_2	7/22/2015	*Callinectes sapidus*	Blue crab	1
		Dyspanopeus sayi	Say mud crab	1
			Sample Total	**2**
1314_1_1	7/22/2015	No catch	No catch	0
			Sample Total	**0**
1314_1_2	7/22/2015	No catch	No catch	0
			Sample Total	**0**
1450_10_1	7/22/2015	*Callinectes sapidus*	Blue crab	2
			Sample Total	**2**
1450_10_2	7/22/2015	*Libinia emarginata*	Portly spider crab	1
			Sample Total	**1**
1454_20_1	7/23/2015	*Callinectes sapidus*	Blue crab	2
			Sample Total	**2**
1454_20_2	7/23/2015	No catch	No catch	0
			Sample Total	**0**
1495_9_1	7/22/2015	*Stenotomus chrysops*	Scup	1
			Sample Total	**1**
1495_9_2	7/22/2015	*Callinectes sapidus*	Blue crab	1
			Sample Total	**1**
1587_14_1	7/23/2015	*Callinectes sapidus*	Blue crab	1
		Syngnathus fuscus	Northern Pipefish	1
			Sample Total	**2**
1587_14_2	7/23/2015	*Centropristis striata*	Black Sea Bass	1
		Libinia emarginata	Portly spider crab	1
			Sample Total	**2**
1650_18_1	7/23/2015	No catch	No catch	0
			Sample Total	**0**
1650_18_2	7/23/2015	*Callinectes sapidus*	Blue crab	1
			Sample Total	**1**

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
1660_5_1	7/22/2015	*Libinia emarginata*	Portly spider crab	1
			Sample Total	**1**
1660_5_2	7/22/2015	*Libinia emarginata*	Portly spider crab	1
			Sample Total	**1**
1685_8_1	7/22/2015	No catch	No catch	0
			Sample Total	**0**
1685_8_2	7/22/2015	*Callinectes sapidus*	Blue crab	1
			Sample Total	**1**
1712_17_1	7/23/2015	*Callinectes sapidus*	Blue crab	2
			Sample Total	**2**
1712_17_2	7/23/2015	No catch	No catch	0
			Sample Total	**0**
Gear Total				**208**

Gear type=Otter trawl

23_4	7/22/2015	*Brevoortia tyrannus*	Atlantic Menhaden	1
		Ovalipes ocellatus	Lady crab	1
		Libinia emarginata	Portly spider crab	1
		Dyspanopeus sayi	Say mud crab	1
		Stenotomus chrysops	Scup	2
		Prionotus evolans	Striped Searobin	1
		Tautoga onitis	Tautog	5
		Pseudopleuronectes americanus	Winter Flounder	2
			Sample Total	**14**
48_5	7/22/2015	*Anchoa mitchilli*	Bay Anchovy	1
		Callinectes sapidus	Blue crab	1
		Ovalipes ocellatus	Lady crab	5
		Dyspanopeus sayi	Say mud crab	1
		Pseudopleuronectes americanus	Winter Flounder	2
			Sample Total	**10**
87_1	7/22/2015	*Anchoa mitchilli*	Bay Anchovy	6
		Callinectes sapidus	Blue crab	5
		Dyspanopeus sayi	Say mud crab	1
		Paralichthys dentatus	Summer Flounder	1
			Sample Total	**13**
130_2	7/22/2015	*Anchoa mitchilli*	Bay Anchovy	1
		Ovalipes ocellatus	Lady crab	2
		Pseudopleuronectes americanus	Winter Flounder	1
			Sample Total	**4**

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
151_3	7/22/2015	*Brevoortia tyrannus*	Atlantic Menhaden	10
		Menidia menidia	Atlantic Silverside	1
		Anchoa mitchilli	Bay Anchovy	145
		Hippocampus erectus	Lined Seahorse	1
		Pagurus longicarpus	Longwrist hermit crab	1
		Opsanus tau	Oyster Toadfish	1
		Dyspanopeus sayi	Say mud crab	2
		Pseudopleuronectes americanus	Winter Flounder	1
			Sample Total	**162**
159_1	7/22/2015	*Callinectes sapidus*	Blue crab	1
		Ovalipes ocellatus	Lady crab	1
		Prionotus evolans	Striped Searobin	1
		Paralichthys dentatus	Summer Flounder	1
		Scophthalmus aquosus	Windowpane	1
		Pseudopleuronectes americanus	Winter Flounder	3
			Sample Total	**8**
172_3	7/22/2015	*Menidia menidia*	Atlantic Silverside	1
		Anchoa mitchilli	Bay Anchovy	6
		Callinectes sapidus	Blue crab	1
		Ovalipes ocellatus	Lady crab	1
		Menticirrhus saxatilis	Northern Kingfish	2
		Syngnathus fuscus	Northern Pipefish	2
		Libinia emarginata	Portly spider crab	1
		Dyspanopeus sayi	Say mud crab	5
		Prionotus evolans	Striped Searobin	1
		Paralichthys dentatus	Summer Flounder	2
		Tautoga onitis	Tautog	1
		Scophthalmus aquosus	Windowpane	4
		Pseudopleuronectes americanus	Winter Flounder	2
			Sample Total	**29**
187_4	7/22/2015	*Brevoortia tyrannus*	Atlantic Menhaden	2
		Menidia menidia	Atlantic Silverside	2
		Anchoa mitchilli	Bay Anchovy	9
		Callinectes sapidus	Blue crab	2
		Ovalipes ocellatus	Lady crab	4
		Dyspanopeus sayi	Say mud crab	2
		Pseudopleuronectes americanus	Winter Flounder	1
			Sample Total	**22**

(continued)

Appendix Table C. (Continued)

Sample	Date	Scientific name	Common name	Count
193_2	7/22/2015	*Ovalipes ocellatus*	Lady crab	1
		Prionotus carolinus	Northern Searobin	1
		Tautoga onitis	Tautog	2
		Pseudopleuronectes americanus	Winter Flounder	5
			Sample Total	**9**
198_5	7/22/2015	*Callinectes sapidus*	Blue crab	1
		Ovalipes ocellatus	Lady crab	4
		Stenotomus chrysops	Scup	3
		Tautoga onitis	Tautog	1
		Scophthalmus aquosus	Windowpane	1
		Pseudopleuronectes americanus	Winter Flounder	2
			Sample Total	**12**
Gear Total				**283**

FIELD CARD / SAMPLE SUBMITTAL FORM

Project 236714 Date 07/20/15 Sampling Period 07

Tide VA Collectors CB/EF/AF/CB

Sample Number	Task	Sample Type	Collect Method	Collect Time	Station	Depth Meters	Rep. No.	Sample Status	Sample Size / # Cont.	Sample Reading		
206078		DES	DOB	1305	HB02	2	A	OK	1/16 m² frame			
206079		↓	↓	1300	↓	↓	B	↓	↓			
206080		↓	↓	1200	HB03	2	A	↓	↓			
206081		↓	↓	1205	↓	↓	B	↓	↓			
206082		↓	↓	1210	↓	↓	C	↓	↓			
206083		↓	↓	1215	↓	↓	D	↓	↓			
206084		↓	↓	1100	HB04	3	A	↓	↓			
206085		↓	↓	1105	↓	↓	B	↓	↓			
206086		↓	↓	1110	↓	↓	C	↓	↓			
206087		↓	↓	1115	↓	↓	D	↓	↓			

Delivered by: Dan T. Bullard Date: 7.23.15 Received by: Hank Proctor Date: 7.23.15

Received at: Bedford NH

Side 1
Form SAM-10
Rev. 1/7/91

FIELD CARD / SAMPLE SUBMITTAL FORM

Project 236714 Date 072015 Sampling Period 07

Tide VA Collectors CB/AF/EF/CB

Sample Number	Task	Sample Type	Collect Method	Collect Time	Station	Depth Meters	Rep. No.	Sample Status	Sample Size / # Cont.	Sample Reading		
206088		DES	COB	1030	HB05	4	A	OK	1/16 m2 Frame			
206089		↓	↓	1035	↓	↓	B	↓	↓			
206090		↓	↓	1040	↓	↓	K	↓	↓			

Delivered by: Albert Bullock Date: 7.23.15 Received by: Hank Prock Date: 7.23.15

Received at: Bedford MH

Side 1
Form SAM-10
Rev. 1/7/91

FIELD CARD / SAMPLE SUBMITTAL FORM

Project 23674 Date 09/21/15 Sampling Period 09

Tide F Collectors CB, EB

Sample Number	Task	Sample Type	Collect Method	Collect Time	Station	Depth Meters	Rep. No.	Sample Status	Sample Size / # Cont.	Sample Reading		
206550	5119	SDS	DSA	0849	HB05	2	A	OK	1/6 M² FRAME			
206551				0857	HB05		B					
206552				0910	HB05		C					
206553				0921	HB05		D					
206554				0944	HB04	2	A	LOST	SAMPLE BAG			
206555				0951	HB04		B	OK				
206556				1002	HB04		C					
206557				1008	HB04		D					
206558				1015	HB04		E					

Delivered by: [illegible] Date: 10/5/15 Received by: [illegible] Date: 10-5-15

Received at: Bedford, NH

Side 1
Form SAM-10
Rev. 1/7/91

FIELD CARD / SAMPLE SUBMITTAL FORM

Project 23674 Date 09/21/15 Sampling Period 09

Tide F Collectors ER/CB

Sample Number	Task	Sample Type	Collect Method	Collect Time	Station	Depth Meters	Rep. No.	Sample Status	Sample Size / # Cont.	Sample Reading		
206559	519	SDS	DSA	1039	HB07	1	A	OK				
206560	↓	↓	↓	1046	↓	↓	B	↓				
206561	↓	↓	↓	1201	HB02	↓	A	↓	No-tad Bottom			
206562	↓	↓	↓	1212	↓	↓	B	↓				
206563	↓	↓	↓	1219	HB02	↓	F	↓				
206564	↓	↓	↓	1228	↓	↓	D	↓				

Delivered by: [illegible] Date: 10-5-15 Received by: [illegible] Date: 10.5.15

Received at: Bedford NH

Side 1
Form SAM-10
Rev. 1/7/91

NORMANDEAU ASSOCIATES
ENVIRONMENTAL CONSULTANTS

www.normandeau.com (603) 472-5191

Chain of Custody Form

Project Name: Breakwater
Project Number: 23674.000.00003
Originating Contact: Chris Sweeney
Originator Location: West Haverstraw
Final Destination: Bedford, NH
Sampler(s): Burnett, Tompkins, Ward

Page 1 of 1

Method of Shipment: Company Vehicle

Sample No.	Sample Identification	Collection Date	Collection Time	Containers No.	Containers Type	Grab.	Comp.	Presv. Filtered 10%	Parameters To SMTD
1	83	9/2015		1	Jar			✓	✓
2	210								
3	142								
4	220								
5	239								

Comments Below:

Total 5 Crates

Relinquished by: (signature)	Received by: (signature)	Relinquished by: (signature)	Received by: (signature)	Relinquished by: (signature)	Received by: (signature)
Chris Sweeney	Samantha Datti				
Printed Name: Chris Sweeney	Printed Name: Samantha Datti	Printed Name:	Printed Name:	Printed Name:	Printed Name:
Date: 9-25-15	Date: 9-28-15	Date:	Date:	Date:	Date:

SUBBED OUT to Garden State

VAF

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

* 2 0 9 7 2 7 9 *

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? ☒ -Y enestler@normandeau.com
Fax? ☐ -Y No.

***Container Type	PL	PL								
***Container Size	125mL	500mL								
***Preservative	Na2S2O3	H2SO4								

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO2/NO3, TN								
1	2637-11		9/22/15	0749			1	1								
2	2648-2		↓	0754			1	1								
3	2344-15			0805			1	1								
4	2441-10			0815			1	1								
5	2530-3			0818			1	1								
6	2529-30			0821			1	1								
7	2487-7			0825			1	1								
8	2439-22		↓	0829			1	1								

Enter Number of Containers Per Analysis

09/23/15 0519

Performed by:
Cooler Temp: 2.4°
Therm. ID: 30
No. of Coolers: 7
Notes:

	Y	N
Correct containers?	Y (circled)	N
Correct sample volume?	Y (circled)	N
Correct preservation?	Y (circled)	N
Headspace/Volatiles?	Y	N (circled)

Circle appropriate Y or N.

	Y	N
Custody seals Present?	Y	N (circled)
(If present) Seals intact?	Y	N
Received on ice?	Y (circled)	N
COC/Labels complete/accurate?	Y (circled)	N
Container in good condition?	Y (circled)	N

SAMPLED BY (Please Print):

Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Burnett Normandeau	9/22	1159	2	[signature]	9/22	1159
3	[signature]	9/22/15	1429	4	Paul Collier	9/22/15	1429
5	Paul Collier	9/22/15	1552	6	D. Blank AG	9-22-15	1552
7	D. Blank AG	9-22-15	1715	8	[signature] GAS	9/22	1716
9				10			

Data Deliverables:
☒ Standard
☐ CLP-like
☐ NJ-Reduced
☐ NJ-Full
☐

EDDs Required? ☒ If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐ Other

State Samples Collected In? MD ☐ NJ ☐ NY ☒ PA ☐

⇨ Enter PWSID No.

ALS FIELD SERVICES
☒ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

VAF

SUB 3rd out — to Gardenstate

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603)472-5191

Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X -Y enestler@normandeau.com

Fax? -Y No.

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN							
	***Container Type						PL	PL							
	***Container Size						125mL	500mL							
	*** Preservative						$Na_2S_2O_3$	H_2SO_4							
1	2486-11		9/22/15	0832			1	1							
2	2528-1			0836			1	1							
3	2527-26			0839			1	1							
4	2485-5			0845			1	1							
5	2288-24			0846			1	1							
6	2482-3			0850			1	1							
7	2064-4			0853			1	1							
8	1821-18			0858			1	1							

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

LMG 09/23/15 0519

Receipt Information (completed by Sample Receiver)

Performed by: [illegible]

Cooler Temp: [illegible]

Therm. ID: 309

No. of Coolers: 7

Notes:

	Y	N
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Custody seals Present?	Y	N
If present, seals intact?	Y	N
Received on Ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

Circle appropriate Y or N.

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1159	2 [illegible]	9/22	1159
3 [illegible]	9/22	1429	4 [illegible]	9/22/15	1429
5 [illegible]	9/22/15	1552	6 D. Blanch ALS	9-22-15	1552
7 D. Blanch ALS	9-22-15	1715	8 [illegible] ALS	9/22	1715
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐ Other

⇒ Enter PWSID No.

ALS FIELD SERVICES: X Pickup; ☐ Labor; ☐ Composite Sampling; ☐ Rental Equipment; ☐ Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

279

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. Approved By:

Email? [X] -Y enestler@normandeau.com
Fax? [ ] -Y No.

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN
	***Container Type						PL	PL
	***Container Size						125mL	500mL
	*** Preservative						$Na_2S_2O_3$	H_2SO_4
1	2376-16		9/22/15	0903			1	1
2	2375-14			0906			1	1
3	2374-4			0909			1	1
4	2422-21			0912			1	1
5	2424-31	MICRO REC'D MDS 9/22/15 1713		0916			1	1
6	2100-6			0921			1	1
7	1981-10			0924			1	1
8	1689-13			0928			1	1

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

LMG 09/23/15 0519

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	Thu	1459	2 [signature]	9/22	1115
3 [signature]	9/22	1429	4 Paul Collins	9/22/15	1429
5 Paul Collins	9/22/15	1552	6 D. Blank ALS	9-22-15	1552
7 D. Blank ALS	9-22-15	1715	8 [signature] ALS	9/22	1715
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other

SDWA Forms? ⇒ yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]

EDDs Required? [X] If yes, format type: In Excel

Other

DOD Criteria Required?

Receipt Information (completed by Sample Receipt)

Performed by:

Cooler Temp: 3°C

Therm. ID: 309

No. of Coolers: 2

Notes:

	Y	N
Correct containers?	[X]	[ ]
Correct sample volume?	[X]	[ ]
Correct preservation?	[X]	[ ]
Headspace/Volatiles?	[ ]	[X]
Custody seals Present?	[ ]	[X]
(If present) Seals intact?	[ ]	[X]
Received on ice?	[X]	[ ]
COC/Labels complete/accurate?	[X]	[ ]
Container in good condition?	[X]	[ ]

Circle appropriate Y or N.

ALS FIELD SERVICES

[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite **Matrix: A=Air; DW=Drinking Water; GW=Groundwater; O=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VPF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

279

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name#: 23674.000

ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No.

					***Container Type	PL	PL																
					***Container Size	125mL	500mL																
					*** Preservative	$Na_2S_2O_3$	H_2SO_4																
					ANALYSES/METHOD REQUESTED																		
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN																
						Enter Number of Containers Per Analysis																	
1 1687-12		9/22/15	0932			1	1																
2 2090-33			0937			1	1																
3 2146-25			0939			1	1																
4 2089-27			0942			1	1																
5 2088-29	MICRO REC'D ABB 9/22/15 PTS		0944			1	1																
6 2087-17			0947			1	1																
7 2144-13			0950			1	1																
8 2143-2			0952			1	1																

LMG 09/23/15 0519

Receipt Information (completed by Sample Receiver)

Performed by:

Cooler Temp: 2.1

Therm. ID: 309

No. of Coolers: 2

Notes:

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Correct containers? N	Y	Y	Y	Y	Y
Correct sample volume? N	Y	Y	N	N	N
Correct preservation? N	Y	Y	Y	Y	Y
Headspace/Volatiles? N	Y	Y	Y	Y	Y

Circle appropriate Y or N

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Brandt Normandeau	9/22	1159	2 [illegible]	9/22	1159
3 [illegible]	9/22/15	1429	4 Paul Collier	9/22/15	1429
5 Paul Collier	9/22/15	1552	6 D. Blouin ALS	9/22/15	1552
7 D. Blouin ALS	9/22/15	1715	8 [illegible] ALS	9/22	1715
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other

SDWA Forms? ⇒ yes [ ]; yes [ ]; yes [ ]

State Samples Collected in? MD [ ]; NJ [ ]; NY [X]; PA [ ]

EDDs Required? [X] If yes, format type: Excel; Other

⇒ Enter PWSID No.

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603)472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X -Y enestler@normandeau.com
Fax? -Y No.

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN								
	***Container Type						PL	PL								
	***Container Size						125mL	500mL								
	*** Preservative						$Na_2S_2O_3$	H_2SO_4								
1	630-8		9/22/15	0957			1	1								
2	686-19			1000			1	1								
3	809-17			1004			1	1								
4	543-21			1006			1	1								
5	55-14	MICRO REC'D AB 9/22/15 1715		1009			1	1								
6	1547-29			1012			1	1								
7	1787-44			1016			1	1								
8	1321-5			1019			1	1								

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

UMG 09/23/15 0519

Receipt Information (completed by Sample Receiving)
Performed by:
Cooler Temp:
Therm. ID: 309
No. of Coolers: 2
Notes:

Circle appropriate Y or N.	Y	N
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace in VOA vials?	Y	N
Custody seals Present?	Y	N
(If present) Seals intact?	Y	N
Received on Ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Brandt Normandeau	9/22	1159	2 [illegible]	9/22	1159
3 [illegible]	9/22/15	1429	4 Paul Collins	9/22/15	1429
5 Paul Collins	9/22/15	1552	6 D. Blank ALS	9/22/15	1552
7 D. Blank ALS	9/22/15	1715	8 [illegible] ALS	9/22	1715
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full
EDDs Required? X If yes, format type: In Excel
DOD Criteria Required?
SDWA Forms? ⇨ yes; yes; yes; yes
State Samples Collected In? MD; NJ; NY X; PA
Other
⇨ Enter PWSID No.

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

Courier:
Tracking #:

279

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X -Y enestler@normandeau.com
Fax? -Y No.

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN							
	***Container Type						PL	PL							
	***Container Size						125mL	500mL							
	*** Preservative						$Na_2S_2O_3$	H_2SO_4							
	ANALYSES/METHOD REQUESTED														
	Enter Number of Containers Per Analysis														
1	1390-28		9/22/15	1021			1	1							
2	659-7			1024			1	1							
3	654-9			1026			1	1							
4	720-16			1028			1	1							
5	717-59	MICRO REC'D AB 9/22/15 1715		1032			1	1							
6	240-23			1035			1	1							
7	99-30			1038			1	1							
8	849-25			1041			1	1							

UMG 09/23/15 0519

Receipt Information (completed by Alex Electronic)
Performed by
Cooler Temp: 2°C
Therm. ID: 319
No. of Coolers: 1
Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Protective?
	Y N	Y N	Y N	Y N

Circle appropriate Y or N.	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y N	Y N	Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1155	2 [illegible]	9/22	1155
3 [illegible]	9/22	1429	4 Paul Collins	9/22/15	1439
5 Paul Collins	9/22/15	1550	6 D. Blum AD	9/22/15	1552
7 D. Blum AD	9/22/15	1715	8 [illegible] ALS	9/22	1715
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full
EDDs Required? X If yes, format type: In Excel
DOD Criteria Required?
SDWA Forms? ⇒ yes
Other
⇒ Enter PWSID No.
State Samples Collected In? MD; NJ; NY X; PA

ALS FIELD SERVICES: Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

COC 279

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X -Y enestler@normandeau.com

Fax? -Y No.

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2, NO_3, TN									
	***Container Type						PL	PL									
	***Container Size						125mL	500mL									
	*** Preservative						$Na_2S_2O_3$	H_2SO_4									
	ANALYSES/METHOD REQUESTED																
	Enter Number of Containers Per Analysis																
1	986-26		9/22/15	1044			1	1									
2	1129-20			1046			1	1									
3	1364-6			1050			1	1									
4	1440-8			1052			1	1									
5	1439-20	MICRO REC'D 9/22/15 1715		1055			1	1									
6	1438-23			1058			1	1									
7	1363-24			1100			1	1									
8	2071-12			1104			1	1									

LMG 09/23/15 0519

Receipt Information (completed by Sample Receiving)

Performed by:

Cooler Temp: 2.8

Therm. ID: 309

No. of Coolers: 2

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N
	Y	Y	Y	Y	

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	N	N	N	N	N
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett, Normandeau	9/22	1459	2 [signature]	9/22	1159
3 [signature]	9/22	1429	4 Paul Collins	9/22/15	1429
5 Paul Collins	9/22/15	1552	6 P. Blonk ALS	9/22/15	1552
7 P. Blonk ALS	9-22-15	1715	8 [signature] ALS	9/22	1715
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ other

SDWA Forms? ⇨ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐

EDDs Required? X If yes, format type: In Excel

Other

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; ☐ Labor; ☐ Composite Sampling; ☐ Rental Equipment; ☐ Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P: 717-944-5541
F: 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

279

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5741
Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] -Y enestler@normandeau.com
Fax? [ ] -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO2/NO3, TN								
							***Container Type	PL	PL							
							***Container Size	125mL	500mL							
							*** Preservative	$Na_2S_2O_3$	H_2SO_4							
							ANALYSES/METHOD REQUESTED									
							Enter Number of Containers Per Analysis									
1	2012-9		9/22/15	1107			1	1								
2	2013-28		9/22/15	1109			1	1								
3	2014-19		9/22/15	1112			1	1								
4	714-40		9/22/15	1117			1	1								
5		MICRO REC'D 9/22/15 1715														
6																
7																
8																

Receipt Information (completed by Sample Receiver)
Performed by: [signature]
Cooler Temp: 3.2
Therm. ID: 309
No. of Coolers: 2
Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	N	N	N	Y	N	N	N	N	N
	N	N	N	N	Y	Y	Y	Y	Y

LMM 09/23/15 0519

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	9/22	1109	2 [signature]	9/22	1159
3 [signature]	9/22	1429	4 Paul Collins	9/22/15	1429
5 Paul Collins	9/22/15	1552	6 D. Blanchard ALS	9/22/15	1552
7 D. Blanchard ALS	9/22/15	1715	8 [signature] ALS	9/22/15	1715
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] Other
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

SDWA Forms? ⇨ yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected in? MD [ ] NJ [ ] NY [X] PA [ ]
Other
⇨ Enter PWSID No.

ALS FIELD SERVICES
[X] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

COC# 2097279

Co. Name: Normandeau Ass 603

Contact (Report to): Eric Nestler Phone: 472-5191

Address: 25 Nashua Rd Bedford NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No.:

	***Container Type	***Container Size	*** Preservative	*G or C	**Matrix	Fecal									
						ANALYSES/METHOD REQUESTED									
						Enter Number of Containers Per Analysis									
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time												
1 2376-16		9/24/15	1001			1									
2 2375-14			1003			1									
3 2374-4			1004			1									
4 2422-21			1005			1									
5 2424-31			1008			1									
6 2100-6			1011			1									
7 1981-10			1013			1									
8 1689-13			1015			1									

Receipt Information (completed by Sample Receiving)

Performed by: INITIAL HERE

Cooler Temp:

Therm. ID:

No. of Coolers:

Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?
	Y N	Y N	Y N	Y N

Circle appropriate Y or N.	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y N	Y N	Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D. Tauber	9/24	1242	2 Viktoriya Schiptsova/GSL	9/25/15	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)

EDDs Required? [ ] If yes, format type:

SDWA Forms? ⇨ yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]

Other

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

COC#

Co. Name: Normandeau Ass

Contact (Report to): Eric Nestler Phone: 603 472-5191

Address: 25 Nashua Rd Bedford NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.00 ALS Quote #: 40-495330

TAT: [X] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. Approved By:

Email? [X] -Y enestler@normandeau.com
Fax? [ ] -Y No.:

					***Container Type	P																	
					***Container Size	1L																	
					*** Preservative	H_2SO_4																	
					ANALYSES/METHOD REQUESTED																		
	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal																
							Enter Number of Containers Per Analysis																
1	1687-12		9/24/15	1017			1																
2	2090-33			1019			1																
3	2146-25			1021			1																
4	2089-27			1023			1																
5	2088-29			1025			1																
6	2087-17			1026			1																
7	2144-13			1029			1																
8	630-8			1034			1																

Receipt Information (completed by Sample Receiving)
Performed by: INITIAL HERE
Cooler Temp:
Therm. ID:
No. of Coolers:
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.	
Y N	Y N	Y N	Y N		
Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?	
Y N	Y N	Y N	Y N	Y N	

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D. Lauber	9/24	1242	2 Viktoriya Schiplit, ESL	9/24/15	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other

EDDs Required? [ ] If yes, format type:

SDWA Forms? ⇒ yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]

Other

DOD Criteria Required?

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

COC#

Co. Name: Normandeau Ass 603

Contact (Report to): Eric Nestler Phone: 472-5191

Address: 25 Nashua Rd Bedford NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No.:

					***Container Type	P																	
					***Container Size	100																	
					*** Preservative	H_2SO_4																	
	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal																
1	686-19		9/24/15	1036			1																
2	809-17			1038			1																
3	543-21			1040			1																
4	55-14			1043			1																
5	1547-29			1046			1																
6	1787-44			1048			1																
7	1321-5			1051			1																
8	1390-28			1053			1																

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)

Performed by: P (print here)

Cooler Temp: 3

Therm. ID:

No. of Coolers:

Notes:

Circle appropriate Y or N.				
Correct containers?	N	Y		
Correct sample volume?	N	Y		
Correct preservation?	N	Y		
Headspace/Volatiles?	N	Y		
Custody seals Present?	N	Y		
(If present) Seals intact?	N	Y		
Received on Ice?	N	Y		
COC/Labels complete/accurate?	N	Y		
Container in good condition?	N	Y		

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D Tauber	9/24	1242	2 Viktoriya Schiffel ES	9/24/15	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)

EDDs Required? [ ] If yes, format type:

SDWA Forms? ⇨ yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [ ] PA [ ]

Other

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 4.5

Courier:

Tracking #:

COC#

Co. Name: Normandeau Ass

Contact (Report to): Eric Nestler Phone:

Address: 25 Nashua Rd Bedford NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. Date Required:
☐ Rush-Subject to ALS approval and surcharges. Approved By:

Email? X Y emestler@normandeau.com by water

Fax? Y No.:

	***Container Type	P									
	***Container Size	1L U									
	*** Preservative										
ANALYSES/METHOD REQUESTED											

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal							
1 659-7		9/24/15	1057			1							
2 1129-20			1101			1							
3 1364-6			1103			1							
4 1440-8			1106			1							
5 1439-20			1108										
6 1438-23			1110										
7													
8													

Enter Number of Containers Per Analysis

Subbed out to Gordon State ALS on 9/24 yellow copies

Receipt Information (completed by Sample Receiving)

Performed by: INITIAL HERE

Cooler Temp:

Therm. ID:

No. of Coolers:

Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?
N	N	N	N	N
Y	Y	Y	Y	Y

Circle appropriate Y or N.	Custody seals Present? (if present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
N	N	N	N	N
Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D. Tauber	9/24	1242	2 Viktoriya Schiptit KSL	9/24/15	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ New

EDDs Required? ☐ If yes, format type:

SDWA Forms? ⇨ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY ☐ PA ☐ Other

DOD Criteria Required?

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

K1510856

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

* 2 0 9 7 4 6 6 *

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? ☒ Y enestler@normandeau.com
Fax? ☐ Y No.:

**Container Type	CG	CG
***Container Size	4oz	16oz
***Preservative	None	None

ANALYSES/METHOD REQUESTED: TOC; Grain Size

USE Client ID's For all Samples

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size
1	~~2637-11~~		9/22/15	1456			1	1
2	~~2618-2~~		↓	1524			1	1
3	~~2344-15~~		↓	1539			1	1
4	~~2141-10~~		↓	1554			1	1
5	~~2530-3~~		↓	1610			1	1
6	~~2509-30~~		↓	1620			1	1
7	~~2187-7~~		↓	1633			1	1
8	~~2139-22~~		↓	1644			1	1

Run Grain Size Only

Sub to ALS Kelso

Receipt Information (completed by Sample Receiving)
Performed by: [illegible]
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Circle appropriate Y or N.

Correct containers?	Y
Correct sample volume?	Y
Correct preservation?	Y
Headspace/Volatiles?	[illegible]
Custody seals Present?	N
(if present) Seals intact?	
Received on Ice?	N
COC/Labels complete/accurate?	N
Container in good condition?	N

SAMPLED BY (Please Print):

Project Comments: [illegible] 9/23 2326

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. [illegible] Normandeau	9/23/15	1654	2	[illegible]	9/23	1654
3	[illegible]	9/23	1710	4	[illegible]	9/23	1710
5	[illegible]	9/23	2040	6	[illegible]	9/23	2040
7	[illegible]	9/25	1730	8	[illegible] / ALS	9/29/15	0920
9				10			

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ Other
SDWA Forms? yes ☐ yes ☐ yes ☐ yes ☐
State Samples Collected In? MD ☐ NJ ☐ NY ☒ PA ☐ Other
EDD Required? ☒ If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: ☒ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

K1510856

466

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

							***Container Type	CG	CG														
							***Container Size	4oz	16oz														
							*** Preservative	None	None														
							ANALYSES/METHOD REQUESTED																
								TOC	Grain Size														
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis																	
1 2486-11		9/22/15	1658					1	1														
2 2588-1		↓	1707					1	1														
3 2587-26	Broken	↓	1718					1	1														
4 2485-5		9/22/15	1725					1	1														
5 2588-29		9/22/15	1756					1	1														
6 2482-3		↓	1802					1	1														
7 2084-4		↓	1815					1	1														
8 1882-18		9/23/15	0850					1	1														

Receipt Information (completed by Sample Receiving)

Performed by:

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	N	
	Y	Y	Y	Y	
	N	N	N	N	N
	Y	Y	Y	Y	

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	N	N	N	N	N
	Y	Y	Y	Y	

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomplins Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 [signature] Rmk	9/23	2040
7 [signature]	9/28	1730	8 [signature] ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; ___

EDDs: X If yes, format type: Excel

DOD Criteria Required?

SDWA Forms? → yes; yes; yes; yes

Samples Collected In? MD; NJ; NY X; PA; Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Rev 01-2013

PC CL

Cooler Receipt and Preservation Form

Client / Project: AIS Middletown/Normandeau Service Request K15 108516

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746141768 25	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746141771 11	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746141770 41	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746141776 81	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746141767 55	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
2527-26	1 1oz glass			X						

Notes, Discrepancies, & Resolutions: Bottle 2527-26 arrived broken but contained in Ziploc bag; lab confirmed analysis will be able to continue - CL 10/2/15

Page ____ *of* ____

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 3 of 7

Courier:

Tracking #:

K1510897

466

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No

***Container Type	CG	CG																					
***Container Size	4oz	16oz																					
*** Preservative	None	None																					
ANALYSES/METHOD REQUESTED	TOC	Grain Size																					

Receipt Information (completed by Sample Receiving)

Performed by: Brad

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size															
					Enter Number of Containers Per Analysis																		
1	23376-16		9/22/15	0845			1	1															
2	23375-14			0853			1	1															
3	23374-21			0903			1	1															
4	24122-21			0912			1	1															
5	24124-31			0922			1	1															
6	2100-6			0933			1	1															
7	1984-10			0944			1	1															
8	1689-13			0958			1	1															

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	N	
	N	N	N	N	N
	Y	Y	Y	Y	Y

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Normandeau	9/22/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 Rmk	9/23	2040
7	9/28	1730	8 /ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; EDD (if yes, format type): X Yes Excel

DOD Criteria Required?

SDWA Forms? Yes

State Samples Collected In: MD; NJ; NY X; PA

Other:

Enter RWQ Info

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

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***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental
34 Dogwood Lane
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F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

M1510857
466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Address: 25 Nashua Rd
Bedford, NH 03110
Phone: (603) 472-5191

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-415330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.

***Container Type	CG	CG																					
***Container Size	4oz	16oz																					
** Preservative	None	None																					
ANALYSES/METHOD REQUESTED	TOC	Grain Size																					

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size																
1 1687-12		9/23/15	1012			1	1																
2 2020-33			1025			1	1																
3 2016-25			1041			1	1																
4 2088-27			1050			1	1																
5 2088-29			1106			1	1																
6 2088-17 3Loz			1117			1	1																
7 2444-13			1139			1	1																
8 2444-2 3Loz			1149			1	1																

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by: Rank
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	N	N	N	N
Correct sample volume?	Y	Y	Y	Y
Correct preservation?				
Headspace/Volatiles?				
Circle appropriate Y or N				
Custody seals Present?	N	N	N	N
(If present) Seals intact?	Y	Y	Y	Y
Received on ice?				
COC/Labels complete/accurate?				
Container in good condition?				

SAMPLED BY (Please Print):
Project Comments: Rank 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 Rank	9/23	2040
7 [signature]	9/25	1730	8 [signature] / ALS	9/29/15	0920
9			10		

Data Deliverables: Standard; CLP-like; NJ-Reduced; NJ-Full; other
SDWA Forms? yes; yes; yes; yes
State Samples Collected in? MD; NJ; NY; PA
EDDs Required? yes, format type: In Excel
Other:
Special Instructions:
DOD Criteria Required?

ALS FIELD SERVICES
Pickup
Labor
Composite Sampling
Rental Equipment
Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

K1510858
466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603)472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.:

***Container Type	CG	CG																					
***Container Size	4oz	16oz																					
*** Preservative	None	None																					
ANALYSES/METHOD REQUESTED																							
*G or C	**Matrix	TOC	Grain Size																				
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	Enter Number of Containers Per Analysis																			
1 630-8		9/23/15	1203			1	1																
2 686-19			1214			1	1																
3 809-17			1227			1	1																
4 543-21			1245			1	1																
5 55-14			1258			1	1																
6 1547-29			1311			1	1																
7 1787-44			1321			1	1																
8 1321-5			1330			1	1																

Receipt Information (completed by Sample Receiving):
Performed by: RMK
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y N	Y N	Y N	Y N	
Custody seals Present?	(If present) Seals Intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y N	Y N	Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments: RMK 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [illegible]	9/23	1654
3 [illegible]	9/23	1710	4 [illegible]	9/24	1710
5 [illegible]	9/23	1940	6 RMK	9/23	2040
7 [illegible]	9/28	1730	8 [illegible] / ALS	9/29/15	0920
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
EDDs Required: [X] If yes, format type: In Excel
DOD Criteria Required?
SDWA Forms? ⇒ yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Other

ALS FIELD SERVICES
[X] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

K1510898
466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? [ ] Y No.

***Container Type	CG, CG
***Container Size	4oz, 16oz
***Preservative	None, None

ANALYSES/METHOD REQUESTED: TOC, Grain Size

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size
1	1390-28		9/23/15	1338			1	1
2	659-7			1348			1	1
3	654-9			1358			1	1
4	720-16			1409			1	1
5	717-59			1424			1	1
6	714-40			1435			1	1
7	849-25			1446			1	1
8	240-23		9/23/15	1457			1	1

Receipt Information (completed by Sample Receiving)
Performed by: [signature]
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers? Y N
Correct sample volume? Y N
Correct preservation? Y N
Headspace/Volatiles? Y N
Circle appropriate Y or N.

Custody seals Present? Y N
(If present) Seals Intact? Y N
Received on Ice? Y N
COC/Labels complete/accurate? Y N
Container in good condition? Y N

SAMPLED BY (Please Print):

Project Comments: Rnk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tompkins Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 Rnk	9/23	2040
7 [signature]	9/28	1730	8 [signature] /ALS	9/29/15	0920
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] (other)
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]

ALS FIELD SERVICES
[X] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

466

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] Y enestler@normandeau.com

Fax? Y No

							***Container Type	CG	CG														
							***Container Size	4oz	16oz														
							*** Preservative	None	None														
							ANALYSES/METHOD REQUESTED																
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix		TOC	Grain Size															
							Enter Number of Containers Per Analysis																
1 99-30		9/23/15	1508				1	1															
2 ~~86-26~~			1520				1	1															
3 ~~129-20~~			1529				1	1															
4 ~~136-6~~			1539				1	1															
5 ~~142-8~~			1552				1	1															
6 ~~129-20~~			1605				1	1															
7 ~~138-23~~		✓	1617				1	1															
8 ~~163-21~~		9/23/15	1628				1	1															

Receipt Information (completed by Sample Receiving)

Performed by: Rmk

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	N	N	N	N	
	Y	Y	Y	Y	
Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?		Circle appropriate Y or N.
N	N	N	N	N	
Y	Y	Y	Y	Y	
Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?	

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tom Normandeau	9/23/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 Rmk	9/23	2040
7	9/25	1750	8 /ALS	9/29/15	0920
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] (other)

EDD Format: [X] If Yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? → Yes: [ ] Yes: [ ] Yes: [ ] Yes: [ ]

State Samples Collected in? MD: [ ] NJ: [ ] NY: [X] PA: [ ] Other:

ALS FIELD SERVICES: [ ] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Analytical Laboratory Services, Inc.

Environmental • Industrial Hygiene • Field Services

34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: K1510864 | 1 of 1

ALSI Quote #:

Client Name: ALS Environmental

Address: 34 Dogwood Lane
Middletown, PA 17057

Contact: Vicki Forney

Phone#: (717) 944-5541

Project Name/#:

Bill To: ALS Environmental

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges.

Date Required: _____ Approved By: _____

Email? [X] -Y almdt.subcontract@ALSGlobal.com

Fax? [ ] -Y No.

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Grain Size								
Container Type			G										
Container Size			16 oz										
Preservative			none										
ANALYSES/METHOD REQUESTED													
Enter Number of Containers Per Sample or Field Results Below.													
2097786 001 Use client ID's from the chad COC 9/28/15	9/24/15	0742	G	SO	1	2071-12							
2097786 002	9/24/15	0802	G	SO	1	2012-9							
2097786 003	9/24/15	0816	G	SO	1	2013-28							
2097786 004	9/24/15	0829	G	SO	1	2014-19							

Receipt Information (completed by Receiving Lab)

Cooler Temp: _____ Therm. ID: _____

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Courier/Tracking #: _____

Sample/COC Comments

Subcontract: ALS Kelso

ALSI Field Services: ☐Pickup ☐Labor ☐Composite Sampling ☐Rental Equipment ☐Other: _____

Project Comments:

LOGGED BY(signature): _____ DATE: _____ TIME: _____

REVIEWED BY(signature): _____ DATE: _____ TIME: _____

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	9/28	1730	2 [signature] / ALS	9/29/15	0920
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] GLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ] other

Reportable to PADEP? Yes: [ ]

PWSID #: _____

Sample Disposal: Lab [ ] Special [ ]

EDDs: Format Type: _____

* G=Grab; C=Composite **Matrix - Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

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Rev 5/05

ALS Environmental

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Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of ~~12~~ 4

Courier:

Tracking #:

K150803 110165

2097173

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: HO-195330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

Attn: Greg Sakata
Ship to ALS-Kelso
See attached email

***Container Type	2 P	G																					
***Container Size	1 gal	1 L																					
*** Preservative	Ice	None																					

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	CCC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing															
1	HB05 - 9	1	9/21/15	0857			1																
2	HB05 - 9		9/21/15	1536				1															
3	HB05 - 8	2	9/21/15	0857			1																
4	HB05 - 8		9/21/15	1545				1															
5	HB04 - 6	3	9/21/15	1015			1																
6	HB04 - 6		9/21/15	1553				1															
7	HB04 - 7	4	9/21/15	1015			1																
8	HB04 - 7		9/21/15	1559				1															

Enter Number of Containers Per Analysis

(completed by Sample Receiving)

Performed by: RWL

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	Y	N	N	Y	
	Y	N	N	N	N

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments: RWL 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature] Normandeau	9/22	1159	2 [signature]	9/22	1159
3 [signature]	9/22	1700	4 [signature]	9/22	1700
5 [signature]	9/22	2045	6 [signature] RWL	9/22	2045
7 [signature]	9/22	1600	8 [signature] / ALS	9/24/15	0940
9			10		

Data Deliverables: X Standard; CLP-like; NJ Reduced; NJ Full; other

SDWA Forms? yes

State Samples Collected in? MD; NJ; NY X; PA; Other

EDDs: X Yes, format type: In Excel

DQO Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

R15T0803 HP69

173

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of ~~12~~ 4

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 10-1195330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y enestler@normandeau.com

Fax? -Y No.:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing																
						***Container Type		PL	CG														
						***Container Size		gal	1L														
						**** Preservative		Ice	None														
						ANALYSES/METHOD REQUESTED																	
						Enter Number of Containers Per Analysis																	
1 HB07 - 13	5	9/21/15	1046			1																	
2 HB07 - 13		9/21/15	1611				1																
3 HB07 - 14	6	9/21/15	1046			1																	
4 HB07 - 14		9/21/15	1616				1																
5 HB02 - 1	7	9/21/15	1115			1																	
6 HB02 - 2	8	9/21/15	1115			1																	
7 HB02 - 1		9/21/15	1625				1																
8 HB02 - 2		9/21/15	1691				1																

Receipt Information (completed by Sample Receiving)

Performed by: Rmk

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y	Y	Y	Y	Y
N	N	N	N	N

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1159	2 [signature]	9/22	1159
3 [signature]	9/22	1800	4 [signature]	9/22	1800
5 [signature]	9/22	2045	6 Rmk	9/22	2045
7			8 [signature] / ALS	9/24/15	0940
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ other

SDWA Forms? ☐ yes

State Samples Collected in? MD ☐ NJ ☐ NY X PA ☐

EDDs Required? X If yes, format type: In Excel

Other

DOD Criteria Required?

ALS FIELD SERVICES

☐ Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 3 of ~~12~~ 4

Courier:

Tracking #:

K15-16035

173

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing								
	***Container Type						PL	CG								
	***Container Size						Gal	1L								
	*** Preservative						Ice	None								
1	HB06 - 11	9	9/21/15	1445			1									
2	HB06 - 11		9/21/15	1636				1								
3	HB06 - 12	10	9/21/15	1445			1									
4	HB06 - 12		9/21/15	1640				1								
5	2014 - 19		9/21/15	1645				1								
6	2013 - 28		9/21/15	1651				1								
7	2012 - 9		9/21/15	1655				1								
8	2011 - 12		9/21/15	1659				1								

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)

Performed by: RMK

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.	
Y	Y	Y	Y		
Y	Y	Y	Y		
Y	Y	Y	Y		
Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?	

SAMPLED BY (Please Print):

Project Comments: RMK 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burritt Normandeau	9/22	1659	2 [signature]	9/22	1659
3 [signature]	9/22	1700	4 [signature]	9/22	1700
5 [signature]	9/22	2045	6 [signature] RMK	9/22	2045
7			8 [signature] ALS	9/24/15	0940
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] (other)

SDWA Forms? ⇒ yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDD Format: [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

K15-11865

173

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Page 4 of 12

Courier:

Tracking #:

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

	***Container Type	PL	CG								
	***Container Size	Gal	1L								
	*** Preservative	ICE	None								
	*G or C										
	**Matrix										
	ANALYSES/METHOD REQUESTED	Clam Tissue	Sediment Testing								

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	Enter Number of Containers Per Analysis									
1	1438-23		9/21/15	1701		1								
2	1363-24		9/21/15	1708		1								
3	2014-19	11	9/21/15	1225	1									
4	2013-28	12	9/21/15	1236	1									
5	2012-9	13	9/21/15	1247	1									
6	2017-12	14	9/21/15	1250	1									
7	1438-23	15	9/21/15	1305	1									
8	1363-24	16	9/21/15	1316	1									

Receipt Information (completed by Sample Receiving)

Performed by: RMC

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	Y N	Y N	Y N	Y N	
	Y N	Y N	Y N	Y N	Y N

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments: RMC 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Barrett Normandeau	9/22	1115	2		9/22	[illegible]
3		9/22	1900	4		9/22	1900
5		9/22	2045	6	RMC	9/22	2045
7				8	/ ALS	9/24/15	0940
9				10			

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; Other

SDWA Forms? yes

State Samples Collected In? MD; NJ; NY X; PA; Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS

Cooler Receipt and Preservation Form

11065 PC CL

Client / Project: ALS / Middletown Service Request K15 ~~10803~~

Received: 9/24/15 Opened: 9/24/15 By: [illegible] Unloaded: 9/24/15 By: [illegible]

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.3	-0.2	0.2	0.4	+0.1	338		7745 8145 9674	
-0.3	-0.3	1.0	1.2	+0.2	358		" " 9620	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

VAF

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 4

K1510807 11067

Courier:

Tracking #:

2098079

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 49533D

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email?: X Y enestler@normandeu.com

Fax?: Y No

***Container Type	PL	CG																					
***Container Size	1gal	32oz																					
*** Preservative	None	None																					
ANALYSES/METHOD REQUESTED																							
			Clam Tissue	Sediment Testing																			

only subbed out clams to KELSO

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis																
1	1364-6		9/28/15	1845			1																
2	1364-6			1255				1															
3	1440-8			1304			1																
4	1440-8			1316				1															
5	1439-20			1320			1																
6	1439-20			1331				1															
7	717-59			1318			1																
8	717-59	9/25/15 1259	9/28/15	1357				1															

SSL 9/28/15

Circle appropriate Y or N	Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
Correct containers?	Y	Y	Y	Y	Y
Correct sample volume?	N	N	N	N	N
Correct preservation?	Y	Y	Y	Y	Y
Headspace/Volatiles?	N	N	N	N	N

Receipt Information (completed by Sample Receiving)

Performed by: INITIAL HERE

Cooler Temp: 1

Therm. ID: 1430

No. of Cooler:

Notes:

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Cindy Tomlinson Normandeau	9/25/15	0900	2	9/25	800
3	9/25	1800	4	9/25	1800
5	9/25	2000	6	9/25	2000
7	9/28	1715	8 ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; C.L.P.-like; NJ-Reduced; NJ-Full; Other

EDD: X Type, format type: In Excel

DOD Criteria Required?

SDWA Forms? Yes / Yes / Yes / Yes

State Samples Collected In? MD / NJ / NY X / PA

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

K1510867 11067

2098079

Co. Name: Normandeau Associates, Inc
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 10-45330

TAT: Normal Standard TAT is 10-12 business days / Rush Subject to ALS approval and surcharges
Date Required:
Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No

***Container Type	PL	CG												
***Cooltainer Size	1gal	32oz												
*** Preservative	None	None												

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing							
1 714-40		9/24/15	1404			1								
2 714-40			1414				1							
3 2146-25			1420			1								
4 2146-25			1431				1							
5 1787-44			1436			1								
6 1787-44			1447				1							
7 659-7	9-25-15 1259		1457			1								
8 659-7		9/24/15	1506				1							

Enter Number of Containers Per Analysis

only submitted out clams SS 9/29/15

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N
	Y	Y	Y	Y	
	N	N	N	N	N
	Y	Y	Y	Y	Y

	Custody seals Present?	(If present) Seals Intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

Receipt Information (completed by Sample Receiving)
Performed by: Initial, print
Cooler Temp:
Therm. ID 11157
No. of Coolers:
Notes:

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/25/15	0900	2 [illegible]	9/25	900
3 [illegible]	9/25	1800	4 [illegible]	9/25	1800
5 [illegible]	9/25	2000	6 [illegible]	9/25	2000
7 [illegible]	9/28	1715	8 SW / ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; other
EDD: X If yes, format type: In Excel
DOD Criteria Required?

SDWA Forms? yes / No
State Samples Collected in? MD, NJ, NY X, PA, Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

11067
K1510864

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

2098079

Co. Name: Normandeau Associates, Inc
Contact (Report to): Eric Nestler
Phone: (603)472-5191
Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No:

***Container Type	PL	CG
***Container Size	1gal	32oz
*** Preservative	None	None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing	only submitted out clams to Kelso
1 654-9		9/24/15	1512			1		
2 654-9			1523				1	
3 720-16			1527			1		
4 720-16			1529				1	
5 1374-22			1615			1		
6 1374-22			1626				1	
7 1217-42	925-15 2254		1635			1		
8 1217-42		9/24/15	1646				1	

Receipt Information (completed by Sample Receiving)
Performed by: ISSUE IS #:
Cooler Temp: 4
Therm.ID: IR 309
No. of Coolers:
Notes:

	7	8
Correct containers?	N	N
Correct sample volume?	N	N
Correct preservation?	N	N
Headspace/Volatiles?	Y	Y
Circle appropriate Y or N.		
Custody seals Present?	Y	Y
(if present) Seals intact?	Y	Y
Received on Ice?	N	N
COC/Labels complete/accurate?	N	N
Container in good condition?	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Christopher Normandeau	9/25/15	0900	2	9/25	900
3	9/25	1800	4	9/25	1800
5	9/25	2000	6	9/25/15	2000
7	9/28	1715	8	9/29/15	0900
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ Reduced; [ ] NJ Full; [ ] other
Electronic: [X] Yes, format type: In Excel
DOD Criteria Required?
SDWA forms? Yes
State Samples Collected in? MD; NJ; NY [X]; PA; Other

ALS FIELD SERVICES
[X] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 4

Courier:

Tracking #:

K15-11967

2098079

Co. Name: Normandeau Associates, Inc

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: HO-135330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharge.

Date Required: Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No

***Container Type: PL, CG
***Container Size: 1gal, 32oz
***Preservative: None, None

ANALYSES/METHOD REQUESTED

Clam Tissue
Sediment Testing

only supplied out clams to Kelso

Receipt Information (completed by Sample Receiving)
Performed by:
Initial Temp:
Cooler Temp:
Therm. ID: 7 [illegible]
No. of Coolers:
Notes:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing										
1 986-26		9/24/15	1652			1											
2 986-26		"	1704				1										
3 1129-20		"	1710			1											
4 1129-20		9/24/15	1724				1										
5																	
6																	
7	9-25-15 2259																
8																	

Enter Number of Containers Per Analysis

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1–3	N	N	N	N	N
4–7	N	N	N	N	N
8	Y	Y	Y	Y	Y

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
1–3	Y	Y	Y	Y	Y
4–7	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tom Normandeau	9/25/15	0900	2 [illegible]	9/25	9:06
3 [illegible]	9/25	1800	4 [illegible]	9/25	1800
5 [illegible]	9/25	2000	6 [illegible]	9-25-15	2000
7 [illegible]	9/28	1715	8 [illegible] / ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; Other

EDDs Required? X If yes, format type: In Excel

QQD Criteria Required?

SDWA Forms Req'd? yes

State Samples Collected In? MD, NJ, NY X, PA

Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Rev 01-2013

ALS

11067 PC CV
~~10861~~

Cooler Receipt and Preservation Form

Client / Project: AIS Middle Fork Service Request K15

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID # NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746 1417 6825	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746 1417 7111	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746 1417 7041	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746 1417 7681	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746 1417 6755	

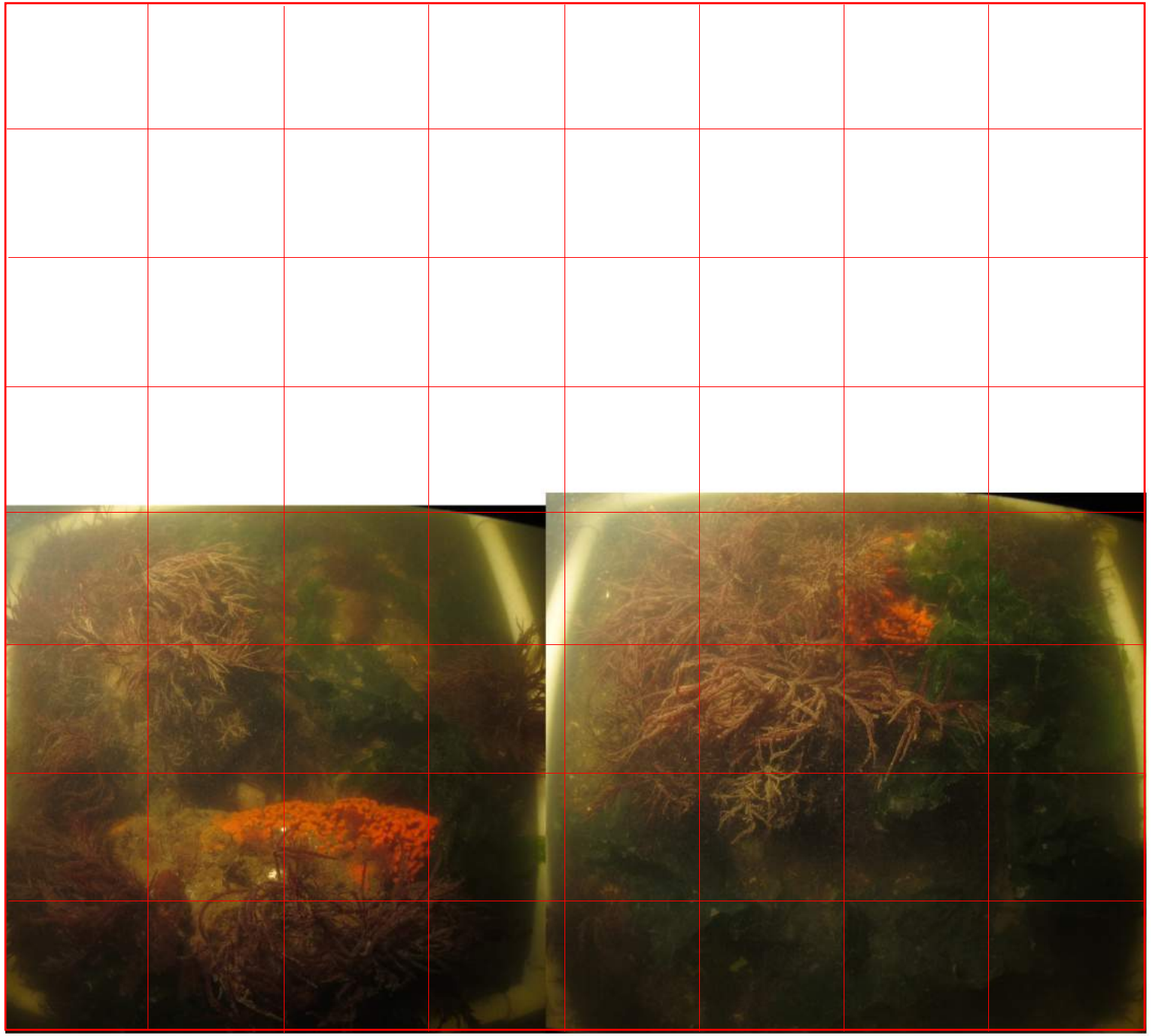
4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by

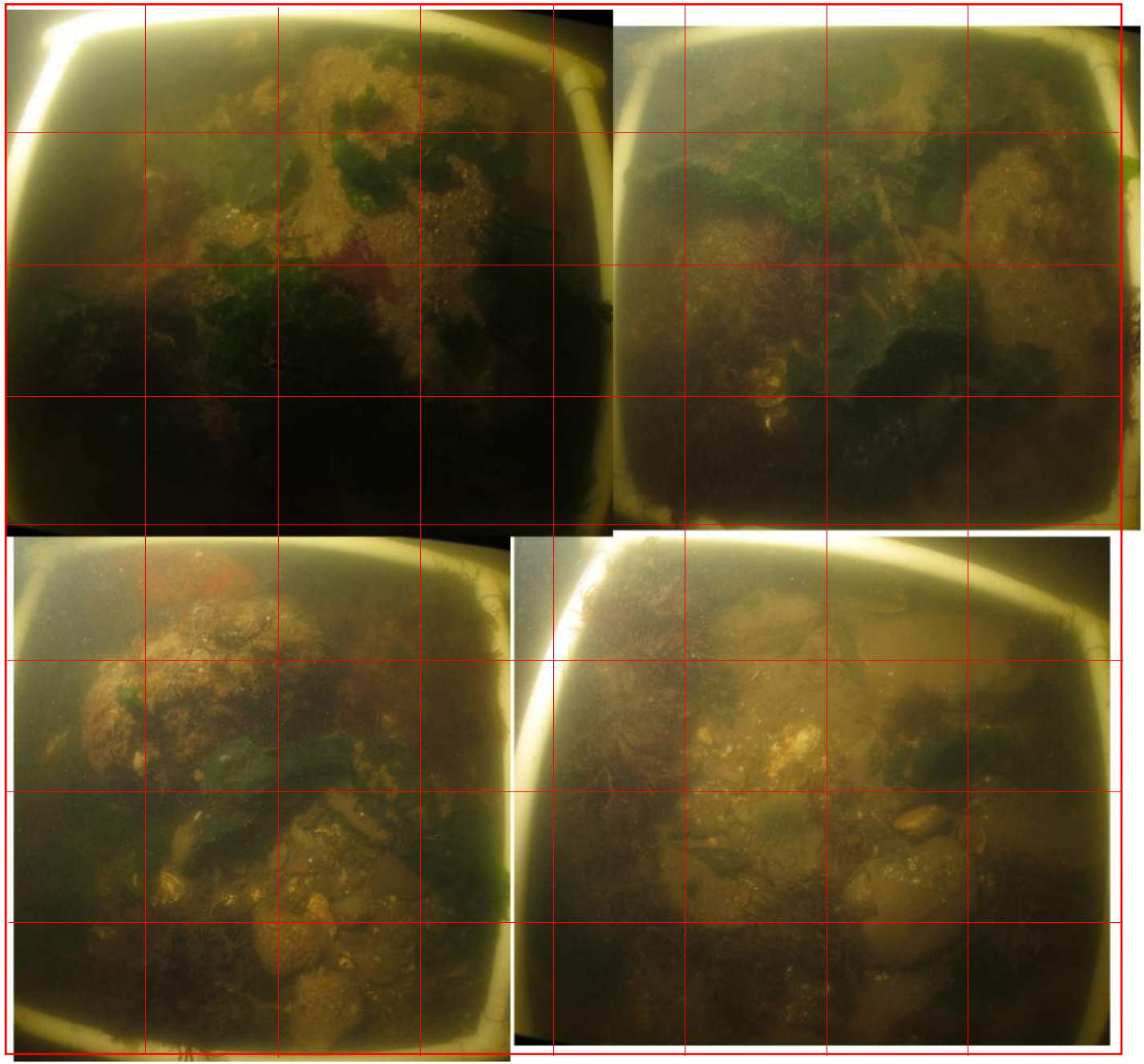
Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

HB02 Site 1



HB02 Site 2



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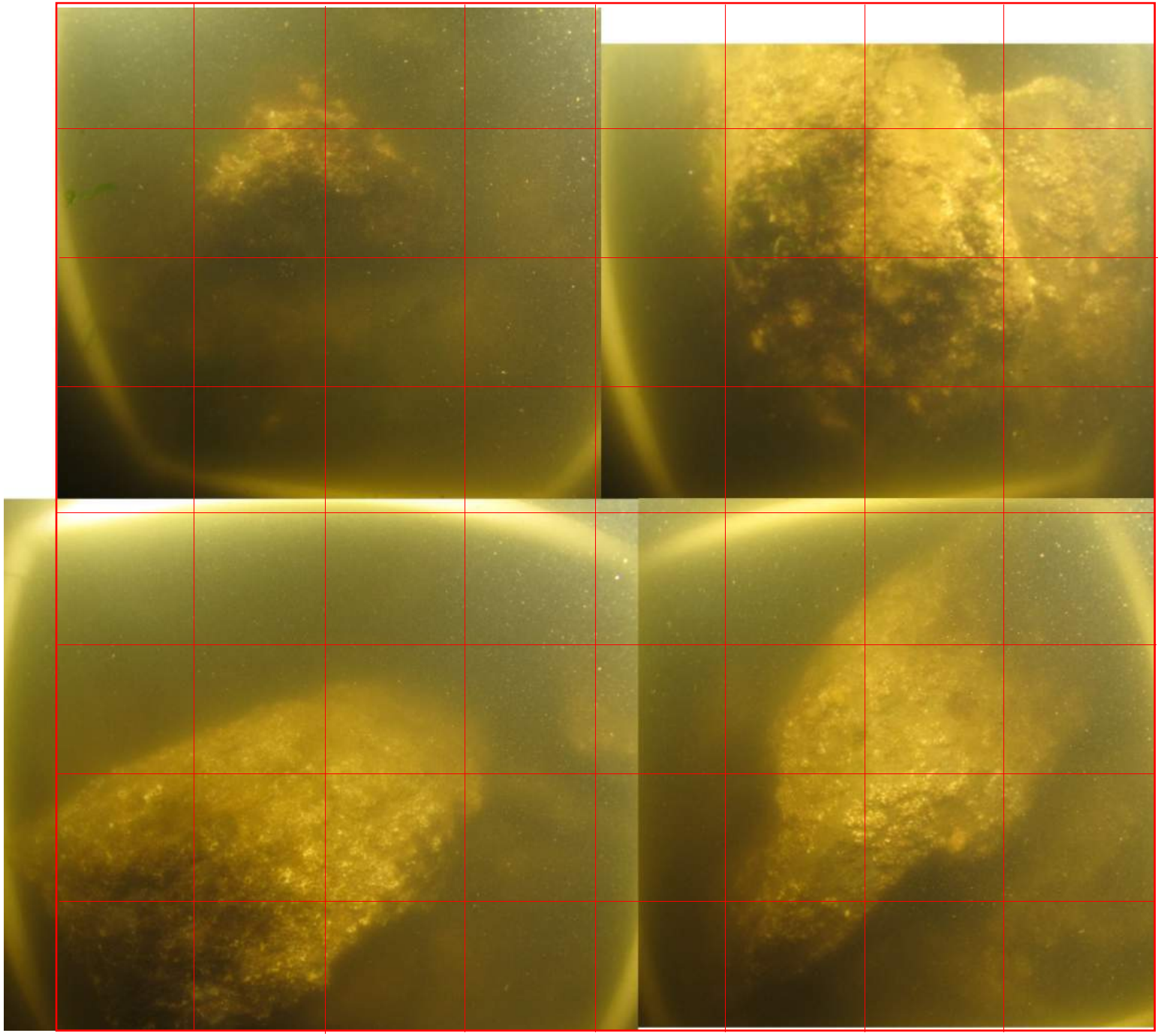

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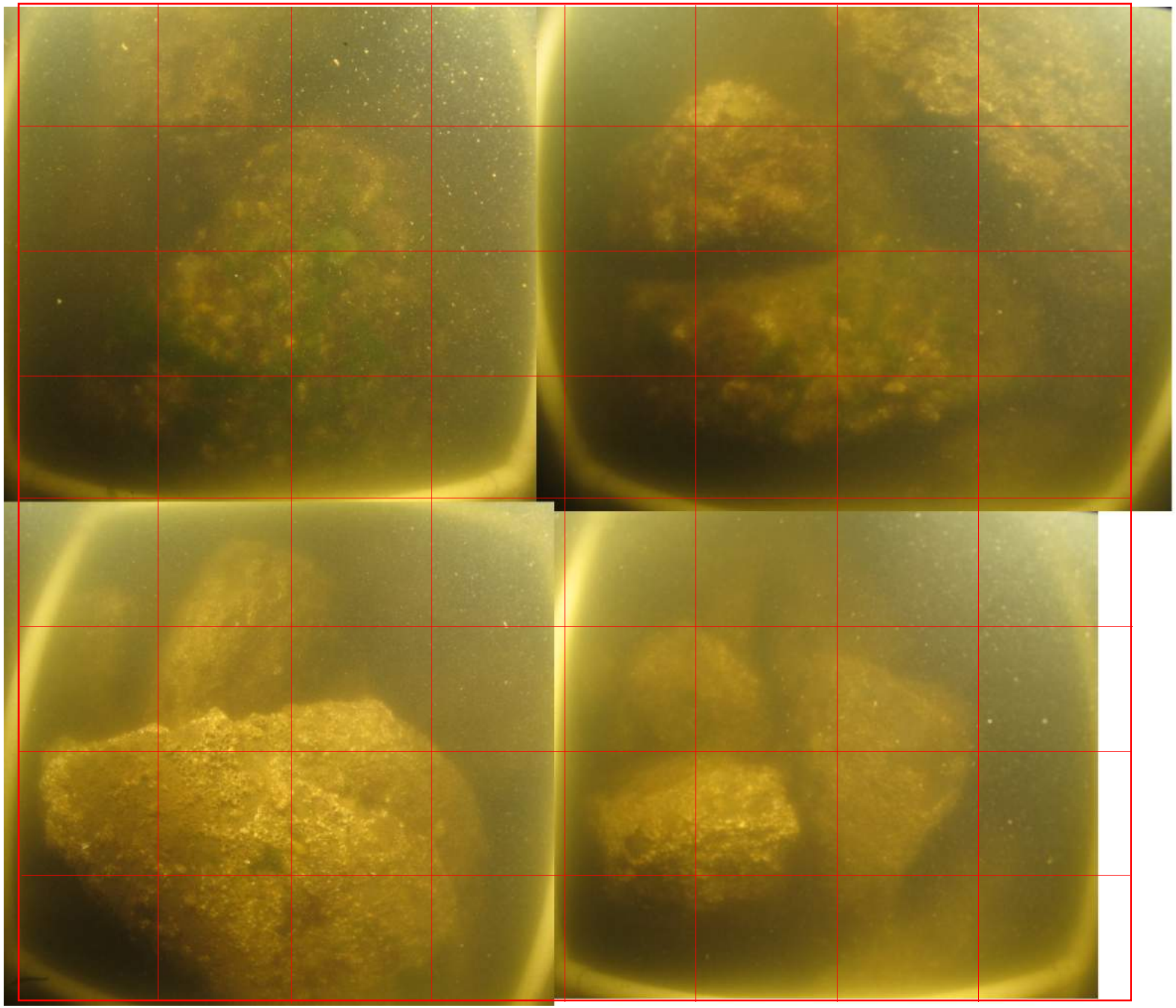

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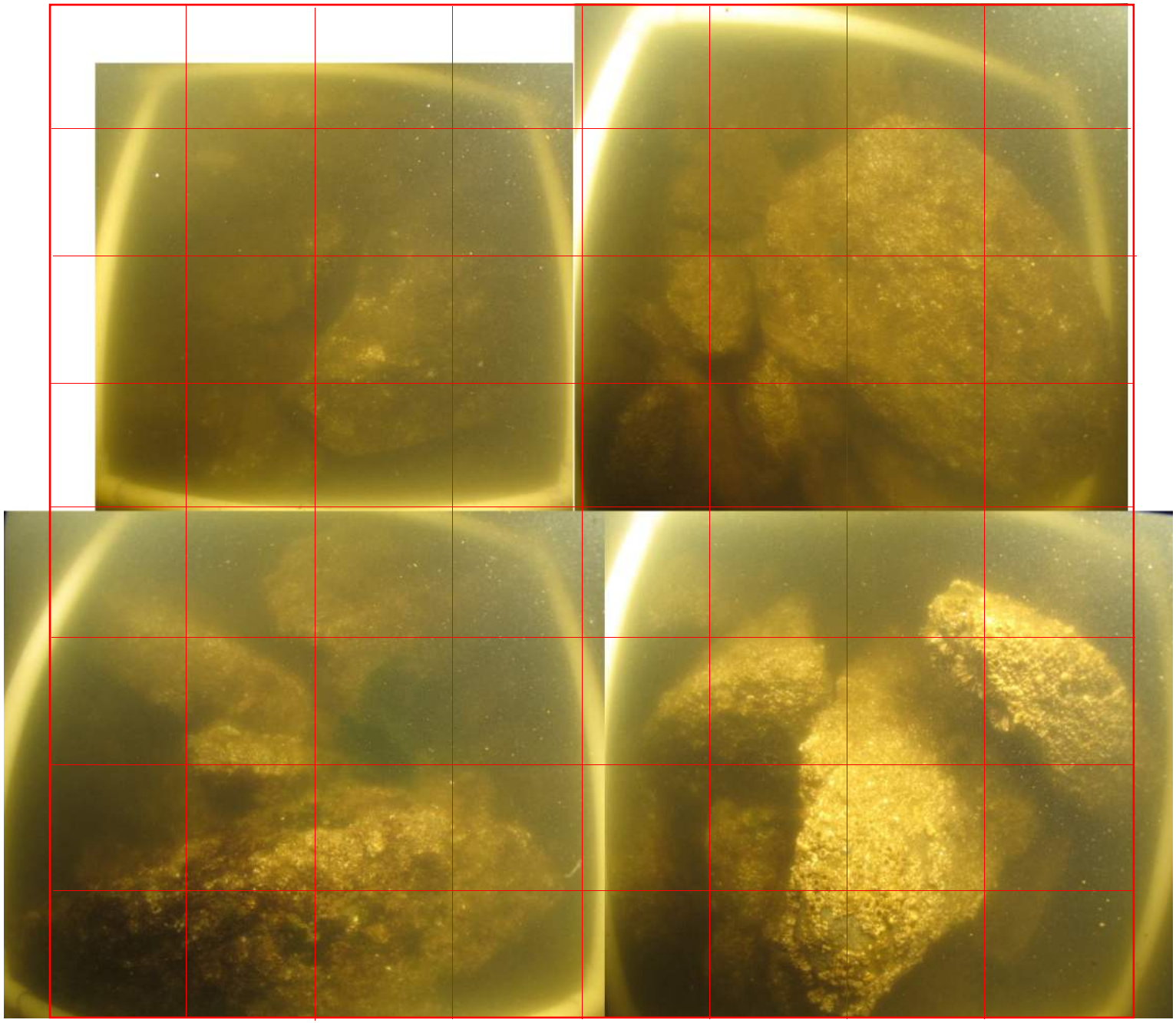

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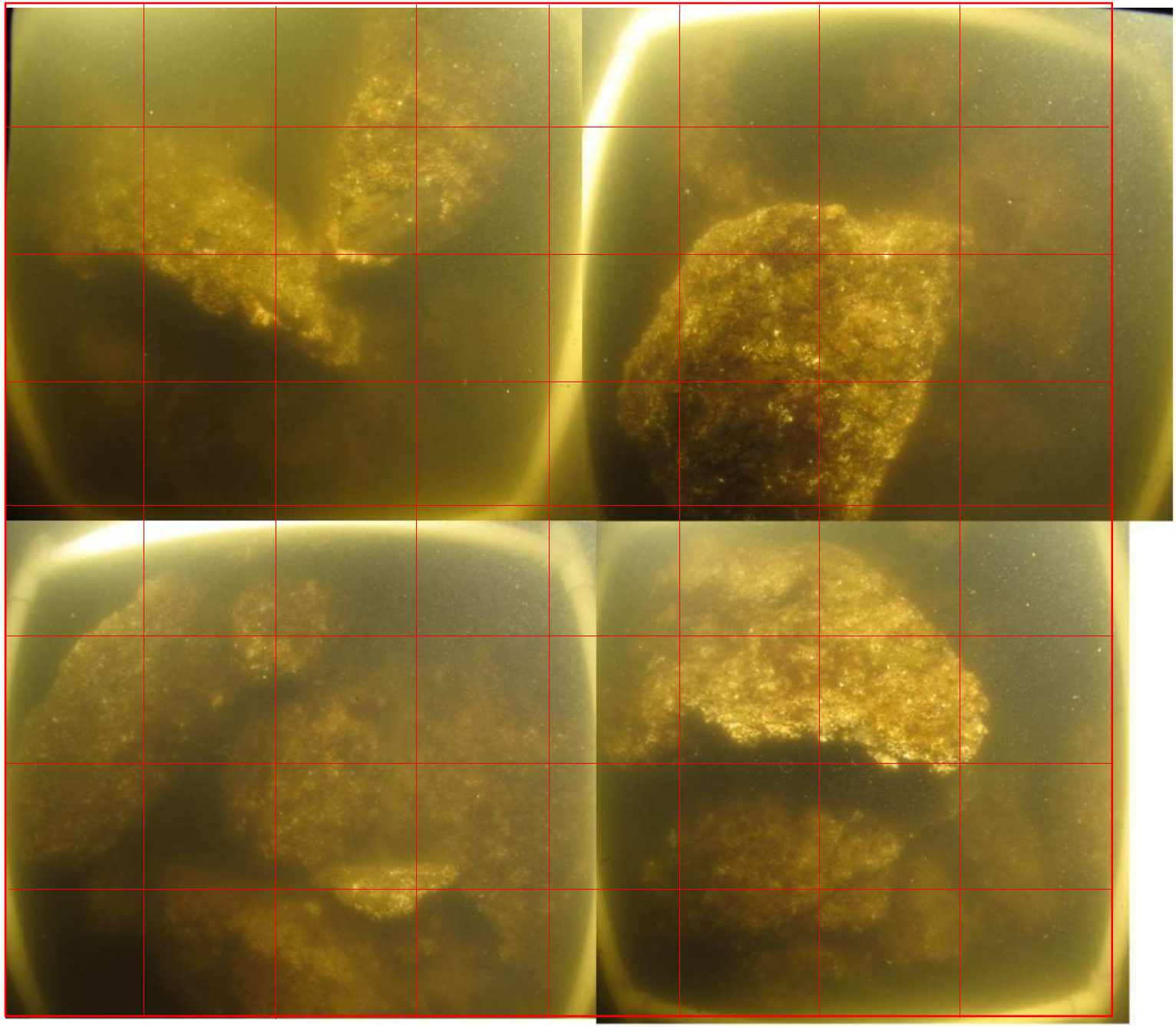

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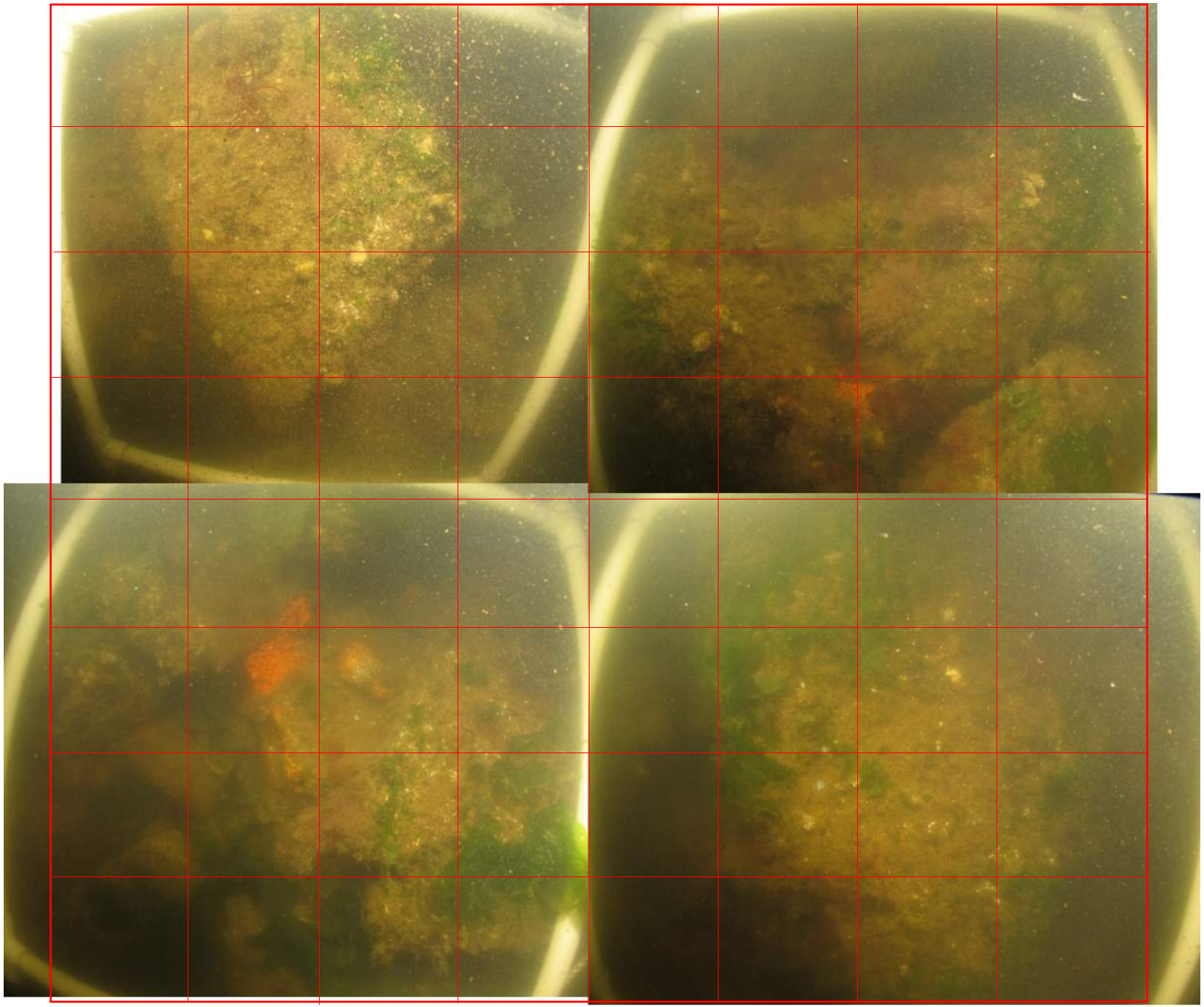

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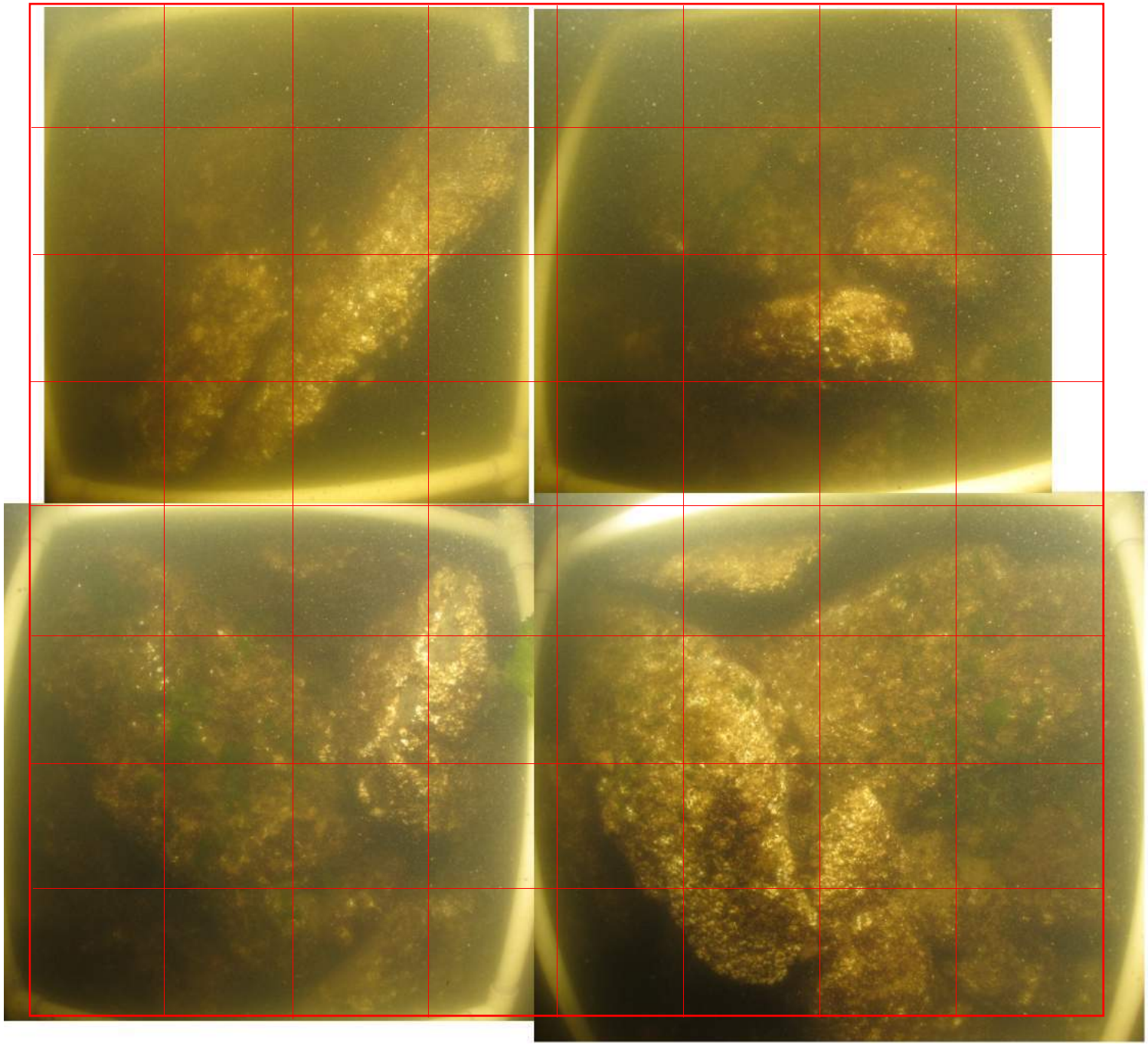

HB04 Site 1

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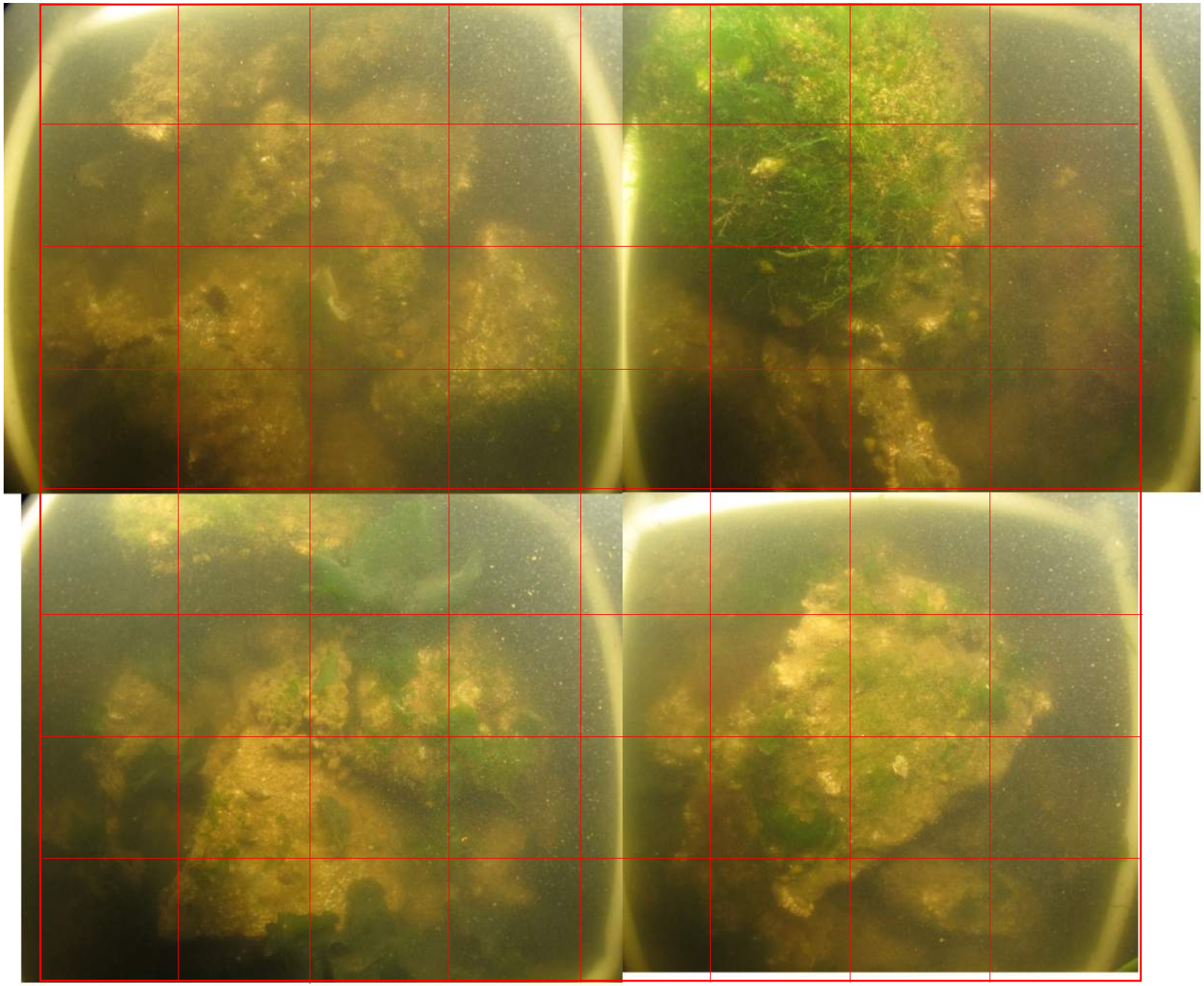

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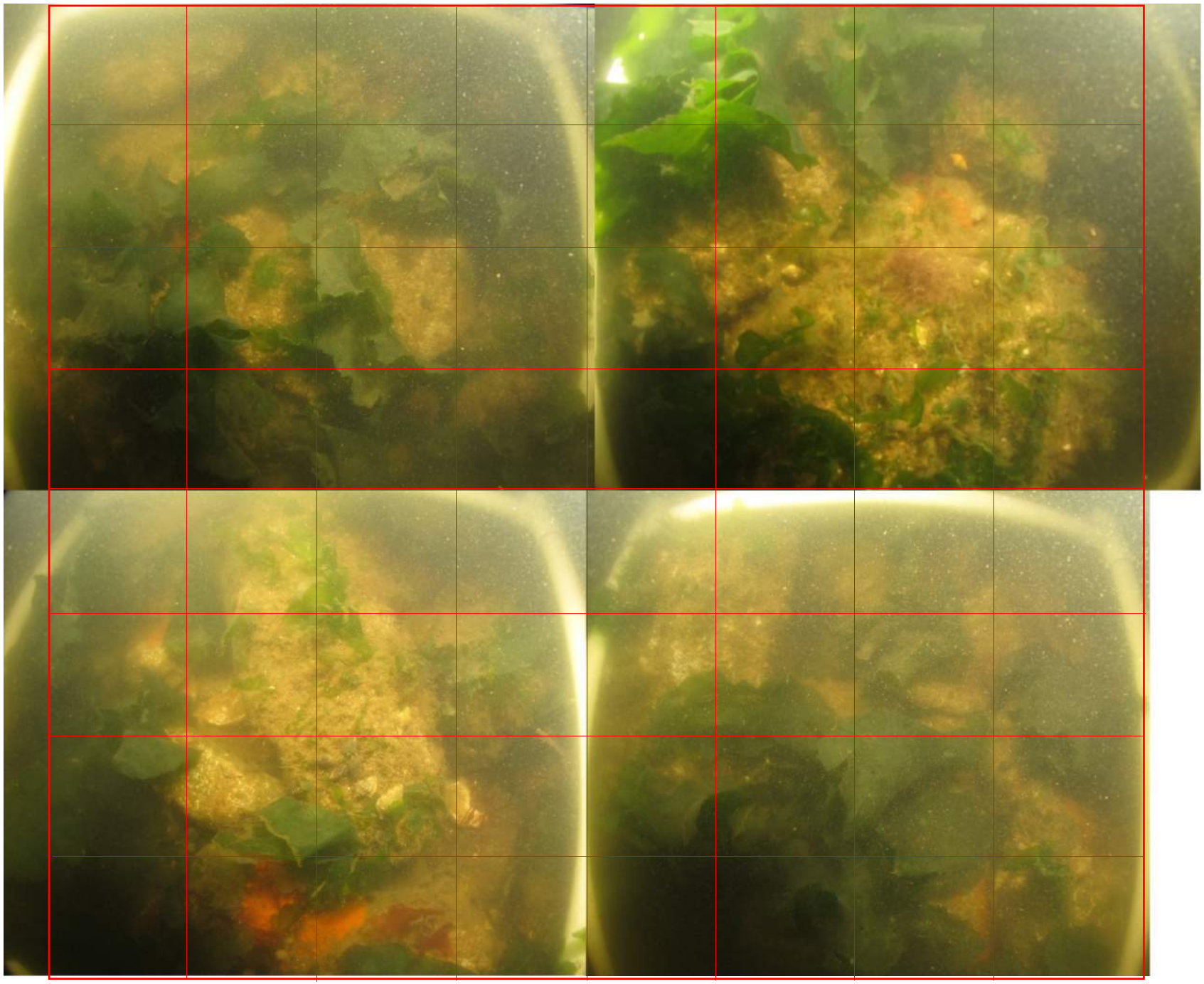

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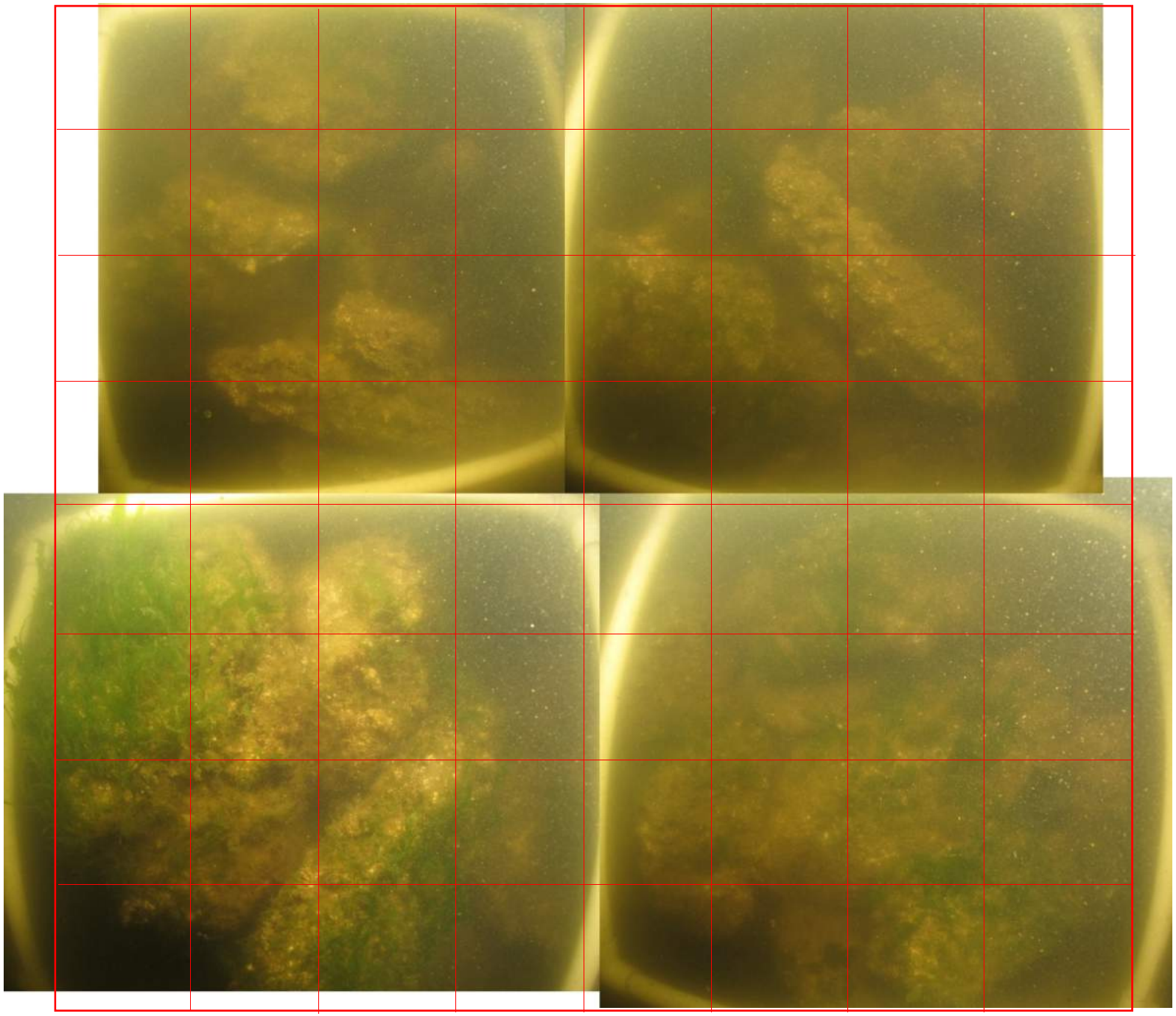

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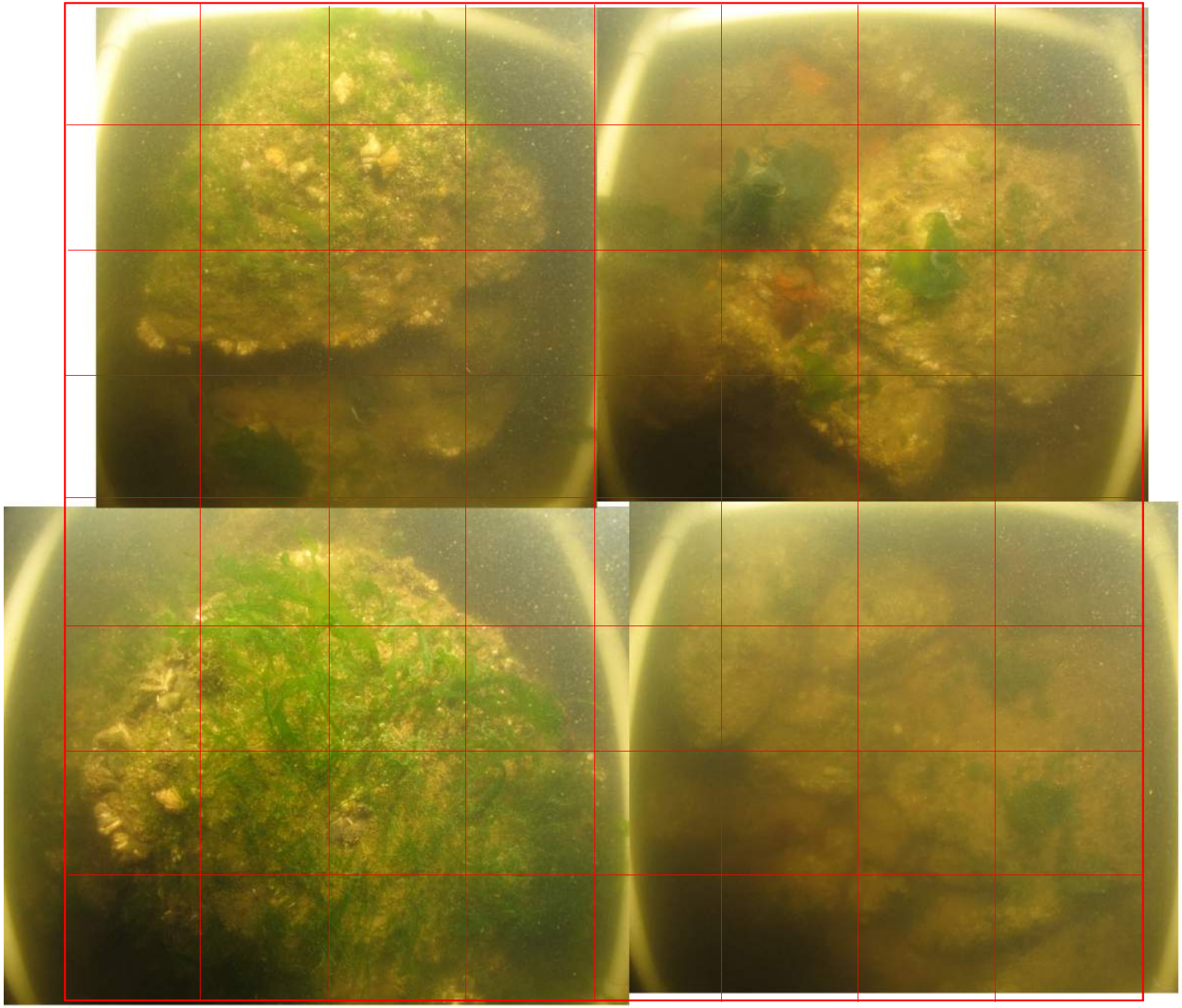

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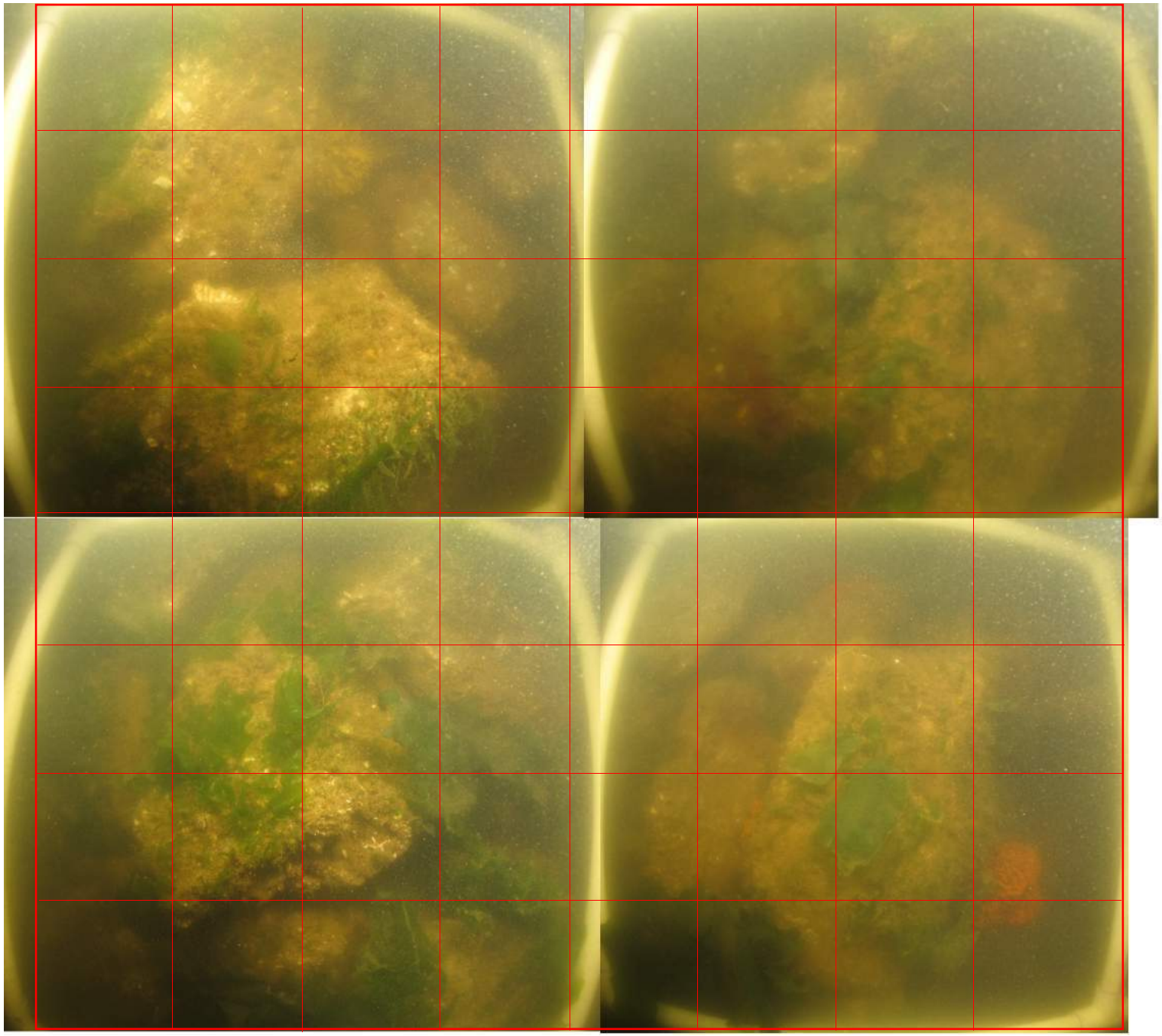

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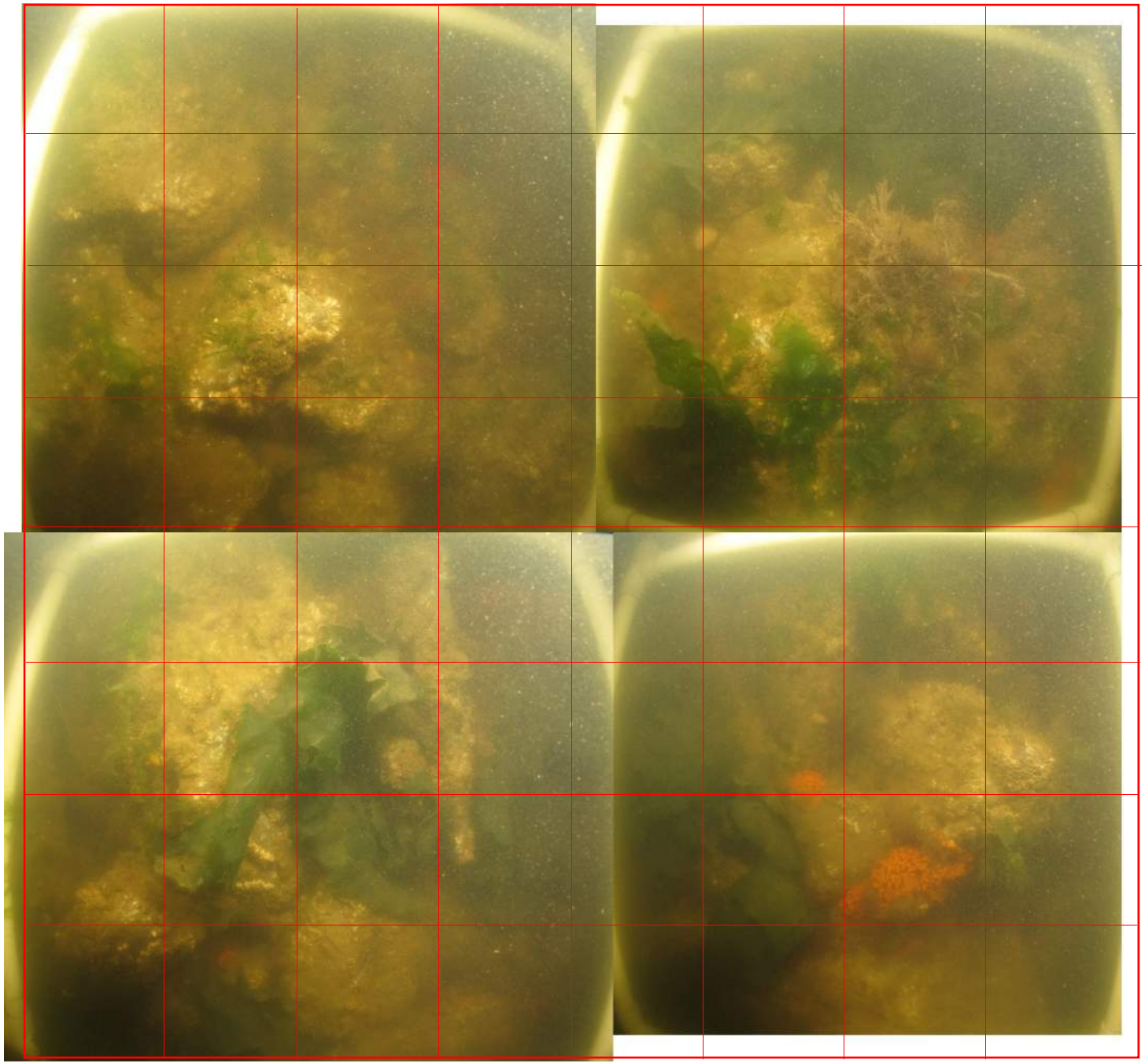

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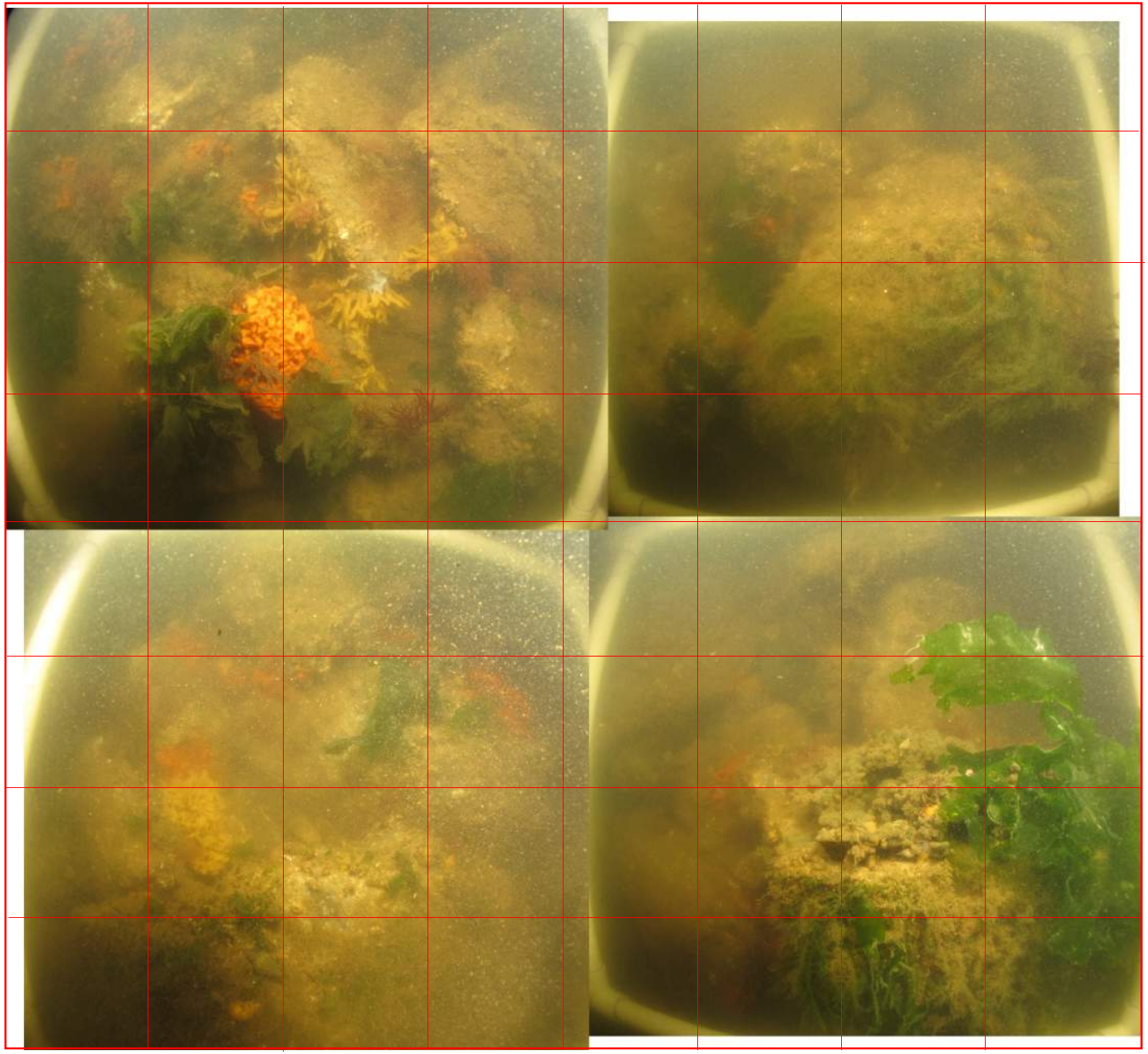

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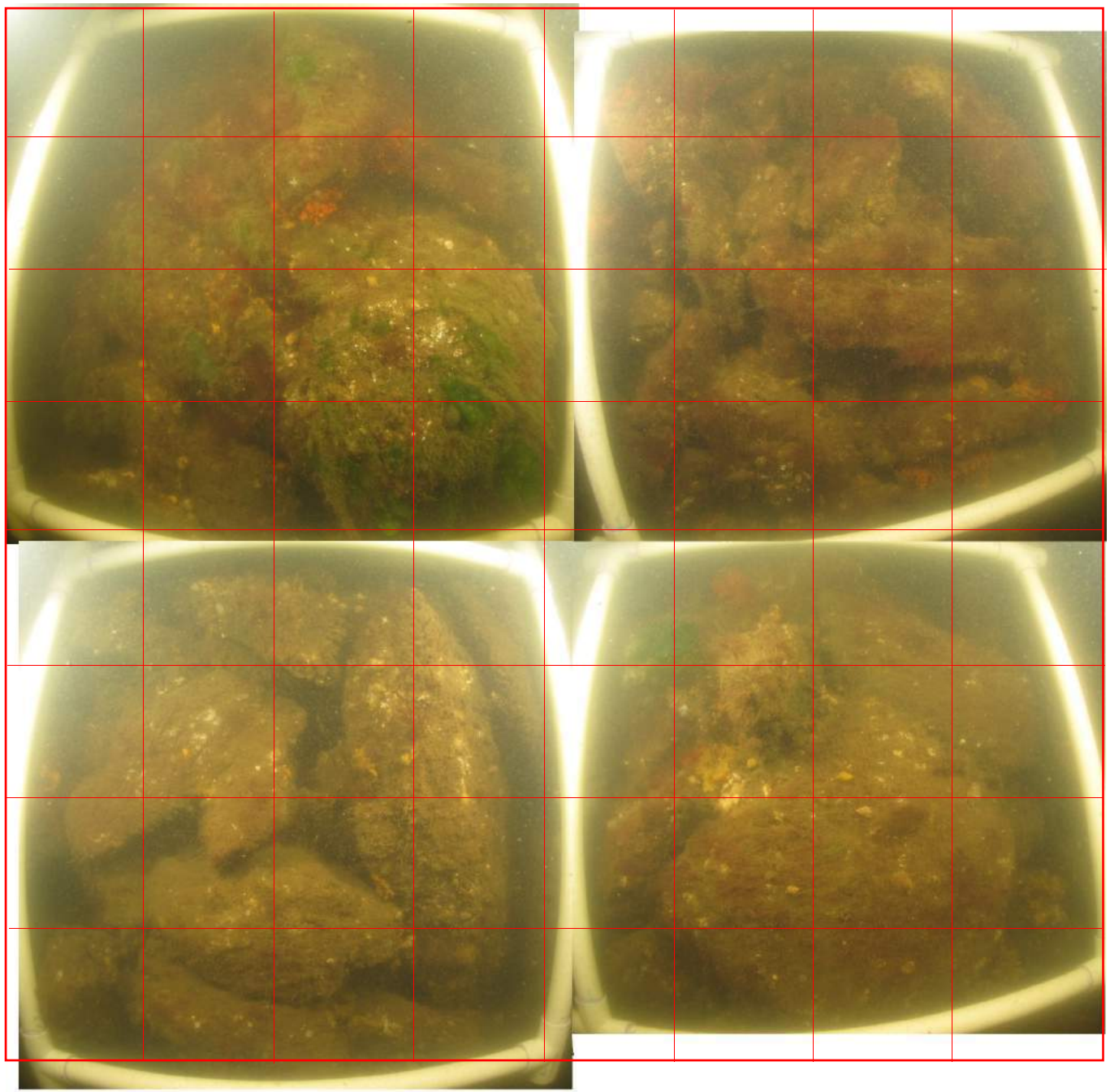

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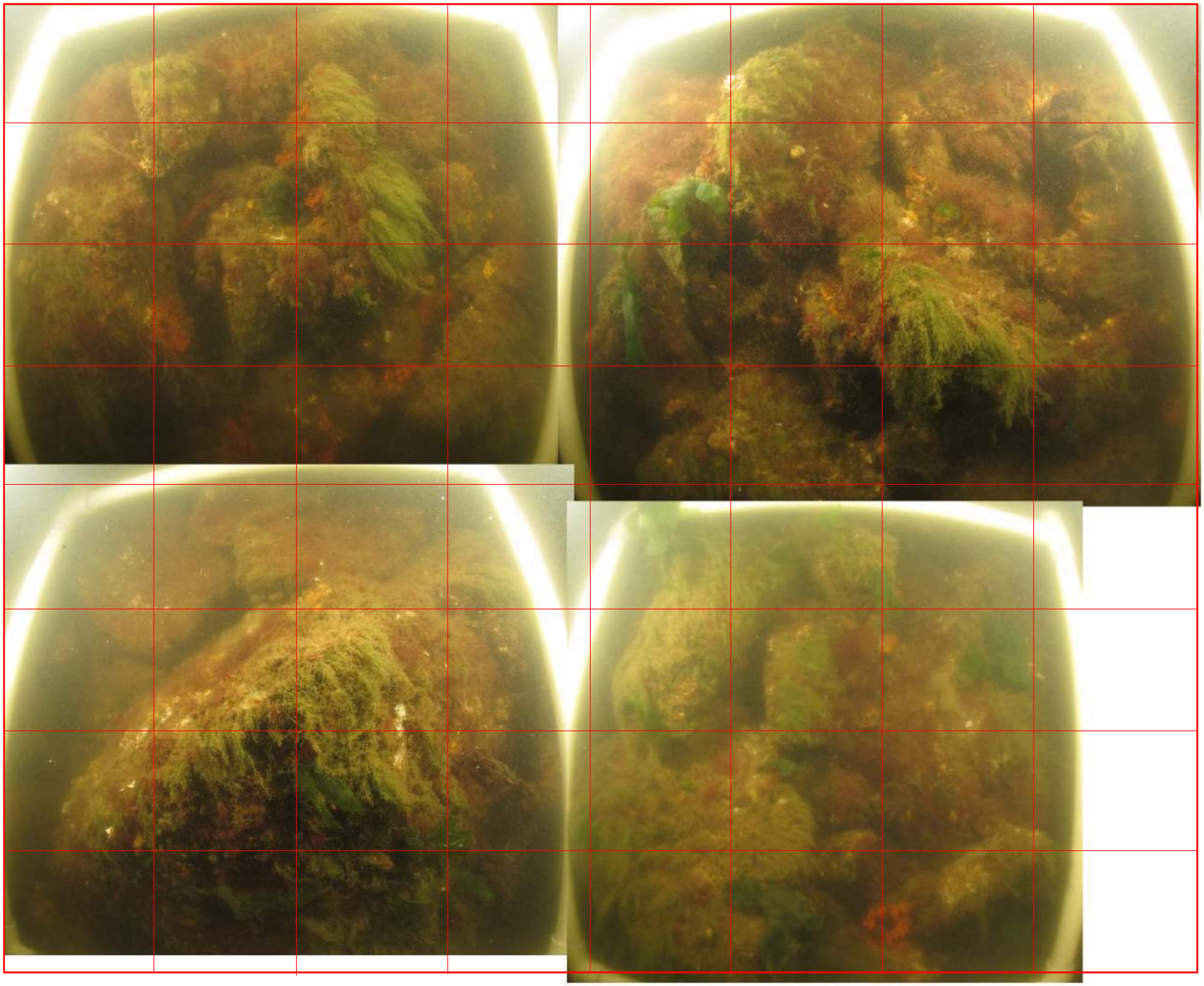

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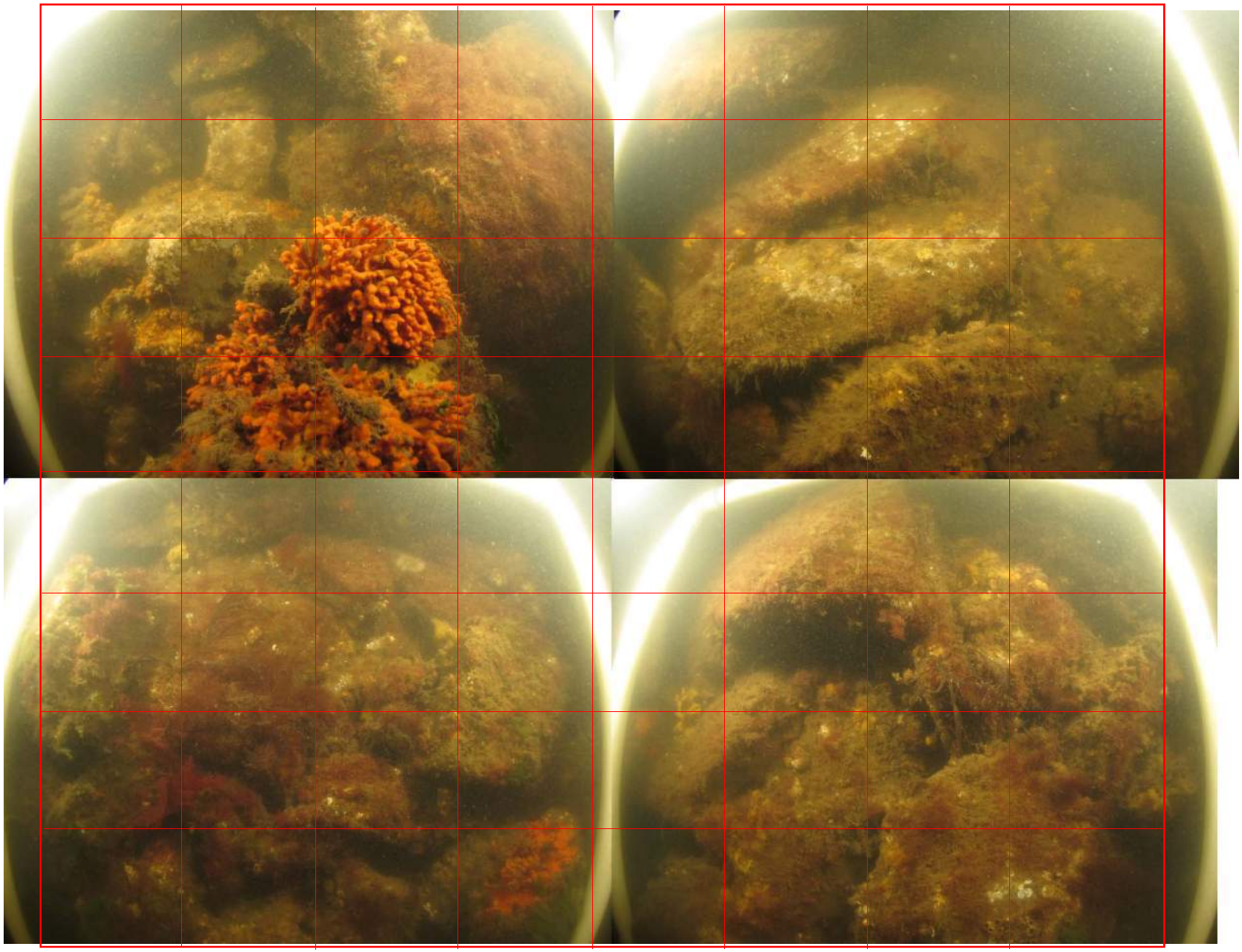

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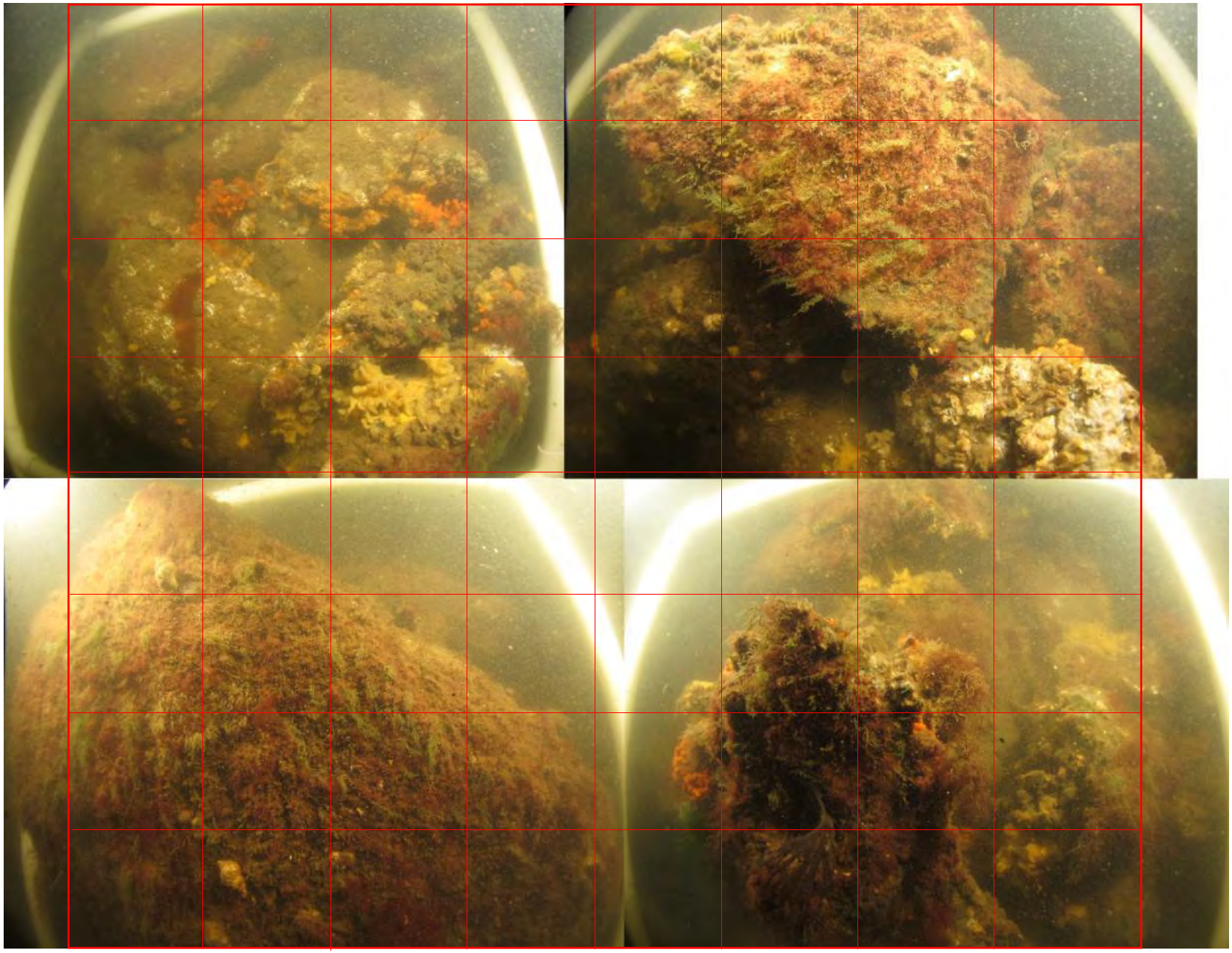

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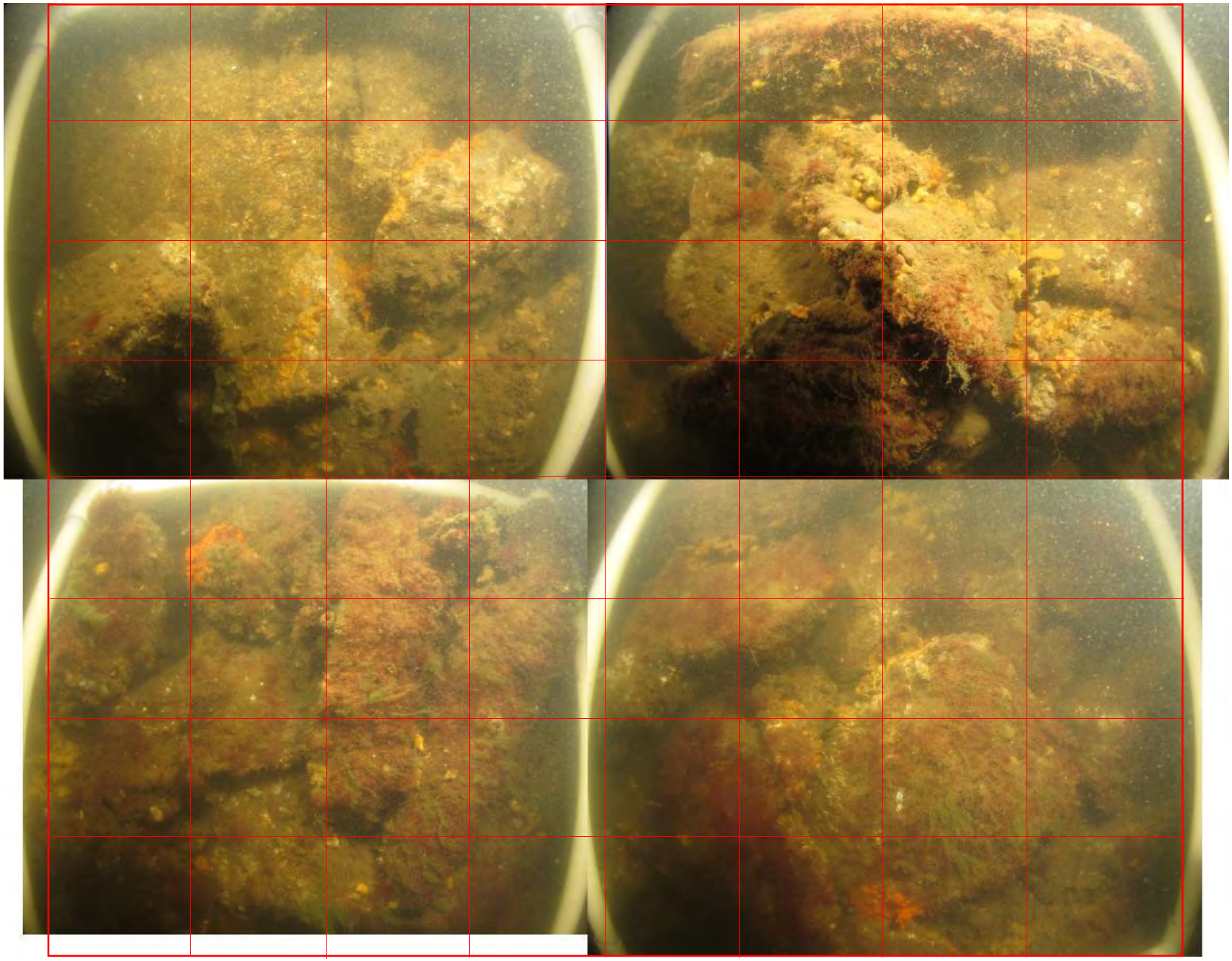

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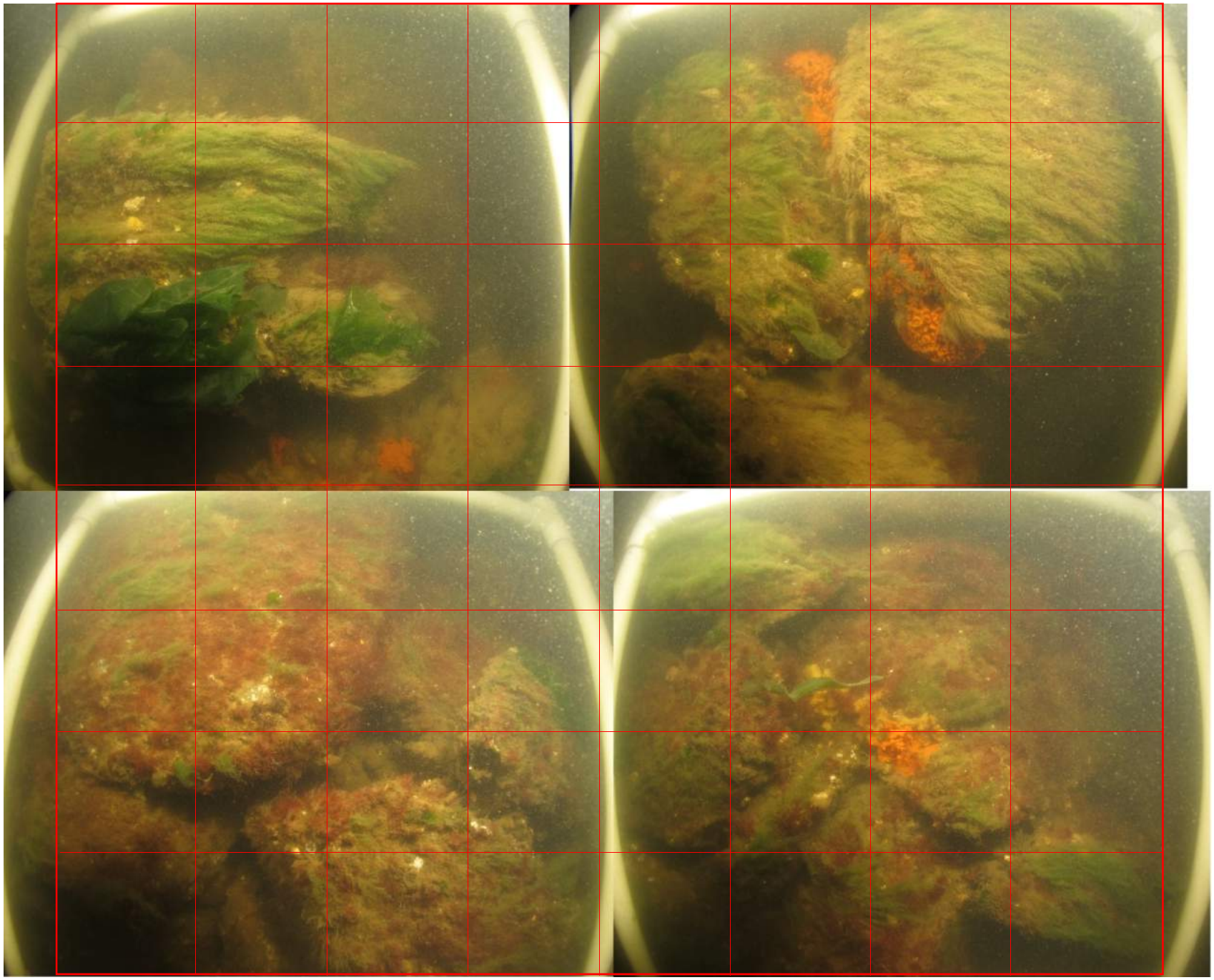

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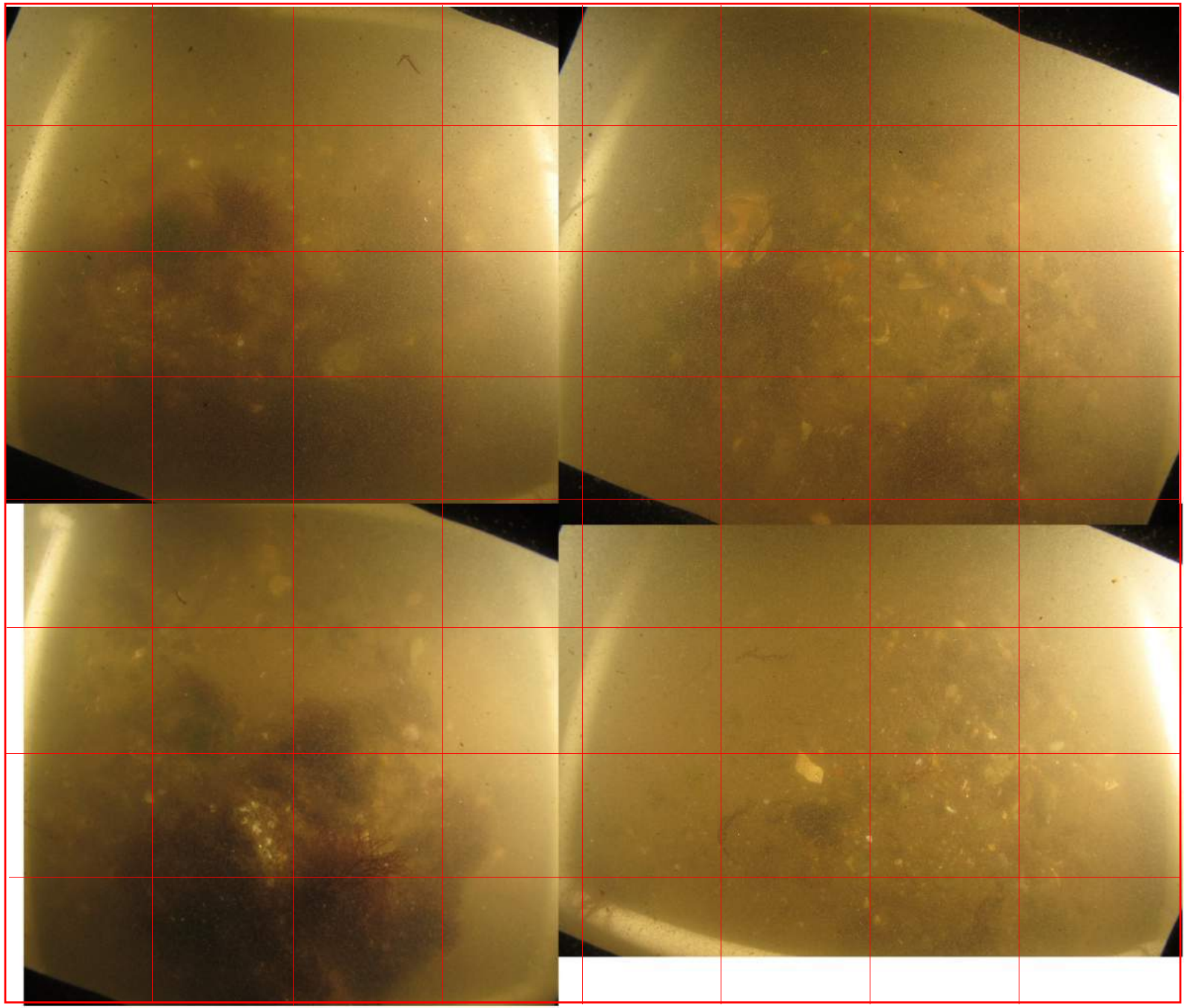

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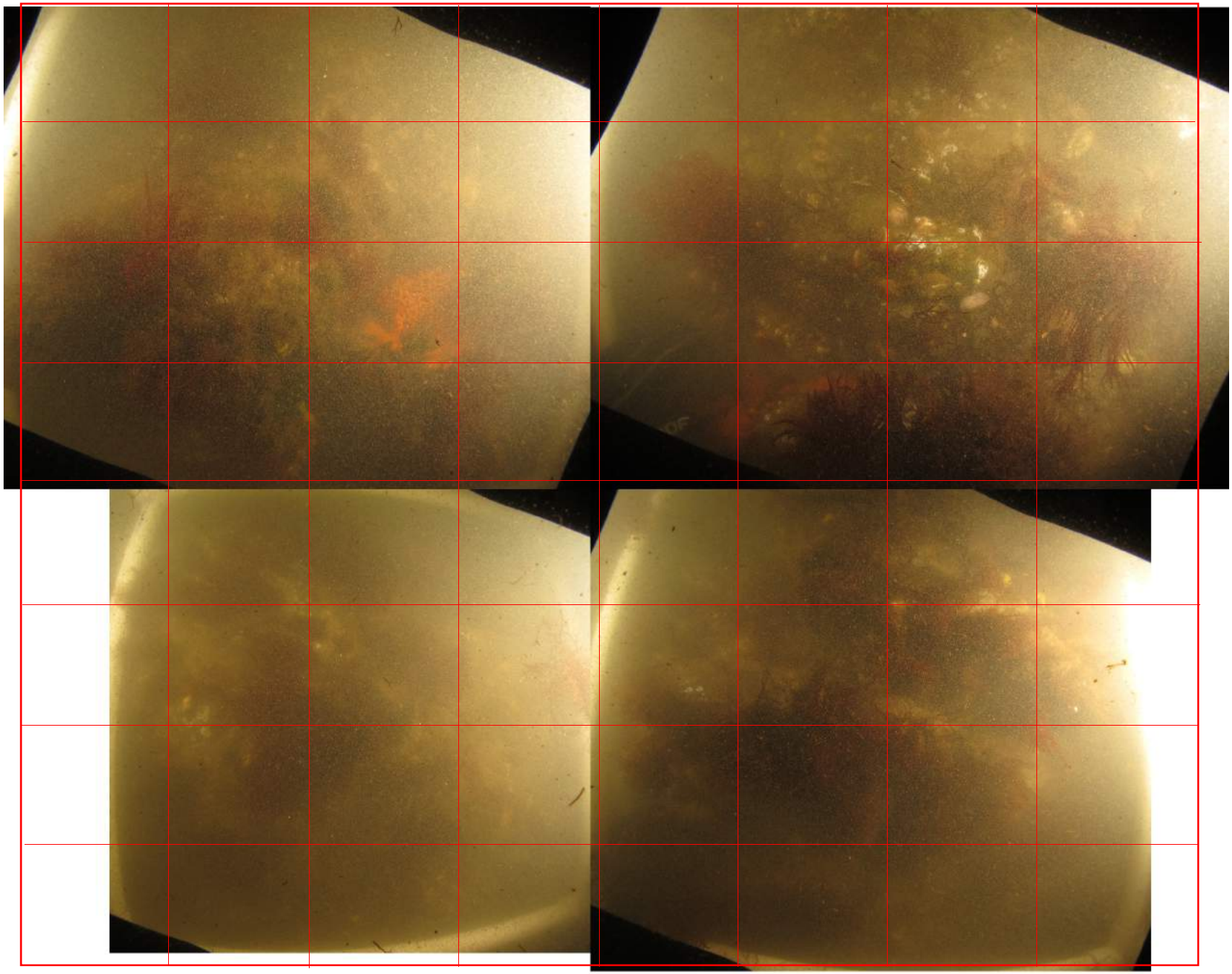

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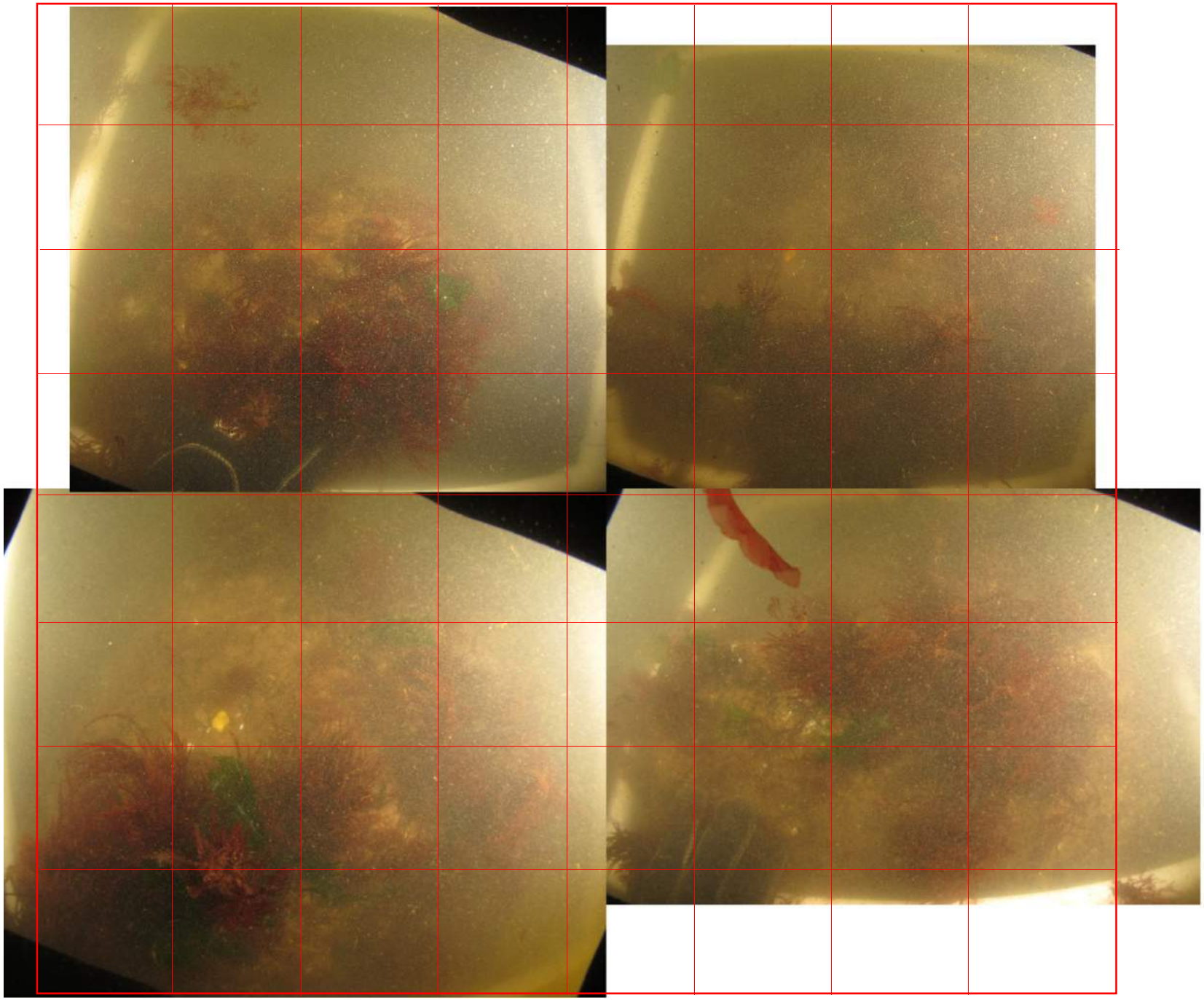

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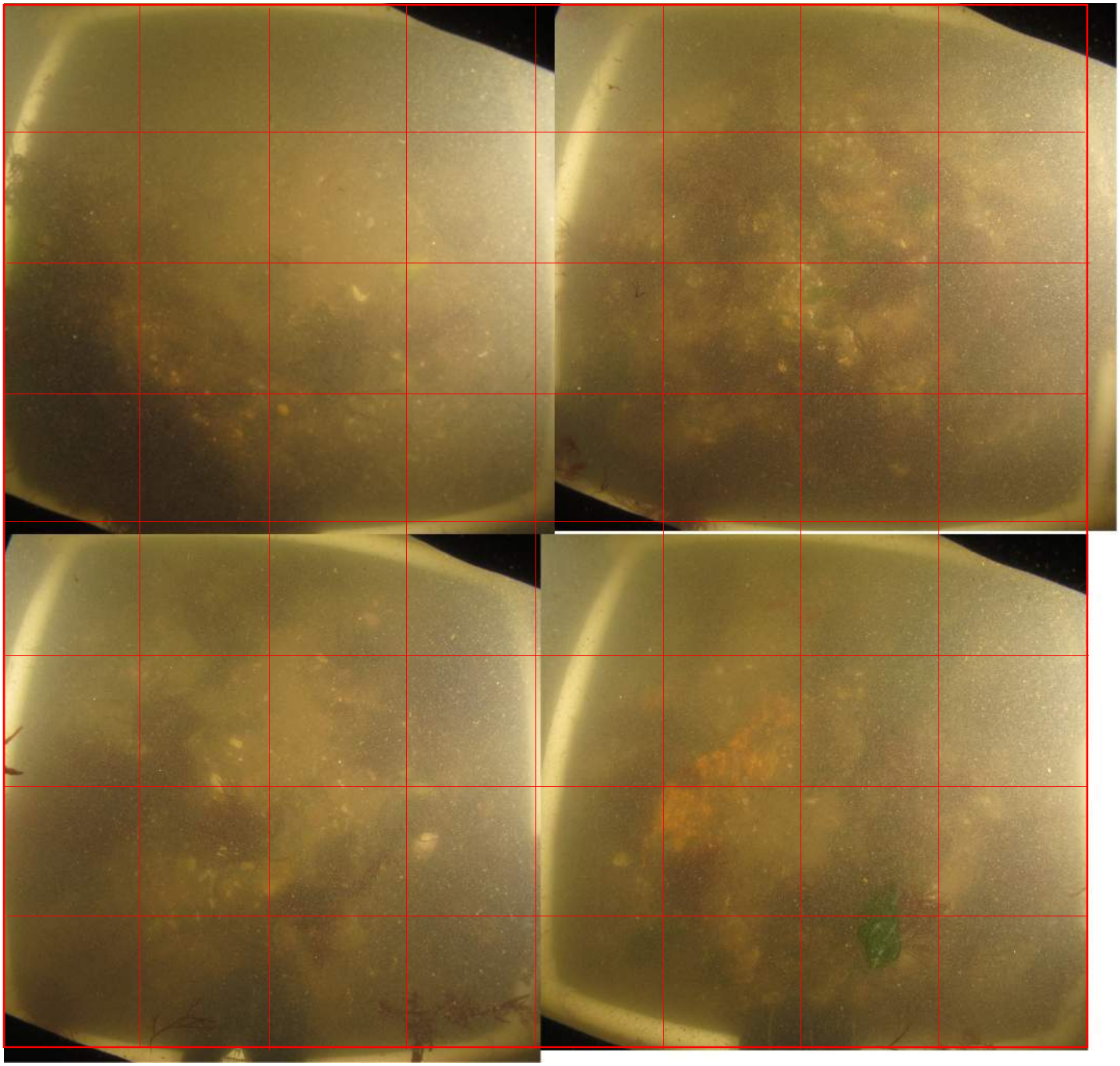

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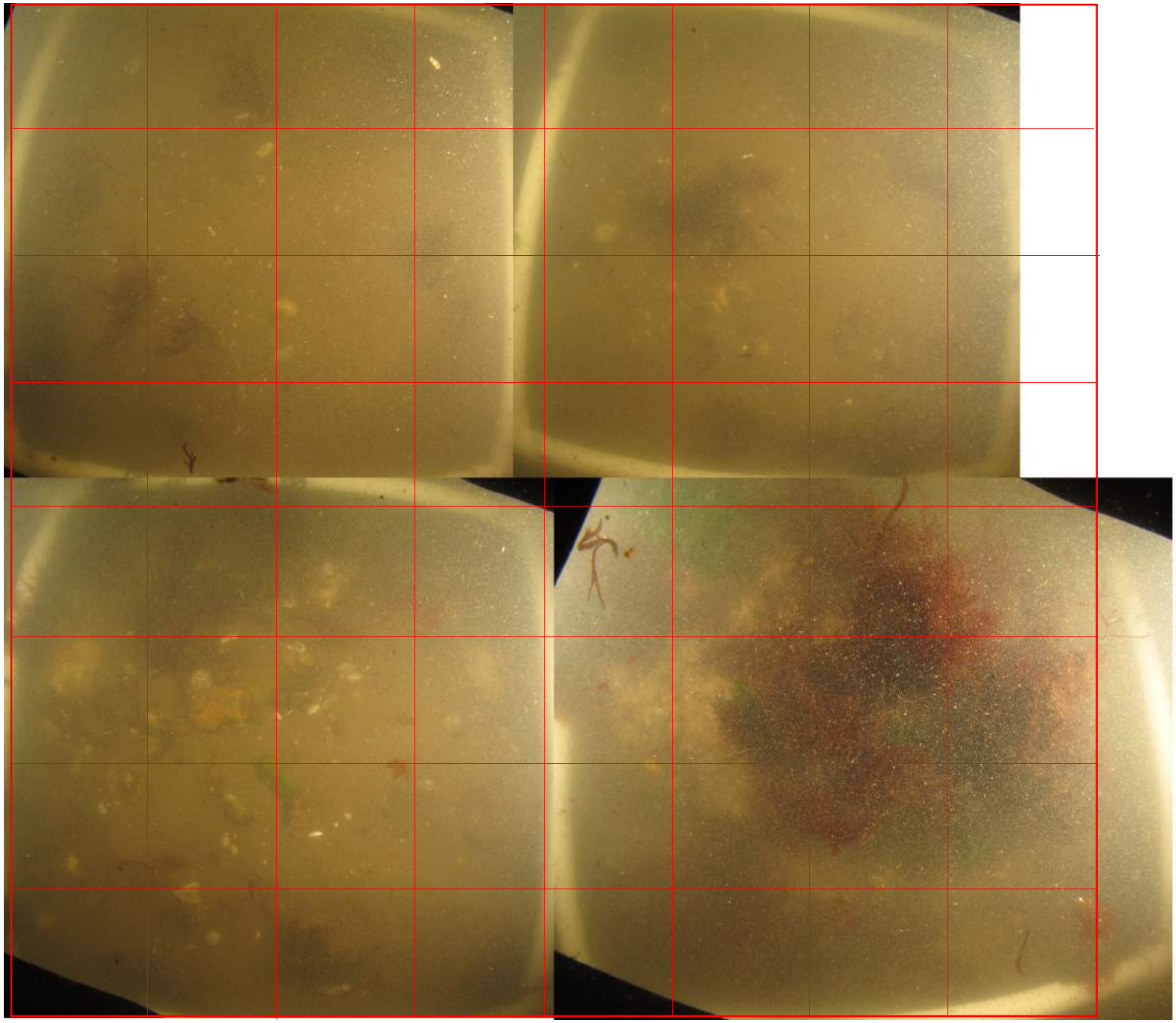

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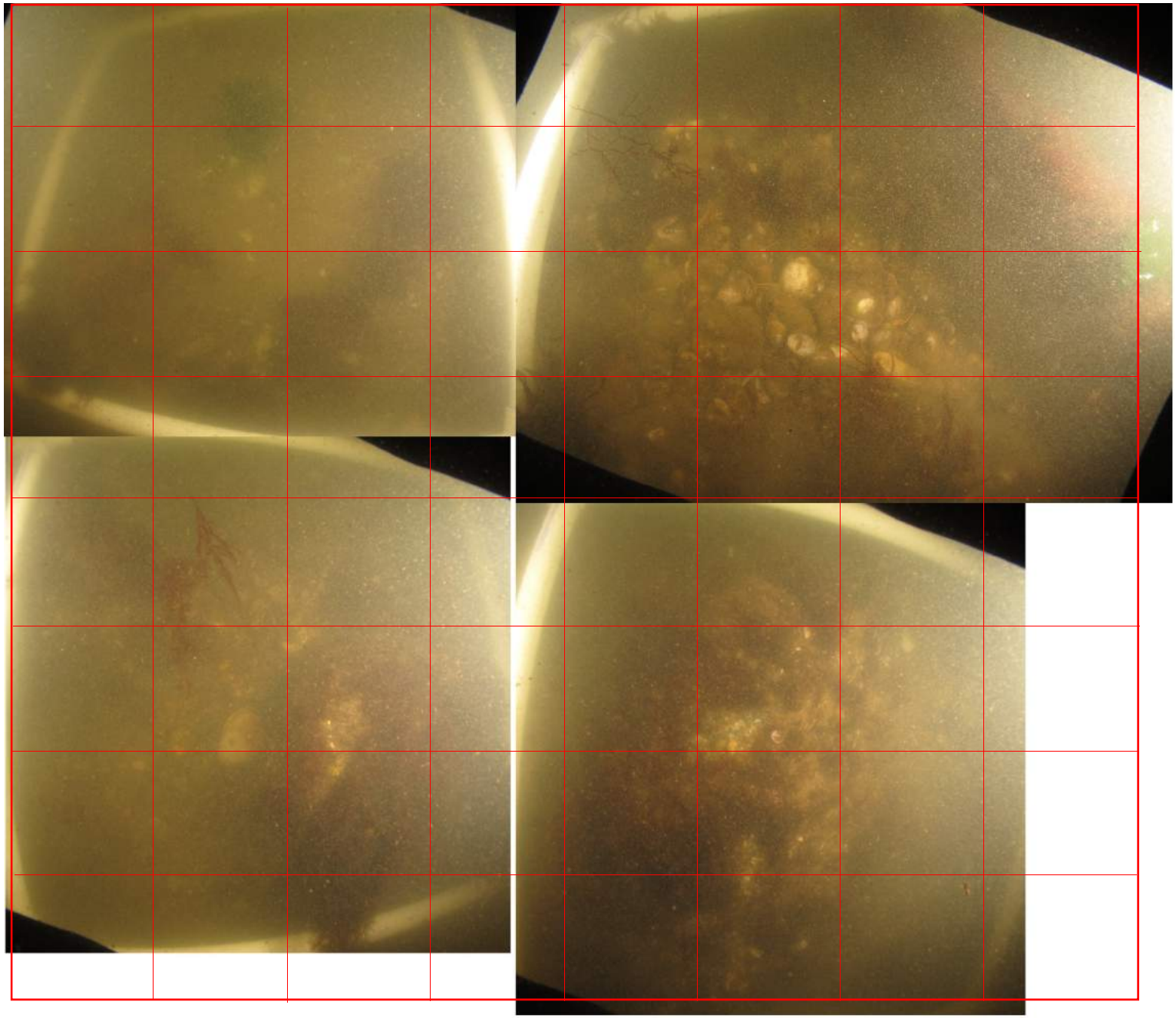

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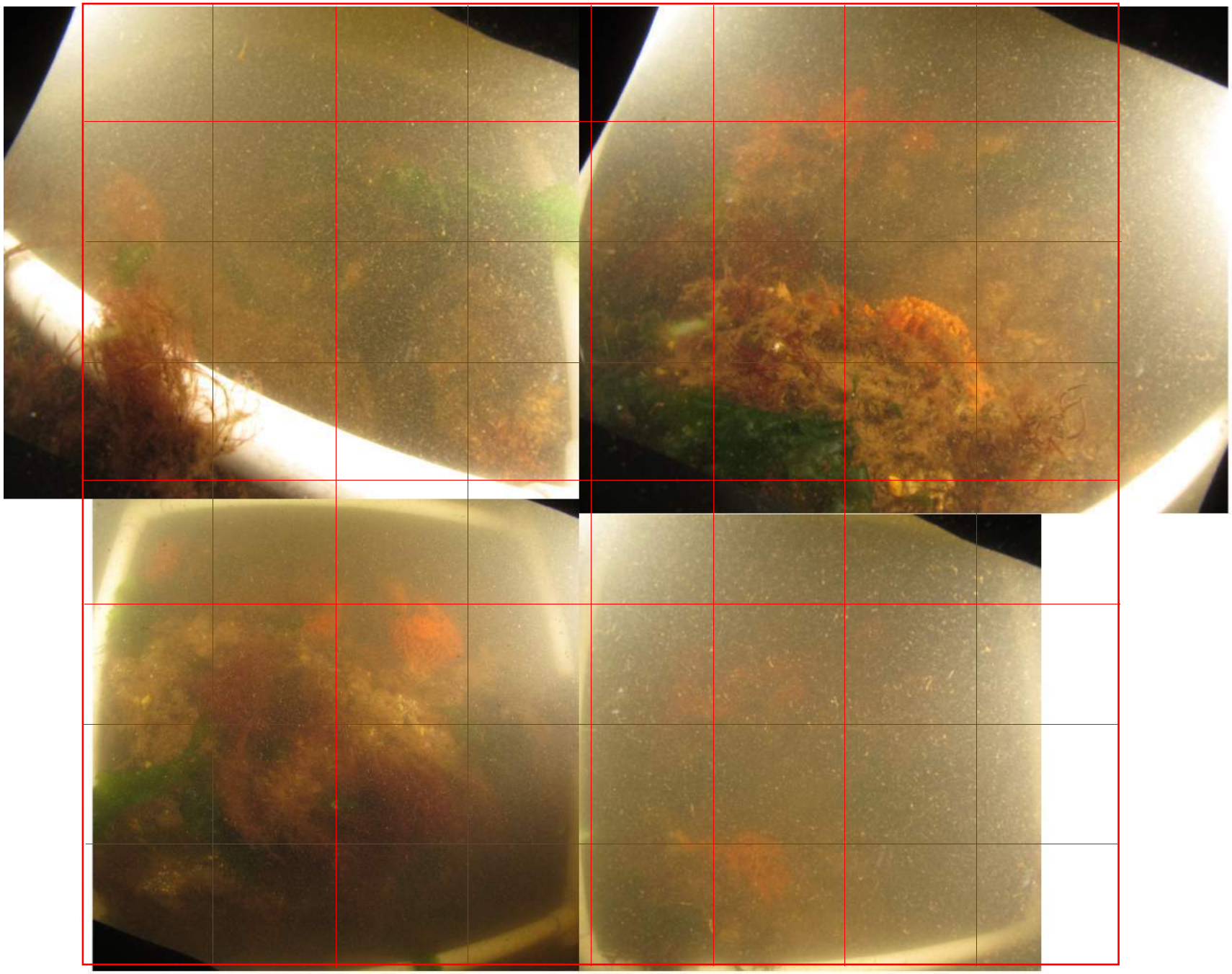

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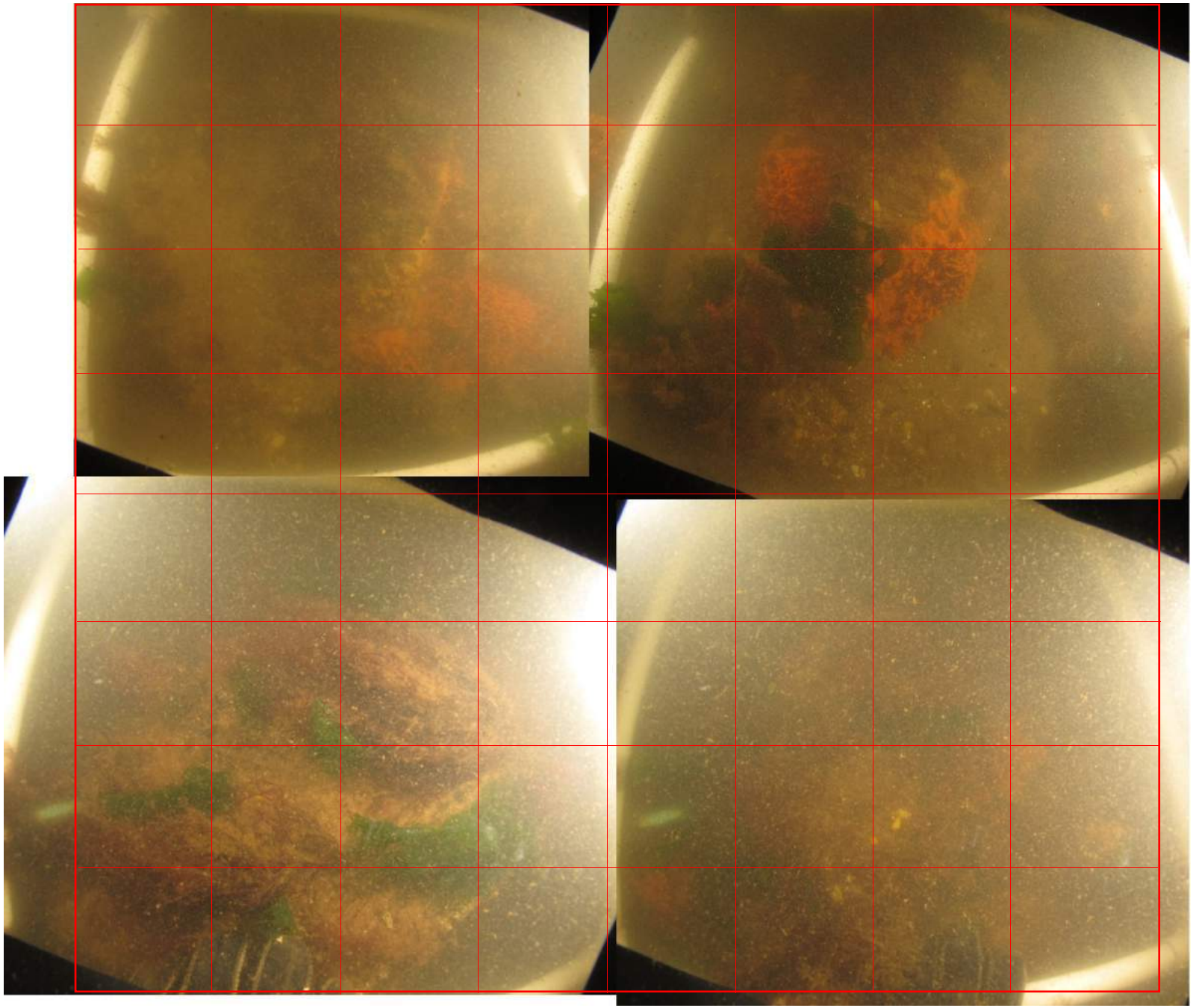

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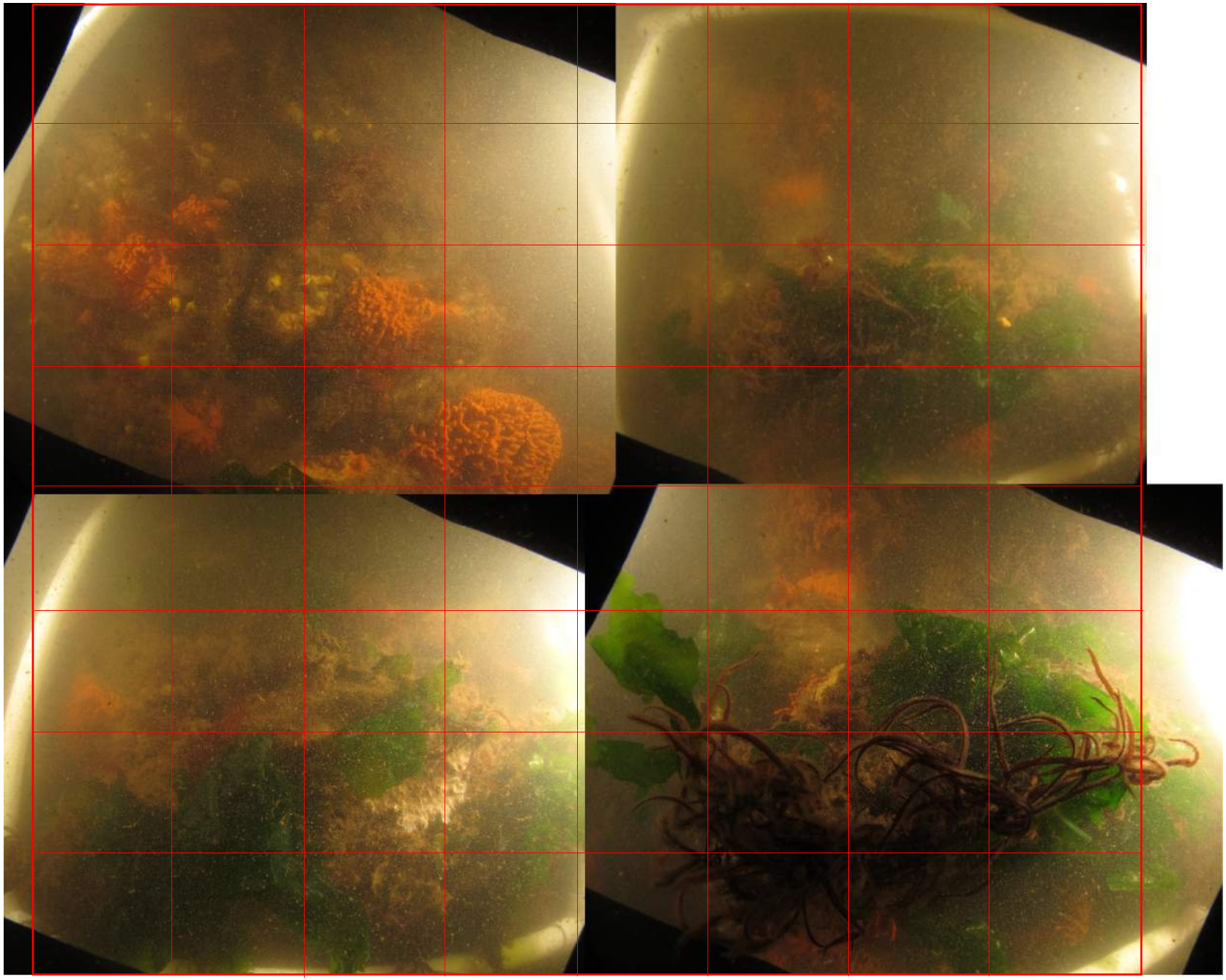

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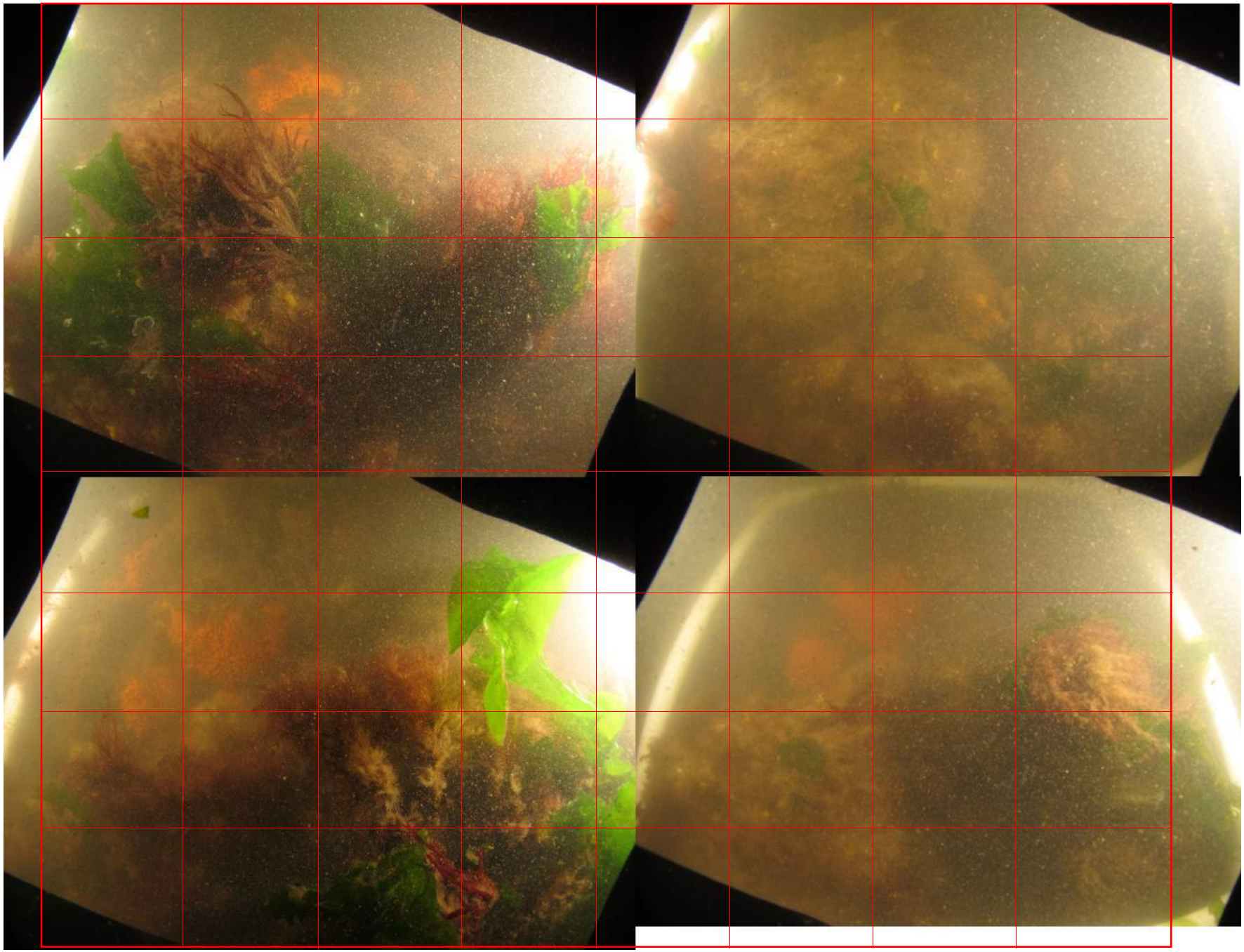

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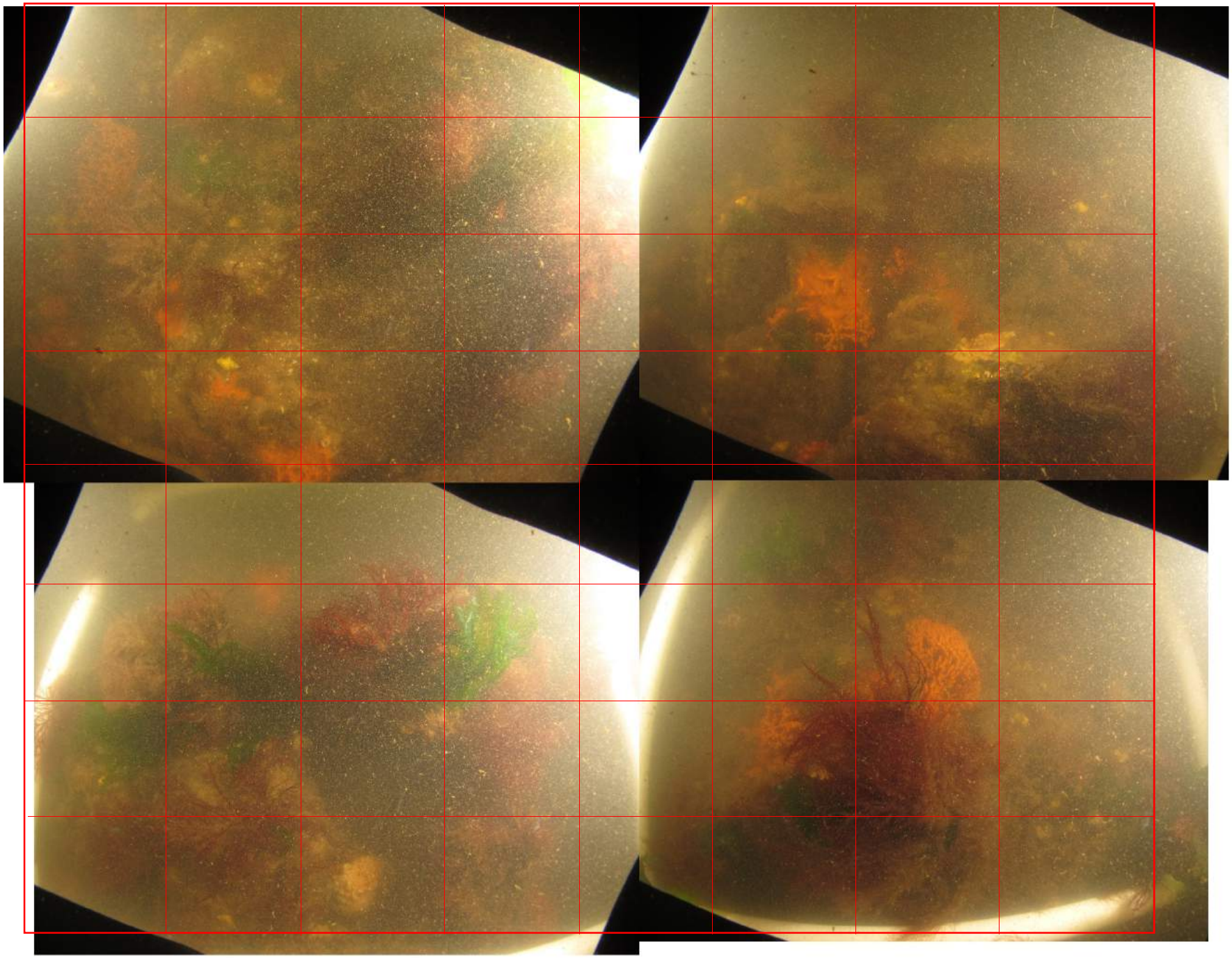

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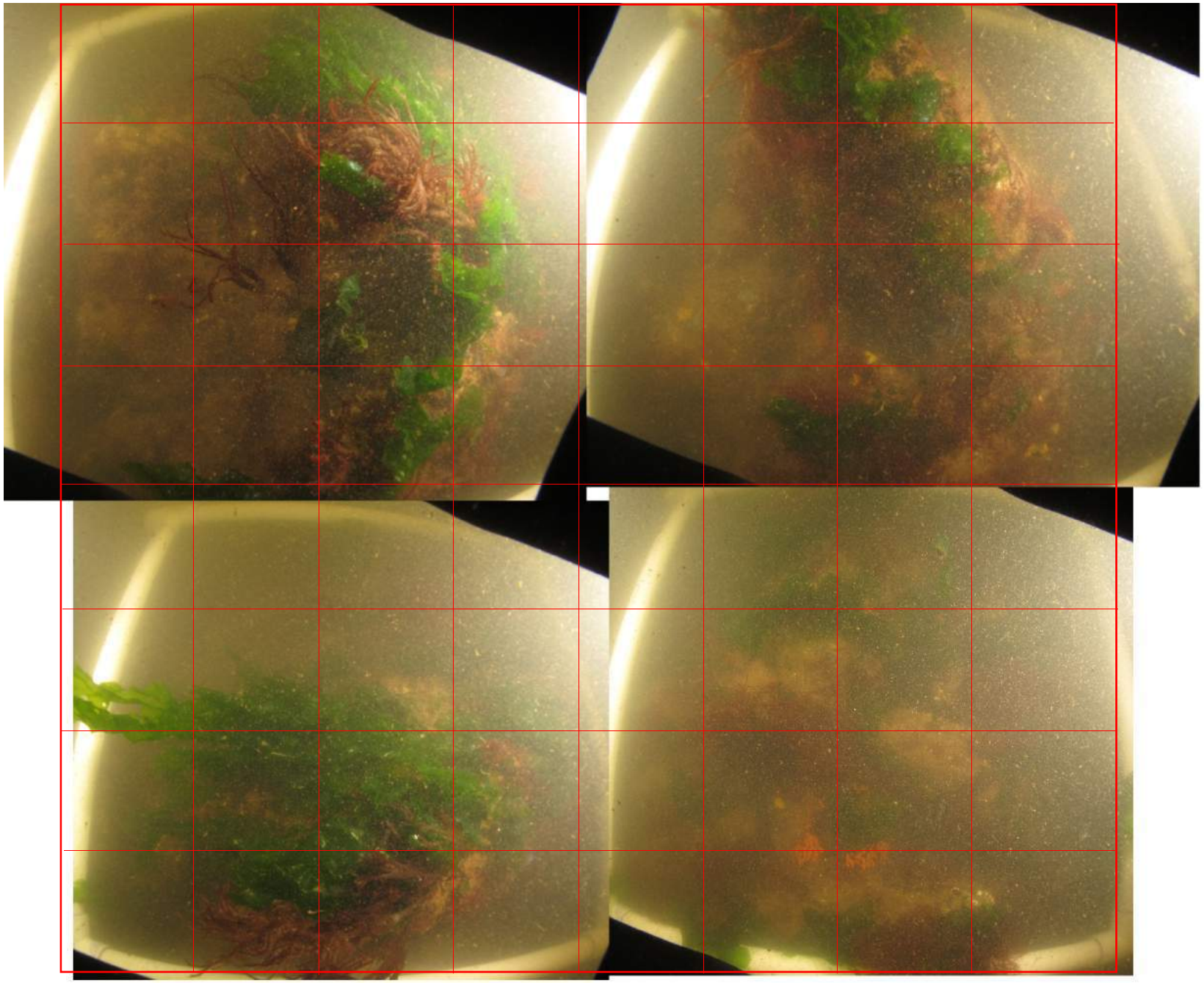

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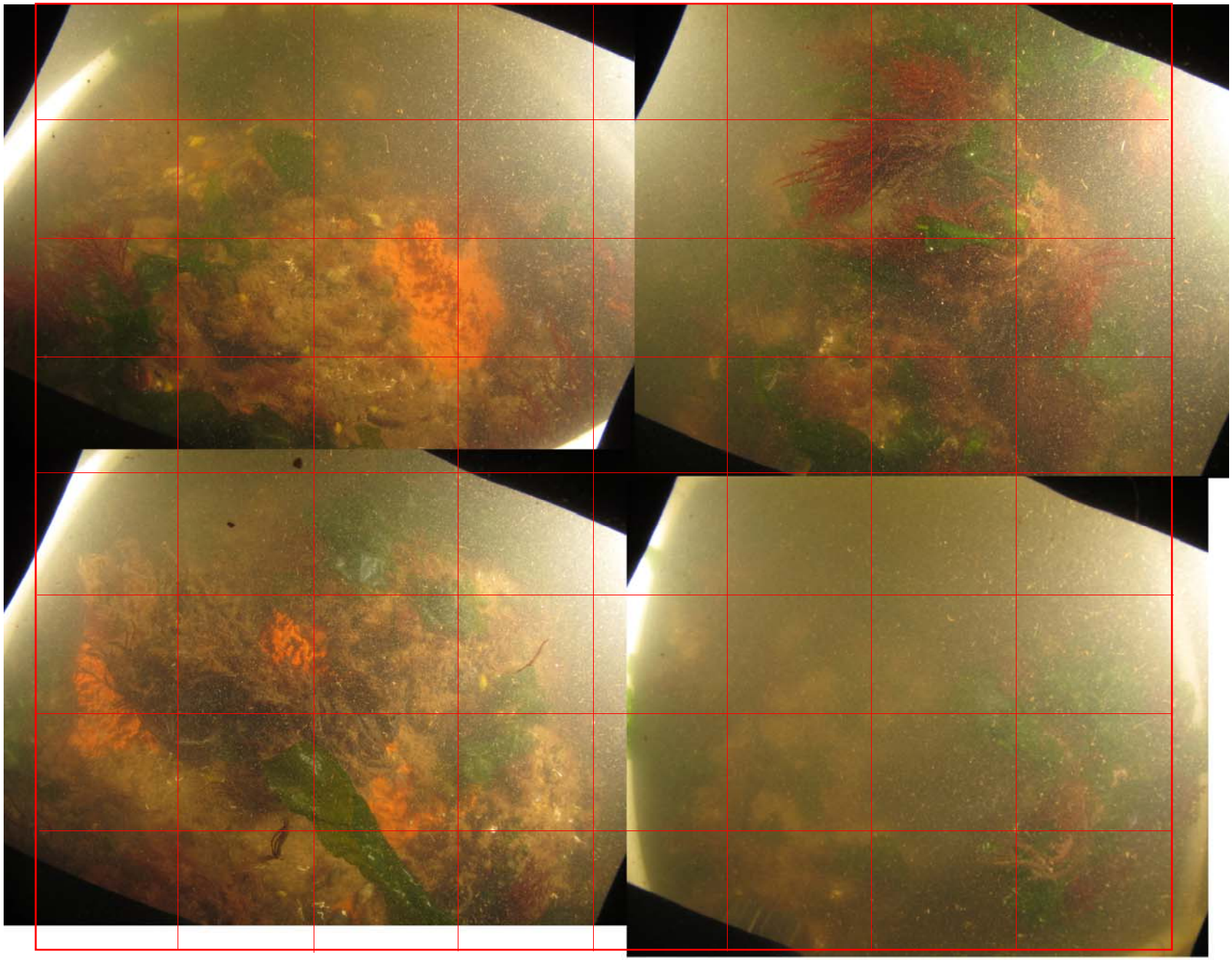

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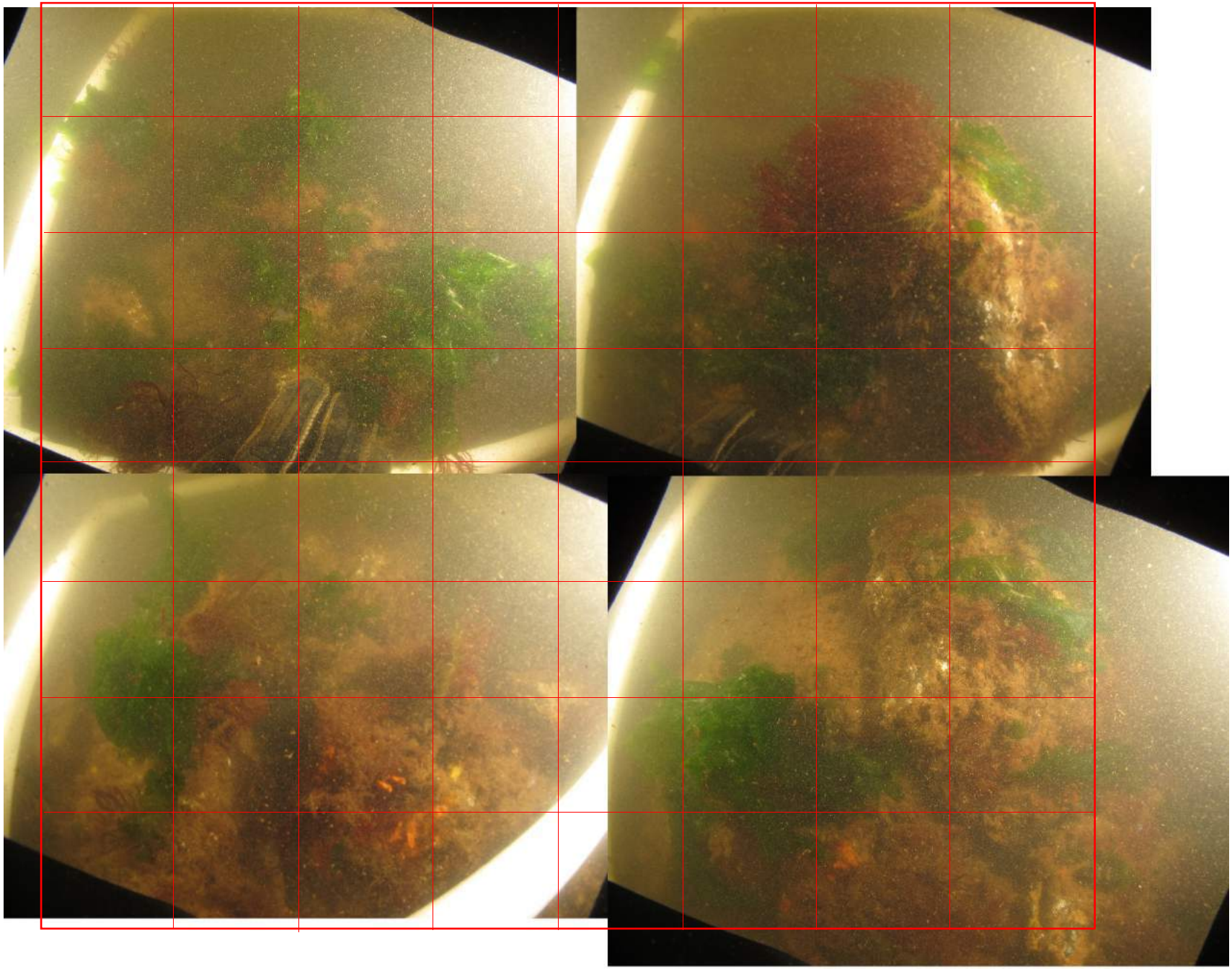

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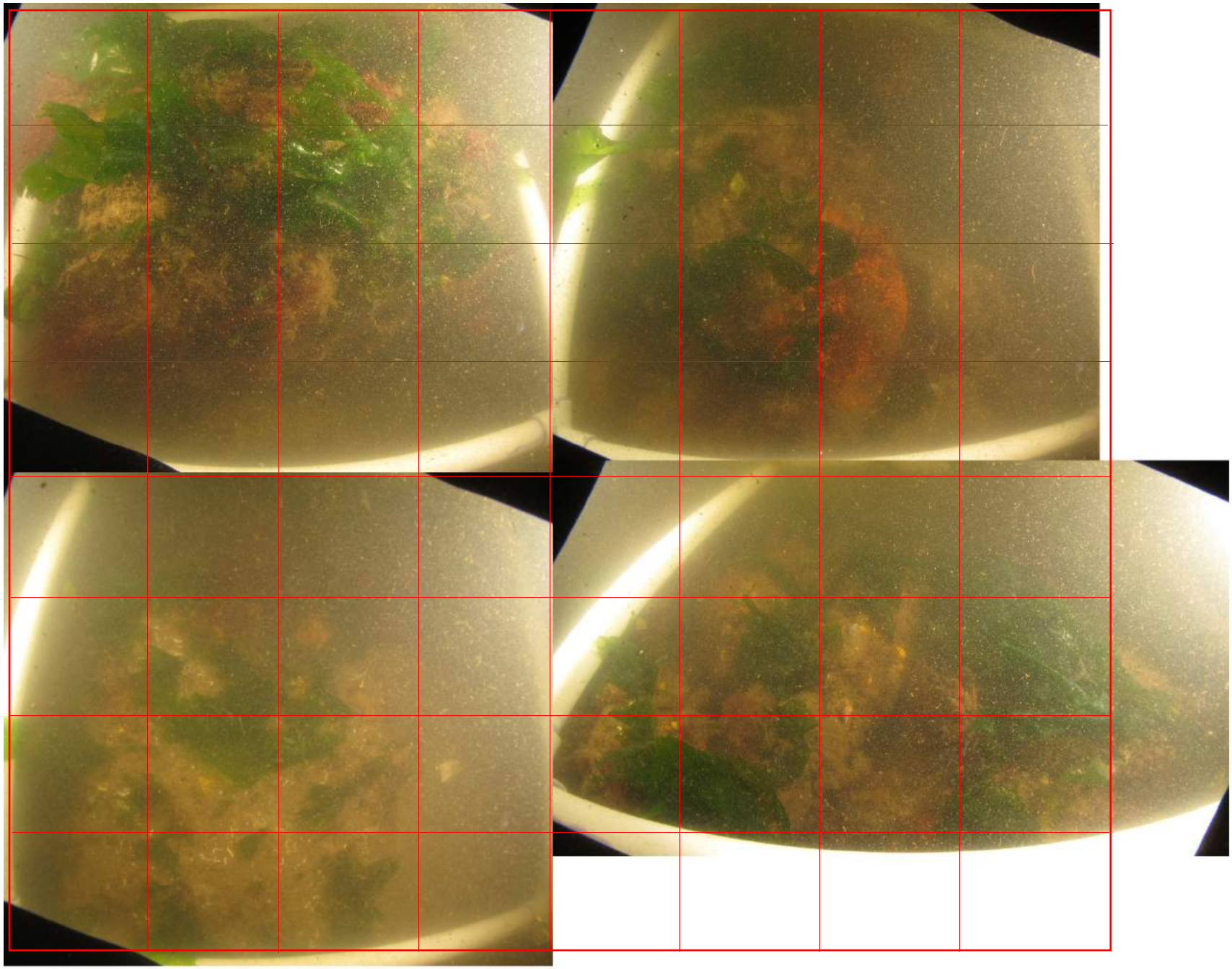

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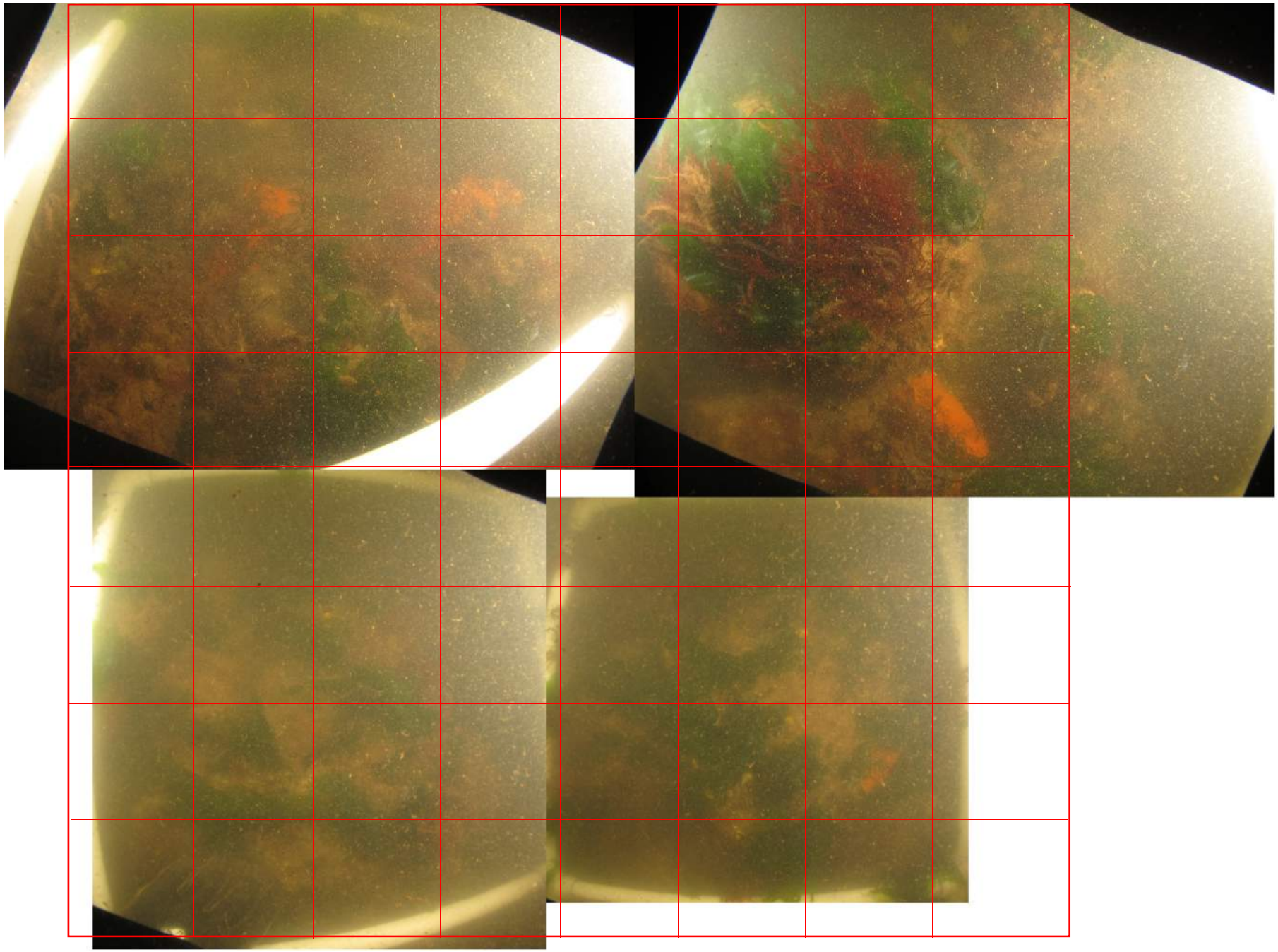

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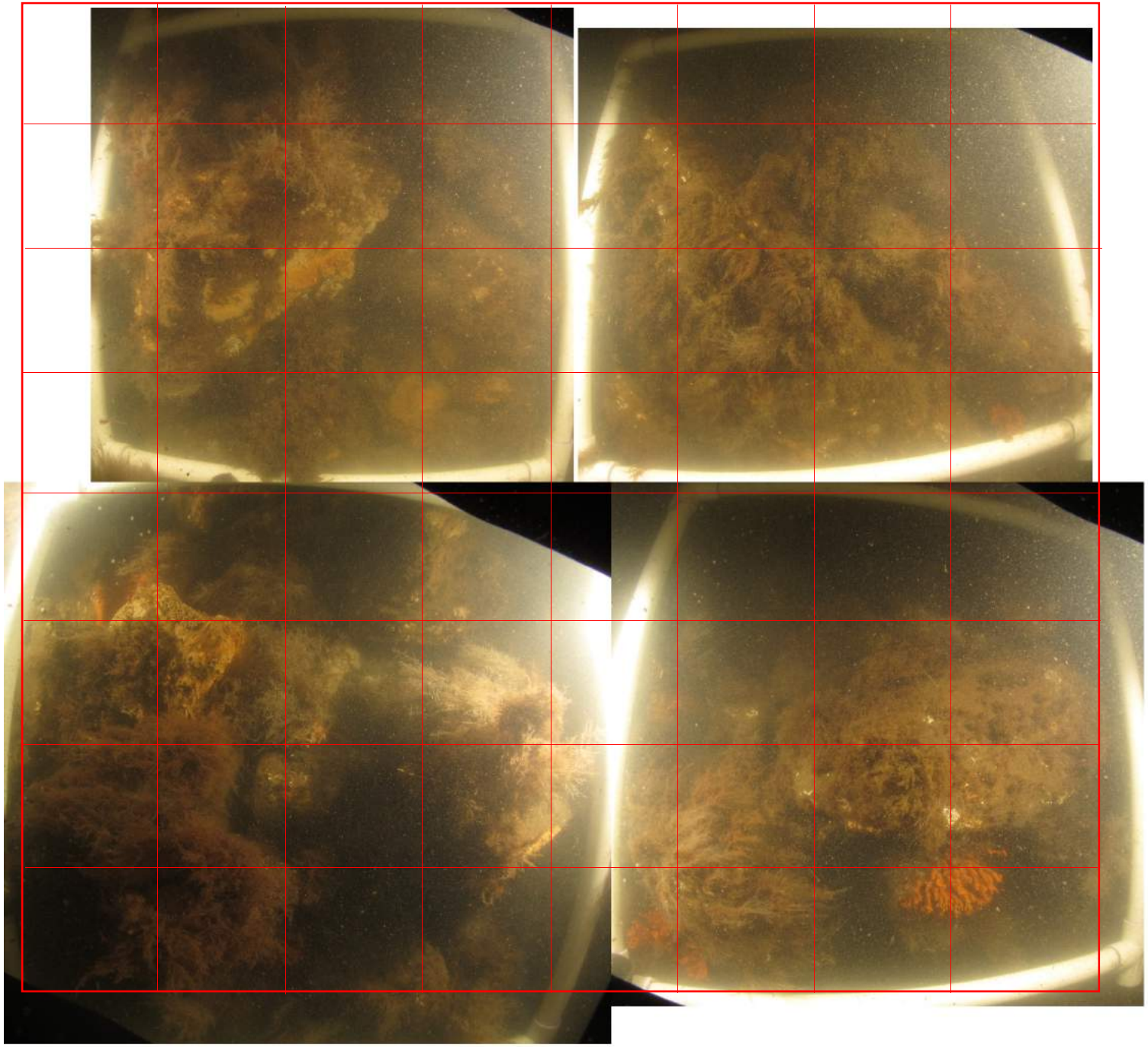

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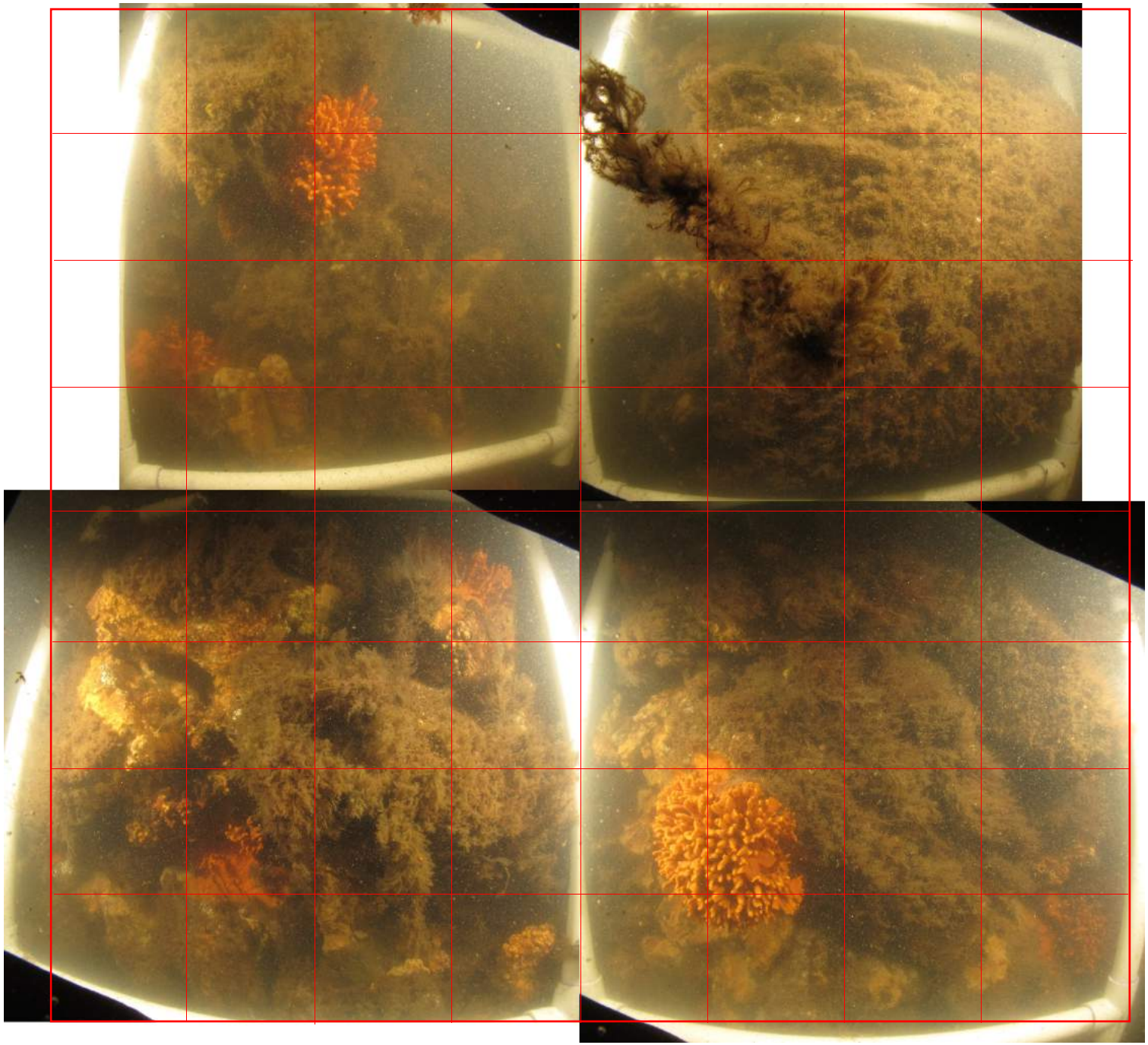

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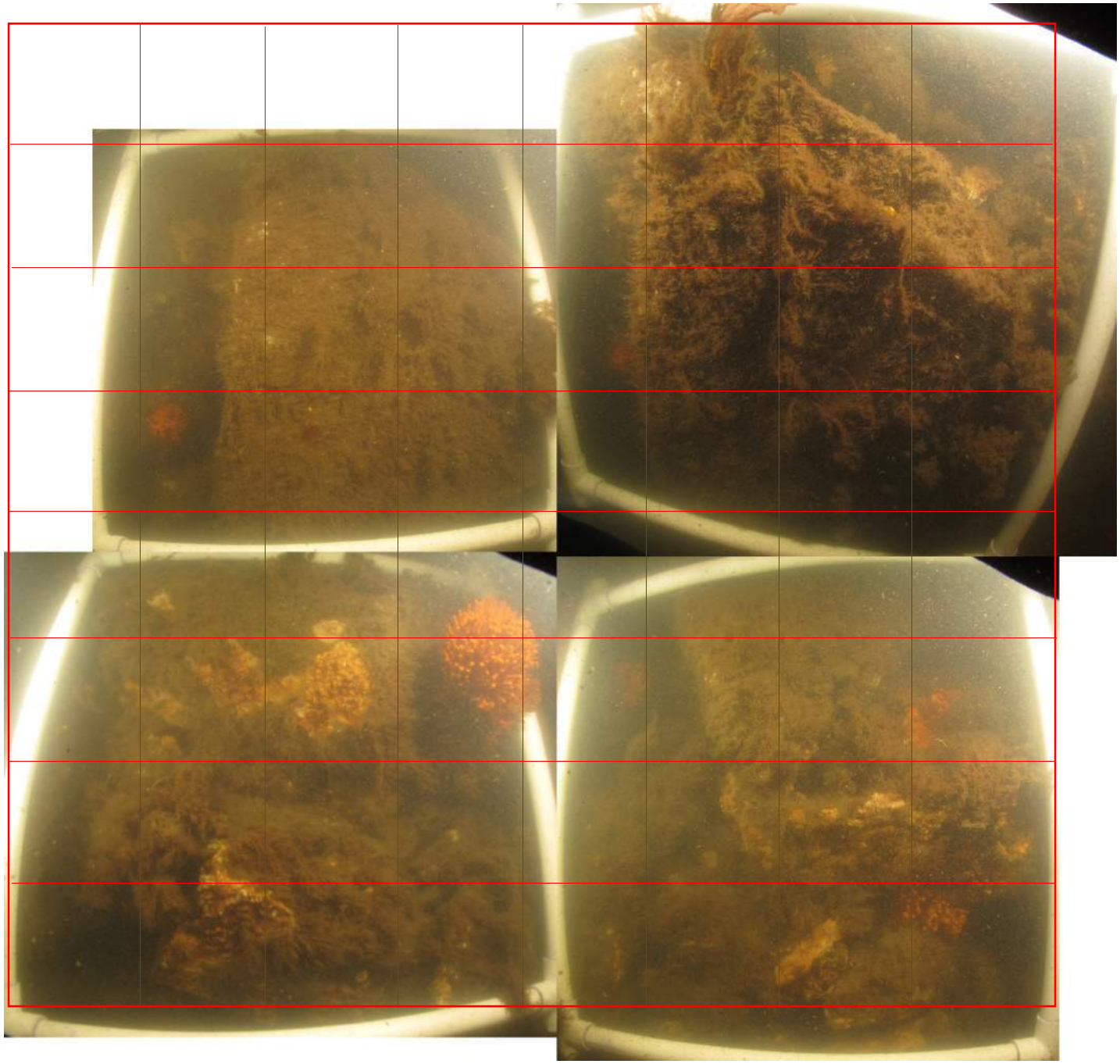

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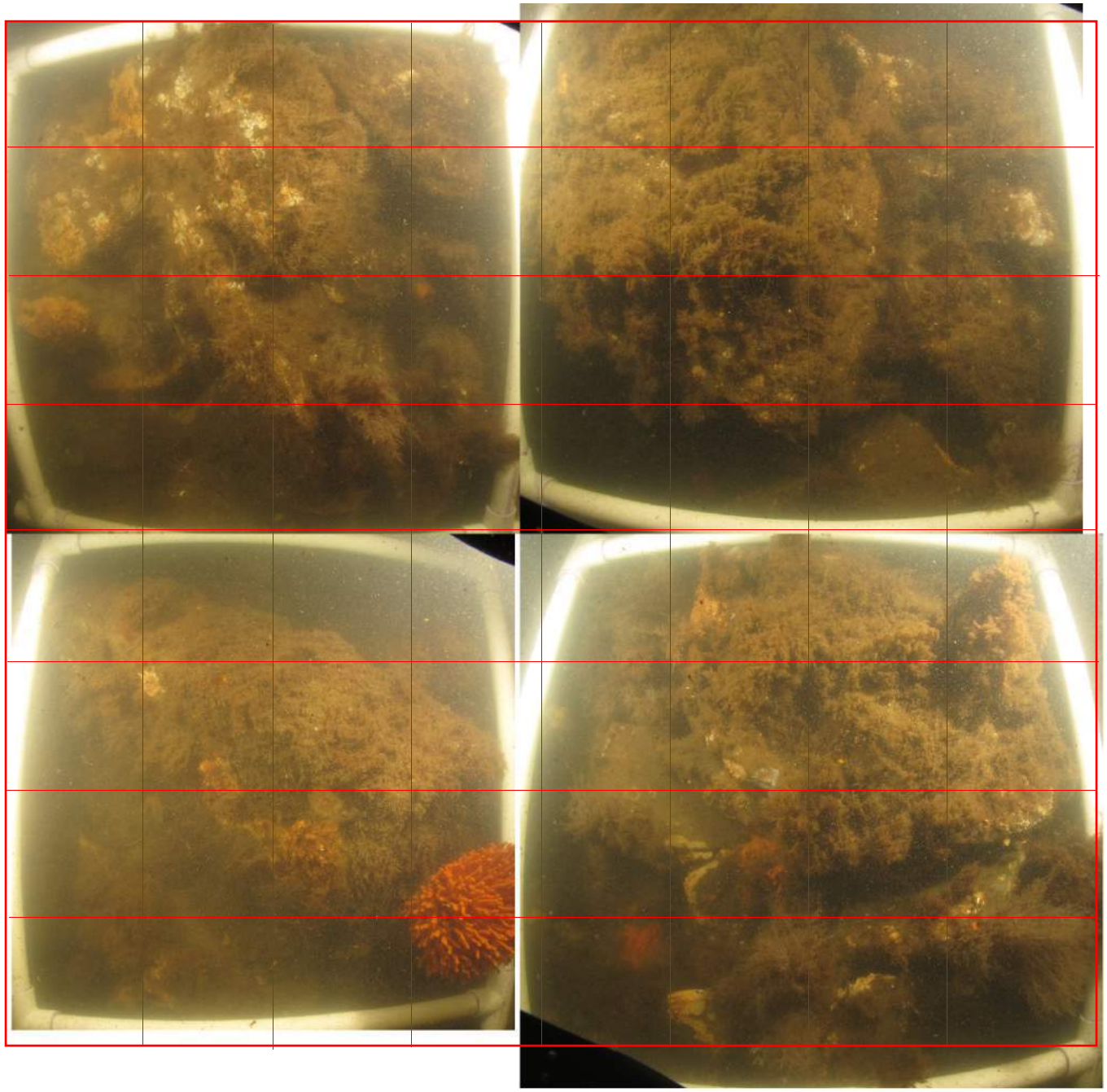

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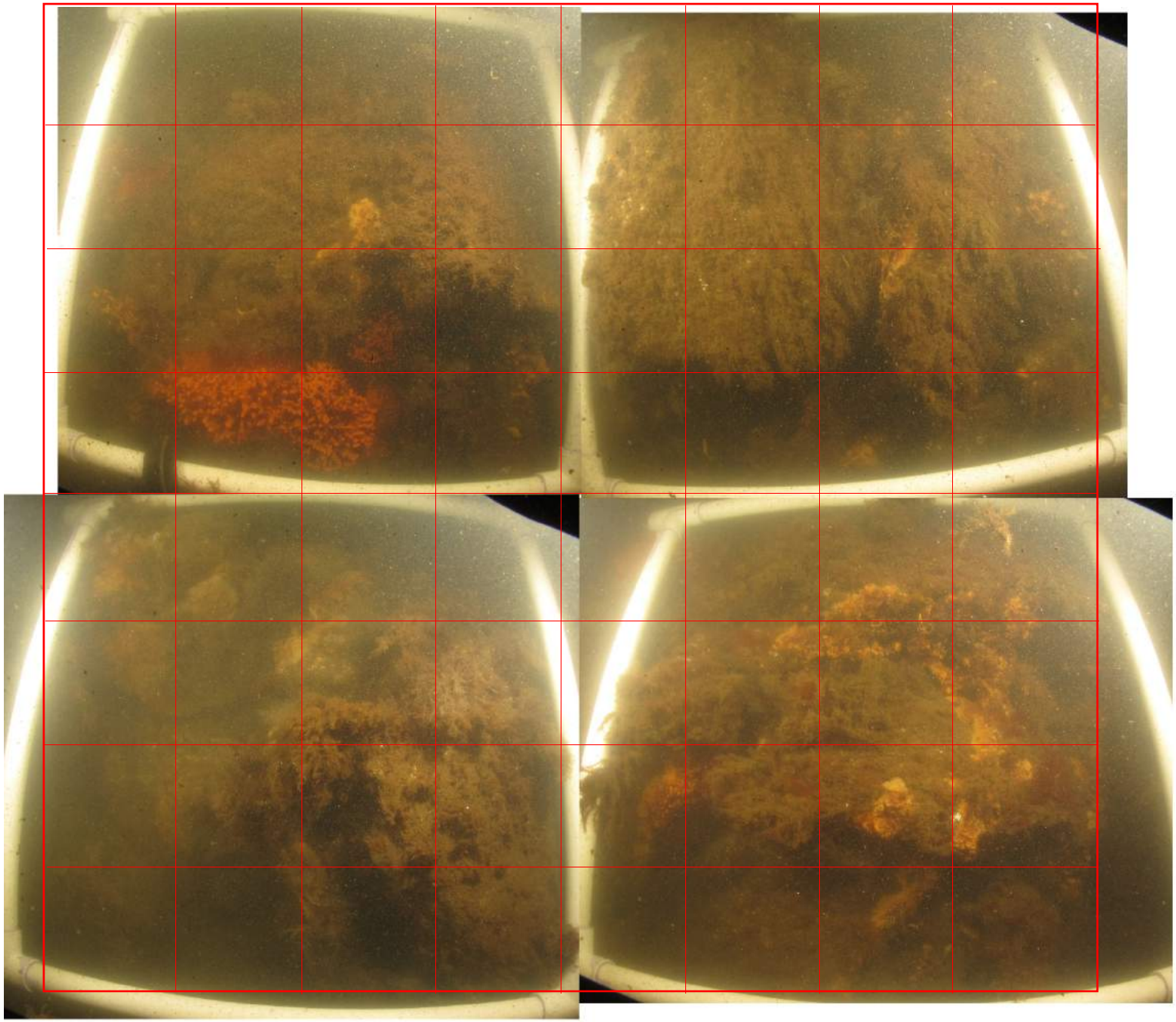

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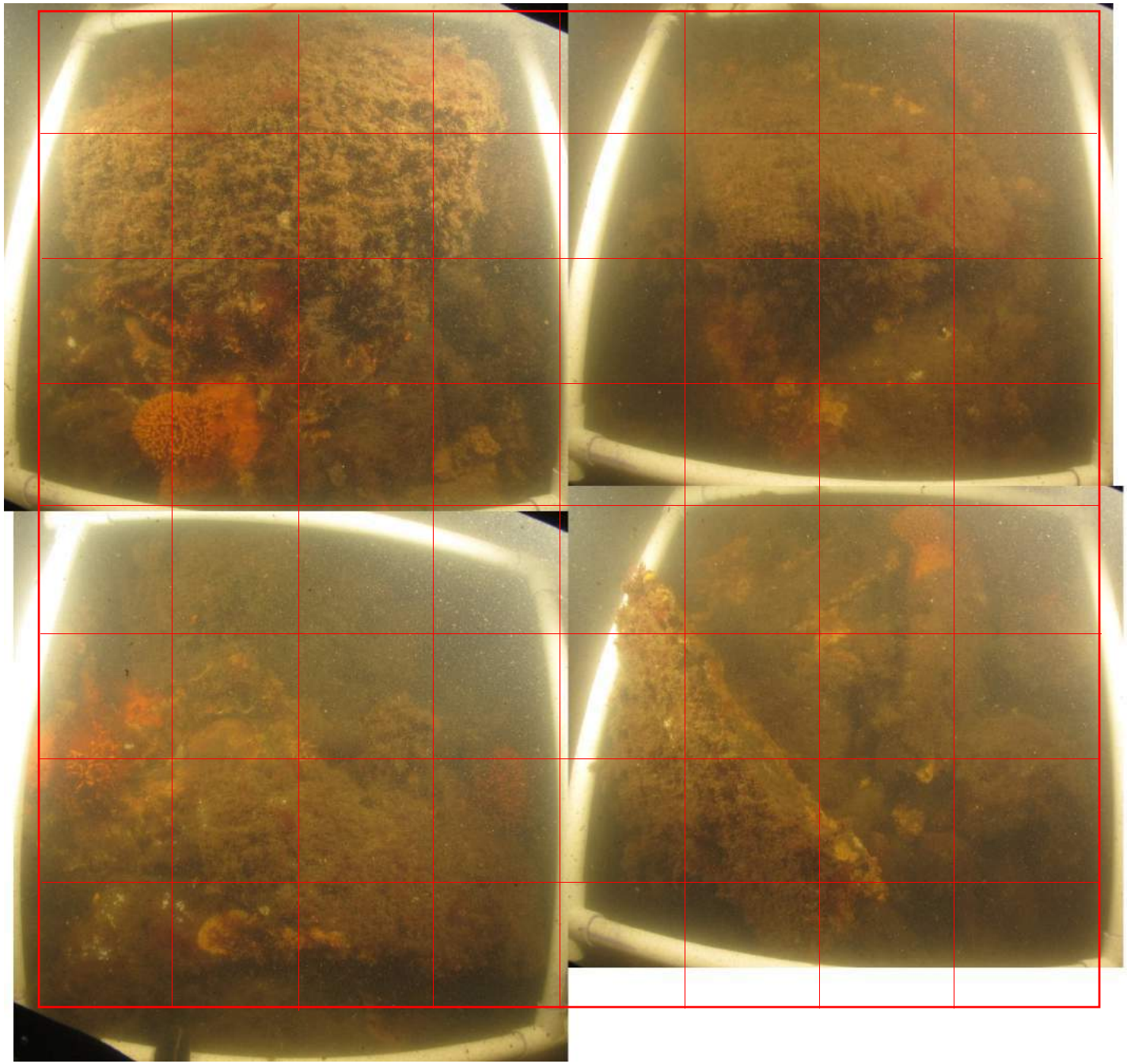

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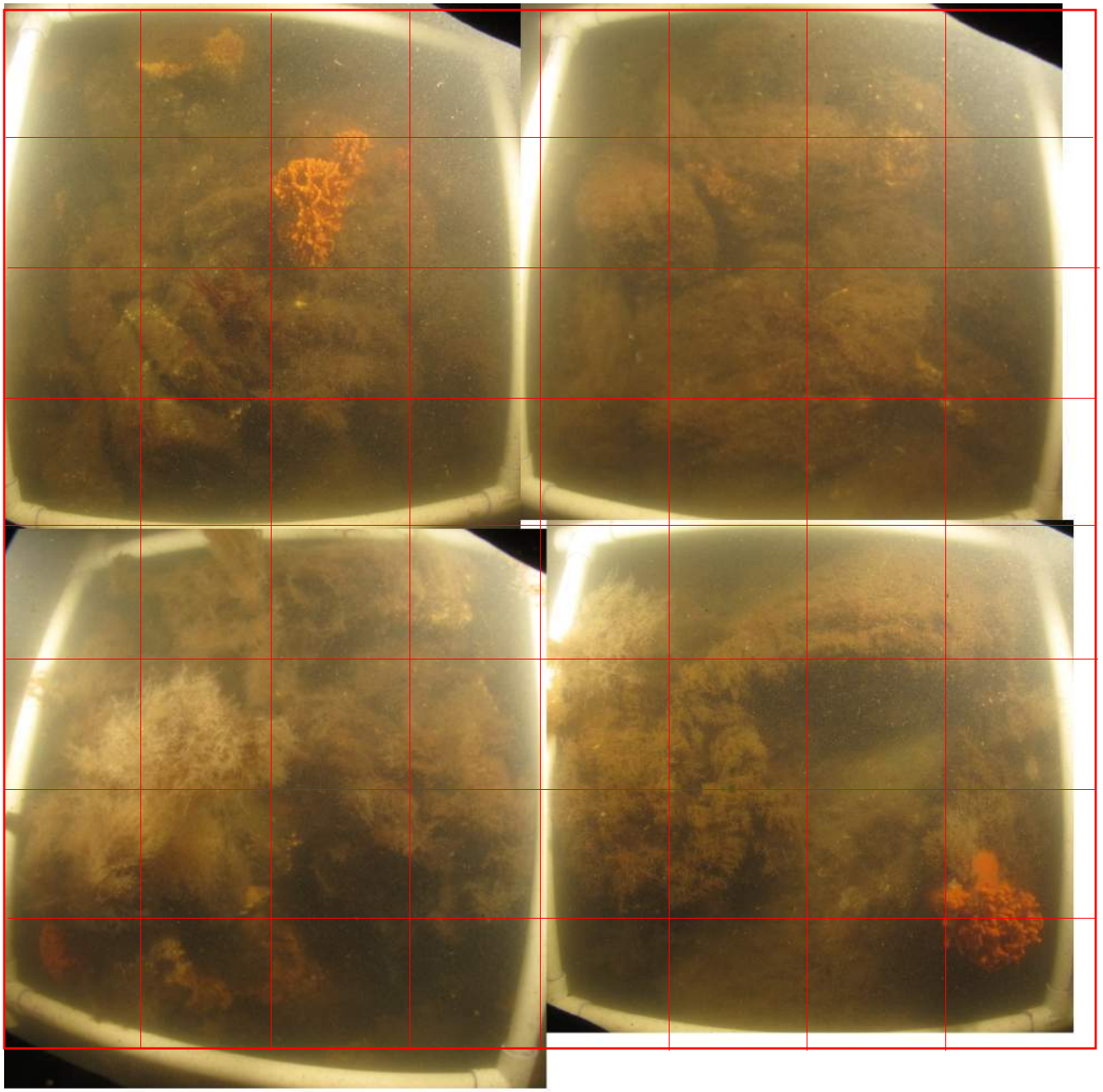

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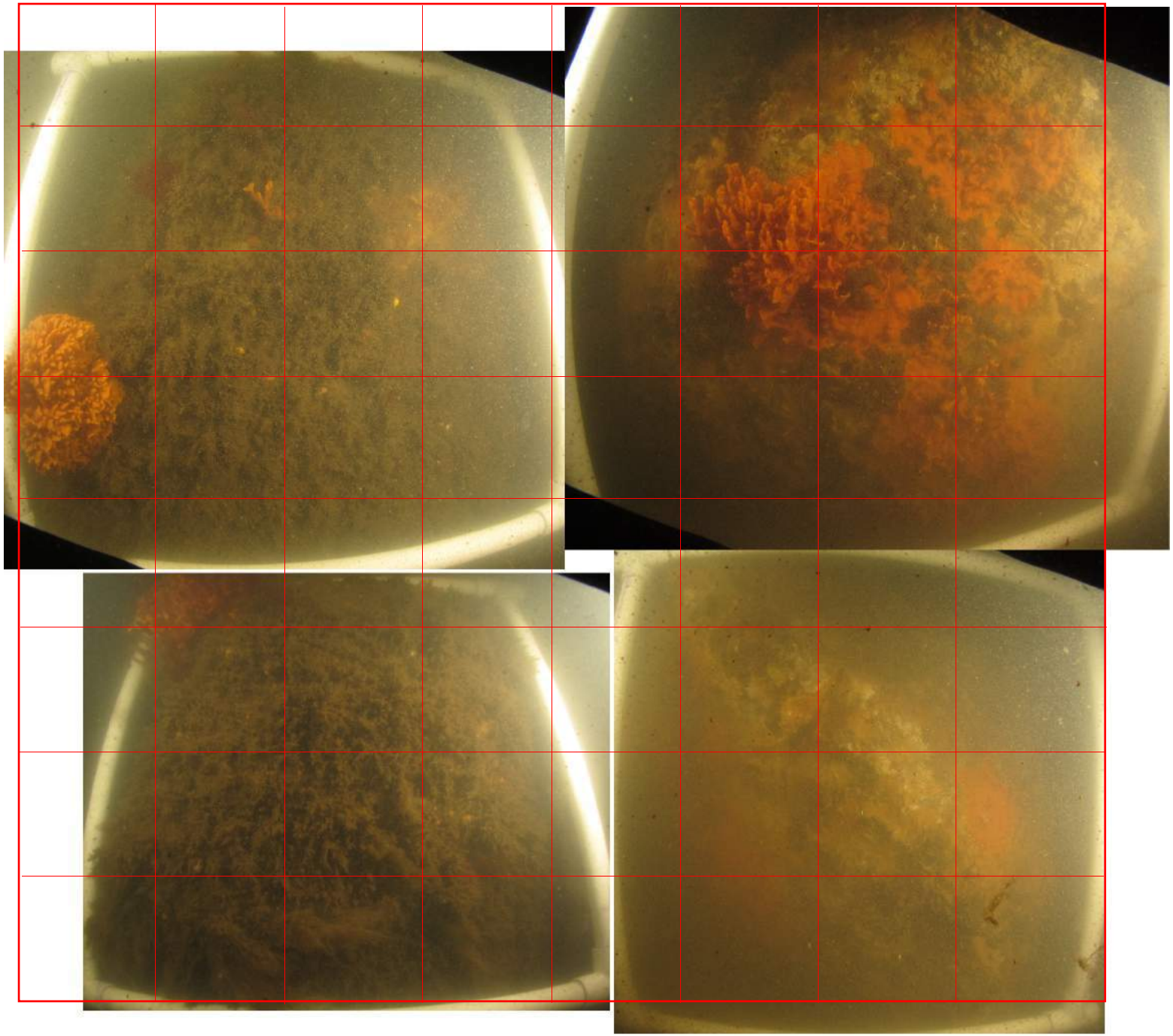
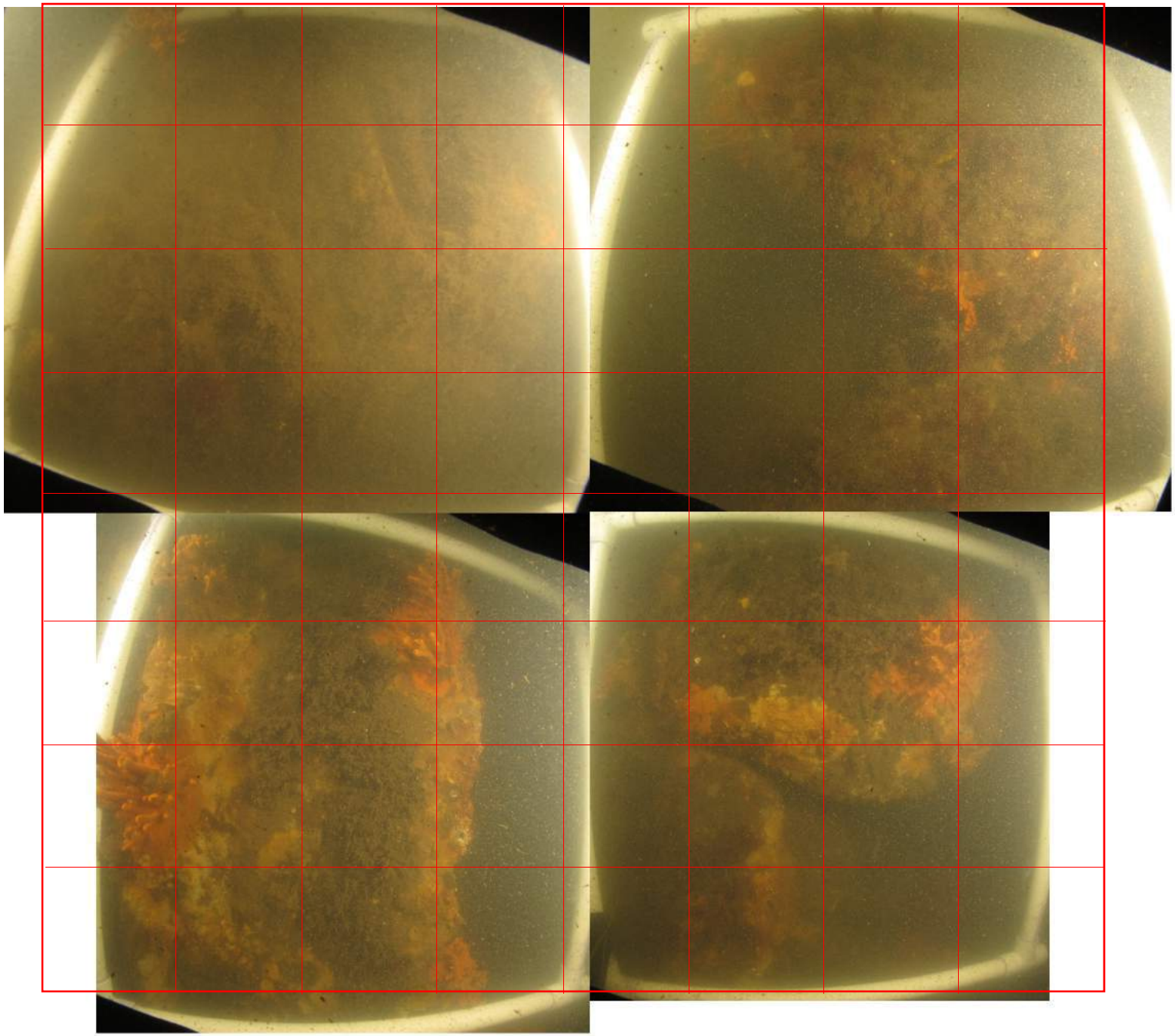
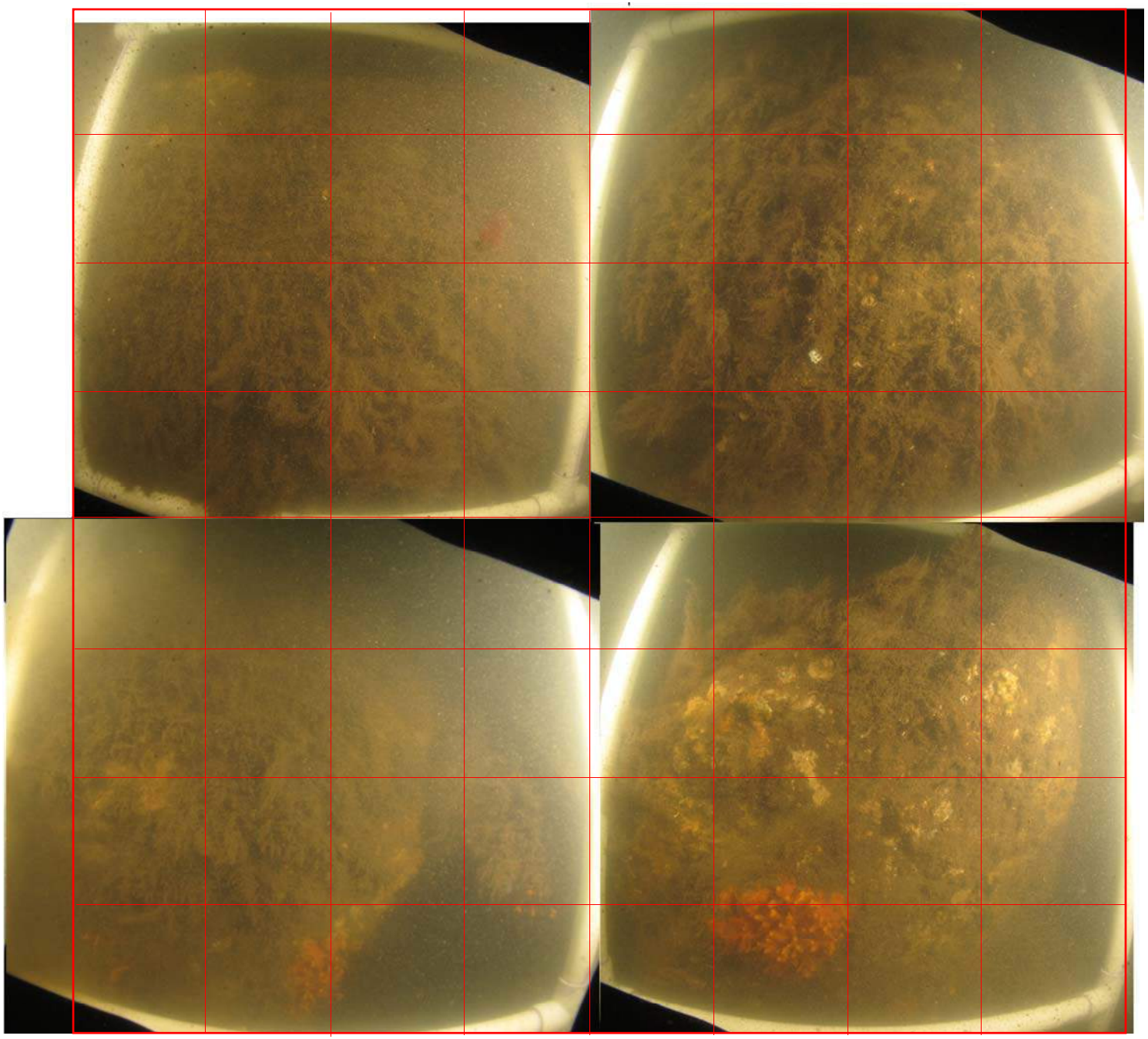


HB07 4M



HB07 15M



Appendix D-3

Photographs of each macrofaunal grab sample before and after sieving

Appendix Figure D-1. Photograph of macrofauna sample 2637-11 before sieving, September 2015.

Appendix Figure D-2. Photograph of macrofauna sample 2367-11 after sieving, September 2015.

Appendix Figure D-3. Photograph of macrofauna sample 2648-2 before sieving, September 2015.

Appendix Figure D-4. Photograph of macrofauna sample 2648-2 after sieving, September 2015.

Appendix Figure D-5. Photograph of macrofauna sample 2344-15 before sieving, September 2015.

Appendix Figure D-6. Photograph of macrofauna sample 2344-15 after sieving, September 2015.

Appendix Figure D-7. Photograph of macrofauna sample 2441-10 before sieving, September 2015.

Appendix Figure D-8. Photograph of macrofauna sample 2441-10 after sieving, September 2015.

Appendix Figure D-9. Photograph of macrofauna sample 2530-3 before sieving, September 2015.

Appendix Figure D-10. Photograph of macrofauna sample 2530-3 after sieving, September 2015.

Appendix Figure D-11. Photograph of macrofauna sample 2529-30 before sieving, September 2015.

Appendix Figure D-12. Photograph of macrofauna sample 2529-30 after sieving, September 2015.

Appendix Figure D-13. Photograph of macrofauna sample 2487-7 before sieving, September 2015.

Appendix Figure D-14. Photograph of macrofauna sample 2487-7 after sieving, September 2015.

Appendix Figure D-15. Photograph of macrofauna sample 2439-22 before sieving, September 2015.

Appendix Figure D-16. Photograph of macrofauna sample 2439-22 after sieving, September 2015.

Appendix Figure D-17. Photograph of macrofauna sample 2486-11 before sieving, September 2015.

Appendix Figure D-18. Photograph of macrofauna sample 2486-11 after sieving, September 2015.

Appendix Figure D-19. Photograph of macrofauna sample 2528-1 before sieving, September 2015.

Appendix Figure D-20. Photograph of macrofauna sample 2528-1 after sieving, September 2015.

Appendix Figure D-21. Photograph of macrofauna sample 2527-26 before sieving, September 2015.

Appendix Figure D-22. Photograph of macrofauna sample 2527-26 after sieving, September 2015.

Appendix Figure D-23. Photograph of macrofauna sample 2485-5 before sieving, September 2015.

Appendix Figure D-24. Photograph of macrofauna sample 2485-5 after sieving, September 2015.

Appendix Figure D-25. Photograph of macrofauna sample 2288-24 before sieving, September 2015.

Appendix Figure D-26. Photograph of macrofauna sample 2288-24 after sieving, September 2015.

Appendix Figure D-27. Photograph of macrofauna sample 2482-3 before sieving, September 2015.

Appendix Figure D-28. Photograph of macrofauna sample 2482-3 after sieving, September 2015.

Appendix Figure D-29. Photograph of macrofauna sample 2064-4 before sieving, September 2015.

Appendix Figure D-30. Photograph of macrofauna sample 2064-4 after sieving, September 2015.

Appendix Figure D-31. Photograph of macrofauna sample 1821-18 before sieving, September 2015.

Appendix Figure D-32. Photograph of macrofauna sample 1821-18 after sieving, September 2015.

Appendix Figure D-33. Photograph of macrofauna sample 2376-16 before sieving, September 2015.

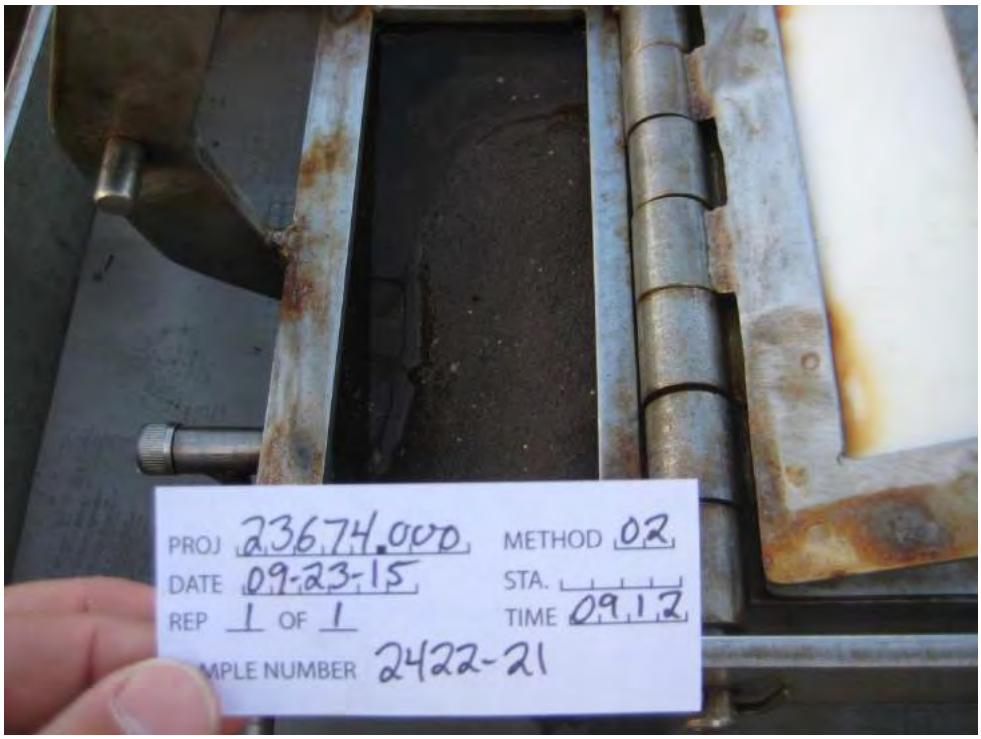
Appendix Figure D-34. Photograph of macrofauna sample 2376-16 after sieving, September 2015.

Appendix Figure D-35. Photograph of macrofauna sample 2375-14 before sieving, September 2015.

Appendix Figure D-36. Photograph of macrofauna sample 2375-14 after sieving, September 2015.

Appendix Figure D-37. Photograph of macrofauna sample 2374-4 before sieving, September 2015.

Appendix Figure D-38. Photograph of macrofauna sample 2374-4 after sieving, September 2015.



Appendix Figure D-39. Photograph of macrofauna sample 2422-21 before sieving, September 2015.

Appendix Figure D-40. Photograph of macrofauna sample 2422-21 after sieving, September 2015.

Appendix Figure D-41. Photograph of macrofauna sample 2424-31 before sieving, September 2015.

Appendix Figure D-42. Photograph of macrofauna sample 2424-31 after sieving, September 2015.

Appendix Figure D-43. Photograph of macrofauna sample 2100-6 before sieving, September 2015.

Appendix Figure D-44. Photograph of macrofauna sample 2100-6 after sieving, September 2015.

Appendix Figure D-45. Photograph of macrofauna sample 1981-10 before sieving, September 2015.

Appendix Figure D-46. Photograph of macrofauna sample 1981-10 after sieving, September 2015.

Appendix Figure D-47. Photograph of macrofauna sample 1689-13 before sieving, September 2015.

Appendix Figure D-48. Photograph of macrofauna sample 1689-13 after sieving, September 2015.

Appendix Figure D-49. Photograph of macrofauna sample 1687-12 before sieving, September 2015.

Appendix Figure D-50. Photograph of macrofauna sample 1687-12 after sieving, September 2015.

Appendix Figure D-51. Photograph of macrofauna sample 2090-33 before sieving, September 2015.

Appendix Figure D-52. Photograph of macrofauna sample 2090-33 after sieving, September 2015.

Appendix Figure D-53. Photograph of macrofauna sample 2146-25 before sieving, September 2015.

Appendix Figure D-54. Photograph of macrofauna sample 2146-25 after sieving, September 2015.

Appendix Figure D-55. Photograph of macrofauna sample 2089-27 before sieving, September 2015.

Appendix Figure D-56. Photograph of macrofauna sample 2089-27 after sieving, September 2015.

Appendix Figure D-57. Photograph of macrofauna sample 2088-29 before sieving, September 2015.

Appendix Figure D-58. Photograph of macrofauna sample 2088-29 after sieving, September 2015.

Appendix Figure D-59. Photograph of macrofauna sample 2087-17 before sieving, September 2015.

Appendix Figure D-60. Photograph of macrofauna sample 2087-17 after sieving, September 2015.

Appendix Figure D-61. Photograph of macrofauna sample 2144-13 before sieving, September 2015.

Appendix Figure D-62. Photograph of macrofauna sample 2144-13 after sieving, September 2015.

Appendix Figure D-63. Photograph of macrofauna sample 2143-2 before sieving, September 2015.

Appendix Figure D-64. Photograph of macrofauna sample 2143-2 after sieving, September 2015.

Appendix Figure D-65. Photograph of macrofauna sample 630-8 before sieving, September 2015.

Appendix Figure D-66. Photograph of macrofauna sample 630-8 after sieving, September 2015.

Appendix Figure D-67. Photograph of macrofauna sample 686-19 before sieving, September 2015.

Appendix Figure D-68. Photograph of macrofauna sample 686-19 after sieving, September 2015.

Appendix Figure D-69. Photograph of macrofauna sample 809-17 before sieving, September 2015.

Appendix Figure D-70. Photograph of macrofauna sample 809-17 after sieving, September 2015.

Appendix Figure D-71. Photograph of macrofauna sample 543-21 before sieving, September 2015.

Appendix Figure D-72. Photograph of macrofauna sample 543-21 after sieving, September 2015.

Appendix Figure D-73. Photograph of macrofauna sample 55-14 before sieving, September 2015.

Appendix Figure D-74. Photograph of macrofauna sample 55-14 after sieving, September 2015.

Appendix Figure D-75. Photograph of macrofauna sample 1547-29 before sieving, September 2015.

Appendix Figure D-76. Photograph of macrofauna sample 1547-29 after sieving, September 2015.

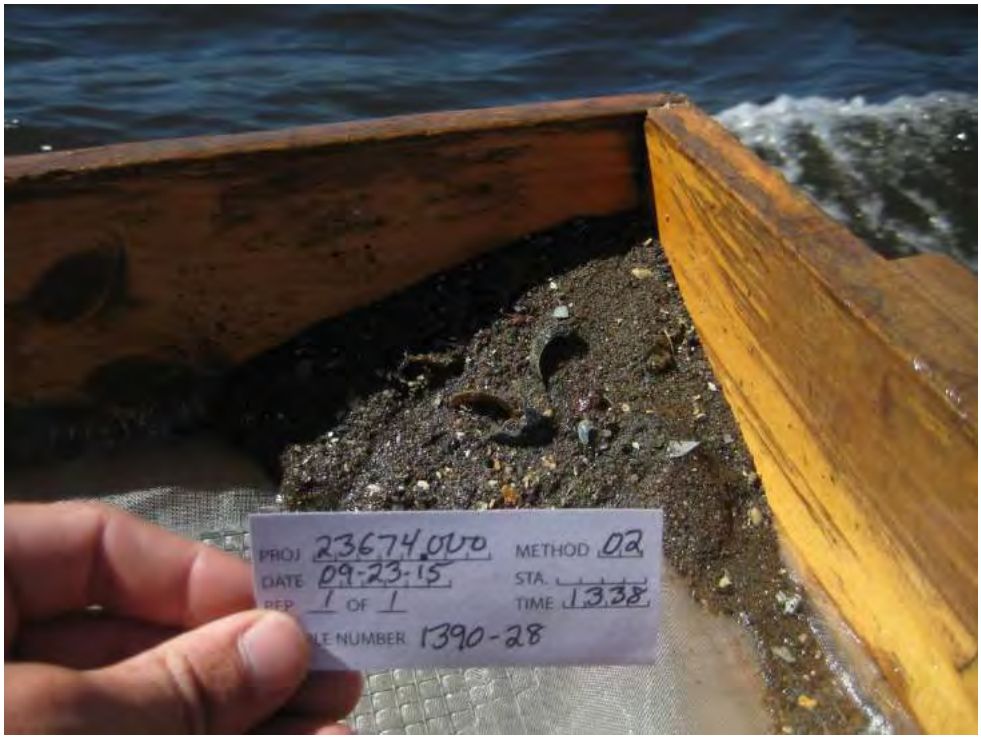
Appendix Figure D-77. Photograph of macrofauna sample 1787-44 before sieving, September 2015.

Appendix Figure D-78. Photograph of macrofauna sample 1787-44 after sieving, September 2015.

Appendix Figure D-79. Photograph of macrofauna sample 1321-5 before sieving, September 2015.

Appendix Figure D-80. Photograph of macrofauna sample 1321-5 after sieving, September 2015.

Appendix Figure D-81. Photograph of macrofauna sample 1390-28 before sieving, September 2015.



Appendix Figure D-82. Photograph of macrofauna sample 1390-28 after sieving, September 2015.

Appendix Figure D-83. Photograph of macrofauna sample 659-7 before sieving, September 2015.

Appendix Figure D-84. Photograph of macrofauna sample 659-7 after sieving, September 2015.

Appendix Figure D-85. Photograph of macrofauna sample 654-9 before sieving, September 2015.

Appendix Figure D-86. Photograph of macrofauna sample 654-9 after sieving, September 2015.

Appendix Figure D-87. Photograph of macrofauna sample 720-16 before sieving, September 2015.

Appendix Figure D-88. Photograph of macrofauna sample 720-16 after sieving, September 2015.

Appendix Figure D-89. Photograph of macrofauna sample 717-59 before sieving, September 2015.

Appendix Figure D-90. Photograph of macrofauna sample 717-59 after sieving, September 2015.

Appendix Figure D-91. Photograph of macrofauna sample 714-40 before sieving, September 2015.

Appendix Figure D-92. Photograph of macrofauna sample 714-40 after sieving, September 2015.

Appendix Figure D-93. Photograph of macrofauna sample 849-25 before sieving, September 2015.

Appendix Figure D-94. Photograph of macrofauna sample 849-25 after sieving, September 2015.

Appendix Figure D-95. Photograph of macrofauna sample 240-23 before sieving, September 2015.

Appendix Figure D-96. Photograph of macrofauna sample 240-23 after sieving, September 2015.

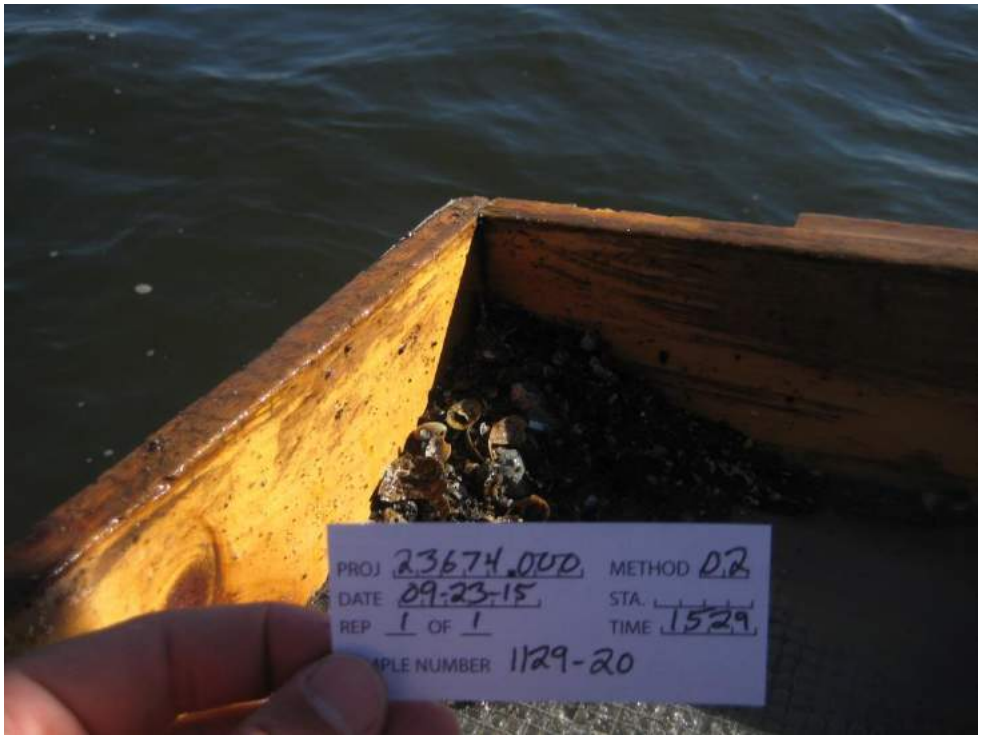
Appendix Figure D-97. Photograph of macrofauna sample 99-30 before sieving, September 2015.

Appendix Figure D-98. Photograph of macrofauna sample 99-30 after sieving, September 2015.

Appendix Figure D-99. Photograph of macrofauna sample 986-26 before sieving, September 2015.

Appendix Figure D-100. Photograph of macrofauna sample 986-26 after sieving, September 2015.

Appendix Figure D-101. Photograph of macrofauna sample 1129-20 before sieving, September 2015.



Appendix Figure D-102. Photograph of macrofauna sample 1129-20 after sieving, September 2015.

Appendix Figure D-103. Photograph of macrofauna sample 1364-6 before sieving, September 2015.

Appendix Figure D-104. Photograph of macrofauna sample 1364-6 after sieving, September 2015.

Appendix Figure D-105. Photograph of macrofauna sample 1440-8 before sieving, September 2015.

Appendix Figure D-106. Photograph of macrofauna sample 1440-8 after sieving, September 2015.

Appendix Figure D-107. Photograph of macrofauna sample 1439-20 before sieving, September 2015.

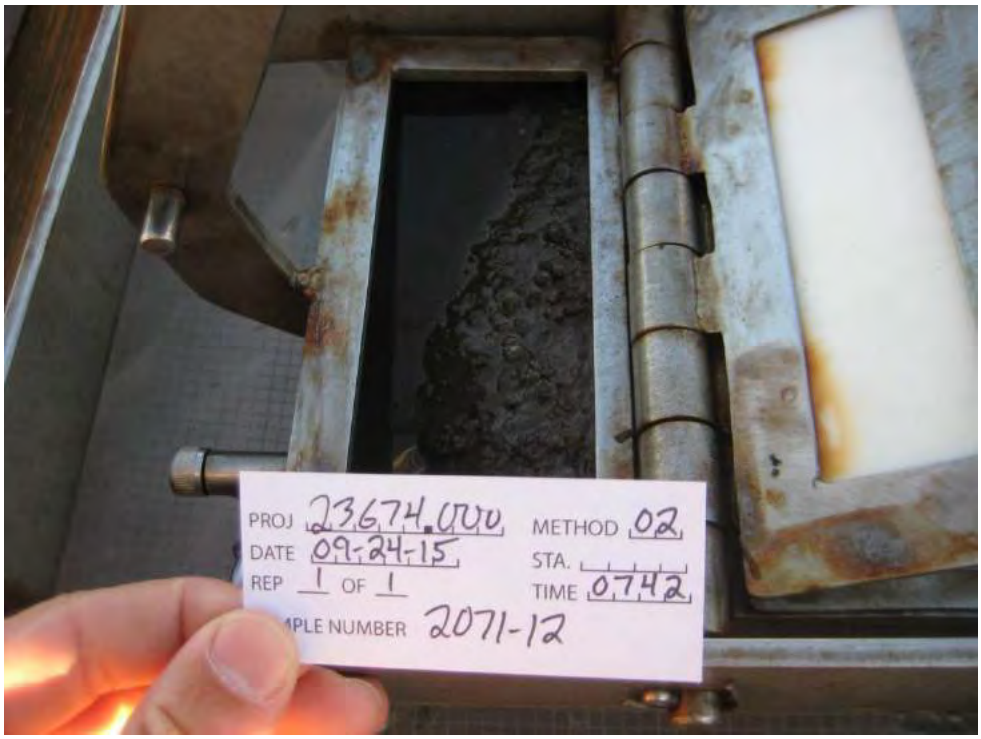
Appendix Figure D-108. Photograph of macrofauna sample 1439-20 after sieving, September 2015.

Appendix Figure D-109. Photograph of macrofauna sample 1438-23 before sieving, September 2015.

Appendix Figure D-110. Photograph of macrofauna sample 1438-23 after sieving, September 2015.

Appendix Figure D-111. Photograph of macrofauna sample 1363-24 before sieving, September 2015.

Appendix Figure D-112. Photograph of macrofauna sample 1363-24 after sieving, September 2015.



Appendix Figure D-113. Photograph of macrofauna sample 2071-12 before sieving, September 2015.

Appendix Figure D-114. Photograph of macrofauna sample 2071-12 after sieving, September 2015.

Appendix Figure D-115. Photograph of macrofauna sample 2012-9 before sieving, September 2015.

Appendix Figure D-116. Photograph of macrofauna sample 2012-9 after sieving, September 2015.

Appendix Figure D-117. Photograph of macrofauna sample 2013-28 before sieving, September 2015.

Appendix Figure D-118. Photograph of macrofauna sample 2013-28 after sieving, September 2015.

Appendix Figure D-119. Photograph of macrofauna sample 2014-19 before sieving, September 2015.

Appendix Figure D-120. Photograph of macrofauna sample 2014-19 after sieving, September 2015.

Garden State Laboratories, Inc.

Bacteriological and Chemical Testing
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Hillside, New Jersey 07205

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Internet: www.gslabs.com

Mathew Klein, M.S., Founder (1916-1996)
Harvey Klein, M.S., Laboratory Director

REPORT OF ANALYSIS

REPORT # 350922042.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2637-11 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 07:49

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:40

< = less than, not detected.

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REPORT # 350922043.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2648-2 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 07:54

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/22/15-15:40

< = less than, not detected.

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REPORT # 350922044.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2344-15 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:05

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:40

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REPORT # 350922045.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2441-10 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:15

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:43

< = less than, not detected.

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REPORT # 350922046.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2530-3 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:18

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:43

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REPORT # 350922047.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2529-30 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:21

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:43

< = less than, not detected.

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REPORT # 350922048.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2487-7 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:25

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:46

< = less than, not detected.

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REPORT # 350922049.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2439-22 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:29

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:46

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922050.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2486-11 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:32

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/22/15-15:46

< = less than, not detected.

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REPORT # 350922051.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2528-1 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:36

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:49

< = less than, not detected.

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REPORT # 350922052.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2527-26 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:39

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:49

< = less than, not detected.

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REPORT # 350922053.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2485-5 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:43

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:49

< = less than, not detected.

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Garden State Laboratories, Inc.

Bacteriological and Chemical Testing
410 Hillside Avenue
Hillside, New Jersey 07205

Mathew Klein, M.S., Founder (1916-1996)
Harvey Klein, M.S., Laboratory Director

Toll Free 800-273-8901
Telephone 908-688-8900
Fax 908-688-8966
email: info@gslabs.com
Internet: www.gslabs.com

REPORT OF ANALYSIS

REPORT # 350922054.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2288-24 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:46

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:52

< = less than, not detected.

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Internet: www.gslabs.com

REPORT OF ANALYSIS

REPORT # 350922055.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2482-3 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:50

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:52

< = less than, not detected.

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Harvey Klein, M.S., Laboratory Director

REPORT OF ANALYSIS

REPORT # 350922056.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2064-4 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:53

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:52

< = less than, not detected.

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Harvey Klein, M.S., Laboratory Director

REPORT OF ANALYSIS

REPORT # 350922057.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 1821-18 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:58

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/22/15-15:55

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924006.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2376-16 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:01

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:26

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924007.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2375-14 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:03

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:26

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924008.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2374-4 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:04

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:26

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924009.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2422-21 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:05

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/24/15-16:29

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924010.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2424-31 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:08

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:29

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924011.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2100-6 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:11

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:29

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924012.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1981-10 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:13

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:32

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924013.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1689-13 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:15

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:32

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924014.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1687-12 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:17

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:32

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924015.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2090-33 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:19

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:35

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924016.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2146-25 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:21

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	< 10	organisms/100ml		9/24/15-16:35

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924017.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2089-27 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:23

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:35

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924018.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2088-29 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:25

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:38

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924019.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2087-17 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:26

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:38

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924020.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 2144-13 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:29

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:38

< = less than, not detected.

Harvey Klein

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Internet: www.gslabs.com

REPORT OF ANALYSIS

REPORT # 350924021.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 630-8 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:34

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:41

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924022.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 686-19 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:36

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:41

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924023.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 809-17 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:38

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:41

< = less than, not detected.

Harvey Klein
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Certified by NJ Dept. of Health, NJDEP #20044, NY Dept. of Health #11550 and PADEP #68-03680

Garden State Laboratories, Inc.

Bacteriological and Chemical Testing
410 Hillside Avenue
Hillside, New Jersey 07205

Mathew Klein, M.S., Founder (1916-1996)
Harvey Klein, M.S., Laboratory Director

Toll Free 800-273-8901
Telephone 908-688-8900
Fax 908-688-8966
email: info@gslabs.com
Internet: www.gslabs.com

REPORT OF ANALYSIS

REPORT # 350924024.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 543-21 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:40

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:44

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924025.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 55-14 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:43

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:44

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924026.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1547-29 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:46

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:44

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924027.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1787-44 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:48

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/24/15-16:47

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924028.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1321-5 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:51

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:47

< = less than, not detected.

Harvey Klein

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REPORT OF ANALYSIS

REPORT # 350924029.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1390-28 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:53

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:47

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924030.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 659-7 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 10:57

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:50

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924031.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1129-20 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 11:01

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:50

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350924032.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1364-6 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 11:03

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:50

< = less than, not detected.

Harvey Klein

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REPORT OF ANALYSIS

REPORT # 350924033.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1440-8 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 11:06

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:53

< = less than, not detected.

Harvey Klein

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REPORT OF ANALYSIS

REPORT # 350924034.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1439-20 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 11:08

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:53

< = less than, not detected.

Harvey Klein

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Internet: www.gslabs.com

REPORT OF ANALYSIS

REPORT # 350924035.0
CLIENT # ALS04
DATE SUBMITTED: 9/24/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: WATER, GRAB SAMPLE
SAMPLE ID: 1438-23 PROJECT NAME/ #23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/24/15 TIME SAMPLED: 11:10

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/24/15-16:53

< = less than, not detected.

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ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

October 13, 2015

Mr. Eric Nestler
Normandeau Associates, Inc.- Bedford
25 Nashua Road
Bedford, NH 03110

Certificate of Analysis

Project Name:	**2015PC-Clam**	Workorder:	**2097279**
Purchase Order:		Workorder ID:	**23674.000**

Dear Mr. Nestler:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, September 22, 2015.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vicki A. Forney (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Paul Geoghegan

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2097279 23674.000

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2097279001	2637-11	Water	9/22/2015 07:49	9/22/2015 17:15	Collected by Client
2097279002	2648-2	Water	9/22/2015 07:54	9/22/2015 17:15	Collected by Client
2097279003	2344-15	Water	9/22/2015 08:05	9/22/2015 17:15	Collected by Client
2097279004	2441-10	Water	9/22/2015 08:15	9/22/2015 17:15	Collected by Client
2097279005	2530-3	Water	9/22/2015 08:18	9/22/2015 17:15	Collected by Client
2097279006	2529-30	Water	9/22/2015 08:21	9/22/2015 17:15	Collected by Client
2097279007	2487-7	Water	9/22/2015 08:25	9/22/2015 17:15	Collected by Client
2097279008	2439-22	Water	9/22/2015 08:29	9/22/2015 17:15	Collected by Client
2097279009	2486-11	Water	9/22/2015 08:32	9/22/2015 17:15	Collected by Client
2097279010	2528-1	Water	9/22/2015 08:36	9/22/2015 17:15	Collected by Client
2097279011	2527-26	Water	9/22/2015 08:39	9/22/2015 17:15	Collected by Client
2097279012	2485-5	Water	9/22/2015 08:45	9/22/2015 17:15	Collected by Client
2097279013	2288-24	Water	9/22/2015 08:46	9/22/2015 17:15	Collected by Client
2097279014	2482-3	Water	9/22/2015 08:50	9/22/2015 17:15	Collected by Client
2097279015	2064-4	Water	9/22/2015 08:53	9/22/2015 17:15	Collected by Client
2097279016	1821-18	Water	9/22/2015 08:58	9/22/2015 17:15	Collected by Client
2097279017	2376-16	Water	9/22/2015 09:03	9/22/2015 17:15	Collected by Client
2097279018	2375-14	Water	9/22/2015 09:06	9/22/2015 17:15	Collected by Client
2097279019	2374-4	Water	9/22/2015 09:09	9/22/2015 17:15	Collected by Client
2097279020	2422-21	Water	9/22/2015 09:12	9/22/2015 17:15	Collected by Client
2097279021	2424-31	Water	9/22/2015 09:16	9/22/2015 17:15	Collected by Client
2097279022	2100-6	Water	9/22/2015 09:21	9/22/2015 17:15	Collected by Client
2097279023	1981-10	Water	9/22/2015 09:24	9/22/2015 17:15	Collected by Client
2097279024	1689-13	Water	9/22/2015 09:28	9/22/2015 17:15	Collected by Client
2097279025	1687-12	Water	9/22/2015 09:32	9/22/2015 17:15	Collected by Client
2097279026	2090-33	Water	9/22/2015 09:37	9/22/2015 17:15	Collected by Client
2097279027	2146-25	Water	9/22/2015 09:39	9/22/2015 17:15	Collected by Client
2097279028	2089-27	Water	9/22/2015 09:42	9/22/2015 17:15	Collected by Client
2097279029	2088-29	Water	9/22/2015 09:44	9/22/2015 17:15	Collected by Client
2097279030	2087-17	Water	9/22/2015 09:47	9/22/2015 17:15	Collected by Client
2097279031	2144-13	Water	9/22/2015 09:50	9/22/2015 17:15	Collected by Client
2097279032	2143-2	Water	9/22/2015 09:52	9/22/2015 17:15	Collected by Client
2097279033	630-8	Water	9/22/2015 09:57	9/22/2015 17:15	Collected by Client
2097279034	686-19	Water	9/22/2015 10:00	9/22/2015 17:15	Collected by Client

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2097279 23674.000

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2097279035	809-17	Water	9/22/2015 10:04	9/22/2015 17:15	Collected by Client
2097279036	543-21	Water	9/22/2015 10:06	9/22/2015 17:15	Collected by Client
2097279037	55-14	Water	9/22/2015 10:09	9/22/2015 17:15	Collected by Client
2097279038	1547-29	Water	9/22/2015 10:12	9/22/2015 17:15	Collected by Client
2097279039	1787-44	Water	9/22/2015 10:16	9/22/2015 17:15	Collected by Client
2097279040	1321-5	Water	9/22/2015 10:19	9/22/2015 17:15	Collected by Client
2097279041	1390-28	Water	9/22/2015 10:21	9/22/2015 17:15	Collected by Client
2097279042	659-7	Water	9/22/2015 10:24	9/22/2015 17:15	Collected by Client
2097279043	654-9	Water	9/22/2015 10:26	9/22/2015 17:15	Collected by Client
2097279044	720-16	Water	9/22/2015 10:28	9/22/2015 17:15	Collected by Client
2097279045	717-59	Water	9/22/2015 10:32	9/22/2015 17:15	Collected by Client
2097279046	240-23	Water	9/22/2015 10:35	9/22/2015 17:15	Collected by Client
2097279047	99-30	Water	9/22/2015 10:38	9/22/2015 17:15	Collected by Client
2097279048	849-25	Water	9/22/2015 10:41	9/22/2015 17:15	Collected by Client
2097279049	986-26	Water	9/22/2015 10:44	9/22/2015 17:15	Collected by Client
2097279050	1129-20	Water	9/22/2015 10:46	9/22/2015 17:15	Collected by Client
2097279051	1364-6	Water	9/22/2015 10:50	9/22/2015 17:15	Collected by Client
2097279052	1440-8	Water	9/22/2015 10:52	9/22/2015 17:15	Collected by Client
2097279053	1439-20	Water	9/22/2015 10:55	9/22/2015 17:15	Collected by Client
2097279054	1438-23	Water	9/22/2015 10:58	9/22/2015 17:15	Collected by Client
2097279055	1363-24	Water	9/22/2015 11:00	9/22/2015 17:15	Collected by Client
2097279056	2071-12	Water	9/22/2015 11:04	9/22/2015 17:15	Collected by Client
2097279057	2012-9	Water	9/22/2015 11:07	9/22/2015 17:15	Collected by Client
2097279058	2013-28	Water	9/22/2015 11:09	9/22/2015 17:15	Collected by Client
2097279059	2014-19	Water	9/22/2015 11:12	9/22/2015 17:15	Collected by Client
2097279060	714-40	Water	9/22/2015 11:17	9/22/2015 17:15	Collected by Client

SAMPLE SUMMARY

Workorder: 2097279 23674.000

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

PROJECT SUMMARY

Workorder: 2097279 23674.000

Workorder Comments

See attached subcontracted Fecal Coliform results from Garden State SSL 10/13/15

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279001** Date Collected: 9/22/2015 07:49 Matrix: Water
Sample ID: **2637-11** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.68		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:14	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/23/15	J1H	9/24/15 09:06	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 10:48	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:40	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279002** Date Collected: 9/22/2015 07:54 Matrix: Water
Sample ID: **2648-2** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.66		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:19	SYB	A
Total Kjeldahl Nitrogen	0.7J	J	mg/L	1.0	0.4	S4500NH3G-11	9/23/15	J1H	9/24/15 09:06	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 10:49	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:40	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279003** Date Collected: 9/22/2015 08:05 Matrix: Water
Sample ID: **2344-15** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.73		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:20	SYB	A
Total Kjeldahl Nitrogen	0.7J	J	mg/L	1.0	0.4	S4500NH3G-11	9/23/15	J1H	9/24/15 09:06	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 10:49	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:40	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279004** Date Collected: 9/22/2015 08:15 Matrix: Water
Sample ID: **2441-10** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.76		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:21	SYB	A
Total Kjeldahl Nitrogen	0.9J	J	mg/L	1.0	0.4	S4500NH3G-11	9/23/15	J1H	9/24/15 09:06	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 10:49	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:43	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279005** Date Collected: 9/22/2015 08:18 Matrix: Water
Sample ID: **2530-3** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77	2	mg/L	0.10	0.01	EPA 353.2			9/25/15 15:48	SYB	A
Total Kjeldahl Nitrogen	0.7J	J	mg/L	1.0	0.4	S4500NH3G-11	9/23/15	J1H	9/24/15 09:06	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:52	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:43	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279006** Date Collected: 9/22/2015 08:21 Matrix: Water
Sample ID: **2529-30** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.74		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:25	SYB	A
Total Kjeldahl Nitrogen	0.7J	J	mg/L	1.0	0.4	S4500NH3G-11	9/23/15	J1H	9/24/15 09:06	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 10:49	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:43	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279007** Date Collected: 9/22/2015 08:25 Matrix: Water
Sample ID: **2487-7** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:26	SYB	A
Total Kjeldahl Nitrogen	1.2	1	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.97		mg/L	1.00		Calculation			9/30/15 10:50	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:46	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279008** Date Collected: 9/22/2015 08:29 Matrix: Water
Sample ID: **2439-22** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.76		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:27	SYB	A
Total Kjeldahl Nitrogen	1.0		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.76		mg/L	1.00		Calculation			9/30/15 10:50	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:46	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279009** Date Collected: 9/22/2015 08:32 Matrix: Water
Sample ID: **2486-11** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.73	2	mg/L	0.10	0.01	EPA 353.2			9/29/15 15:57	AMH	A
Total Kjeldahl Nitrogen	1.2		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.93		mg/L	1.00		Calculation			9/30/15 13:31	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:46	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279010** Date Collected: 9/22/2015 08:36 Matrix: Water
Sample ID: **2528-1** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.76		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:48	SYB	A
Total Kjeldahl Nitrogen	1.2		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.96		mg/L	1.00		Calculation			9/30/15 11:29	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:49	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279011** Date Collected: 9/22/2015 08:39 Matrix: Water
Sample ID: **2527-26** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:49	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	2.08		mg/L	1.00		Calculation			9/30/15 11:29	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:49	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279012** Date Collected: 9/22/2015 08:45 Matrix: Water
Sample ID: **2485-5** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.76		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:50	SYB	A
Total Kjeldahl Nitrogen	1.1		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.86		mg/L	1.00		Calculation			9/30/15 11:29	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:49	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279013** Date Collected: 9/22/2015 08:46 Matrix: Water
Sample ID: **2288-24** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:51	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	2.09		mg/L	1.00		Calculation			9/30/15 11:30	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:52	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279014** Date Collected: 9/22/2015 08:50 Matrix: Water
Sample ID: **2482-3** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:52	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	2.07		mg/L	1.00		Calculation			9/30/15 11:30	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:52	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279015** Date Collected: 9/22/2015 08:53 Matrix: Water
Sample ID: **2064-4** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 13:53	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	2.09		mg/L	1.00		Calculation			9/30/15 11:30	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:52	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279016** Date Collected: 9/22/2015 08:58 Matrix: Water
Sample ID: **1821-18** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.81		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:01	SYB	A
Total Kjeldahl Nitrogen	1.4		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	2.21		mg/L	1.00		Calculation			9/30/15 11:30	KLR	A
SUBCONTRACTED ANALYSIS											
Subcontracted Analysis	See Attached					Subcontract			9/22/15 15:55	SUB	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279017** Date Collected: 9/22/2015 09:03 Matrix: Water
Sample ID: **2376-16** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.75		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:02	SYB	A
Total Kjeldahl Nitrogen	1.5		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	2.25		mg/L	1.00		Calculation			9/30/15 11:31	KLR	A
MICROBIOLOGY											
Fecal Coliform	6	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279018** Date Collected: 9/22/2015 09:06 Matrix: Water
Sample ID: **2375-14** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:03	SYB	A
Total Kjeldahl Nitrogen	1.2		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.97		mg/L	1.00		Calculation			9/30/15 11:31	KLR	A
MICROBIOLOGY											
Fecal Coliform	5	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279019** Date Collected: 9/22/2015 09:09 Matrix: Water
Sample ID: **2374-4** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:04	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	2.08		mg/L	1.00		Calculation			9/30/15 11:31	KLR	A
MICROBIOLOGY											
Fecal Coliform	8	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279020** Date Collected: 9/22/2015 09:12 Matrix: Water
Sample ID: **2422-21** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.74		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:05	SYB	A
Total Kjeldahl Nitrogen	1.2		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.94		mg/L	1.00		Calculation			9/30/15 11:31	KLR	A
MICROBIOLOGY											
Fecal Coliform	19	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279021** Date Collected: 9/22/2015 09:16 Matrix: Water
Sample ID: **2424-31** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:06	SYB	A
Total Kjeldahl Nitrogen	1.2		mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.98		mg/L	1.00		Calculation			9/30/15 11:31	KLR	A
MICROBIOLOGY											
Fecal Coliform	3	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279022** Date Collected: 9/22/2015 09:21 Matrix: Water
Sample ID: **2100-6** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:07	SYB	A
Total Kjeldahl Nitrogen	0.8J	J1	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:32	KLR	A
MICROBIOLOGY											
Fecal Coliform	1 U	U2	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279023** Date Collected: 9/22/2015 09:24 Matrix: Water
Sample ID: **1981-10** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:14	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:32	KLR	A
MICROBIOLOGY											
Fecal Coliform	2	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279024** Date Collected: 9/22/2015 09:28 Matrix: Water
Sample ID: **1689-13** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.76		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:15	SYB	A
Total Kjeldahl Nitrogen	0.7J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:32	KLR	A
MICROBIOLOGY											
Fecal Coliform	6	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279025** Date Collected: 9/22/2015 09:32 Matrix: Water
Sample ID: **1687-12** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:16	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:32	KLR	A
MICROBIOLOGY											
Fecal Coliform	5	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279026** Date Collected: 9/22/2015 09:37 Matrix: Water
Sample ID: **2090-33** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:17	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:32	KLR	A
MICROBIOLOGY											
Fecal Coliform	10	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279027** Date Collected: 9/22/2015 09:39 Matrix: Water
Sample ID: **2146-25** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:18	SYB	A
Total Kjeldahl Nitrogen	0.9J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:33	KLR	A
MICROBIOLOGY											
Fecal Coliform	14	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279028** Date Collected: 9/22/2015 09:42 Matrix: Water
Sample ID: **2089-27** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:19	SYB	A
Total Kjeldahl Nitrogen	0.9J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:33	KLR	A
MICROBIOLOGY											
Fecal Coliform	9	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279029** Date Collected: 9/22/2015 09:44 Matrix: Water
Sample ID: **2088-29** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:20	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:33	KLR	A
MICROBIOLOGY											
Fecal Coliform	17	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279030** Date Collected: 9/22/2015 09:47 Matrix: Water
Sample ID: **2087-17** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:28	SYB	A
Total Kjeldahl Nitrogen	0.9J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:33	KLR	A
MICROBIOLOGY											
Fecal Coliform	13	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279031** Date Collected: 9/22/2015 09:50 Matrix: Water
Sample ID: **2144-13** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.75		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:33	SYB	A
Total Kjeldahl Nitrogen	0.9J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:33	KLR	A
MICROBIOLOGY											
Fecal Coliform	22	1	col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279032** Date Collected: 9/22/2015 09:52 Matrix: Water
Sample ID: **2143-2** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.75		mg/L	0.10	0.01	EPA 353.2			9/25/15 14:34	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 11:34	KLR	A
MICROBIOLOGY											
Fecal Coliform	26		col/100mL	1	1	S9222D-97			9/22/15 17:52	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279033** Date Collected: 9/22/2015 09:57 Matrix: Water
Sample ID: **630-8** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.84		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:00	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:44	KLR	A
MICROBIOLOGY											
Fecal Coliform	2	1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279034** Date Collected: 9/22/2015 10:00 Matrix: Water
Sample ID: **686-19** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.82		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:01	SYB	A
Total Kjeldahl Nitrogen	0.7J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:45	KLR	A
MICROBIOLOGY											
Fecal Coliform	4	1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279035** Date Collected: 9/22/2015 10:04 Matrix: Water
Sample ID: **809-17** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.82		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:02	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:45	KLR	A
MICROBIOLOGY											
Fecal Coliform	1	1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279036** Date Collected: 9/22/2015 10:06 Matrix: Water
Sample ID: **543-21** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.82		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:03	SYB	A
Total Kjeldahl Nitrogen	0.7J	J	mg/L	1.0	0.4	S4500NH3G-11	9/24/15	J1H	9/25/15 10:03	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:47	KLR	A
MICROBIOLOGY											
Fecal Coliform	1 U	U1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279037** Date Collected: 9/22/2015 10:09 Matrix: Water
Sample ID: **55-14** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.82		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:04	SYB	A
Total Kjeldahl Nitrogen	1.5		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.32		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	1 U	U1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279038** Date Collected: 9/22/2015 10:12 Matrix: Water
Sample ID: **1547-29** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:05	SYB	A
Total Kjeldahl Nitrogen	1.7	2	mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.48		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	6	1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279039** Date Collected: 9/22/2015 10:16 Matrix: Water
Sample ID: **1787-44** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:06	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.08		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	22	1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279040** Date Collected: 9/22/2015 10:19 Matrix: Water
Sample ID: **1321-5** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79	1	mg/L	0.10	0.01	EPA 353.2			9/25/15 15:07	SYB	A
Total Kjeldahl Nitrogen	1.7		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.49		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	10	2	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279041** Date Collected: 9/22/2015 10:21 Matrix: Water
Sample ID: **1390-28** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:14	SYB	A
Total Kjeldahl Nitrogen	1.7		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.49		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	5	1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279042** Date Collected: 9/22/2015 10:24 Matrix: Water
Sample ID: **659-7** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.78		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:15	SYB	A
Total Kjeldahl Nitrogen	1.5		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.28		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	15	1	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279043** Date Collected: 9/22/2015 10:26 Matrix: Water
Sample ID: **654-9** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:16	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.09		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	5		col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279044** Date Collected: 9/22/2015 10:28 Matrix: Water
Sample ID: **720-16** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:17	SYB	A
Total Kjeldahl Nitrogen	1.5		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.30		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	1 U	U	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279045** Date Collected: 9/22/2015 10:32 Matrix: Water
Sample ID: **717-59** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.81		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:18	SYB	A
Total Kjeldahl Nitrogen	1.5		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.31		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	1 U	U	col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279046** Date Collected: 9/22/2015 10:35 Matrix: Water
Sample ID: **240-23** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.82		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:19	SYB	A
Total Kjeldahl Nitrogen	1.4		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.22		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	1		col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279047** Date Collected: 9/22/2015 10:38 Matrix: Water
Sample ID: **99-30** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:20	SYB	A
Total Kjeldahl Nitrogen	3.0		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	3.80		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	1		col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279048** Date Collected: 9/22/2015 10:41 Matrix: Water
Sample ID: **849-25** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80	1	mg/L	0.10	0.01	EPA 353.2			9/25/15 15:21	SYB	A
Total Kjeldahl Nitrogen	1.3		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.10		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	2		col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279049** Date Collected: 9/22/2015 10:44 Matrix: Water
Sample ID: **986-26** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:27	SYB	A
Total Kjeldahl Nitrogen	1.5		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.29		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	10		col/100mL	1	1	S9222D-97			9/22/15 18:25	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279050** Date Collected: 9/22/2015 10:46 Matrix: Water
Sample ID: **1129-20** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:28	SYB	A
Total Kjeldahl Nitrogen	1.5		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.30		mg/L	1.00		Calculation			9/30/15 21:48	NJA	A
MICROBIOLOGY											
Fecal Coliform	1 U	U1	col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279051** Date Collected: 9/22/2015 10:50 Matrix: Water
Sample ID: **1364-6** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:29	SYB	A
Total Kjeldahl Nitrogen	1.4		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	DRM	9/29/15 10:00	C_W	A
Total Nitrogen	2.19		mg/L	1.00		Calculation			9/30/15 21:50	NJA	A
MICROBIOLOGY											
Fecal Coliform	5	1	col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279052** Date Collected: 9/22/2015 10:52 Matrix: Water
Sample ID: **1440-8** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:30	SYB	A
Total Kjeldahl Nitrogen	1J	J2	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	J1H	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:49	KLR	A
MICROBIOLOGY											
Fecal Coliform	2	1	col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279053** Date Collected: 9/22/2015 10:55 Matrix: Water
Sample ID: **1439-20** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79	1	mg/L	0.10	0.01	EPA 353.2			9/25/15 15:31	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	J1H	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:49	KLR	A
MICROBIOLOGY											
Fecal Coliform	3	2	col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279054** Date Collected: 9/22/2015 10:58 Matrix: Water
Sample ID: **1438-23** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:34	SYB	A
Total Kjeldahl Nitrogen	0.9J	J	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	J1H	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:49	KLR	A
MICROBIOLOGY											
Fecal Coliform	2	1	col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279055** Date Collected: 9/22/2015 11:00 Matrix: Water
Sample ID: **1363-24** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:35	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	J1H	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:49	KLR	A
MICROBIOLOGY											
Fecal Coliform	4		col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279056** Date Collected: 9/22/2015 11:04 Matrix: Water
Sample ID: **2071-12** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:36	SYB	A
Total Kjeldahl Nitrogen	0.8J	J	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	J1H	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:50	KLR	A
MICROBIOLOGY											
Fecal Coliform	2		col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279057** Date Collected: 9/22/2015 11:07 Matrix: Water
Sample ID: **2012-9** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.77		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:41	SYB	A
Total Kjeldahl Nitrogen	0.9J	J	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	J1H	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:50	KLR	A
MICROBIOLOGY											
Fecal Coliform	3		col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279058** Date Collected: 9/22/2015 11:09 Matrix: Water
Sample ID: **2013-28** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:42	SYB	A
Total Kjeldahl Nitrogen	0.5J	J	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	DRM	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:50	KLR	A
MICROBIOLOGY											
Fecal Coliform	4		col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279059** Date Collected: 9/22/2015 11:12 Matrix: Water
Sample ID: **2014-19** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.80		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:43	SYB	A
Total Kjeldahl Nitrogen	0.5J	J	mg/L	1.0	0.4	S4500NH3G-11	9/25/15	DRM	9/28/15 09:58	C_W	A
Total Nitrogen	1.00 U	U	mg/L	1.00		Calculation			9/30/15 12:50	KLR	A
MICROBIOLOGY											
Fecal Coliform	4		col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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ANALYTICAL RESULTS

Workorder: 2097279 23674.000

Lab ID: **2097279060** Date Collected: 9/22/2015 11:17 Matrix: Water
Sample ID: **714-40** Date Received: 9/22/2015 17:15

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Nitrate/Nitrite-N	0.79		mg/L	0.10	0.01	EPA 353.2			9/25/15 15:44	SYB	A
Total Kjeldahl Nitrogen	1.1		mg/L	1.0	0.4	S4500NH3G-11	9/28/15	J1H	9/29/15 10:00	C_W	A
Total Nitrogen	1.89		mg/L	1.00		Calculation			9/30/15 21:50	NJA	A
MICROBIOLOGY											
Fecal Coliform	22		col/100mL	1	1	S9222D-97			9/22/15 19:00	LLJ	B

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2097279005	2	2530-3	EPA 353.2	Nitrate/Nitrite-N
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279007	1	2487-7	S4500NH3G-11	Total Kjeldahl Nitrogen
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279009	2	2486-11	EPA 353.2	Nitrate/Nitrite-N
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279017	1	2376-16	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279018	1	2375-14	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279019	1	2374-4	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279020	1	2422-21	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279021	1	2424-31	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279022	1	2100-6	S4500NH3G-11	Total Kjeldahl Nitrogen
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279022	2	2100-6	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279023	1	1981-10	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279024	1	1689-13	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279025	1	1687-12	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279026	1	2090-33	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279027	1	2146-25	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279028	1	2089-27	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279029	1	2088-29	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279030	1	2087-17	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279031	1	2144-13	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279033	1	630-8	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279034	1	686-19	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279035	1	809-17	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				

ANALYTICAL RESULTS

Workorder: 2097279 23674.000

2097279036	1	543-21	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279037	1	55-14	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279038	1	1547-29	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279038	2	1547-29	S4500NH3G-11	Total Kjeldahl Nitrogen
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279039	1	1787-44	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279040	1	1321-5	EPA 353.2	Nitrate/Nitrite-N
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279040	2	1321-5	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279041	1	1390-28	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279042	1	659-7	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279048	1	849-25	EPA 353.2	Nitrate/Nitrite-N
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279050	1	1129-20	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279051	1	1364-6	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279052	1	1440-8	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279052	2	1440-8	S4500NH3G-11	Total Kjeldahl Nitrogen
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279053	1	1439-20	EPA 353.2	Nitrate/Nitrite-N
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097279053	2	1439-20	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				
2097279054	1	1438-23	S9222D-97	Fecal Coliform
Analyte was analyzed past the 8 hour holding time.				

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WCPR/33577 **Analysis Method:** S4500NH3G-11

QC Batch Method: S4500NH3G-11

Associated Lab Samples: 2097279001, 2097279002, 2097279003, 2097279004, 2097279005, 2097279006

METHOD BLANK: 2236858

Parameter	Blank Result	Units	Reporting Limit
Total Kjeldahl Nitrogen	0.7J	mg/L	1.0

LABORATORY CONTROL SAMPLE: 2236859

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Kjeldahl Nitrogen	97.2	mg/L	20	19.4	90 - 110

MATRIX SPIKE SAMPLE: 2236860 ORIGINAL: 2097125001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Kjeldahl Nitrogen	150.724	mg/L	40	176.676	64.9*	90 - 110

SAMPLE DUPLICATE: 2236861 ORIGINAL: 2097148001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	72.228	mg/L	71.188	1.45	10

SAMPLE DUPLICATE: 2236862 ORIGINAL: 2097279001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	.819	mg/L	.726	12*	10

QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WCPR/33578 **Analysis Method:** S4500NH3G-11

QC Batch Method: S4500NH3G-11

Associated Lab Samples: 2097279007, 2097279008, 2097279009, 2097279010, 2097279011, 2097279012, 2097279013, 2097279014, 2097279015, 2097279016, 2097279017, 2097279018, 2097279019, 2097279020, 2097279021

METHOD BLANK: 2236863

Parameter	Blank Result	Units	Reporting Limit
Total Kjeldahl Nitrogen	0.4J	mg/L	1.0

LABORATORY CONTROL SAMPLE: 2236864

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Kjeldahl Nitrogen	99.2	mg/L	20	19.8	90 - 110

MATRIX SPIKE SAMPLE: 2236865 ORIGINAL: 2097279007

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Kjeldahl Nitrogen	1.154	mg/L	10	9.777	86.2*	90 - 110

SAMPLE DUPLICATE: 2236866 ORIGINAL: 2097279013

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	1.269	mg/L	1.147	10.1*	10

SAMPLE DUPLICATE: 2236867 ORIGINAL: 2097279020

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	1.16	mg/L	1.302	11.5*	10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WCPR/33579 **Analysis Method:** S4500NH3G-11

QC Batch Method: S4500NH3G-11

Associated Lab Samples: 2097279022, 2097279023, 2097279024, 2097279025, 2097279026, 2097279027, 2097279028, 2097279029, 2097279030, 2097279031, 2097279032, 2097279033, 2097279034, 2097279035, 2097279036

METHOD BLANK: 2236868

Parameter	Blank Result	Units	Reporting Limit
Total Kjeldahl Nitrogen	0.6J	mg/L	1.0

LABORATORY CONTROL SAMPLE: 2236869

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Kjeldahl Nitrogen	100	mg/L	20	20.0	90 - 110

MATRIX SPIKE SAMPLE: 2236870 ORIGINAL: 2097279022

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Kjeldahl Nitrogen	.797	mg/L	10	4.854	40.6*	90 - 110

SAMPLE DUPLICATE: 2236871 ORIGINAL: 2097279029

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	.79	mg/L	.82	3.73	10

SAMPLE DUPLICATE: 2236872 ORIGINAL: 2097279036

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	.748	mg/L	.798	6.47	10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WCPR/33593 **Analysis Method:** S4500NH3G-11

QC Batch Method: S4500NH3G-11

Associated Lab Samples: 2097279052, 2097279053, 2097279054, 2097279055, 2097279056, 2097279057

METHOD BLANK: 2237564

Parameter	Blank Result	Units	Reporting Limit
Total Kjeldahl Nitrogen	0.5J	mg/L	1.0

SAMPLE DUPLICATE: 2237566 ORIGINAL: 2097275003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	50.264	mg/L	49.392	1.75	10

SAMPLE DUPLICATE: 2237567 ORIGINAL: 2097529001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	.539	mg/L	.52	3.59	10

MATRIX SPIKE SAMPLE: 2237568 ORIGINAL: 2097279052

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Kjeldahl Nitrogen	.956	mg/L	10	5.959	50*	90 - 110

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WCPR/33598 **Analysis Method:** S4500NH3G-11

QC Batch Method: S4500NH3G-11

Associated Lab Samples: 2097279058, 2097279059

METHOD BLANK: 2237703

Parameter	Blank Result	Units	Reporting Limit
Total Kjeldahl Nitrogen	0.5J	mg/L	1.0

LABORATORY CONTROL SAMPLE: 2237704

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Kjeldahl Nitrogen	100	mg/L	20	20.0	90 - 110

MATRIX SPIKE SAMPLE: 2237705 ORIGINAL: 2097670001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Kjeldahl Nitrogen	.696	mg/L	10	9.648	89.5*	90 - 110

SAMPLE DUPLICATE: 2237707 ORIGINAL: 2097674001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	1.34	mg/L	.471	96*	10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WCPR/33607 **Analysis Method:** S4500NH3G-11

QC Batch Method: S4500NH3G-11

Associated Lab Samples: 2097279037, 2097279038, 2097279039, 2097279040, 2097279041, 2097279042, 2097279043, 2097279044, 2097279045, 2097279046, 2097279047, 2097279048, 2097279049, 2097279050, 2097279051

METHOD BLANK: 2238420

Parameter	Blank Result	Units	Reporting Limit
Total Kjeldahl Nitrogen	0.7J	mg/L	1.0

LABORATORY CONTROL SAMPLE: 2238421

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Kjeldahl Nitrogen	98.3	mg/L	20	19.7	90 - 110

MATRIX SPIKE SAMPLE: 2238422 ORIGINAL: 2097279038

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Kjeldahl Nitrogen	1.726	mg/L	10	8.475	67.5*	90 - 110

SAMPLE DUPLICATE: 2238423 ORIGINAL: 2097279042

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	1.496	mg/L	1.609	7.28	10

SAMPLE DUPLICATE: 2238424 ORIGINAL: 2097279050

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	1.487	mg/L	1.52	2.19	10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WCPR/33609 **Analysis Method:** S4500NH3G-11

QC Batch Method: S4500NH3G-11

Associated Lab Samples: 2097279060

METHOD BLANK: 2238661

Parameter	Blank Result	Units	Reporting Limit
Total Kjeldahl Nitrogen	0.6J	mg/L	1.0

LABORATORY CONTROL SAMPLE: 2238662

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Kjeldahl Nitrogen	97.3	mg/L	20	19.5	90 - 110

SAMPLE DUPLICATE: 2238663 ORIGINAL: 2097279060

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	1.12	mg/L	1.124	.36	10

MATRIX SPIKE SAMPLE: 2238664 ORIGINAL: 2097182001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Kjeldahl Nitrogen	2.653	mg/L	10	16.111	135*	90 - 110

SAMPLE DUPLICATE: 2238665 ORIGINAL: 2098193001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Total Kjeldahl Nitrogen	17.902	mg/L	15.642	13.5*	10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WETC/160101 **Analysis Method:** EPA 353.2

QC Batch Method: EPA 353.2

Associated Lab Samples: 2097279001, 2097279002, 2097279003, 2097279004, 2097279006, 2097279007, 2097279008

METHOD BLANK: 2238000

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2237883 ORIGINAL: 2097520002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	.417	mg/L	.418	.24	10

MATRIX SPIKE SAMPLE: 2237884 ORIGINAL: 2097520002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.417	mg/L	2	2.912	125*	90 - 110

METHOD BLANK: 2238002

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2237885 ORIGINAL: 2097018007

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	2.408	mg/L	2.411	.12	10

QUALITY CONTROL DATA

Workorder: 2097279 23674.000

MATRIX SPIKE SAMPLE: 2237886 ORIGINAL: 2097018007

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	2.408	mg/L	2	4.361	97.7	90 - 110

METHOD BLANK: 2238004

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2237887 ORIGINAL: 2097146001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	15.34	mg/L	15.605	1.71	10

METHOD BLANK: 2238006

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

METHOD BLANK: 2238008

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WETC/160114 **Analysis Method:** EPA 353.2

QC Batch Method: EPA 353.2

Associated Lab Samples: 2097279010, 2097279011, 2097279012, 2097279013, 2097279014, 2097279015, 2097279016, 2097279017, 2097279018, 2097279019, 2097279020, 2097279021, 2097279022, 2097279023, 2097279024, 2097279025, 2097279026, 2097279027, 2097279028, 2097279029, 2097279030, 2097279031, 2097279032

METHOD BLANK: 2238032

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

MATRIX SPIKE SAMPLE: 2237978 ORIGINAL: 2097279015

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.793	mg/L	10	9.415	86.2*	90 - 110

MATRIX SPIKE SAMPLE: 2237979 ORIGINAL: 2097279015

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.793	mg/L	10	20.19	194*	90 - 110

METHOD BLANK: 2238034

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

MATRIX SPIKE SAMPLE: 2237980 ORIGINAL: 2097279022

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.787	mg/L	10	9.115	83.3*	90 - 110

QUALITY CONTROL DATA

Workorder: 2097279 23674.000

MATRIX SPIKE SAMPLE: 2237981 ORIGINAL: 2097279022

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.787	mg/L	10	20.16	194*	90 - 110

METHOD BLANK: 2238036

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

MATRIX SPIKE SAMPLE: 2237982 ORIGINAL: 2097279029

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.766	mg/L	4	3.712	73.7*	90 - 110

MATRIX SPIKE SAMPLE: 2237983 ORIGINAL: 2097279029

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.766	mg/L	4	8.3	188*	90 - 110

METHOD BLANK: 2238038

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

MATRIX SPIKE SAMPLE: 2237984 ORIGINAL: 2097537001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	4.002	mg/L	4	3.882	-3*	90 - 110

MATRIX SPIKE SAMPLE: 2237985 ORIGINAL: 2097537001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	4.002	mg/L	4	8.442	111*	90 - 110

METHOD BLANK: 2238040

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WETC/160115 **Analysis Method:** EPA 353.2

QC Batch Method: EPA 353.2

Associated Lab Samples: 2097279005, 2097279033, 2097279034, 2097279035, 2097279036, 2097279037, 2097279038, 2097279039, 2097279040, 2097279041, 2097279042, 2097279043, 2097279044, 2097279045, 2097279046, 2097279047, 2097279048, 2097279049, 2097279050, 2097279051, 2097279052, 2097279053, 2097279054, 2097279055, 2097279056, 2097279057, 2097279058, 2097279059, 2097279060

METHOD BLANK: 2238042

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2238015 ORIGINAL: 2097279040

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	.788	mg/L	.794	.76	10

MATRIX SPIKE SAMPLE: 2238016 ORIGINAL: 2097279040

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.788	mg/L	2	3.535	137*	90 - 110

METHOD BLANK: 2238044

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2238017 ORIGINAL: 2097279048

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	.8	mg/L	.806	.75	10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

MATRIX SPIKE SAMPLE: 2238018 ORIGINAL: 2097279048

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.8	mg/L	2	2.466	83.3*	90 - 110

METHOD BLANK: 2238046

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2238019 ORIGINAL: 2097279053

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	.785	mg/L	.785	0	10

MATRIX SPIKE SAMPLE: 2238020 ORIGINAL: 2097279053

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.785	mg/L	2	3.473	134*	90 - 110

METHOD BLANK: 2238048

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2237889 ORIGINAL: 2097279005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	.772	mg/L	.776	.52	10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

MATRIX SPIKE SAMPLE: 2237890 ORIGINAL: 2097279005

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.772	mg/L	2	3.443	134*	90 - 110

METHOD BLANK: 2238050

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

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QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WETC/160234 **Analysis Method:** EPA 353.2

QC Batch Method: EPA 353.2

Associated Lab Samples:

METHOD BLANK: 2239548

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

METHOD BLANK: 2239550

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

METHOD BLANK: 2239552

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

METHOD BLANK: 2239554

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

METHOD BLANK: 2239556

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2097279 23674.000

QC Batch: WETC/160245 **Analysis Method:** EPA 353.2

QC Batch Method: EPA 353.2

Associated Lab Samples: 2097279009

METHOD BLANK: 2239614

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2239373 ORIGINAL: 2096199001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	9.015	mg/L	8.895	1.34	10

MATRIX SPIKE SAMPLE: 2239374 ORIGINAL: 2096199001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	9.015	mg/L	10	20.665	117*	90 - 110

SAMPLE DUPLICATE: 2239375 ORIGINAL: 2096657001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	.638	mg/L	.604	5.48	10

MATRIX SPIKE SAMPLE: 2239376 ORIGINAL: 2096657001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.638	mg/L	4	5.076	111*	90 - 110

QUALITY CONTROL DATA

Workorder: 2097279 23674.000

METHOD BLANK: 2239616

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2239377 ORIGINAL: 2096739002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	3.062	mg/L	3.014	1.58	10

MATRIX SPIKE SAMPLE: 2239378 ORIGINAL: 2096739002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	3.062	mg/L	4	7.768	118*	90 - 110

METHOD BLANK: 2239618

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2239379 ORIGINAL: 2097279009

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	.732	mg/L	.721	1.51	10

MATRIX SPIKE SAMPLE: 2239380 ORIGINAL: 2097279009

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	.732	mg/L	2	3.172	122*	90 - 110

QUALITY CONTROL DATA

Workorder: 2097279 23674.000

METHOD BLANK: 2239620

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

SAMPLE DUPLICATE: 2239439 ORIGINAL: 2097715001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Nitrate/Nitrite-N	6.385	mg/L	6.7	4.81	10

MATRIX SPIKE SAMPLE: 2239440 ORIGINAL: 2097715001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Nitrate/Nitrite-N	6.385	mg/L	10	17.875	115*	90 - 110

METHOD BLANK: 2239622

Parameter	Blank Result	Units	Reporting Limit
Nitrate/Nitrite-N	0.10 U	mg/L	0.10

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279001	2637-11	S4500NH3G-11	WCPR/33577	S4500NH3G-11	WETC/160108
2097279002	2648-2	S4500NH3G-11	WCPR/33577	S4500NH3G-11	WETC/160108
2097279003	2344-15	S4500NH3G-11	WCPR/33577	S4500NH3G-11	WETC/160108
2097279004	2441-10	S4500NH3G-11	WCPR/33577	S4500NH3G-11	WETC/160108
2097279005	2530-3	S4500NH3G-11	WCPR/33577	S4500NH3G-11	WETC/160108
2097279006	2529-30	S4500NH3G-11	WCPR/33577	S4500NH3G-11	WETC/160108
2097279007	2487-7	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279008	2439-22	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279009	2486-11	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279010	2528-1	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279011	2527-26	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279012	2485-5	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279013	2288-24	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279014	2482-3	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279015	2064-4	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279016	1821-18	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279017	2376-16	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279018	2375-14	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279019	2374-4	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279020	2422-21	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279021	2424-31	S4500NH3G-11	WCPR/33578	S4500NH3G-11	WETC/160119
2097279022	2100-6	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279023	1981-10	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279024	1689-13	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279025	1687-12	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279026	2090-33	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279027	2146-25	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279028	2089-27	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279029	2088-29	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279030	2087-17	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279031	2144-13	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279032	2143-2	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279033	630-8	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279034	686-19	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279035	809-17	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279036	543-21	S4500NH3G-11	WCPR/33579	S4500NH3G-11	WETC/160119
2097279017	2376-16			S9222D-97	MICR/51083
2097279018	2375-14			S9222D-97	MICR/51083
2097279019	2374-4			S9222D-97	MICR/51083
2097279020	2422-21			S9222D-97	MICR/51083
2097279021	2424-31			S9222D-97	MICR/51083
2097279022	2100-6			S9222D-97	MICR/51083
2097279023	1981-10			S9222D-97	MICR/51083
2097279024	1689-13			S9222D-97	MICR/51083
2097279025	1687-12			S9222D-97	MICR/51083
2097279026	2090-33			S9222D-97	MICR/51083
2097279027	2146-25			S9222D-97	MICR/51083
2097279028	2089-27			S9222D-97	MICR/51083
2097279029	2088-29			S9222D-97	MICR/51083
2097279030	2087-17			S9222D-97	MICR/51083
2097279031	2144-13			S9222D-97	MICR/51083
2097279032	2143-2			S9222D-97	MICR/51083
2097279033	630-8			S9222D-97	MICR/51084
2097279034	686-19			S9222D-97	MICR/51084
2097279035	809-17			S9222D-97	MICR/51084
2097279036	543-21			S9222D-97	MICR/51084
2097279037	55-14			S9222D-97	MICR/51084
2097279038	1547-29			S9222D-97	MICR/51084
2097279039	1787-44			S9222D-97	MICR/51084
2097279040	1321-5			S9222D-97	MICR/51084

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279041	1390-28			S9222D-97	MICR/51084
2097279042	659-7			S9222D-97	MICR/51084
2097279043	654-9			S9222D-97	MICR/51084
2097279044	720-16			S9222D-97	MICR/51084
2097279045	717-59			S9222D-97	MICR/51084
2097279046	240-23			S9222D-97	MICR/51084
2097279047	99-30			S9222D-97	MICR/51084
2097279048	849-25			S9222D-97	MICR/51084
2097279049	986-26			S9222D-97	MICR/51084
2097279050	1129-20			S9222D-97	MICR/51085
2097279051	1364-6			S9222D-97	MICR/51085
2097279052	1440-8			S9222D-97	MICR/51085
2097279053	1439-20			S9222D-97	MICR/51085
2097279054	1438-23			S9222D-97	MICR/51085
2097279055	1363-24			S9222D-97	MICR/51085
2097279056	2071-12			S9222D-97	MICR/51085
2097279057	2012-9			S9222D-97	MICR/51085
2097279058	2013-28			S9222D-97	MICR/51085
2097279059	2014-19			S9222D-97	MICR/51085
2097279060	714-40			S9222D-97	MICR/51085
2097279052	1440-8	S4500NH3G-11	WCPR/33593	S4500NH3G-11	WETC/160237
2097279053	1439-20	S4500NH3G-11	WCPR/33593	S4500NH3G-11	WETC/160237
2097279054	1438-23	S4500NH3G-11	WCPR/33593	S4500NH3G-11	WETC/160237
2097279055	1363-24	S4500NH3G-11	WCPR/33593	S4500NH3G-11	WETC/160237
2097279056	2071-12	S4500NH3G-11	WCPR/33593	S4500NH3G-11	WETC/160237
2097279057	2012-9	S4500NH3G-11	WCPR/33593	S4500NH3G-11	WETC/160237
2097279058	2013-28	S4500NH3G-11	WCPR/33598	S4500NH3G-11	WETC/160237
2097279059	2014-19	S4500NH3G-11	WCPR/33598	S4500NH3G-11	WETC/160237

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279001	2637-11			EPA 353.2	WETC/160101
2097279002	2648-2			EPA 353.2	WETC/160101
2097279003	2344-15			EPA 353.2	WETC/160101
2097279004	2441-10			EPA 353.2	WETC/160101
2097279006	2529-30			EPA 353.2	WETC/160101
2097279007	2487-7			EPA 353.2	WETC/160101
2097279008	2439-22			EPA 353.2	WETC/160101
2097279010	2528-1			EPA 353.2	WETC/160114
2097279011	2527-26			EPA 353.2	WETC/160114
2097279012	2485-5			EPA 353.2	WETC/160114
2097279013	2288-24			EPA 353.2	WETC/160114
2097279014	2482-3			EPA 353.2	WETC/160114
2097279015	2064-4			EPA 353.2	WETC/160114
2097279016	1821-18			EPA 353.2	WETC/160114
2097279017	2376-16			EPA 353.2	WETC/160114
2097279018	2375-14			EPA 353.2	WETC/160114
2097279019	2374-4			EPA 353.2	WETC/160114
2097279020	2422-21			EPA 353.2	WETC/160114
2097279021	2424-31			EPA 353.2	WETC/160114
2097279022	2100-6			EPA 353.2	WETC/160114
2097279023	1981-10			EPA 353.2	WETC/160114
2097279024	1689-13			EPA 353.2	WETC/160114
2097279025	1687-12			EPA 353.2	WETC/160114
2097279026	2090-33			EPA 353.2	WETC/160114
2097279027	2146-25			EPA 353.2	WETC/160114
2097279028	2089-27			EPA 353.2	WETC/160114
2097279029	2088-29			EPA 353.2	WETC/160114
2097279030	2087-17			EPA 353.2	WETC/160114
2097279031	2144-13			EPA 353.2	WETC/160114
2097279032	2143-2			EPA 353.2	WETC/160114

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279005	2530-3			EPA 353.2	WETC/160115
2097279033	630-8			EPA 353.2	WETC/160115
2097279034	686-19			EPA 353.2	WETC/160115
2097279035	809-17			EPA 353.2	WETC/160115
2097279036	543-21			EPA 353.2	WETC/160115
2097279037	55-14			EPA 353.2	WETC/160115
2097279038	1547-29			EPA 353.2	WETC/160115
2097279039	1787-44			EPA 353.2	WETC/160115
2097279040	1321-5			EPA 353.2	WETC/160115
2097279041	1390-28			EPA 353.2	WETC/160115
2097279042	659-7			EPA 353.2	WETC/160115
2097279043	654-9			EPA 353.2	WETC/160115
2097279044	720-16			EPA 353.2	WETC/160115
2097279045	717-59			EPA 353.2	WETC/160115
2097279046	240-23			EPA 353.2	WETC/160115
2097279047	99-30			EPA 353.2	WETC/160115
2097279048	849-25			EPA 353.2	WETC/160115
2097279049	986-26			EPA 353.2	WETC/160115
2097279050	1129-20			EPA 353.2	WETC/160115
2097279051	1364-6			EPA 353.2	WETC/160115
2097279052	1440-8			EPA 353.2	WETC/160115
2097279053	1439-20			EPA 353.2	WETC/160115
2097279054	1438-23			EPA 353.2	WETC/160115
2097279055	1363-24			EPA 353.2	WETC/160115
2097279056	2071-12			EPA 353.2	WETC/160115
2097279057	2012-9			EPA 353.2	WETC/160115
2097279058	2013-28			EPA 353.2	WETC/160115
2097279059	2014-19			EPA 353.2	WETC/160115
2097279060	714-40			EPA 353.2	WETC/160115
2097279037	55-14	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279038	1547-29	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279039	1787-44	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279040	1321-5	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279041	1390-28	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279042	659-7	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279043	654-9	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279044	720-16	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279045	717-59	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279046	240-23	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279047	99-30	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279048	849-25	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279049	986-26	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279050	1129-20	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279051	1364-6	S4500NH3G-11	WCPR/33607	S4500NH3G-11	WETC/160257
2097279060	714-40	S4500NH3G-11	WCPR/33609	S4500NH3G-11	WETC/160257
2097279009	2486-11			EPA 353.2	WETC/160245
2097279037	55-14			Calculation	WETC/160318
2097279038	1547-29			Calculation	WETC/160318
2097279039	1787-44			Calculation	WETC/160318
2097279040	1321-5			Calculation	WETC/160318
2097279041	1390-28			Calculation	WETC/160318
2097279042	659-7			Calculation	WETC/160318
2097279043	654-9			Calculation	WETC/160318
2097279044	720-16			Calculation	WETC/160318
2097279045	717-59			Calculation	WETC/160318
2097279046	240-23			Calculation	WETC/160318
2097279047	99-30			Calculation	WETC/160318
2097279048	849-25			Calculation	WETC/160318
2097279049	986-26			Calculation	WETC/160318
2097279050	1129-20			Calculation	WETC/160318

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279051	1364-6			Calculation	WETC/160319
2097279060	714-40			Calculation	WETC/160319
2097279001	2637-11	Calculation	WETC/0	Calculation	WETC/0
2097279002	2648-2	Calculation	WETC/0	Calculation	WETC/0
2097279003	2344-15	Calculation	WETC/0	Calculation	WETC/0
2097279004	2441-10	Calculation	WETC/0	Calculation	WETC/0
2097279005	2530-3	Calculation	WETC/0	Calculation	WETC/0
2097279006	2529-30	Calculation	WETC/0	Calculation	WETC/0
2097279007	2487-7	Calculation	WETC/0	Calculation	WETC/0
2097279008	2439-22	Calculation	WETC/0	Calculation	WETC/0
2097279009	2486-11	Calculation	WETC/0	Calculation	WETC/0
2097279010	2528-1	Calculation	WETC/0	Calculation	WETC/0
2097279011	2527-26	Calculation	WETC/0	Calculation	WETC/0
2097279012	2485-5	Calculation	WETC/0	Calculation	WETC/0
2097279013	2288-24	Calculation	WETC/0	Calculation	WETC/0
2097279014	2482-3	Calculation	WETC/0	Calculation	WETC/0
2097279015	2064-4	Calculation	WETC/0	Calculation	WETC/0
2097279016	1821-18	Calculation	WETC/0	Calculation	WETC/0
2097279017	2376-16	Calculation	WETC/0	Calculation	WETC/0
2097279018	2375-14	Calculation	WETC/0	Calculation	WETC/0
2097279019	2374-4	Calculation	WETC/0	Calculation	WETC/0
2097279020	2422-21	Calculation	WETC/0	Calculation	WETC/0
2097279021	2424-31	Calculation	WETC/0	Calculation	WETC/0
2097279022	2100-6	Calculation	WETC/0	Calculation	WETC/0
2097279023	1981-10	Calculation	WETC/0	Calculation	WETC/0
2097279024	1689-13	Calculation	WETC/0	Calculation	WETC/0
2097279025	1687-12	Calculation	WETC/0	Calculation	WETC/0
2097279026	2090-33	Calculation	WETC/0	Calculation	WETC/0
2097279027	2146-25	Calculation	WETC/0	Calculation	WETC/0
2097279028	2089-27	Calculation	WETC/0	Calculation	WETC/0
2097279029	2088-29	Calculation	WETC/0	Calculation	WETC/0
2097279030	2087-17	Calculation	WETC/0	Calculation	WETC/0

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097279 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097279031	2144-13	Calculation	WETC/0	Calculation	WETC/0
2097279032	2143-2	Calculation	WETC/0	Calculation	WETC/0
2097279033	630-8	Calculation	WETC/0	Calculation	WETC/0
2097279034	686-19	Calculation	WETC/0	Calculation	WETC/0
2097279035	809-17	Calculation	WETC/0	Calculation	WETC/0
2097279036	543-21	Calculation	WETC/0	Calculation	WETC/0
2097279052	1440-8	Calculation	WETC/0	Calculation	WETC/0
2097279053	1439-20	Calculation	WETC/0	Calculation	WETC/0
2097279054	1438-23	Calculation	WETC/0	Calculation	WETC/0
2097279055	1363-24	Calculation	WETC/0	Calculation	WETC/0
2097279056	2071-12	Calculation	WETC/0	Calculation	WETC/0
2097279057	2012-9	Calculation	WETC/0	Calculation	WETC/0
2097279058	2013-28	Calculation	WETC/0	Calculation	WETC/0
2097279059	2014-19	Calculation	WETC/0	Calculation	WETC/0

SUBBED OUT to Garden State

VAF

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 5 of 12

Courier:
Tracking #:

* 2 0 9 7 2 7 9 *

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler — Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): — PO#:

Project Name/#: 23674.000 — ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? ☒ Y enestler@normandeau.com
Fax? ☐ Y No.:

***Container Type					PL	PL
***Container Size					125mL	500mL
***Preservative					Na2S2O3	H2SO4
					ANALYSES/METHOD REQUESTED	
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C / **Matrix	Fecal Coliform	TKN, NO2/NO3, TN
1 2637-11		9/22/15	0749		1	1
2 2648-2		↓	0754		1	1
3 2344-15			0805		1	1
4 2441-10			0815		1	1
5 2530-3			0818		1	1
6 2529-30			0821		1	1
7 2487-7			0825		1	1
8 2439-22		↓	0829		1	1

Enter Number of Containers Per Analysis

VMb 09123/15 0519

Cooler Temp: 2.0°
Therm. ID: 30-03
No. of Coolers: 1
Notes:

Circle appropriate Y or N: Correct containers? Y; Correct sample volume? Y; Correct preservation? Y; Headspace/Volatiles? Y; Custody seals Present? N; (If present) Seals intact? N; Received on ice? Y; COC/Labels complete/accurate? Y; Container in good condition? Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1155	2	[signature]	9/22	1159
3 [signature]	9/22/15	1429	4	[signature] Collier	9/22/15	1429
5 [signature] Collier	9/22/15	1552	6	D. Bl[illegible] ALS	9-22-15	1552
7 D. Bl[illegible] ALS	9-22-15	1715	8	[signature] LHS	9/22	1716
9			10			

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ [illegible]
EDDs Required? ☒ If yes, format type: In Excel
DOD Criteria Required?

SDWA Forms? yes ☐ yes ☐ yes ☐ yes ☐ Other
State Samples Collected In? MD ☐ NJ ☐ NY ☒ PA ☐

ALS FIELD SERVICES: ☒ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY — Rev 01-2013

VAF

SUB 320 out to Gardenstate

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 6 of 12

Courier:

Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603)472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No.:

							***Container Type	PL	PL														
							***Container Size	125mL	500mL														
							*** Preservative	H_2SO_4	H_2SO_4														
							ANALYSES/METHOD REQUESTED																
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN																
						Enter Number of Containers Per Analysis																	
1 2486-11		9/22/15	0832			1	1																
2 2528-1			0836			1	1																
3 2527-26			0839			1	1																
4 2485-5			0845			1	1																
5 2288-24			0846			1	1																
6 2482-3			0850			1	1																
7 2064-4			0853			1	1																
8 1821-18			0858			1	1																

LMG 09/23/15 0519

Receipt Information (completed by Sample Receiver)

Performed by:

Cooler Temp:

Therm. ID: 309

No. of Coolers:

Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y N	Y N	Y N	Y N	
Custody seals Present?	Custody seals Intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y N	Y N	Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments:

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other

SDWA Forms? ⇒ yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected in? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1159	2 [signature]	9/22	1159
3 [signature]	9/22	1429	4 [signature]	9/22/15	1429
5 [signature]	9/22/15	1552	6 D. Blanchard ALS	9-22-15	1552
7 D. Blanchard ALS	9-22-15	1715	8 [signature] / ALS	9/22	1715
9			10		

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

JAF

Page 7 of 12

Courier:
Tracking #:

COC# 279

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] -Y enestler@normandeau.com
Fax? [ ] -Y No.:

	***Container Type	PL	PL
	***Container Size	125mL	500mL
	*** Preservative	$Na_2S_2O_3$	H_2SO_4
	*G or C		
	**Matrix		
	ANALYSES/METHOD REQUESTED	Fecal Coliform	TKN, NO_2/NO_3, TN

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN
1	2376-16		9/22/15	0903			1	1
2	2375-14			0906			1	1
3	2374-4			0909			1	1
4	2422-21			0912			1	1
5	2424-31	MICRO REC'D 9/22/15 1715		0916			1	1
6	2100-6			0921			1	1
7	1981-10			0924			1	1
8	1689-13			0928			1	1

Enter Number of Containers Per Analysis

UMG 09/23/15 0519

Receipt Information (completed by Sample Receiver)
Relinquished by: Received by:
Cooler Temp: 3°C
Therm. ID: 309
No. of Coolers: 2
Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	Thu	1459	2	9/22	1105
3	9/22	1429	4	9/22/15	1429
5 Paul Collins	9/22/15	1552	6 D. Blank ALL	9-22-15	1552
7 D. Blank ALL	9-22-15	1715	8	9/22	1715
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Other
ERO/PASI#

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VRF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. Date Required:
[ ] Rush-Subject to ALS approval and surcharges. Approved By:

Email? [X] -Y enestler@normandeau.com
Fax? [ ] -Y No.:

							***Container Type	PL	PL														
							***Container Size	125ml	500ml														
							*** Preservative	$Na_2S_2O_3$	H_2SO_4														
							ANALYSES/METHOD REQUESTED																
								Fecal Coliform	TKN, NO_2/NO_3, TN														
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis																	
1 1687-12		9/22/15	0932					1	1														
2 2090-33			0937					1	1														
3 2146-25			0939					1	1														
4 2089-27			0942					1	1														
5 2088-29	MICRO REC'D ABB 9/22/15		0944					1	1														
6 2087-17			0947					1	1														
7 2144-13			0950					1	1														
8 2143-2			0952					1	1														

UMG 09/23/15 0519

Receipt Information (completed by Sample Receiving)
Performed by:
Cooler Temp: 2.2
Therm. ID: 309
No. of Coolers: 7
Notes:

	1	2	3	4	5	6	7	8
Correct containers?	Y	N	N	N	Y	N	N	N
Correct sample volume?	Y	N	N	N	Y	N	N	N
Correct preservation?	Y	N	N	N	Y	N	N	N
Headspace/Volatiles?	Y	N	N	N	Y	N	N	N
Circle appropriate Y or N.								
Custody seals Present?	Y	Y	Y	Y	Y	Y	Y	Y
Seals intact? (if present)	Y	Y	Y	Y	Y	Y	Y	Y
Received on ice?	Y	Y	Y	Y	Y	Y	Y	Y
COC/Labels complete/accurate?	Y	Y	Y	Y	Y	Y	Y	Y
Container in good condition?	Y	Y	Y	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1159	2 [illegible]	9/22	1159
3 [illegible]	9/22/15	1429	4 Paul Collier	9/22/15	1429
5 Paul Collier	9/22/15	1552	6 D. Blanchard ALS	9/22/15	1552
7 D. Blanchard ALS	9/22/15	1715	8 [illegible] ALS	9/22	1715
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite **Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 9 of 12

Courier:

Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603)472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] Y enestler@normandeau.com

Fax? [ ] Y No.:

	***Container Type	***Container Size	** Preservative	Fecal Coliform	TKN, NO_2/NO_3, TN
	PL	PL			
	125mL	500mL			
	$Na_2S_2O_3$	H_2SO_4			

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN							
							Enter Number of Containers Per Analysis								
1	630-8		9/22/15	0957			1	1							
2	686-19			1000			1	1							
3	809-17			1004			1	1							
4	543-21			1006			1	1							
5	55-14	MICRO REC'D AB 9/22/15 1715		1009			1	1							
6	1547-29			1012			1	1							
7	1787-44			1016			1	1							
8	1321-5			1019			1	1							

UPG 09/23/15 0519

Receipt Information (completed by Sample Receiving)

Performed by:

Cooler Temp: 2.8

Therm. ID: 309

No. of Coolers: 2

Notes:

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?	Correct containers?	Correct sample volume?	Correct preservation?	Has correct VOC bottles?	Circle appropriate Y or N.
	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Y	Y	Y	Y	Y	Y	Y	Y	Y	

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Gilbert Normandeau	9/22	1159	2 [signature]	9/22	1159
3 [signature]	9/22/15	1429	4 Paul Collins	9/22/15	1429
5 Paul Collins	9/22/15	1552	6 D. Blank AIS	9/22/15	1552
7 D. Blank AIS	9/22/15	1715	8 [signature] AIS	9/22	1715
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.
Contact (Reports): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN							
	***Container Type						PL	PL							
	***Container Size						125mL	500mL							
	*** Preservative						$Na_2S_2O_3$	H_2SO_4							
1	1390-28		9/22/15	1021			1	1							
2	659-7			1024			1	1							
3	654-9			1026			1	1							
4	720-16			1028			1	1							
5	717-59	MICRO REC'D 9/22/15 1715		1032			1	1							
6	240-23			1035			1	1							
7	99-30			1038			1	1							
8	849-25			1041			1	1							

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiver): Relinquished by: Cooler Temp: 22 Therm. ID: 319 No. of Coolers: 1 Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y	Y	Y	Y	Y	
N	N	N	N	N	

	Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
Y	Y	Y	Y	Y	
N	N	N	N	N	

UMA 09/22/15 0519

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1155	2 [illegible]	9/22	1155
3 [illegible]	9/22	1419	4 Paul Collier	9/22/15	1439
5 Paul Collier	9/22/15	1532	6 D. Blanch ALS	9/22/15	1532
7 D. Blanch AD	9/22/15	1715	8 [illegible] ALS	9/22	1715
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ other

SDWA Forms? yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐ Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2, NO_3, TN								
	***Container Type						PL	PL								
	***Container Size						125mL	500mL								
	*** Preservative						$Na_2S_2O_3$	H_2SO_4								
1	986-26		9/22/15	1044			1	1								
2	1129-20			1046			1	1								
3	1364-6			1050			1	1								
4	1440-8			1052			1	1								
5	1439-20	MICRO RECD 9/22/15 1715		1055			1	1								
6	1438-23			1058			1	1								
7	1363-24			1100			1	1								
8	2071-12			1104			1	1								

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

LMG 09/23/15 0519

Receipt Information (completed by Sample Receiver)
Performed by: [signature] Date/Time
Cooler Temp: 2°C
Therm. ID: 309
No. of Coolers: 2
Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?
	Y	Y	Y	Y

Circle appropriate Y or N.	Custody seals Present?	(if present) seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):
Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1459	2 [signature]	9/22	1154
3 [signature]	9/22	1429	4 Paul Collie	9/22/15	1429
5 Paul Collie	9/22/15	1552	6 P. Blanch ALS	9-22-15	1552
7 D. Blanch ALS	9-22-15	1715	8 [signature]	9/22	1715
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] new
SDWA Forms? ⇒ yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

VAF

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

COC# 279

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y enestler@normandeau.com

Fax? -Y No.:

	***Container Type	***Container Size	*** Preservative
	PL	PL	$Na_2S_2O_3$
	PL	PL	H_2SO_4

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal Coliform	TKN, NO_2/NO_3, TN								
1 2012-9		9/22/15	1107			1	1								
2 2013-28		9/22/15	1109			1	1								
3 2014-19		9/22/15	1112			1	1								
4 714-40		9/22/15	1117			1	1								
5	MICRO REC'D 9/22/15 1715														
6															
7															
8															

Enter Number of Containers Per Analysis

UMA 09/23/15 0519

Receipt Information (completed by Sample Receiving)

Relinquished by: Received by:

Cooler Temp: 3.0

Therm. ID: 309

No. of Coolers: 2

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	Y	Y	Y	Y	
	N	N	N	N	N
	Y	Y	Y	Y	Y

	Custody seals Present?	(If present) Seals Intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1	9/22	1109	2	9/22	1109
3	9/22	1429	4 Paul Collins	9/22/15	1429
5 Paul Collins	9/22/15	1552	6 D. Blanchard ALS	9/22/15	1552
7 D. Blanchard ALS	9/22/15	1715	8 ALS	9/22/15	1715
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ other

SDWA forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐ Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; ☐ Labor; ☐ Composite Sampling; ☐ Rental Equipment; ☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

9/24/15 12:42 4.4

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 4

Courier:

Tracking #:

COC# 2097279

Co. Name: Normandeau Ass 603

Contact (Report to): Eric Nestler Phone: 472-5191

Address: 25 Nashua Rd Bedford NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y enestler@normandeau.com

Fax? -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	***Container Type: P	***Container Size: 10-2	*** Preservative	Enter Number of Containers Per Analysis	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	2376-11		9/24/15	1001						1	Y N	Y N	Y N	Y N	
2	2375-14			1003						1	Y N	Y N	Y N	Y N	
3	2374-4			1004						1	Y N	Y N	Y N	Y N	
4	2422-21			1005						1	Y N	Y N	Y N	Y N	
5	2424-31			1008						1	Y N	Y N	Y N	Y N	
6	2101-6			1011						1	Y N	Y N	Y N	Y N	
7	1981-10			1013						1	Y N	Y N	Y N	Y N	
8	1689-13			1015						1	Y N	Y N	Y N	Y N	

Fecal

ANALYSES/METHOD REQUESTED

Receipt Information (completed by Sample Receiver): Performed by: METHOD

Cooler Temp:

Therm. ID:

No. of Coolers:

Notes:

Custody seals Present? (if present) Seals Intact? Received on ice? COC/Labels complete/accurate? Container in good condition?

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D. Tauber	9/24	1242	2 Dikloreza Schiplib/ESL	9/24/15	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ other

EDDs Required? ☐ If yes, format type:

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY ☐ PA ☐ Other

DOD Criteria Required?

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite **Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 01-2013

9/24/15

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

COC#

Co. Name: Normandeau Ass 603

Contact (Report to): Eric Nestler Phone: 472-5191

Address: 25 Nashua Rd Bedford NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.00 ALS Quote #: 40-495330

TAT: [X] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y enestler@normandeau.com Fax? -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal										
							***Container Type	P									
							***Container Size	100									
							*** Preservative	4.5.0									
1	1687-12		9/24/15	1017			1										
2	2090-33			1019			1										
3	2146-25			1021			1										
4	2089-27			1023			1										
5	2088-29			1025			1										
6	2087-17			1026			1										
7	2144-13			1029			1										
8	630-8			1034			1										

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving): Performed by: Date/Time; Cooler Temp: Therm. ID: No. of Coolers: Notes:

Circle appropriate Y or N.	
Correct containers?	Y N
Correct sample volume?	Y N
Correct preservation?	Y N
Headspace/Volatiles?	Y N
Custody seals Present?	Y N
(If present) Seals Intact?	Y N
Received on ice?	Y N
COC/Labels complete/accurate?	Y N
Container in good condition?	Y N

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D. Lauber	9/24	1242	2 Viktoriya Schiffel / ESL	9/24/15	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] new

SDWA Forms? yes yes yes yes

State Samples Collected In? MD NJ NY PA Other

EDDs Required? [ ] If yes, format type:

DOD Criteria Required?

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

COC#:

Co. Name: Normandeau Ass 603
Contact (Report to): Eric Nestler Phone: 472-5191
Address: 25 Nashua Rd
Bedford NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-49533-0

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X -Y enestler@normandeau.com
Fax? -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Fecal
1	686-19		9/24/15	1036			1
2	809-17			1038			1
3	543-21			1040			1
4	55-14			1043			1
5	1547-29			1046			1
6	1787-44			1048			1
7	1321-5			1051			1
8	1390-28			1053			1

***Container Type: P
***Container Size: 100
***Preservative: NaS2O3

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by: R
Cooler Temp:)
Therm. ID:
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	N	
	Y	Y	Y	Y	

	Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
	N	N	N	N	N
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D Tauber	9/24	1242	2 Viktoriya Schlight/ESI	9/24	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
EDDs Required? [ ] If yes, format type:
DOD Criteria Required?

SDWA Forms? yes / yes / yes / yes
State Samples Collected In? MD / NJ / NY / PA
Other

ALS FIELD SERVICES: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

9/24/15 12:42 4.4C

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 4

Courier:

Tracking #:

COC#

Co. Name: Normandeau Ass

Contact (Report to): Eric Nettler Phone:

Address: 25 Nashua Rd Bedford NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y emestler@normandeau.com by walk-in

Fax? -Y No.:

	Container Type	Container Size	Preservative	Fecal
	P	100		

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis: Fecal
1	659-7		9/24/15	1057			1
2	1129-20			1101			1
3	1364-6			1103			1
4	1440-8			1106			1
5	1439-20			1108			
6	1438-23			1110			
7							
8							

Subbed out to Gordon State by ALS yellow Copies

Receipt Information (completed by Sample Receiver)

Performed by: Initial here

Cooler Temp:

Therm. ID:

No. of Coolers:

Notes:

	1	2	3	4	5
Correct containers?	N	N	N	N	
Correct sample volume?	Y	Y	Y	Y	
Correct preservation?					
Headspace/Volatiles?					
Circle appropriate Y or N.					
Custody seals Present?	Y	Y	Y	Y	Y
(if applicable) Seals Intact?					
Received on Ice?					
COC/Labels complete/accurate?					
Container in good condition?					

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 D. Tauber	9/24	1242	2 Ekaterina Schiptsova/ALS	9/24/15	12:42
3			4		
5			6		
7			8		
9			10		

Data Deliverables: ☐ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ new

SDWA Forms? yes ☐ yes ☐ yes ☐ yes ☐

Data Sample Collected in? MD ☐ NJ ☐ NY ☐ PA ☐ Other

EDDs Required? ☐ If yes, format type:

DOD Criteria Required?

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

Garden State Laboratories, Inc.

Bacteriological and Chemical Testing
410 Hillside Avenue
Hillside, New Jersey 07205

Toll Free 800-273-8901
Telephone 908-688-8900
Fax 908-688-8966
email: info@gslabs.com
Internet: www.gslabs.com

Mathew Klein, M.S., Founder (1916-1996)
Harvey Klein, M.S., Laboratory Director

REPORT OF ANALYSIS

REPORT # 350922042.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2637-11 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 07:49

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:40

< = less than, not detected.

Harvey Klein

289173

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REPORT OF ANALYSIS

REPORT # 350922043.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2648-2 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 07:54

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/22/15-15:40

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922044.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2344-15 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:05

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:40

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922045.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2441-10 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:15

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:43

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922046.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2530-3 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:18

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:43

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922047.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2529-30 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:21

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:43

<= less than, not detected.

Harvey Klein

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REPORT OF ANALYSIS

REPORT # 350922048.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2487-7 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:25

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:46

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922049.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2439-22 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:29

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:46

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922050.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2486-11 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:32

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/22/15-15:46

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922051.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2528-1 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:36

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:49

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922052.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2527-26 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:39

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:49

< = less than, not detected.

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Internet: www.gslabs.com

REPORT OF ANALYSIS

REPORT # 350922053.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2485-5 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:43

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:49

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922054.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences | Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2288-24 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:46

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:52

< = less than, not detected.

Harvey Klein

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REPORT OF ANALYSIS

REPORT # 350922055.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2482-3 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:50

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:52

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922056.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 2064-4 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:53

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	<10	organisms/100ml		9/22/15-15:52

< = less than, not detected.

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REPORT OF ANALYSIS

REPORT # 350922057.0
CLIENT # ALS04
DATE SUBMITTED: 9/22/15

TO: ALS Life Sciences I Environmental
34 Dogwood Lane

Middletown PA 17057
ATT: Vicki L. Forney

SAMPLE TYPE: BAY WATER, GRAB SAMPLE
SAMPLE ID: 1821-18 PROJECT NAME #: 23674.000
SAMPLE LOCATION:

DATE SAMPLED: 9/22/15 TIME SAMPLED: 08:58

ANALYSIS	RESULT	UNITS		DATE ANALYZED
Fecal Coliform, SM 9222 D	10	organisms/100ml		9/22/15-15:55

< = less than, not detected.

Harvey Klein

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ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

October 26, 2015

Mr. Eric Nestler
Normandeau Associates, Inc.- Bedford
25 Nashua Road
Bedford, NH 03110

Certificate of Analysis

Project Name:	**2015PC-Clam**	Workorder:	**2097466**
Purchase Order:		Workorder ID:	**23674.000**

Dear Mr. Nestler:

Enclosed are the analytical results for samples received by the laboratory on Wednesday, September 23, 2015.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vicki A. Forney (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Paul Geoghegan

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

SAMPLE SUMMARY

Workorder: 2097466 23674.000

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2097466001	2637-11	Solid	9/22/2015 14:56	9/23/2015 20:40	Collected by Client
2097466002	2648-2	Solid	9/22/2015 15:24	9/23/2015 20:40	Collected by Client
2097466003	2344-15	Solid	9/22/2015 15:39	9/23/2015 20:40	Collected by Client
2097466004	2441-10	Solid	9/22/2015 15:54	9/23/2015 20:40	Collected by Client
2097466005	2530-3	Solid	9/22/2015 16:10	9/23/2015 20:40	Collected by Client
2097466006	2529-30	Solid	9/22/2015 16:21	9/23/2015 20:40	Collected by Client
2097466007	2487-7	Solid	9/22/2015 16:33	9/23/2015 20:40	Collected by Client
2097466008	2439-22	Solid	9/22/2015 16:44	9/23/2015 20:40	Collected by Client
2097466009	2486-11	Solid	9/22/2015 16:56	9/23/2015 20:40	Collected by Client
2097466010	2528-1	Solid	9/22/2015 17:07	9/23/2015 20:40	Collected by Client
2097466011	2527-26	Solid	9/22/2015 17:18	9/23/2015 20:40	Collected by Client
2097466012	2485-5	Solid	9/22/2015 17:29	9/23/2015 20:40	Collected by Client
2097466013	2288-24	Solid	9/23/2015 07:50	9/23/2015 20:40	Collected by Client
2097466014	2482-3	Solid	9/23/2015 08:02	9/23/2015 20:40	Collected by Client
2097466015	2064-4	Solid	9/23/2015 08:12	9/23/2015 20:40	Collected by Client
2097466016	1821-18	Solid	9/23/2015 08:31	9/23/2015 20:40	Collected by Client
2097466017	2376-16	Solid	9/23/2015 08:43	9/23/2015 20:40	Collected by Client
2097466018	2375-14	Solid	9/23/2015 08:53	9/23/2015 20:40	Collected by Client
2097466019	2374-4	Solid	9/23/2015 09:03	9/23/2015 20:40	Collected by Client
2097466020	2422-21	Solid	9/23/2015 09:12	9/23/2015 20:40	Collected by Client
2097466021	2424-31	Solid	9/23/2015 09:22	9/23/2015 20:40	Collected by Client
2097466022	2100-6	Solid	9/23/2015 09:33	9/23/2015 20:40	Collected by Client
2097466023	1981-10	Solid	9/23/2015 09:44	9/23/2015 20:40	Collected by Client
2097466024	1689-13	Solid	9/23/2015 09:58	9/23/2015 20:40	Collected by Client
2097466025	1687-12	Solid	9/23/2015 10:12	9/23/2015 20:40	Collected by Client
2097466026	2090-33	Solid	9/23/2015 10:25	9/23/2015 20:40	Collected by Client
2097466027	2146-25	Solid	9/23/2015 10:41	9/23/2015 20:40	Collected by Client
2097466028	2089-27	Solid	9/23/2015 10:51	9/23/2015 20:40	Collected by Client
2097466029	2088-29	Solid	9/23/2015 11:06	9/23/2015 20:40	Collected by Client
2097466030	2087-17	Solid	9/23/2015 11:17	9/23/2015 20:40	Collected by Client
2097466031	2144-13	Solid	9/23/2015 11:39	9/23/2015 20:40	Collected by Client
2097466032	2143-2	Solid	9/23/2015 11:49	9/23/2015 20:40	Collected by Client
2097466033	630-8	Solid	9/23/2015 12:03	9/23/2015 20:40	Collected by Client
2097466034	686-19	Solid	9/23/2015 12:14	9/23/2015 20:40	Collected by Client

SAMPLE SUMMARY

Workorder: 2097466 23674.000

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2097466035	809-17	Solid	9/23/2015 12:27	9/23/2015 20:40	Collected by Client
2097466036	543-21	Solid	9/23/2015 12:45	9/23/2015 20:40	Collected by Client
2097466037	55-14	Solid	9/23/2015 12:58	9/23/2015 20:40	Collected by Client
2097466038	1547-29	Solid	9/23/2015 13:11	9/23/2015 20:40	Collected by Client
2097466039	1787-44	Solid	9/23/2015 13:21	9/23/2015 20:40	Collected by Client
2097466040	1321-5	Solid	9/23/2015 13:30	9/23/2015 20:40	Collected by Client
2097466041	1390-28	Solid	9/23/2015 13:38	9/23/2015 20:40	Collected by Client
2097466042	659-7	Solid	9/23/2015 13:48	9/23/2015 20:40	Collected by Client
2097466043	654-9	Solid	9/23/2015 13:58	9/23/2015 20:40	Collected by Client
2097466044	720-16	Solid	9/23/2015 14:09	9/23/2015 20:40	Collected by Client
2097466045	717-59	Solid	9/23/2015 14:24	9/23/2015 20:40	Collected by Client
2097466046	714-40	Solid	9/23/2015 14:35	9/23/2015 20:40	Collected by Client
2097466047	849-25	Solid	9/23/2015 14:46	9/23/2015 20:40	Collected by Client
2097466048	240-23	Solid	9/23/2015 14:57	9/23/2015 20:40	Collected by Client
2097466049	99-30	Solid	9/23/2015 15:08	9/23/2015 20:40	Collected by Client
2097466050	986-26	Solid	9/23/2015 15:20	9/23/2015 20:40	Collected by Client
2097466051	1129-20	Solid	9/23/2015 15:29	9/23/2015 20:40	Collected by Client
2097466052	1364-6	Solid	9/23/2015 15:39	9/23/2015 20:40	Collected by Client
2097466053	1440-8	Solid	9/23/2015 15:52	9/23/2015 20:40	Collected by Client
2097466054	1439-20	Solid	9/23/2015 16:05	9/23/2015 20:40	Collected by Client
2097466055	1438-23	Solid	9/23/2015 16:17	9/23/2015 20:40	Collected by Client
2097466056	1363-24	Solid	9/23/2015 16:28	9/23/2015 20:40	Collected by Client

SAMPLE SUMMARY

Workorder: 2097466 23674.000

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

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PROJECT SUMMARY

Workorder: 2097466 23674.000

Workorder Comments

Grain size was reported directly to the client from ALS-Kelso. VLF 10/23/15

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466001** Date Collected: 9/22/2015 14:56 Matrix: Solid
Sample ID: **2637-11** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	26.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2290		mg/kg	500	84.8	SW846 9060A		10/1/15 08:16	RMM	A
Total Solids	73.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466002** Date Collected: 9/22/2015 15:24 Matrix: Solid
Sample ID: **2648-2** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	27.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2210		mg/kg	500	84.8	SW846 9060A		10/1/15 08:16	RMM	A
Total Solids	72.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466003** Date Collected: 9/22/2015 15:39 Matrix: Solid
Sample ID: **2344-15** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	13300		mg/kg	500	84.8	SW846 9060A		10/1/15 08:16	RMM	A
Total Solids	72.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466004** Date Collected: 9/22/2015 15:54 Matrix: Solid
Sample ID: **2441-10** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	29.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	9580		mg/kg	500	84.8	SW846 9060A		10/1/15 08:16	RMM	A
Total Solids	70.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466005** Date Collected: 9/22/2015 16:10 Matrix: Solid
Sample ID: **2530-3** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	25.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1840		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	74.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466006** Date Collected: 9/22/2015 16:21 Matrix: Solid
Sample ID: **2529-30** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	27.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1540		mg/kg	500	84.8	SW846 9060A		10/1/15 08:16	RMM	A
Total Solids	72.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466007** Date Collected: 9/22/2015 16:33 Matrix: Solid
Sample ID: **2487-7** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	34.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	36700		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	65.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466008** Date Collected: 9/22/2015 16:44 Matrix: Solid
Sample ID: **2439-22** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1820		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	72.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466009** Date Collected: 9/22/2015 16:56 Matrix: Solid
Sample ID: **2486-11** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	30.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	20200		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	69.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466010** Date Collected: 9/22/2015 17:07 Matrix: Solid
Sample ID: **2528-1** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	29.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1920		mg/kg	500	84.8	SW846 9060A		10/1/15 08:16	RMM	A
Total Solids	70.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466011** Date Collected: 9/22/2015 17:18 Matrix: Solid
Sample ID: **2527-26** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1860		mg/kg	500	84.8	SW846 9060A		10/1/15 08:16	RMM	A
Total Solids	71.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466012** Date Collected: 9/22/2015 17:29 Matrix: Solid
Sample ID: **2485-5** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	27.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1790		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	73.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466013** Date Collected: 9/23/2015 07:50 Matrix: Solid
Sample ID: **2288-24** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	9170		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	71.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466014** Date Collected: 9/23/2015 08:02 Matrix: Solid
Sample ID: **2482-3** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	26.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2320		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	73.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466015** Date Collected: 9/23/2015 08:12 Matrix: Solid
Sample ID: **2064-4** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	25.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2780		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	74.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466016** Date Collected: 9/23/2015 08:31 Matrix: Solid
Sample ID: **1821-18** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	29.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	4460		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	70.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466017** Date Collected: 9/23/2015 08:43 Matrix: Solid
Sample ID: **2376-16** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	31.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2790		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	68.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466018** Date Collected: 9/23/2015 08:53 Matrix: Solid
Sample ID: **2375-14** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	24.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2300		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	75.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466019** Date Collected: 9/23/2015 09:03 Matrix: Solid
Sample ID: **2374-4** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	33.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3420		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	66.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466020** Date Collected: 9/23/2015 09:12 Matrix: Solid
Sample ID: **2422-21** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2430		mg/kg	500	84.8	SW846 9060A		10/3/15 07:11	RMM	A
Total Solids	71.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466021** Date Collected: 9/23/2015 09:22 Matrix: Solid
Sample ID: **2424-31** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	29.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2730		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	70.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466022** Date Collected: 9/23/2015 09:33 Matrix: Solid
Sample ID: **2100-6** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	27.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2400		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	72.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466023** Date Collected: 9/23/2015 09:44 Matrix: Solid
Sample ID: **1981-10** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3430		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	72.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466024** Date Collected: 9/23/2015 09:58 Matrix: Solid
Sample ID: **1689-13** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	20.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2640		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	79.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466025** Date Collected: 9/23/2015 10:12 Matrix: Solid
Sample ID: **1687-12** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	23.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2820		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	77.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466026** Date Collected: 9/23/2015 10:25 Matrix: Solid
Sample ID: **2090-33** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	19.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2270		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	80.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466027** Date Collected: 9/23/2015 10:41 Matrix: Solid
Sample ID: **2146-25** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	23.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2840		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	77.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466028** Date Collected: 9/23/2015 10:51 Matrix: Solid
Sample ID: **2089-27** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	22.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2390		mg/kg	500	84.8	SW846 9060A		10/9/15 14:33	RMM	A
Total Solids	77.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466029** Date Collected: 9/23/2015 11:06 Matrix: Solid
Sample ID: **2088-29** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	20.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2970		mg/kg	500	84.8	SW846 9060A		10/17/15 12:41	RMM	A
Total Solids	79.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466030** Date Collected: 9/23/2015 11:17 Matrix: Solid
Sample ID: **2087-17** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	20.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2590		mg/kg	500	84.8	SW846 9060A		10/17/15 12:41	RMM	A
Total Solids	79.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466031** Date Collected: 9/23/2015 11:39 Matrix: Solid
Sample ID: **2144-13** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	26.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1960		mg/kg	500	84.8	SW846 9060A		10/12/15 09:10	RMM	A
Total Solids	73.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466032** Date Collected: 9/23/2015 11:49 Matrix: Solid
Sample ID: **2143-2** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	22.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2160		mg/kg	500	84.8	SW846 9060A		10/12/15 09:10	RMM	A
Total Solids	77.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466033** Date Collected: 9/23/2015 12:03 Matrix: Solid
Sample ID: **630-8** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	33.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	5330		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	66.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466034** Date Collected: 9/23/2015 12:14 Matrix: Solid
Sample ID: **686-19** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3060		mg/kg	500	84.8	SW846 9060A		10/12/15 09:10	RMM	A
Total Solids	71.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466035** Date Collected: 9/23/2015 12:27 Matrix: Solid
Sample ID: **809-17** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	18.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1800		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	81.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466036** Date Collected: 9/23/2015 12:45 Matrix: Solid
Sample ID: **543-21** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	20.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2570		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	79.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466037** Date Collected: 9/23/2015 12:58 Matrix: Solid
Sample ID: **55-14** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	28.5		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3090		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	71.5		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466038** Date Collected: 9/23/2015 13:11 Matrix: Solid
Sample ID: **1547-29** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	22.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1980		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	77.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466039** Date Collected: 9/23/2015 13:21 Matrix: Solid
Sample ID: **1787-44** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	25.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2210		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	74.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466040** Date Collected: 9/23/2015 13:30 Matrix: Solid
Sample ID: **1321-5** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	27.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	5050		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	72.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466041** Date Collected: 9/23/2015 13:38 Matrix: Solid
Sample ID: **1390-28** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	26.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1500		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	74.0		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466042** Date Collected: 9/23/2015 13:48 Matrix: Solid
Sample ID: **659-7** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	18.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	4350		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	81.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466043** Date Collected: 9/23/2015 13:58 Matrix: Solid
Sample ID: **654-9** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	23.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3290		mg/kg	500	84.8	SW846 9060A		10/14/15 14:51	RMM	A
Total Solids	76.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466044** Date Collected: 9/23/2015 14:09 Matrix: Solid
Sample ID: **720-16** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	23.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3940		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	76.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466045** Date Collected: 9/23/2015 14:24 Matrix: Solid
Sample ID: **717-59** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	25.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2760		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	74.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466046** Date Collected: 9/23/2015 14:35 Matrix: Solid
Sample ID: **714-40** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	26.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3380		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	73.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466047** Date Collected: 9/23/2015 14:46 Matrix: Solid
Sample ID: **849-25** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	23.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1590		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	76.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466048** Date Collected: 9/23/2015 14:57 Matrix: Solid
Sample ID: **240-23** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	21.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	1190		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	78.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466049** Date Collected: 9/23/2015 15:08 Matrix: Solid
Sample ID: **99-30** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	21.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2010		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	78.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466050** Date Collected: 9/23/2015 15:20 Matrix: Solid
Sample ID: **986-26** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	24.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2550		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	75.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466051** Date Collected: 9/23/2015 15:29 Matrix: Solid
Sample ID: **1129-20** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	26.2		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	3710		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	73.8		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466052** Date Collected: 9/23/2015 15:39 Matrix: Solid
Sample ID: **1364-6** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	25.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2160		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	74.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466053** Date Collected: 9/23/2015 15:52 Matrix: Solid
Sample ID: **1440-8** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	23.9		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2160		mg/kg	500	84.8	SW846 9060A		10/15/15 09:36	RMM	A
Total Solids	76.1		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466054** Date Collected: 9/23/2015 16:05 Matrix: Solid
Sample ID: **1439-20** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	19.7		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2080		mg/kg	500	84.8	SW846 9060A		10/17/15 12:41	RMM	A
Total Solids	80.3		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466055** Date Collected: 9/23/2015 16:17 Matrix: Solid
Sample ID: **1438-23** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	22.4		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2680		mg/kg	500	84.8	SW846 9060A		10/17/15 12:41	RMM	A
Total Solids	77.6		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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ANALYTICAL RESULTS

Workorder: 2097466 23674.000

Lab ID: **2097466056** Date Collected: 9/23/2015 16:28 Matrix: Solid
Sample ID: **1363-24** Date Received: 9/23/2015 20:40

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
WET CHEMISTRY										
Moisture	25.5		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A
Total Organic Carbon (TOC)	2430		mg/kg	500	84.8	SW846 9060A		10/17/15 12:41	RMM	A
Total Solids	74.5		%	0.1	0.01	S2540G-11		9/24/15 11:45	EMW	A

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/160055 **Analysis Method:** S2540G-11

QC Batch Method: S2540G-11

Associated Lab Samples: 2097466001, 2097466002, 2097466003, 2097466004, 2097466005, 2097466006, 2097466007, 2097466008, 2097466009, 2097466010, 2097466011, 2097466012, 2097466013, 2097466014, 2097466015, 2097466016, 2097466017, 2097466018, 2097466019, 2097466020, 2097466021, 2097466022, 2097466023, 2097466024, 2097466025, 2097466026, 2097466027, 2097466028, 2097466029, 2097466030, 2097466031, 2097466032, 2097466033, 2097466034, 2097466035, 2097466036, 2097466037, 2097466038, 2097466039, 2097466040, 2097466041, 2097466042, 2097466043, 2097466044, 2097466045, 2097466046, 2097466047, 2097466048, 2097466049, 2097466050, 2097466051, 2097466052, 2097466053, 2097466054, 2097466055, 2097466056

SAMPLE DUPLICATE: 2237476 ORIGINAL: 2097466001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	26.5669	%	26.5944	.1	10
Total Solids	73.433	%	73.4055	.04	5

SAMPLE DUPLICATE: 2237477 ORIGINAL: 2097466011

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	28.1062	%	28.6965	2.08	10
Total Solids	71.8937	%	71.3034	.82	5

SAMPLE DUPLICATE: 2237478 ORIGINAL: 2097466021

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	29.6829	%	29.7626	.27	10
Total Solids	70.317	%	70.2373	.11	5

SAMPLE DUPLICATE: 2237479 ORIGINAL: 2097466031

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	26.7088	%	27.6194	3.35	10
Total Solids	73.2911	%	72.3805	1.25	5

QUALITY CONTROL DATA

Workorder: 2097466 23674.000

SAMPLE DUPLICATE: 2237480 ORIGINAL: 2097466041

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	25.9533	%	25.1515	3.14	10
Total Solids	74.0466	%	74.8484	1.08	5

SAMPLE DUPLICATE: 2237481 ORIGINAL: 2097466051

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	26.1501	%	23.8778	9.08	10
Total Solids	73.8498	%	76.1221	3.03	5

SAMPLE DUPLICATE: 2237482 ORIGINAL: 2097498004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	14.6609	%	14.4011	1.79	10
Total Solids	85.339	%	85.5988	.3	5

SAMPLE DUPLICATE: 2237483 ORIGINAL: 2097542001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	76.264	%	76.0935	.22	10
Total Solids	23.7359	%	23.9064	.72	5

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/160344 **Analysis Method:** SW846 9060A

QC Batch Method: SW846 9060A

Associated Lab Samples: 2097466001, 2097466002, 2097466003, 2097466004, 2097466005, 2097466006, 2097466007, 2097466008, 2097466009, 2097466010, 2097466011

METHOD BLANK: 2240565

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	90.0J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2240566

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	93.2	mg/kg	411000	383000	80 - 120

MATRIX SPIKE SAMPLE: 2240869 ORIGINAL: 2096890002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	21380	mg/kg	24000	45700	101	80 - 120

METHOD BLANK: 2240567

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	500 U	mg/kg	500

LABORATORY CONTROL SAMPLE: 2240568

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	94	mg/kg	411000	386000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

METHOD BLANK: 2240570

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	90.0J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2240571

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	93.2	mg/kg	411000	383000	80 - 120

QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/160458 **Analysis Method:** SW846 9060A

QC Batch Method: SW846 9060A

Associated Lab Samples: 2097466005, 2097466007, 2097466008, 2097466009, 2097466012, 2097466013, 2097466014, 2097466015, 2097466016, 2097466017, 2097466018, 2097466019, 2097466020

METHOD BLANK: 2241560

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	120J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2241561

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	95.1	mg/kg	411000	391000	80 - 120

MATRIX SPIKE SAMPLE: 2242484 ORIGINAL: 2097466009

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	20160	mg/kg	17700	34680	81.8	80 - 120

METHOD BLANK: 2242485

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	500 U	mg/kg	500

LABORATORY CONTROL SAMPLE: 2242486

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	94.6	mg/kg	411000	389000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

MATRIX SPIKE SAMPLE: 2241562 ORIGINAL: 2097466013

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	9170	mg/kg	8040	17180	99.7	80 - 120

METHOD BLANK: 2241563

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	500 U	mg/kg	500

LABORATORY CONTROL SAMPLE: 2241564

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	94.1	mg/kg	411000	387000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/160723 **Analysis Method:** SW846 9060A

QC Batch Method: SW846 9060A

Associated Lab Samples: 2097466008, 2097466021, 2097466022, 2097466023, 2097466024, 2097466025, 2097466026, 2097466027, 2097466028

METHOD BLANK: 2244284

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	90.0J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2244285

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	97.6	mg/kg	411000	401000	80 - 120

MATRIX SPIKE SAMPLE: 2244286 ORIGINAL: 2097466008

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	1820	mg/kg	1710	3310	87	80 - 120

METHOD BLANK: 2244287

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	100J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2244288

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	96	mg/kg	411000	394000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/160810 **Analysis Method:** SW846 9060A

QC Batch Method: SW846 9060A

Associated Lab Samples: 2097466029, 2097466030, 2097466031, 2097466032, 2097466034

METHOD BLANK: 2245182

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	100J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2245183

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	102	mg/kg	411000	418000	80 - 120

MATRIX SPIKE SAMPLE: 2245184 ORIGINAL: 2099349001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	88610	mg/kg	37100	125040	98.1	80 - 120

METHOD BLANK: 2245185

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	100J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2245186

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	103	mg/kg	411000	425000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/160922 **Analysis Method:** SW846 9060A

QC Batch Method: SW846 9060A

Associated Lab Samples: 2097466033, 2097466035, 2097466036, 2097466037, 2097466038, 2097466039, 2097466040, 2097466041, 2097466042, 2097466043

METHOD BLANK: 2246471

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	110J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2246472

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	101	mg/kg	411000	416000	80 - 120

MATRIX SPIKE SAMPLE: 2246473 ORIGINAL: 2097466033

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	5330	mg/kg	1680	7080	104	80 - 120

METHOD BLANK: 2246474

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	90.0J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2246475

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	102	mg/kg	411000	421000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/160981 **Analysis Method:** SW846 9060A

QC Batch Method: SW846 9060A

Associated Lab Samples: 2097466044, 2097466045, 2097466046, 2097466047, 2097466048, 2097466049, 2097466050, 2097466051, 2097466052, 2097466053

METHOD BLANK: 2247034

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	500 U	mg/kg	500

LABORATORY CONTROL SAMPLE: 2247035

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	102	mg/kg	411000	420000	80 - 120

MATRIX SPIKE SAMPLE: 2247036 ORIGINAL: 2097466044

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	3940	mg/kg	1760	6040	119	80 - 120

METHOD BLANK: 2247037

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	90.0J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2247038

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	104	mg/kg	411000	428000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

QC Batch: WETC/161092 **Analysis Method:** SW846 9060A

QC Batch Method: SW846 9060A

Associated Lab Samples: 2097466029, 2097466030, 2097466054, 2097466055, 2097466056

METHOD BLANK: 2248028

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	110J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2248029

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	104	mg/kg	411000	429000	80 - 120

MATRIX SPIKE SAMPLE: 2248030 ORIGINAL: 2097786001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	36500	mg/kg	38700	76680	104	80 - 120

METHOD BLANK: 2248031

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	90.0J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2248032

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	108	mg/kg	411000	445000	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097466 23674.000

MATRIX SPIKE SAMPLE: 2248033 ORIGINAL: 2101280002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Total Organic Carbon (TOC)	105190	mg/kg	81600	241140	167*	80 - 120

METHOD BLANK: 2248034

Parameter	Blank Result	Units	Reporting Limit
Total Organic Carbon (TOC)	100J	mg/kg	500

LABORATORY CONTROL SAMPLE: 2248035

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Total Organic Carbon (TOC)	107	mg/kg	411000	442000	80 - 120

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097466 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097466001	2637-11			S2540G-11	WETC/160055
2097466002	2648-2			S2540G-11	WETC/160055
2097466003	2344-15			S2540G-11	WETC/160055
2097466004	2441-10			S2540G-11	WETC/160055
2097466005	2530-3			S2540G-11	WETC/160055
2097466006	2529-30			S2540G-11	WETC/160055
2097466007	2487-7			S2540G-11	WETC/160055
2097466008	2439-22			S2540G-11	WETC/160055
2097466009	2486-11			S2540G-11	WETC/160055
2097466010	2528-1			S2540G-11	WETC/160055
2097466011	2527-26			S2540G-11	WETC/160055
2097466012	2485-5			S2540G-11	WETC/160055
2097466013	2288-24			S2540G-11	WETC/160055
2097466014	2482-3			S2540G-11	WETC/160055
2097466015	2064-4			S2540G-11	WETC/160055
2097466016	1821-18			S2540G-11	WETC/160055
2097466017	2376-16			S2540G-11	WETC/160055
2097466018	2375-14			S2540G-11	WETC/160055
2097466019	2374-4			S2540G-11	WETC/160055
2097466020	2422-21			S2540G-11	WETC/160055
2097466021	2424-31			S2540G-11	WETC/160055
2097466022	2100-6			S2540G-11	WETC/160055
2097466023	1981-10			S2540G-11	WETC/160055
2097466024	1689-13			S2540G-11	WETC/160055
2097466025	1687-12			S2540G-11	WETC/160055
2097466026	2090-33			S2540G-11	WETC/160055
2097466027	2146-25			S2540G-11	WETC/160055
2097466028	2089-27			S2540G-11	WETC/160055
2097466029	2088-29			S2540G-11	WETC/160055
2097466030	2087-17			S2540G-11	WETC/160055
2097466031	2144-13			S2540G-11	WETC/160055
2097466032	2143-2			S2540G-11	WETC/160055
2097466033	630-8			S2540G-11	WETC/160055

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097466 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097466034	686-19			S2540G-11	WETC/160055
2097466035	809-17			S2540G-11	WETC/160055
2097466036	543-21			S2540G-11	WETC/160055
2097466037	55-14			S2540G-11	WETC/160055
2097466038	1547-29			S2540G-11	WETC/160055
2097466039	1787-44			S2540G-11	WETC/160055
2097466040	1321-5			S2540G-11	WETC/160055
2097466041	1390-28			S2540G-11	WETC/160055
2097466042	659-7			S2540G-11	WETC/160055
2097466043	654-9			S2540G-11	WETC/160055
2097466044	720-16			S2540G-11	WETC/160055
2097466045	717-59			S2540G-11	WETC/160055
2097466046	714-40			S2540G-11	WETC/160055
2097466047	849-25			S2540G-11	WETC/160055
2097466048	240-23			S2540G-11	WETC/160055
2097466049	99-30			S2540G-11	WETC/160055
2097466050	986-26			S2540G-11	WETC/160055
2097466051	1129-20			S2540G-11	WETC/160055
2097466052	1364-6			S2540G-11	WETC/160055
2097466053	1440-8			S2540G-11	WETC/160055
2097466054	1439-20			S2540G-11	WETC/160055
2097466055	1438-23			S2540G-11	WETC/160055
2097466056	1363-24			S2540G-11	WETC/160055
2097466001	2637-11			SW846 9060A	WETC/160344
2097466002	2648-2			SW846 9060A	WETC/160344
2097466003	2344-15			SW846 9060A	WETC/160344
2097466004	2441-10			SW846 9060A	WETC/160344
2097466006	2529-30			SW846 9060A	WETC/160344
2097466010	2528-1			SW846 9060A	WETC/160344
2097466011	2527-26			SW846 9060A	WETC/160344

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097466 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097466005	2530-3			SW846 9060A	WETC/160458
2097466007	2487-7			SW846 9060A	WETC/160458
2097466009	2486-11			SW846 9060A	WETC/160458
2097466012	2485-5			SW846 9060A	WETC/160458
2097466013	2288-24			SW846 9060A	WETC/160458
2097466014	2482-3			SW846 9060A	WETC/160458
2097466015	2064-4			SW846 9060A	WETC/160458
2097466016	1821-18			SW846 9060A	WETC/160458
2097466017	2376-16			SW846 9060A	WETC/160458
2097466018	2375-14			SW846 9060A	WETC/160458
2097466019	2374-4			SW846 9060A	WETC/160458
2097466020	2422-21			SW846 9060A	WETC/160458
2097466008	2439-22			SW846 9060A	WETC/160723
2097466021	2424-31			SW846 9060A	WETC/160723
2097466022	2100-6			SW846 9060A	WETC/160723
2097466023	1981-10			SW846 9060A	WETC/160723
2097466024	1689-13			SW846 9060A	WETC/160723
2097466025	1687-12			SW846 9060A	WETC/160723
2097466026	2090-33			SW846 9060A	WETC/160723
2097466027	2146-25			SW846 9060A	WETC/160723
2097466028	2089-27			SW846 9060A	WETC/160723
2097466031	2144-13			SW846 9060A	WETC/160810
2097466032	2143-2			SW846 9060A	WETC/160810
2097466034	686-19			SW846 9060A	WETC/160810
2097466033	630-8			SW846 9060A	WETC/160922
2097466035	809-17			SW846 9060A	WETC/160922
2097466036	543-21			SW846 9060A	WETC/160922
2097466037	55-14			SW846 9060A	WETC/160922
2097466038	1547-29			SW846 9060A	WETC/160922

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097466 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097466039	1787-44			SW846 9060A	WETC/160922
2097466040	1321-5			SW846 9060A	WETC/160922
2097466041	1390-28			SW846 9060A	WETC/160922
2097466042	659-7			SW846 9060A	WETC/160922
2097466043	654-9			SW846 9060A	WETC/160922
2097466044	720-16			SW846 9060A	WETC/160981
2097466045	717-59			SW846 9060A	WETC/160981
2097466046	714-40			SW846 9060A	WETC/160981
2097466047	849-25			SW846 9060A	WETC/160981
2097466048	240-23			SW846 9060A	WETC/160981
2097466049	99-30			SW846 9060A	WETC/160981
2097466050	986-26			SW846 9060A	WETC/160981
2097466051	1129-20			SW846 9060A	WETC/160981
2097466052	1364-6			SW846 9060A	WETC/160981
2097466053	1440-8			SW846 9060A	WETC/160981
2097466029	2088-29			SW846 9060A	WETC/161092
2097466030	2087-17			SW846 9060A	WETC/161092
2097466054	1439-20			SW846 9060A	WETC/161092
2097466055	1438-23			SW846 9060A	WETC/161092
2097466056	1363-24			SW846 9060A	WETC/161092

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 7

Courier:

Tracking #:

2-097466

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No.:

					***Container Type	CG	CG																
					***Container Size	4oz	16oz																
					*** Preservative	None	None																
					ANALYSES/METHOD REQUESTED																		
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size																
						Enter Number of Containers Per Analysis																	
1 2637-11		9/22/15	1456			1	1																
2 2648-2			1524			1	1																
3 2344-15			1539			1	1																
4 2441-10			1554			1	1																
5 2530-3			1610			1	1																
6 2529-30			1621			1	1																
7 2487-7			1633			1	1																
8 2439-22			1644			1	1																

(completed by Sample Receiver)
Performed by: RML
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

	Y	N
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Circle appropriate Y or N.		
Custody seals Present?	Y	N
(if present) Seals intact?	Y	N
Received on ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print):

Project Comments: RML 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Trowbridge Normandeau	9/23/15	1654	2 [illegible]	9/23	1654
3 [illegible]	9/23	1710	4 [illegible]	9/23	1710
5 [illegible]	9/23	2040	6 RML	9/23	2040
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

SEND PRELIM TO

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603)472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size							
	***Container Type						CG	CG							
	***Container Size						4oz	16oz							
	Preservative						None	None							
							Enter Number of Containers Per Analysis								
1	2486-11		9/22/15	1656			1	1							
2	2528-1		↓	1707			1	1							
3	2527-26		↓	1718			1	1							
4	2485-5		9/22/15	1729			1	1							
5	2288-24		9/23/15	0750			1	1							
6	2482-3		↓	0802			1	1							
7	2064-4		↓	0812			1	1							
8	1821-18		9/23/15	0831			1	1							

ANALYSES/METHOD REQUESTED

Receipt Information (completed by Sample Receiver)

Performed by: RMC

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Circle appropriate Y or N.
Correct containers?	N
Correct sample volume?	N
Correct preservation?	N
Headspace/Volatiles?	Y
Custody seals Present?	Y
(If present) Seals intact?	Y
Received on ice?	N
COC/Labels complete/accurate?	N
Container in good condition?	N

SAMPLED BY (Please Print):

Project Comments: RMC 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 RMC	9/23	2040
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] new

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

4466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] -Y enestler@normandeau.com
Fax? [ ] -Y No.:

	***Container Type	CG	CG
	***Container Size	4oz	16oz
	*** Preservative	None	None

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size
1	2376-16		9/23/15	0843			1	1
2	2375-14			0853			1	1
3	2374-4			0903			1	1
4	2422-21			0912			1	1
5	2424-31			0922			1	1
6	2100-6			0933			1	1
7	1981-10			0944			1	1
8	1689-13			0958			1	1

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by: Rmk
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	N	
	N	N	N	N	N
	Y	Y	Y	Y	Y

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 Rmk	9/23	2040
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other

SDWA Forms? ⇨ yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

dof 66

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? [ ] Y No.:

***Container Type	CG	CG
***Container Size	4oz	16oz
Preservative	None	None

ANALYSES/METHOD REQUESTED: TOC, Grain Size

Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size
1	1687-12		9/23/15	1012			1	1
2	2090-33		↓	1025			1	1
3	2146-25		↓	1041			1	1
4	2089-27		↓	1051			1	1
5	2088-29		↓	1106			1	1
6	2087-17		↓	1117			1	1
7	2144-13		↓	1139			1	1
8	2143-2		↓	1149			1	1

Receipt Information (completed by Sample Receiving)
Performed by: RWK
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Circle appropriate Y or N.

Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Custody seals Present?	Y	N
(If present) Seals intact?	Y	N
Received on Ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print):

Project Comments: RWK 9/23 2326

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Tomlinson Normandeau	9/23/15	1654	2	[signature]	9/23	1654
3	[signature]	9/23	1910	4	[signature]	9/23	1910
5	[signature]	9/23	2040	6	RWK	9/23	2040
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Enter PWSID No.

ALS FIELD SERVICES
[X] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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ALS

ALS Environmental

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 5 of 7

Courier:

Tracking #:

466

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603)472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.:

							***Container Type	CG	CG														
							***Container Size	4oz	16oz														
							Preservative	None	None														
							ANALYSES/METHOD REQUESTED																
							*G or C	**Matrix	TOC	Grain Size													
	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time					Enter Number of Containers Per Analysis														
1	630-8		9/23/15	1203					1	1													
2	686-19			1214					1	1													
3	809-17			1227					1	1													
4	543-21			1245					1	1													
5	55-14			1258					1	1													
6	1547-29			1311					1	1													
7	1787-44			1321					1	1													
8	1321-5			1330					1	1													

Receipt Information (completed by Sample Receiving)

Performed by: RMC

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y N	Y N	Y N	Y N	
Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y N	Y N	Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments: RMC 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [illegible]	9/23	1654
3 [illegible]	9/23	1710	4 [illegible]	9/24	1710
5 [illegible]	9/23	2040	6 RMC	9/23	2040
7			8		
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ new

EDDs Required? X If yes, format type: In Excel

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐ Other

DOD Criteria Required?

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

9966

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size								
	***Container Type						CG	CG								
	***Container Size						4oz	16oz								
	Preservative						None	None								
1	1390-28		9/23/15	1338			1	1								
2	659-7			1348			1	1								
3	654-9			1358			1	1								
4	720-16			1409			1	1								
5	717-59			1424			1	1								
6	714-40			1435			1	1								
7	849-25			1446			1	1								
8	240-23		9/23/15	1457			1	1								

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C Tompkins Normandeau	9/23/15	1654	2 [illegible]	9/23	1654
3 [illegible]	9/23	1710	4 [illegible]	9/23	1710
5 [illegible]	9/23	2040	6 Rmk	9/23	2040
7			8		
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ other

SDWA Forms? ⇨ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐ Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

Receipt Information (completed by Sample Receiving)
Performed by: Rmk
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Circle appropriate Y or N.				
Correct containers?	N	N	N	Y
Correct sample volume?	Y	Y	Y	Y
Correct preservation?	Y	Y	Y	Y
Headspace/Volatiles?	Y	Y	Y	Y
Custody seals Present?	Y	Y	Y	Y
(if present) Seals intact?	Y	Y	Y	Y
Received on Ice?	Y	Y	Y	Y
COC/Labels complete/accurate?	Y	Y	Y	Y
Container in good condition?	Y	Y	Y	Y

ALS FIELD SERVICES
X Pickup
☐ Labor
☐ Composite Sampling
☐ Rental Equipment
☐ Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

19686

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603)472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y enestler@normandeau.com

Fax? -Y No.:

	***Container Type	CG	CG
	***Container Size	4oz	16oz
	Preservative	None	None

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size
1	99-30		9/23/15	1508			1	1
2	986-26		↓	1520			1	1
3	1129-20		↓	1529			1	1
4	1364-6		↓	1539			1	1
5	1440-8		↓	1552			1	1
6	1439-20		↓	1605			1	1
7	1438-23		✓	1617			1	1
8	1363-24		9/23/15	1628			1	1

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiver)

Performed by: RMW

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	Y	Y	Y	Y	
2	Y	Y	Y	Y	Y
3	Y	Y	Y	Y	Y

	Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
1					
2					
3					

SAMPLED BY (Please Print):

Project Comments: RMW 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 RMW	9/23	2040
7			8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; other

SDWA Forms? ⇨ yes; yes; yes; yes

State Samples Collected In? MD; NJ; NY X; PA

Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 7

Courier:
Tracking #:

Co. Name: Normandeau Associates Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? [ ] Y No.:

	***Container Type	***Container Size	Preservative
	CG	CG	
	4oz	16oz	
	None	None	

ANALYSES/METHOD REQUESTED

Use Client ID's for all Samples

Run Grain Size Only

Sub to ALS Kelso

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size
1	2637-11		9/22/15	1456	G		1	1
2	2648-2			1524	G		1	1
3	2344-15			1539			1	1
4	2441-10			1554			1	1
5	2530-3			1610			1	1
6	2522-30			1621			1	1
7	2487-7			1633			1	1
8	2439-22			1644			1	1

Enter Number of Containers Per Analysis

(completed by Sample Receiving) Performed by: RML
Cooler Temp:
Therm. ID: 309
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N
	Y	Y	Y	Y	
	Y	Y	Y	Y	
	Y	Y	Y	Y	
	Y	Y	Y	Y	
	Y	Y	Y	Y	
	Y	Y	Y	Y	
	Y	Y	Y	Y	
	Y	Y	Y	Y	

	Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments: RML 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomfino Normandeau	9/23/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 RML	9/23	2040
7	9/25	1730	8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full

SDWA Forms? yes yes yes yes

State Samples Collected In? MD NJ NY [X] PA Other

EDDs Required? [X] If yes, format type: In Excel

Enter PWSID No.

QQ Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

*G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev. 01 2012

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

4661

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Address: 25 Nashua Rd. Bedford, NH 03110
Phone: (603) 472-5191

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size									
	***Container Type						CG	CG									
	***Container Size						4oz	16oz									
	Preservative						None	None									
1	2486-11		9/22/15	1656			1	1									
2	2528-1		↓	1707			1	1									
3	2527-26		↓	1718			1	1									
4	2485-5		9/22/15	1729			1	1									
5	2488-24		9/23/15	0750			1	1									
6	2482-3		↓	0802			1	1									
7	2064-4		↓	0812			1	1									
8	1821-18		9/23/15	0831			1	1									

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

SAMPLED BY (Please Print):

Project Comments: Rcd 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tom Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 Rcd	9/23	2040
7 [signature]	9/28	1730	8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full
EDDs required? X If yes, format type: In Excel
SDWA Forms? yes / yes / yes / yes
State Samples Collected In? MD / NJ / NY X / PA
Other
DOD Criteria Required?

Receipt Information (completed by Sample Receiver)
Performed by: Rcd
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	Y	Y	Y	Y	
	Y	Y	N	N	N

	Custody seals Present?	(If present) Seals Intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y			

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603)472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.:

***Container Type	CG	CG																					
***Container Size	4oz	16oz																					
Preservative	None	None																					

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size											
1	2376-16		9/23/15	0843	C	S	1	1											
2	2375-14			0853	C		1	1											
3	2374-4			0903	C		1	1											
4	2422-21			0912	C		1	1											
5	2424-31			0922			1	1											
6	2100-6			0933	C		1	1											
7	1981-10			0944	C		1	1											
8	1689-13			0958	C		1	1											

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by: Rmk
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y	Y	Y	Y	
Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Normandeau	9/23/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 Rmk	9/23	2040
7	9/28	1730	8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? yes / yes / yes / yes

State Samples Collected In? MD / NJ / NY X / PA

Other

Enter PWSID No.

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Courier:
Tracking #:

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Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Address: 25 Nashua Rd. Bedford, NH 03110
Phone: (603) 472-5191

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] Y enestler@normandeau.com
Fax? [ ] Y No.:

***Container Type	CG	CG																					
***Container Size	4oz	16oz																					
*** Preservative	None	None																					

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size															
							Enter Number of Containers Per Analysis																
1	1687-12		9/23/15	1012	C		1	1															
2	2090-33			1025	C		1	1															
3	2146-25			1041	C		1	1															
4	2089-27			1051	C		1	1															
5	2088-29			1106	C		1	1															
6	2087-17			1117	C		1	1															
7	2144-13			1139	C		1	1															
8	2143-2			1149	C		1	1															

Receipt Information (completed by Sample Receiver)
Performed by: Rmk
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y N	Y N	Y N	Y N	
Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
Y N		Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 Rmk	9/23	2040
7	9/25	1730	8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
SDWA Forms? yes yes yes yes
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: A=Air; DW=Drinking Water; GW=Groundwater; O=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Courier:
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Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603)472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.:

***Container Type	CG	CG																							
***Container Size	4oz	16oz																							
*** Preservative	None	None																							

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size																	
	Enter Number of Containers Per Analysis																								
1	630-8		9/23/15	1203			1	1																	
2	686-19			1214			1	1																	
3	809-17			1227			1	1																	
4	543-21			1245			1	1																	
5	55-14			1258			1	1																	
6	1547-29			1311			1	1																	
7	1787-44			1321			1	1																	
8	1321-5			1330			1	1																	

Receipt Information (completed by Sample Receiver)
Performed by: RMC
Cooler Temp: 1
Therm. ID: 309
No. of Coolers: 1
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.	
Y	Y	Y	Y		
Y	Y	Y	Y		
Y	Y	Y	Y		
Y	Y	Y	Y		
Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?	

SAMPLED BY (Please Print):

Project Comments: RMC 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomphins Normandeau	9/23/15	1654	2 [illegible]	9/23	1654
3 [illegible]	9/23	1710	4 [illegible]	9/23	1710
5 [illegible]	9/23	2040	6 RMC	9/23	2040
7 [illegible]	9/23	1730	8		
9			10		

Data Deliverables: Standard; CLP-like; NJ-Reduced; NJ-Full; other
SDWA Forms? yes; yes; yes; yes
State Samples Collected In? MD; NJ; NY X; PA; Other
EDDs Required? X If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: Pickup; X Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz, etc. Preservative: HCl, HNO3, NaOH, etc.

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Courier:
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Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Address: 25 Nashua Rd.
Bedford, NH 03110
Phone: (603) 472-5191

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] Y enestler@normandeau.com
Fax? [ ] Y No.:

	***Container Type	CG	CG										
	***Container Size	4oz	16oz										
	Preservative	None	None										
	*G or C												
	**Matrix												
	ANALYSES/METHOD REQUESTED	TOC	Gram Size										
	Sample Date	Military Time											
Sample Description/Location (as it will appear on the lab report)	COC Comments												
1 1390-28		9/23/15	1338			1	1						
2 659-7			1348			1	1						
3 654-9			1358			1	1						
4 720-16			1409			1	1						
5 717-59			1424				1						
6 714-40			1435				1						
7 849-25			1446				1						
8 240-23		9/23/15	1457				1						

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiver)
Performed by: Rmk
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	Y	
	Y	N	N	N	N

	Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Normandeau	9/23/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 Rmk	9/23	2040
7	9/28	1730	8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ] other
SDWA Forms? yes / yes / yes / yes
State Samples Collected In? MD / NJ / NY [X] / PA / Other
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Address: 25 Nashua Rd. Bedford, NH 03110
Phone: (603) 472-5191

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? Y No:

***Container Type	CG	CG	
***Container Size	4oz	16oz	
Preservative	None	None	

ANALYSES/METHOD REQUESTED: TOC; Grain Size

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size
1	99-30		9/23/15	1508	G		1	1
2	986-26			1520			1	1
3	1129-20			1529			1	1
4	1364-6			1539			1	1
5	1440-8			1552			1	1
6	1439-20			1605			1	1
7	1438-23			1617			1	1
8	1363-24		9/23/15	1628			1	1

SAMPLED BY (Please Print):

Project Comments: Rml 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 Rml	9/23	2040
7 [signature]	9/23	1750	8		
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ]
EDDs Required? [X] If yes, format type: InExcel
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Enter PWSID No
DOD Criteria Required?

Receipt Information (completed by Sample Receiving)
Performed by: Rml
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers? Y N
Correct sample volume? Y N
Correct preservation? Y N
Headspace/Volatiles? Y N
Circle appropriate Y or N.

Custody seals Present? Y N
(If present) Seals Intact? Y N
Received on Ice? Y N
COC/Labels complete/accurate? Y N
Container in good condition? Y N

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz, etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental
ALS Group USA, Corp
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Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

January 13, 2016

Analytical Report for Service Request No: K1510856
Revised Service Request No: K1510856.02

Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110

RE: 23674.000

Dear Eric,

Enclosed is the revised report for the sample(s) submitted to our laboratory September 29, 2015 For your reference, these analyses have been assigned our service request number **K1510856.**

The particle size data by Method ASTM D 422 has been updated to correspond to results reported under Method ASTM D 422 Modified in relation to the fraction names.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf
Project Manager

REVISED
7:46 am, Jan 13, 2016

ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
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F : +1 360 636 1068
www.alsglobal.com

Table of Contents

Acronyms
Qualifiers
State Certifications, Accreditations, And Licenses
Chain of Custody
General Chemistry

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

K1510856

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 7

Courier:

Tracking #:

2097466

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5911

Address: 25 Nashua Rd Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Date Required: Rush-Subject to ALS approval and surcharges. Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

**Container Type: CG CG

**Container Size: 4oz 16oz

***Preservative: None None

ANALYSES/METHOD REQUESTED

TOC

Grain Size

use client ID's for all samples

Rush Grain Size Only

Sub to ALS Also

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size								
1 ~~2637-11~~		9/22/15	1456			1	1								
2 ~~2648-2~~			1524			1	1								
3 ~~2344-15~~			1528			1	1								
4 ~~2444-10~~			1536			1	1								
5 ~~2530-3~~			1400			1	1								
6 ~~2539-30~~			1600			1	1								
7 ~~2487-7~~			1633			1	1								
8 ~~2439-22~~		✓	1614			1	1								

Receipt Information (completed by Sample Receiving)

Preserved by: Rmk

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Y	N
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Circle appropriate Y or N.		
Custody seals Present?	Y	N
(if present) Seals Intact?	Y	N
Received on ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 Rmk	9/23	2040
7 [signature]	9/25	1730	8 [signature] / ALS	9/24/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; EDD: X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? yes; yes; yes; yes

State Samples Collected In? MD; NJ; NY X; PA; Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

K1510856

466

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

	***Container Type	***Container Size	Preservative
	CG	CG	
	4oz	16oz	
	None	None	

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size								
1 2486-11		9/22/15	1658			1	1								
2 2528-1		↓	1707			1	1								
3 2527-26 Broken		↓	1718			1	1								
4 2485-5		9/22/15	1729			1	1								
5 2528-27		9/22/15	1750			1	1								
6 2482-3		↓	1802			1	1								
7 2484-4		↓	1812			1	1								
8 2481-18		9/23/15	0801			1	1								

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)

Performed by: EMK

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	N	
	Y	Y	Y	Y	
	N	N	N	N	N

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y				

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/22/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 [signature] Rmk	9/23	2040
7 [signature]	9/28	1730	8 [signature] ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; other

EDDs: X If yes, format type: Excel

DOD Criteria Required?

SDWA Forms? yes

State Samples Collected In? NO; NJ; NY X; PA

Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

PC CL

Cooler Receipt and Preservation Form

Client / Project: AIS Middletown/Normandeau Service Request K15 108516

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746141768 25	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746141771 11	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746141770 41	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746141776 81	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746141767 55	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
2527-26	1 1oz glass			X						

Notes, Discrepancies, & Resolutions: Bottle 2527-26 arrived broken but contained in Ziploc bag; lab confirmed analysis will be able to continue - CL 10/2/15

Page ____ *of* ____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

REVISED
7:46 am, Jan 13, 2016

REVISED
9:58 am, Jan 08, 2016

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2637-11
Lab Code: K1510856-001

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	2.1624	2.16
Gravel, Medium	**No.4 (4.75 mm)**	4.2874	4.27
Gravel, Fine	**No.10 (2.00 mm)**	3.0165	3.01
Sand, Very Coarse	**No.20 (0.850 mm)**	10.0328	10.06
Sand, Coarse	**No.40 (0.425 mm)**	19.0783	19.12
Sand, Medium	**No.60 (0.250 mm)**	34.0149	34.09
Sand, Fine	**No.140 (0.106 mm)**	20.4677	20.51
Sand, Very Fine	**No.200 (0.0750 mm)**	1.4367	1.44

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.91
Clay	4.87

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2648-2
Lab Code: K1510856-002

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.6189	0.59
Gravel, Medium	**No.4 (4.75 mm)**	4.2072	4.15
Gravel, Fine	**No.10 (2.00 mm)**	2.1512	2.13
Sand, Very Coarse	**No.20 (0.850 mm)**	9.1242	9.04
Sand, Coarse	**No.40 (0.425 mm)**	18.5184	18.34
Sand, Medium	**No.60 (0.250 mm)**	34.1254	33.81
Sand, Fine	**No.140 (0.106 mm)**	23.9310	23.71
Sand, Very Fine	**No.200 (0.0750 mm)**	1.6143	1.60

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.35
Clay	3.88

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2344-15
Lab Code: K1510856-003

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	12.3969	11.96
Gravel, Medium	**No.4 (4.75 mm)**	4.1081	3.98
Gravel, Fine	**No.10 (2.00 mm)**	5.7949	5.61
Sand, Very Coarse	**No.20 (0.850 mm)**	9.1609	8.92
Sand, Coarse	**No.40 (0.425 mm)**	17.7155	17.26
Sand, Medium	**No.60 (0.250 mm)**	27.9562	27.24
Sand, Fine	**No.140 (0.106 mm)**	17.6499	17.19
Sand, Very Fine	**No.200 (0.0750 mm)**	1.4137	1.38

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.88
Clay	4.96

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2441-10
Lab Code: K1510856-004

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	3.0456	2.93
Gravel, Medium	**No.4 (4.75 mm)**	2.5205	2.45
Gravel, Fine	**No.10 (2.00 mm)**	3.1002	3.01
Sand, Very Coarse	**No.20 (0.850 mm)**	12.0450	11.74
Sand, Coarse	**No.40 (0.425 mm)**	21.6669	21.12
Sand, Medium	**No.60 (0.250 mm)**	33.3698	32.54
Sand, Fine	**No.140 (0.106 mm)**	20.4494	19.93
Sand, Very Fine	**No.200 (0.0750 mm)**	1.1341	1.11

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.04
Clay	4.24

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2530-3
Lab Code: K1510856-005

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0328	0.03
Gravel, Medium	**No.4 (4.75 mm)**	0.0000	0.00
Gravel, Fine	**No.10 (2.00 mm)**	0.1218	0.11
Sand, Very Coarse	**No.20 (0.850 mm)**	1.1523	1.10
Sand, Coarse	**No.40 (0.425 mm)**	15.3720	14.60
Sand, Medium	**No.60 (0.250 mm)**	54.0913	51.38
Sand, Fine	**No.140 (0.106 mm)**	30.7495	29.20
Sand, Very Fine	**No.200 (0.0750 mm)**	0.3706	0.36

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.17
Clay	4.22

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2529-30
Lab Code: K1510856-006

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.0000	0.00
Gravel, Fine	**No.10 (2.00 mm)**	0.1884	0.18
Sand, Very Coarse	**No.20 (0.850 mm)**	0.9558	0.94
Sand, Coarse	**No.40 (0.425 mm)**	15.0668	14.70
Sand, Medium	**No.60 (0.250 mm)**	48.9833	47.82
Sand, Fine	**No.140 (0.106 mm)**	33.4612	32.66
Sand, Very Fine	**No.200 (0.0750 mm)**	0.3030	0.29

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.14
Clay	3.72

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2487-7
Lab Code: K1510856-007

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.0000	0.00
Gravel, Fine	**No.10 (2.00 mm)**	0.1025	0.10
Sand, Very Coarse	**No.20 (0.850 mm)**	1.2016	1.16
Sand, Coarse	**No.40 (0.425 mm)**	15.3444	14.77
Sand, Medium	**No.60 (0.250 mm)**	51.5352	49.64
Sand, Fine	**No.140 (0.106 mm)**	32.2799	31.08
Sand, Very Fine	**No.200 (0.0750 mm)**	0.3832	0.37

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.78
Clay	2.47

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2439-22
Lab Code: K1510856-008

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Passing
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	3.0010	2.90
Gravel, Fine	**No.10 (2.00 mm)**	2.8391	2.79
Sand, Very Coarse	**No.20 (0.850 mm)**	4.4653	4.40
Sand, Coarse	**No.40 (0.425 mm)**	9.7161	9.58
Sand, Medium	**No.60 (0.250 mm)**	34.0197	33.55
Sand, Fine	**No.140 (0.106 mm)**	36.9887	36.47
Sand, Very Fine	**No.200 (0.0750 mm)**	1.9919	1.97

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Passing
Silt	4.84
Clay	5.47

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2486-11
Lab Code: K1510856-009

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.7789	0.75
Gravel, Fine	**No.10 (2.00 mm)**	0.2751	0.27
Sand, Very Coarse	**No.20 (0.850 mm)**	1.1852	1.16
Sand, Coarse	**No.40 (0.425 mm)**	10.0756	9.81
Sand, Medium	**No.60 (0.250 mm)**	52.2161	50.86
Sand, Fine	**No.140 (0.106 mm)**	34.6669	33.76
Sand, Very Fine	**No.200 (0.0750 mm)**	0.1989	0.20

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.38
Clay	3.01

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2528-1
Lab Code: K1510856-010

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.2650	0.26
Gravel, Fine	**No.10 (2.00 mm)**	0.1149	0.11
Sand, Very Coarse	**No.20 (0.850 mm)**	1.1667	1.15
Sand, Coarse	**No.40 (0.425 mm)**	8.0864	7.95
Sand, Medium	**No.60 (0.250 mm)**	46.6325	45.86
Sand, Fine	**No.140 (0.106 mm)**	42.0213	41.33
Sand, Very Fine	**No.200 (0.0750 mm)**	0.3895	0.38

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.17
Clay	3.45

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2527-26
Lab Code: K1510856-011

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.0000	0.00
Gravel, Fine	**No.10 (2.00 mm)**	0.3215	0.32
Sand, Very Coarse	**No.20 (0.850 mm)**	0.9020	0.90
Sand, Coarse	**No.40 (0.425 mm)**	7.2619	7.28
Sand, Medium	**No.60 (0.250 mm)**	38.8063	38.90
Sand, Fine	**No.140 (0.106 mm)**	49.3589	49.48
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4947	0.49

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.58
Clay	2.54

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2485-5
Lab Code: K1510856-012

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.3624	0.39
Gravel, Medium	**No.4 (4.75 mm)**	0.4132	0.45
Gravel, Fine	**No.10 (2.00 mm)**	0.5981	0.65
Sand, Very Coarse	**No.20 (0.850 mm)**	1.5181	1.65
Sand, Coarse	**No.40 (0.425 mm)**	10.1602	11.04
Sand, Medium	**No.60 (0.250 mm)**	33.5456	36.47
Sand, Fine	**No.140 (0.106 mm)**	41.5183	45.13
Sand, Very Fine	**No.200 (0.0750 mm)**	0.5698	0.62

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.54
Clay	3.76

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2288-24
Lab Code: K1510856-013

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	9.0611	9.96
Gravel, Fine	**No.10 (2.00 mm)**	7.0678	7.79
Sand, Very Coarse	**No.20 (0.850 mm)**	9.3365	10.37
Sand, Coarse	**No.40 (0.425 mm)**	15.4304	17.14
Sand, Medium	**No.60 (0.250 mm)**	23.1699	25.74
Sand, Fine	**No.140 (0.106 mm)**	14.9495	16.61
Sand, Very Fine	**No.200 (0.0750 mm)**	1.5119	1.68

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.95
Clay	7.44

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2482-3
Lab Code: K1510856-014

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.2618	0.25
Gravel, Medium	**No.4 (4.75 mm)**	0.3005	0.30
Gravel, Fine	**No.10 (2.00 mm)**	0.4284	0.43
Sand, Very Coarse	**No.20 (0.850 mm)**	0.6153	0.61
Sand, Coarse	**No.40 (0.425 mm)**	4.7241	4.73
Sand, Medium	**No.60 (0.250 mm)**	26.6907	26.67
Sand, Fine	**No.140 (0.106 mm)**	63.0720	63.04
Sand, Very Fine	**No.200 (0.0750 mm)**	0.5521	0.55

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.04
Clay	3.99

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2064-4
Lab Code: K1510856-015

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	4.0306	4.39
Gravel, Medium	**No.4 (4.75 mm)**	4.6860	5.14
Gravel, Fine	**No.10 (2.00 mm)**	5.5468	6.09
Sand, Very Coarse	**No.20 (0.850 mm)**	10.4032	11.48
Sand, Coarse	**No.40 (0.425 mm)**	21.3634	23.58
Sand, Medium	**No.60 (0.250 mm)**	27.7672	30.65
Sand, Fine	**No.140 (0.106 mm)**	10.2585	11.32
Sand, Very Fine	**No.200 (0.0750 mm)**	0.9062	1.00

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.21
Clay	5.14

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1821-18
Lab Code: K1510856-016

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	3.8176	4.69
Gravel, Medium	**No.4 (4.75 mm)**	1.5578	1.91
Gravel, Fine	**No.10 (2.00 mm)**	2.1820	2.68
Sand, Very Coarse	**No.20 (0.850 mm)**	4.2066	5.19
Sand, Coarse	**No.40 (0.425 mm)**	11.9627	14.76
Sand, Medium	**No.60 (0.250 mm)**	22.1412	27.33
Sand, Fine	**No.140 (0.106 mm)**	29.5784	36.50
Sand, Very Fine	**No.200 (0.0750 mm)**	0.5834	0.72

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.19
Clay	5.75

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510856
Project:	23674	**Date Collected:**	9/22/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2527-26
Lab Code: K1510856-011DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	6.87
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.3802	0.37
Gravel, Fine	**No.10 (2.00 mm)**	0.2346	0.23
Sand, Very Coarse	**No.20 (0.850 mm)**	1.0860	1.01
Sand, Coarse	**No.40 (0.425 mm)**	7.6433	7.07
Sand, Medium	**No.60 (0.250 mm)**	44.0763	40.78
Sand, Fine	**No.140 (0.106 mm)**	43.9846	40.70
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4554	0.42

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.62
Clay	2.35

ALS Environmental
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January 13, 2016

Analytical Report for Service Request No: K1510857
Revised Service Request No: K1510857.02

Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110

RE: 23674.000

Dear Eric,

Enclosed is the revised report for the sample(s) submitted to our laboratory September 29, 2015
For your reference, these analyses have been assigned our service request number **K1510857.**

The particle size data by Method ASTM D 422 has been updated to correspond to results reported under Method ASTM D 422 Modified in relation to the fraction names.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf
Project Manager

REVISED
7:56 am, Jan 13, 2016

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

K1510897

466

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

***Container Type	CG	CG															
***Container Size	4oz	16oz															
*** Preservative	None	None															
ANALYSES/METHOD REQUESTED			TOC	Grain Size													

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis											
1 2376-16		9/23/15	0843			1	1										
2 ~~2375-14~~			0853			1	1										
3 ~~2374-24~~			0902			1	1										
4 ~~2124-31~~			0912			1	1										
5 ~~2124-31~~			0922			1	1										
6 ~~2124-6~~			0933			1	1										
7 ~~1984-10~~			[illegible]			1	1										
8 ~~1659-13~~		✓	0958			1	1										

Receipt Information (completed by Sample Receiving)

Performed by: Rmk

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
N	N	N	N	
Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y	N	N	N	Y

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Normandeau	9/23/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 Rmk	9/23	2040
7	9/25	1730	8 /ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; X EDD (in addition to pdf) In Excel

DOD Criteria Required?

SDWA Form 7? Yes

State Samples Collected? MD; NY X; PA

Other

Enter PWSID No.

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 7

Courier:

Tracking #:

K1510857

466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Address: 25 Nashua Rd
Bedford, NH 03110
Phone: (603) 472-5191

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-415330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email?: X Y enestler@normandeau.com
Fax?: Y No.

					***Container Type	CG	CG										
					***Container Size	4oz	16oz										
					*** Preservative	None	None										
					ANALYSES/METHOD REQUESTED												
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size										
						Enter Number of Containers Per Analysis											
1		9/23/15	1012			1	1										
2			1025			1	1										
3			1040			1	1										
4			1055			1	1										
5			1106			1	1										
6	16oz		1117			1	1										
7			1129			1	1										
8	16oz		1140			1	1										

Receipt Information (completed by Sample Receiving)
Performed by: RWK
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.	
N	N	N	N		
Y	Y	Y	Y		
N	N	N	N	N	
Y	Y	Y	Y	Y	
Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?	

SAMPLED BY (Please Print):

Project Comments:
RWK 9/23 2326

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other
SDWA Forms? yes
State Samples Collected in? MD, NJ, NY [X], PA
EDDs Required? [X] Yes, format type: In Excel
Other:
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Toll / Normandeau	9/23/15	1654	2	9/23	1654
3	9/23	1710	4	9/23	1710
5	9/23	2040	6 RWK	9/23	2040
7	9/25	1730	8 / ALS	9/29/15	0920
9			10		

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL, CANARY - CUSTOMER COPY

Rev 01-2013

PC CV

Cooler Receipt and Preservation Form

Client / Project: AIS Middle town / Normandeau Service Request K15 10857

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where?_____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746 1417 6825	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746 1417 7111	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746 1417 7041	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746 1417 7681	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746 1417 6755	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:_____

***Page*____ *of*____**

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

REVISED
7:57 am, Jan 13, 2016

REVISED
9:55 am, Jan 08, 2016

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2376-16
Lab Code: K1510857-001

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	1.4125	1.38
Gravel, Fine	**No.10 (2.00 mm)**	0.8252	0.80
Sand, Very Coarse	**No.20 (0.850 mm)**	1.1318	1.11
Sand, Coarse	**No.40 (0.425 mm)**	2.2506	2.21
Sand, Medium	**No.60 (0.250 mm)**	15.8117	15.48
Sand, Fine	**No.140 (0.106 mm)**	71.3238	69.86
Sand, Very Fine	**No.200 (0.0750 mm)**	3.2703	3.20

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.29
Clay	4.87

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2375-14
Lab Code: K1510857-002

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.7525	0.77
Gravel, Fine	**No.10 (2.00 mm)**	2.9623	3.06
Sand, Very Coarse	**No.20 (0.850 mm)**	5.1920	5.38
Sand, Coarse	**No.40 (0.425 mm)**	5.6469	5.86
Sand, Medium	**No.60 (0.250 mm)**	29.0943	30.16
Sand, Fine	**No.140 (0.106 mm)**	46.6125	48.32
Sand, Very Fine	**No.200 (0.0750 mm)**	1.5342	1.59

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.11
Clay	4.33

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2374-4
Lab Code: K1510857-003

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.4666	0.49
Gravel, Fine	**No.10 (2.00 mm)**	1.7288	1.78
Sand, Very Coarse	**No.20 (0.850 mm)**	0.9669	1.00
Sand, Coarse	**No.40 (0.425 mm)**	2.1617	2.25
Sand, Medium	**No.60 (0.250 mm)**	25.5906	26.56
Sand, Fine	**No.140 (0.106 mm)**	57.6994	59.89
Sand, Very Fine	**No.200 (0.0750 mm)**	2.0551	2.14

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.13
Clay	5.90

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2422-21
Lab Code: K1510857-004

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	1.57
Gravel, Medium	**No.4 (4.75 mm)**	1.5349	1.38
Gravel, Fine	**No.10 (2.00 mm)**	1.3594	1.78
Sand, Very Coarse	**No.20 (0.850 mm)**	1.7324	2.73
Sand, Coarse	**No.40 (0.425 mm)**	2.6643	35.77
Sand, Medium	**No.60 (0.250 mm)**	34.8890	50.38
Sand, Fine	**No.140 (0.106 mm)**	49.1436	1.61
Sand, Very Fine	**No.200 (0.0750 mm)**	1.5684	4.77

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.93
Clay	5.45

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2424-31
Lab Code: K1510857-005

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.0000	0.00
Gravel, Fine	**No.10 (2.00 mm)**	0.3704	0.37
Sand, Very Coarse	**No.20 (0.850 mm)**	0.6052	0.61
Sand, Coarse	**No.40 (0.425 mm)**	1.8148	1.83
Sand, Medium	**No.60 (0.250 mm)**	22.7697	22.93
Sand, Fine	**No.140 (0.106 mm)**	64.5778	65.02
Sand, Very Fine	**No.200 (0.0750 mm)**	3.2252	3.24

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	9.24
Clay	0.00

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2100-6
Lab Code: K1510857-006

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	4.5202	4.54
Gravel, Fine	**No.10 (2.00 mm)**	5.3476	5.39
Sand, Very Coarse	**No.20 (0.850 mm)**	10.8947	11.01
Sand, Coarse	**No.40 (0.425 mm)**	24.6862	24.94
Sand, Medium	**No.60 (0.250 mm)**	39.2048	39.61
Sand, Fine	**No.140 (0.106 mm)**	9.8754	9.98
Sand, Very Fine	**No.200 (0.0750 mm)**	0.3606	0.37

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.74
Clay	4.05

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1981-10
Lab Code: K1510857-007

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.04
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	7.5394	7.43
Gravel, Medium	**No.4 (4.75 mm)**	15.3119	15.08
Gravel, Fine	**No.10 (2.00 mm)**	8.0692	7.94
Sand, Very Coarse	**No.20 (0.850 mm)**	11.8861	11.75
Sand, Coarse	**No.40 (0.425 mm)**	18.1253	17.90
Sand, Medium	**No.60 (0.250 mm)**	20.7221	20.47
Sand, Fine	**No.140 (0.106 mm)**	13.8417	13.68
Sand, Very Fine	**No.200 (0.0750 mm)**	0.6322	0.62

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.10
Clay	3.61

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1689-13
Lab Code: K1510857-008

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	1.5110	1.73
Gravel, Fine	**No.10 (2.00 mm)**	3.1317	3.58
Sand, Very Coarse	**No.20 (0.850 mm)**	14.8304	17.02
Sand, Coarse	**No.40 (0.425 mm)**	36.0917	41.42
Sand, Medium	**No.60 (0.250 mm)**	21.6188	24.81
Sand, Fine	**No.140 (0.106 mm)**	5.2048	5.97
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4053	0.47

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.75
Clay	4.72

ALS Group USA, Corp.
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Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1687-12
Lab Code: K1510857-009

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.7044	0.00
Gravel, Fine	**No.10 (2.00 mm)**	3.0447	3.24
Sand, Very Coarse	**No.20 (0.850 mm)**	8.8783	9.55
Sand, Coarse	**No.40 (0.425 mm)**	33.9100	36.47
Sand, Medium	**No.60 (0.250 mm)**	34.4130	37.01
Sand, Fine	**No.140 (0.106 mm)**	8.5500	9.19
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4505	0.49

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.23
Clay	4.31

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2090-33
Lab Code: K1510857-010

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.29
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	2.1503	2.21
Gravel, Medium	**No.4 (4.75 mm)**	6.5985	6.77
Gravel, Fine	**No.10 (2.00 mm)**	15.4430	15.84
Sand, Very Coarse	**No.20 (0.850 mm)**	21.8946	22.47
Sand, Coarse	**No.40 (0.425 mm)**	24.1316	24.75
Sand, Medium	**No.60 (0.250 mm)**	11.8700	12.18
Sand, Fine	**No.140 (0.106 mm)**	8.3633	8.58
Sand, Very Fine	**No.200 (0.0750 mm)**	1.0010	1.03

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	3.51
Clay	3.40

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2146-25
Lab Code: K1510857-011

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	1.1147	1.20
Gravel, Medium	**No.4 (4.75 mm)**	6.5655	7.05
Gravel, Fine	**No.10 (2.00 mm)**	8.5217	9.15
Sand, Very Coarse	**No.20 (0.850 mm)**	8.5021	9.16
Sand, Coarse	**No.40 (0.425 mm)**	15.6459	16.86
Sand, Medium	**No.60 (0.250 mm)**	20.9707	22.59
Sand, Fine	**No.140 (0.106 mm)**	26.4663	28.51
Sand, Very Fine	**No.200 (0.0750 mm)**	1.1525	1.24

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.37
Clay	4.10

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2089-27
Lab Code: K1510857-012

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	2.0995	2.08
Gravel, Fine	**No.10 (2.00 mm)**	9.2632	9.16
Sand, Very Coarse	**No.20 (0.850 mm)**	19.4397	19.28
Sand, Coarse	**No.40 (0.425 mm)**	34.6151	34.33
Sand, Medium	**No.60 (0.250 mm)**	21.3930	21.22
Sand, Fine	**No.140 (0.106 mm)**	9.3966	9.32
Sand, Very Fine	**No.200 (0.0750 mm)**	0.8209	0.81

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.97
Clay	3.64

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2088-29
Lab Code: K1510857-013

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	2.0609	2.06
Gravel, Medium	**No.4 (4.75 mm)**	8.8395	8.80
Gravel, Fine	**No.10 (2.00 mm)**	11.2579	11.21
Sand, Very Coarse	**No.20 (0.850 mm)**	15.6921	15.67
Sand, Coarse	**No.40 (0.425 mm)**	27.8618	27.81
Sand, Medium	**No.60 (0.250 mm)**	22.6455	22.61
Sand, Fine	**No.140 (0.106 mm)**	7.0262	7.02
Sand, Very Fine	**No.200 (0.0750 mm)**	0.6912	0.69

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.78
Clay	3.04

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2087-17
Lab Code: K1510857-014

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	4.2357	4.02
Gravel, Medium	**No.4 (4.75 mm)**	7.7224	7.33
Gravel, Fine	**No.10 (2.00 mm)**	9.8959	9.39
Sand, Very Coarse	**No.20 (0.850 mm)**	13.3064	12.66
Sand, Coarse	**No.40 (0.425 mm)**	24.1997	23.03
Sand, Medium	**No.60 (0.250 mm)**	28.1874	26.82
Sand, Fine	**No.140 (0.106 mm)**	11.6990	11.14
Sand, Very Fine	**No.200 (0.0750 mm)**	0.9495	0.90

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.17
Clay	3.43

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2144-13
Lab Code: K1510857-015

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.10
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	8.1010	8.10
Gravel, Medium	**No.4 (4.75 mm)**	4.7651	4.77
Gravel, Fine	**No.10 (2.00 mm)**	5.7210	5.73
Sand, Very Coarse	**No.20 (0.850 mm)**	5.9902	6.01
Sand, Coarse	**No.40 (0.425 mm)**	14.6644	14.70
Sand, Medium	**No.60 (0.250 mm)**	26.9145	26.98
Sand, Fine	**No.140 (0.106 mm)**	28.4942	28.57
Sand, Very Fine	**No.200 (0.0750 mm)**	1.1732	1.18

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.96
Clay	3.08

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2143-2
Lab Code: K1510857-016

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.02
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	2.2337	2.09
Gravel, Medium	**No.4 (4.75 mm)**	9.0535	8.48
Gravel, Fine	**No.10 (2.00 mm)**	8.9918	8.43
Sand, Very Coarse	**No.20 (0.850 mm)**	9.9207	9.32
Sand, Coarse	**No.40 (0.425 mm)**	21.9142	20.60
Sand, Medium	**No.60 (0.250 mm)**	22.6667	21.30
Sand, Fine	**No.140 (0.106 mm)**	25.4298	23.90
Sand, Very Fine	**No.200 (0.0750 mm)**	1.7771	1.67

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.63
Clay	3.23

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510857
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2375-14
Lab Code: K1510857-002DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.1890	0.19
Gravel, Fine	**No.10 (2.00 mm)**	2.8236	2.86
Sand, Very Coarse	**No.20 (0.850 mm)**	5.2187	5.32
Sand, Coarse	**No.40 (0.425 mm)**	5.7733	5.89
Sand, Medium	**No.60 (0.250 mm)**	26.0675	26.56
Sand, Fine	**No.140 (0.106 mm)**	51.2004	52.18
Sand, Very Fine	**No.200 (0.0750 mm)**	1.4786	1.51

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.25
Clay	4.75

ALS Environmental
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www.alsglobal.com

January 13, 2016

Analytical Report for Service Request No: K1510858
Revised Service Request No: K1510858.02

Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110

RE: 23674.000

Dear Eric,

Enclosed is the revised report for the sample(s) submitted to our laboratory September 29, 2015
For your reference, these analyses have been assigned our service request number **K1510858.**

The particle size data by Method ASTM D 422 has been updated to correspond to results reported under Method ASTM D 422 Modified in relation to the fraction names.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf
Project Manager

REVISED
8:00 am, Jan 13, 2016

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

K1510858
466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603)472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Date Required:
Rush-Subject to ALS approval and surcharges. Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.

***Container Type	CG	CG																					
***Container Size	4oz	16oz																					
*** Preservative	None	None																					

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size																
						Enter Number of Containers Per Analysis																	
1 630-8		9/23/15	1203				1																
2 686-19			1214				1																
3 809-17			1227				1																
4 543-21			1245				1																
5 55-14			1258				1																
6 1597-29			1311				1																
7 1787-44			1321				1																
8 1321-5			1330				1																

Receipt Information (completed by Sample Receiving):
Performed by: RMK
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N
Y N	Y N	Y N	Y N	
Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y		Y N	Y N	Y N

SAMPLED BY (Please Print):

Project Comments: RMK 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/23/15	1654	2 [illegible]	9/23	1654
3 [illegible]	9/23	1710	4 [illegible]	9/24	1710
5 [illegible]	9/24	2040	6 RMK	9/23	2040
7 [illegible]	9/25	1730	8 [illegible] / ALS	9/29/15	0920
9			10		

Data Deliverables: Standard; CLP-like; NJ Reduced; NJ-Full; (other)
SDWA Forms? yes
State Samples Collected In? MD; NJ; NY X; PA
EDDs Required? X If yes, format type: In Excel
Other:
DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 01-2013

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

K1510858
466

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.:

***Container Type	CG	CG																					
***Container Size	4oz	16oz																					
*** Preservative	None	None																					

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Gram Size																
1 ~~1340-28~~		9/23/15	1938			1	1																
2 ~~659-7~~			1318			1	1																
3 ~~654-9~~			1358			1	1																
4 ~~7220-16~~			1409			1	1																
5 ~~7167-59~~			1426			1	1																
6 ~~7416-40~~			1435			1	1																
7 ~~8419-25~~			1446			1	1																
8 ~~240-23~~		9/23/15	1457			1	1																

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiver)
Performed by: Rmk
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

	Y	Y	Y	Y	Circle appropriate Y or N.
Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?		
N	N	N	N		

	Y	Y	Y	Y	Y
Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?	
N	N	N	N	N	

SAMPLED BY (Please Print):
Project Comments: Rmk 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Christopher Normandeau	9/23/15	1654	2 [signature]	9/23	1654
3 [signature]	9/23	1710	4 [signature]	9/23	1710
5 [signature]	9/23	2040	6 Rmk	9/23	2040
7 [signature]	9/28	1730	8 [signature] / ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; other
SDWA Forms? yes
State Samples Collected In? NC; NJ; NY X; PA
EDDs required? X If yes, format type: In Excel
Other
DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 01-2013

PC CV

Cooler Receipt and Preservation Form

Client / Project: AIS Middle town / Normandeau Service Request K15 10858

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746 1417 6825	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746 1417 7111	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746 1417 7041	
-0.7	-0.6	2.5	2.6	+0.1	348	3 of 5	7746 1417 7681	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746 1417 6755	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

General Chemistry

ALS Environmental—Kelso Laboratory
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Phone (360)577-7222 Fax (360)636-1068
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REVISED
8:00 am, Jan 13, 2016

REVISED
10:18 am, Jan 08, 2016

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 630-8
Lab Code: K1510858-001

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	1.4338	1.54
Gravel, Medium	**No.4 (4.75 mm)**	2.4461	2.63
Gravel, Fine	**No.10 (2.00 mm)**	5.3337	5.74
Sand, Very Coarse	**No.20 (0.850 mm)**	4.5967	4.99
Sand, Coarse	**No.40 (0.425 mm)**	3.0333	3.30
Sand, Medium	**No.60 (0.250 mm)**	14.9776	16.26
Sand, Fine	**No.140 (0.106 mm)**	46.2634	50.23
Sand, Very Fine	**No.200 (0.0750 mm)**	1.6354	1.77

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	6.57
Clay	8.73

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 686-19
Lab Code: K1510858-002

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	1.2327	1.37
Gravel, Fine	**No.10 (2.00 mm)**	2.7943	3.10
Sand, Very Coarse	**No.20 (0.850 mm)**	6.1650	6.91
Sand, Coarse	**No.40 (0.425 mm)**	28.3027	31.69
Sand, Medium	**No.60 (0.250 mm)**	30.0986	33.70
Sand, Fine	**No.140 (0.106 mm)**	13.1189	14.69
Sand, Very Fine	**No.200 (0.0750 mm)**	0.6953	0.78

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.49
Clay	4.05

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 809-17
Lab Code: K1510858-003

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.02
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	16.6099	16.82
Gravel, Medium	**No.4 (4.75 mm)**	7.1681	7.25
Gravel, Fine	**No.10 (2.00 mm)**	13.3499	13.51
Sand, Very Coarse	**No.20 (0.850 mm)**	14.5391	14.85
Sand, Coarse	**No.40 (0.425 mm)**	18.5604	18.96
Sand, Medium	**No.60 (0.250 mm)**	12.4665	12.73
Sand, Fine	**No.140 (0.106 mm)**	8.9770	9.17
Sand, Very Fine	**No.200 (0.0750 mm)**	0.6552	0.67

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	3.26
Clay	3.43

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 543-21
Lab Code: K1510858-004

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	2.6608	2.78
Gravel, Fine	**No.10 (2.00 mm)**	8.7228	9.12
Sand, Very Coarse	**No.20 (0.850 mm)**	18.0333	18.92
Sand, Coarse	**No.40 (0.425 mm)**	31.7195	33.28
Sand, Medium	**No.60 (0.250 mm)**	23.5157	24.67
Sand, Fine	**No.140 (0.106 mm)**	6.9817	7.32
Sand, Very Fine	**No.200 (0.0750 mm)**	0.2671	0.28

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.80
Clay	2.11

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 55-14
Lab Code: K1510858-005

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	2.7364	2.97
Gravel, Fine	**No.10 (2.00 mm)**	7.9308	8.63
Sand, Very Coarse	**No.20 (0.850 mm)**	9.8103	10.75
Sand, Coarse	**No.40 (0.425 mm)**	15.9005	17.43
Sand, Medium	**No.60 (0.250 mm)**	24.2507	26.58
Sand, Fine	**No.140 (0.106 mm)**	22.9722	25.17
Sand, Very Fine	**No.200 (0.0750 mm)**	0.9270	1.02

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	3.87
Clay	4.59

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1547-29
Lab Code: K1510858-006

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	8.3257	8.93
Gravel, Fine	**No.10 (2.00 mm)**	10.7147	11.49
Sand, Very Coarse	**No.20 (0.850 mm)**	14.4638	15.59
Sand, Coarse	**No.40 (0.425 mm)**	25.7300	27.72
Sand, Medium	**No.60 (0.250 mm)**	22.9750	24.76
Sand, Fine	**No.140 (0.106 mm)**	6.5831	7.09
Sand, Very Fine	**No.200 (0.0750 mm)**	0.2853	0.31

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.53
Clay	1.89

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1787-44
Lab Code: K1510858-007

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.03
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	10.3052	9.93
Gravel, Fine	**No.10 (2.00 mm)**	4.9073	4.74
Sand, Very Coarse	**No.20 (0.850 mm)**	4.1563	4.04
Sand, Coarse	**No.40 (0.425 mm)**	13.1821	12.84
Sand, Medium	**No.60 (0.250 mm)**	39.5809	38.54
Sand, Fine	**No.140 (0.106 mm)**	27.1152	26.40
Sand, Very Fine	**No.200 (0.0750 mm)**	0.3185	0.31

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.16
Clay	2.32

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1321-5
Lab Code: K1510858-008

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	4.5885	5.02
Gravel, Medium	**No.4 (4.75 mm)**	5.4184	5.93
Gravel, Fine	**No.10 (2.00 mm)**	10.8878	11.90
Sand, Very Coarse	**No.20 (0.850 mm)**	15.2429	16.75
Sand, Coarse	**No.40 (0.425 mm)**	20.0617	22.05
Sand, Medium	**No.60 (0.250 mm)**	17.1899	18.89
Sand, Fine	**No.140 (0.106 mm)**	9.9857	10.97
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4757	0.53

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	5.07
Clay	3.41

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1390-28
Lab Code: K1510858-009

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	14.2755	14.62
Gravel, Medium	**No.4 (4.75 mm)**	7.8319	8.02
Gravel, Fine	**No.10 (2.00 mm)**	6.3512	6.51
Sand, Very Coarse	**No.20 (0.850 mm)**	23.8491	24.52
Sand, Coarse	**No.40 (0.425 mm)**	27.5158	28.28
Sand, Medium	**No.60 (0.250 mm)**	8.6044	8.85
Sand, Fine	**No.140 (0.106 mm)**	4.7376	4.87
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4061	0.42

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.47
Clay	1.85

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 659-7
Lab Code: K1510858-010

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.05
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	6.6790	6.47
Gravel, Medium	**No.4 (4.75 mm)**	8.7026	8.43
Gravel, Fine	**No.10 (2.00 mm)**	2.6967	2.61
Sand, Very Coarse	**No.20 (0.850 mm)**	5.0812	4.94
Sand, Coarse	**No.40 (0.425 mm)**	21.4624	20.86
Sand, Medium	**No.60 (0.250 mm)**	38.3556	37.26
Sand, Fine	**No.140 (0.106 mm)**	17.3002	16.81
Sand, Very Fine	**No.200 (0.0750 mm)**	0.1075	0.11

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.38
Clay	1.19

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 654-9
Lab Code: K1510858-011

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	13.5434	13.42
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	5.0424	5.00
Gravel, Medium	**No.4 (4.75 mm)**	6.1865	6.13
Gravel, Fine	**No.10 (2.00 mm)**	5.2538	5.20
Sand, Very Coarse	**No.20 (0.850 mm)**	12.3483	12.30
Sand, Coarse	**No.40 (0.425 mm)**	18.5784	18.51
Sand, Medium	**No.60 (0.250 mm)**	14.8027	14.74
Sand, Fine	**No.140 (0.106 mm)**	19.6502	19.57
Sand, Very Fine	**No.200 (0.0750 mm)**	0.5632	0.56

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.77
Clay	2.36

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 720-16
Lab Code: K1510858-012

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	4.7011	5.20
Gravel, Medium	**No.4 (4.75 mm)**	4.8463	5.36
Gravel, Fine	**No.10 (2.00 mm)**	5.3706	5.94
Sand, Very Coarse	**No.20 (0.850 mm)**	8.5065	9.46
Sand, Coarse	**No.40 (0.425 mm)**	13.7742	15.31
Sand, Medium	**No.60 (0.250 mm)**	22.6179	25.14
Sand, Fine	**No.140 (0.106 mm)**	24.3393	27.05
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4251	0.47

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.25
Clay	2.28

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 717-59
Lab Code: K1510858-013

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.9842	0.95
Gravel, Medium	**No.4 (4.75 mm)**	6.8390	6.60
Gravel, Fine	**No.10 (2.00 mm)**	5.4968	5.30
Sand, Very Coarse	**No.20 (0.850 mm)**	9.9198	9.60
Sand, Coarse	**No.40 (0.425 mm)**	18.1502	17.57
Sand, Medium	**No.60 (0.250 mm)**	27.3478	26.47
Sand, Fine	**No.140 (0.106 mm)**	29.4094	28.48
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4204	0.40

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.57
Clay	2.46

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 714-40
Lab Code: K1510858-014

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	4.7878	5.14
Gravel, Medium	**No.4 (4.75 mm)**	8.6683	9.31
Gravel, Fine	**No.10 (2.00 mm)**	4.8991	5.26
Sand, Very Coarse	**No.20 (0.850 mm)**	6.4632	6.96
Sand, Coarse	**No.40 (0.425 mm)**	13.2134	14.23
Sand, Medium	**No.60 (0.250 mm)**	19.0906	20.57
Sand, Fine	**No.140 (0.106 mm)**	32.4946	35.01
Sand, Very Fine	**No.200 (0.0750 mm)**	0.2416	0.26

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.49
Clay	3.02

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 849-25
Lab Code: K1510858-015

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	5.8701	5.86
Gravel, Medium	**No.4 (4.75 mm)**	10.2635	10.23
Gravel, Fine	**No.10 (2.00 mm)**	5.6032	5.59
Sand, Very Coarse	**No.20 (0.850 mm)**	12.9361	12.93
Sand, Coarse	**No.40 (0.425 mm)**	31.9063	31.91
Sand, Medium	**No.60 (0.250 mm)**	17.9261	17.93
Sand, Fine	**No.140 (0.106 mm)**	12.7099	12.72
Sand, Very Fine	**No.200 (0.0750 mm)**	0.1865	0.18

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.48
Clay	2.54

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 240-23
Lab Code: K1510858-016

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	7.5015	6.65
Gravel, Medium	**No.4 (4.75 mm)**	2.5444	2.25
Gravel, Fine	**No.10 (2.00 mm)**	9.5018	8.42
Sand, Very Coarse	**No.20 (0.850 mm)**	14.9455	13.27
Sand, Coarse	**No.40 (0.425 mm)**	26.9385	23.93
Sand, Medium	**No.60 (0.250 mm)**	28.8173	25.59
Sand, Fine	**No.140 (0.106 mm)**	18.4826	16.41
Sand, Very Fine	**No.200 (0.0750 mm)**	0.1552	0.14

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.56
Clay	3.20

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510858
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 686-19
Lab Code: K1510858-002DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.02
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.47
Gravel, Medium	**No.4 (4.75 mm)**	0.4244	3.58
Gravel, Fine	**No.10 (2.00 mm)**	3.2234	6.70
Sand, Very Coarse	**No.20 (0.850 mm)**	5.9879	31.34
Sand, Coarse	**No.40 (0.425 mm)**	28.0140	34.24
Sand, Medium	**No.60 (0.250 mm)**	30.5932	15.09
Sand, Fine	**No.140 (0.106 mm)**	13.4812	0.82
Sand, Very Fine	**No.200 (0.0750 mm)**	0.7379	7.74

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.52
Clay	4.04

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January 13, 2016

Analytical Report for Service Request No: K1510860
Revised Service Request No: K1510860.02

Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110

RE: 23674.000

Dear Eric,

Enclosed is the revised report for the sample(s) submitted to our laboratory September 29, 2015 For your reference, these analyses have been assigned our service request number **K1510860.**

The particle size data by Method ASTM D 422 has been updated to correspond to results reported under Method ASTM D 422 Modified in relation to the fraction names.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf
Project Manager

REVISED
8:05 am, Jan 13, 2016

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General Chemistry

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

K1510960

466

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 7 of 7

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

P.O#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

***Container Type	CG	CG	
***Container Size	4oz	16oz	
*** Preservative	None	None	

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	TOC	Grain Size									
1 [redacted]		9/23/15	1508			1	1									
2 [redacted]			1540			1	1									
3 [redacted]			1529			1	1									
4 [redacted]			1534			1	1									
5 [redacted]			1552			1	1									
6 [redacted]			1605			1	1									
7 1428-23		✓	1617			1	1									
8 [redacted]		9/23/15	1628			1	1									

Enter Number of Containers Per Analysis

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	Y	Y	Y	Y	
2	Y	Y	Y	Y	Y
3	Y	Y	Y	Y	Y
4	Y	Y	Y	Y	Y
5	Y	Y	Y	Y	Y
6	Y	Y	Y	Y	Y
7	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y

	Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?

Receipt Information (completed by Sample Receiving)

Performed by: [illegible]

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

SAMPLED BY (Please Print):

Project Comments: [illegible] 9/23 2326

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C Tomlinson Normandeau	9/23/15	1654	2 [illegible]	9/23	1654
3 [illegible]	9/23	1710	4 [illegible]	9/23	1710
5 [illegible]	9/23	2040	6 [illegible]	9/23	2040
7 [illegible]	9/25	1750	8 [illegible] / ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; Other

EDD Required? X If Yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? Yes

State Samples Collected In? MD; NJ; NY X; PA; Other

ALS FIELD SERVICES: Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

PC CA

Cooler Receipt and Preservation Form

Client / Project: AIS Middle town / Normandeau Service Request K15 10860

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746 1417 6825	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746 1417 7111	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746 1417 7041	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746 1417 7681	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746 1417 6755	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page _____ ***of*** _____

General Chemistry

ALS Environmental—Kelso Laboratory
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REVISED
8:05 am, Jan 13, 2016

REVISED
10:00 am, Jan 08, 2016

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 99-30
Lab Code: K1510860-001

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.0000	0.00
Gravel, Fine	**No.10 (2.00 mm)**	1.2678	1.22
Sand, Very Coarse	**No.20 (0.850 mm)**	15.5545	15.06
Sand, Coarse	**No.40 (0.425 mm)**	51.0552	49.40
Sand, Medium	**No.60 (0.250 mm)**	24.7457	23.95
Sand, Fine	**No.140 (0.106 mm)**	5.8764	5.68
Sand, Very Fine	**No.200 (0.0750 mm)**	0.3068	0.30

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.94
Clay	3.75

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 986-26
Lab Code: K1510860-002

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.3443	0.34
Gravel, Medium	**No.4 (4.75 mm)**	6.1866	5.97
Gravel, Fine	**No.10 (2.00 mm)**	5.8445	5.65
Sand, Very Coarse	**No.20 (0.850 mm)**	8.8359	8.57
Sand, Coarse	**No.40 (0.425 mm)**	13.0503	12.66
Sand, Medium	**No.60 (0.250 mm)**	17.0631	16.54
Sand, Fine	**No.140 (0.106 mm)**	45.6404	44.26
Sand, Very Fine	**No.200 (0.0750 mm)**	1.8140	1.76

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.02
Clay	3.99

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1129-20
Lab Code: K1510860-003

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	7.2568	7.06
Gravel, Medium	**No.4 (4.75 mm)**	5.9066	5.74
Gravel, Fine	**No.10 (2.00 mm)**	4.3418	4.23
Sand, Very Coarse	**No.20 (0.850 mm)**	3.7735	3.68
Sand, Coarse	**No.40 (0.425 mm)**	15.7583	15.37
Sand, Medium	**No.60 (0.250 mm)**	29.7093	28.98
Sand, Fine	**No.140 (0.106 mm)**	29.9856	29.25
Sand, Very Fine	**No.200 (0.0750 mm)**	1.5122	1.47

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.99
Clay	3.69

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1364-6
Lab Code: K1510860-004

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	2.5865	2.36
Gravel, Medium	**No.4 (4.75 mm)**	3.4117	3.12
Gravel, Fine	**No.10 (2.00 mm)**	4.2116	3.84
Sand, Very Coarse	**No.20 (0.850 mm)**	8.7019	7.98
Sand, Coarse	**No.40 (0.425 mm)**	32.1112	29.42
Sand, Medium	**No.60 (0.250 mm)**	39.1345	35.87
Sand, Fine	**No.140 (0.106 mm)**	14.1258	12.94
Sand, Very Fine	**No.200 (0.0750 mm)**	0.8812	0.81

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.26
Clay	3.20

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1440-8
Lab Code: K1510860-005

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.04
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	9.5903	10.10
Gravel, Medium	**No.4 (4.75 mm)**	17.6236	18.57
Gravel, Fine	**No.10 (2.00 mm)**	8.2324	8.67
Sand, Very Coarse	**No.20 (0.850 mm)**	5.7363	6.06
Sand, Coarse	**No.40 (0.425 mm)**	12.2025	12.88
Sand, Medium	**No.60 (0.250 mm)**	21.4550	22.65
Sand, Fine	**No.140 (0.106 mm)**	15.3451	16.20
Sand, Very Fine	**No.200 (0.0750 mm)**	1.3268	1.41

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	2.14
Clay	2.69

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1439-20
Lab Code: K1510860-006

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	7.7743	7.48
Gravel, Medium	**No.4 (4.75 mm)**	4.2153	4.06
Gravel, Fine	**No.10 (2.00 mm)**	9.4467	9.10
Sand, Very Coarse	**No.20 (0.850 mm)**	14.7445	14.23
Sand, Coarse	**No.40 (0.425 mm)**	29.1014	28.10
Sand, Medium	**No.60 (0.250 mm)**	25.2016	24.33
Sand, Fine	**No.140 (0.106 mm)**	9.0717	8.76
Sand, Very Fine	**No.200 (0.0750 mm)**	1.0760	1.04

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.27
Clay	3.66

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1438-23
Lab Code: K1510860-007

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	6.9526	6.90
Gravel, Medium	**No.4 (4.75 mm)**	7.4615	7.41
Gravel, Fine	**No.10 (2.00 mm)**	9.1738	9.10
Sand, Very Coarse	**No.20 (0.850 mm)**	17.3620	17.30
Sand, Coarse	**No.40 (0.425 mm)**	28.1464	28.04
Sand, Medium	**No.60 (0.250 mm)**	18.7648	18.70
Sand, Fine	**No.140 (0.106 mm)**	8.3042	8.27
Sand, Very Fine	**No.200 (0.0750 mm)**	0.7890	0.79

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.78
Clay	3.50

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	9/23/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 1363-24
Lab Code: K1510860-008

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	7.7714	7.85
Gravel, Medium	**No.4 (4.75 mm)**	7.1062	7.18
Gravel, Fine	**No.10 (2.00 mm)**	3.3372	3.37
Sand, Very Coarse	**No.20 (0.850 mm)**	7.9748	8.08
Sand, Coarse	**No.40 (0.425 mm)**	25.5403	25.88
Sand, Medium	**No.60 (0.250 mm)**	29.7193	30.11
Sand, Fine	**No.140 (0.106 mm)**	12.1715	12.34
Sand, Very Fine	**No.200 (0.0750 mm)**	1.0740	1.09

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	1.15
Clay	4.04

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: Batch QC
Lab Code: K1510856-011

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.0000	0.00
Gravel, Fine	**No.10 (2.00 mm)**	0.3215	0.32
Sand, Very Coarse	**No.20 (0.850 mm)**	0.9020	0.90
Sand, Coarse	**No.40 (0.425 mm)**	7.2619	7.28
Sand, Medium	**No.60 (0.250 mm)**	38.8063	38.90
Sand, Fine	**No.140 (0.106 mm)**	49.3589	49.48
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4947	0.49

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.58
Clay	2.54

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510860
Project:	23674	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: Batch QC
Lab Code: K1510856-011DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	6.87
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.3802	0.37
Gravel, Fine	**No.10 (2.00 mm)**	0.2346	0.23
Sand, Very Coarse	**No.20 (0.850 mm)**	1.0860	1.01
Sand, Coarse	**No.40 (0.425 mm)**	7.6433	7.07
Sand, Medium	**No.60 (0.250 mm)**	44.0763	40.78
Sand, Fine	**No.140 (0.106 mm)**	43.9846	40.70
Sand, Very Fine	**No.200 (0.0750 mm)**	0.4554	0.42

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	0.62
Clay	2.35

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January 13, 2016

Analytical Report for Service Request No: K1510864
Revised Service Request No: K1510864.02

Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110

RE:

Dear Eric,

Enclosed is the revised report for the sample(s) submitted to our laboratory September 29, 2015
For your reference, these analyses have been assigned our service request number **K1510864.**

The particle size data by Method ASTM D 422 has been updated to correspond to results reported under Method ASTM D 422 Modified in relation to the fraction names.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3275. You may also contact me via email at Chris.Leaf@ALSGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris Leaf
Project Manager

REVISED
8:07 am, Jan 13, 2016

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General Chemistry

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Laboratory Services, Inc.

Environmental • Industrial Hygiene • Field Services

34 Dogwood Lane • Middletown, PA 17057 • 717.944.5541 • Fax: 717.944.1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

COC #: K1510864

ALSI Quote #:

1 of 1

Client Name: ALS Environmental

Address: 34 Dogwood Lane
Middletown, PA 17057

Contact: Vicki Forney

Phone#: (717) 944-5541

Project Name/#:

Bill To: ALS Environmental

TAT: [x] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALSI approval and surcharges.

Date Required: _____ Approved By: _____

Email? [x] -Y almdt.subcontract@ALSGlobal.com

Fax? [ ] -Y No.:

Sample Description/Location (as it will appear on the lab report)	Sample Date	Time	*G or C	**Matrix	Grain Size	Container Type: G	Container Size: 16 oz	Preservative: none							
						ANALYSES/METHOD REQUESTED									
						Enter Number of Containers Per Sample or Field Results Below.									
2097786 001 use client	9/24/15	0742	G	SO	1	2071-12									
2097786 002 JO'S	9/24/15	0802	G	SO	1	2012-9									
2097786 003 Samantha Chal	9/24/15	0816	G	SO	1	2013-28									
2097786 004 CAC	9/24/15	0829	G	SO	1	2014-17									
UG 9/28/15															

Receipt Information (completed by Receiving Lab)

Cooler Temp: _____ Therm. ID: _____

No. of Coolers: _____

	Y	N	Initial
Custody Seals Present?			
(if present) Seals Intact?			
Received on Ice?			
COC/Labels Complete/Accurate?			
Cont. in Good Cond.?			
Correct Containers?			
Correct Sample Volumes?			
Correct Preservation?			
Headspace/Volatiles?			

Counter/Tracking #: _____

Sample/COC Comments

Subcontract: ALS Kelso

ALSI Field Services: [ ] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other: _____

Project Comments:

LOGGED BY (signature): DATE: TIME:

REVIEWED BY (signature): DATE: TIME:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 [signature]	9/28	1730	2 [signature] / ALS	9/29/15	0920
3			4		
5			6		
7			8		
9			10		

Data Deliverables: [ ] Standard [ ] CLP-like [ ] USACE [ ]

Special Processing: USACE [ ] Navy [ ]

State Samples Collected In: [ ] NY [ ] NJ [ ] PA [ ] NC [ ] 1 [ ] other

Reportable to PADEP? Yes [ ]

PWSID # _____

Sample Disposal: Lab [ ] Special [ ]

EDDs: Format Type _____

* G=Grab; C=Composite **Matrix - AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER MAILING PINK - FILE GOLDENROD - CUSTOMER COPY

Rev 5/05

PC CV

Cooler Receipt and Preservation Form

Client / Project: AIS Middle town / Normandeau Service Request K15 10864

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746 1417 6825	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746 1417 7111	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746 1417 7041	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746 1417 7681	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746 1417 6755	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:

Client COC not rec'd w/ Samples - Normandeau Sample ID's used for login. -CL 10/1/15

Page ____ *of* ____

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

REVISED
8:07 am, Jan 13, 2016

REVISED
9:53 am, Jan 08, 2016

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510864
Project:	NA	**Date Collected:**	9/24/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2071-12
Lab Code: K1510864-001

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.02
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	3.2180	8.77
Gravel, Fine	**No.10 (2.00 mm)**	0.2839	0.77
Sand, Very Coarse	**No.20 (0.850 mm)**	0.4302	1.19
Sand, Coarse	**No.40 (0.425 mm)**	0.3987	1.10
Sand, Medium	**No.60 (0.250 mm)**	0.3947	1.09
Sand, Fine	**No.140 (0.106 mm)**	8.3956	23.20
Sand, Very Fine	**No.200 (0.0750 mm)**	6.7786	18.73

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	48.48
Clay	15.38

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510864
Project:	NA	**Date Collected:**	9/24/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2012-9
Lab Code: K1510864-002

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.01
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.6743	1.77
Gravel, Fine	**No.10 (2.00 mm)**	0.1141	0.31
Sand, Very Coarse	**No.20 (0.850 mm)**	0.3082	0.82
Sand, Coarse	**No.40 (0.425 mm)**	0.3137	0.85
Sand, Medium	**No.60 (0.250 mm)**	0.5087	1.36
Sand, Fine	**No.140 (0.106 mm)**	7.8657	21.12
Sand, Very Fine	**No.200 (0.0750 mm)**	7.7527	20.81

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	58.18
Clay	15.58

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510864
Project:	NA	**Date Collected:**	9/24/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2013-28
Lab Code: K1510864-003

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.04
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	2.7054	5.79
Gravel, Medium	**No.4 (4.75 mm)**	1.1432	2.45
Gravel, Fine	**No.10 (2.00 mm)**	1.6463	3.52
Sand, Very Coarse	**No.20 (0.850 mm)**	1.2256	2.65
Sand, Coarse	**No.40 (0.425 mm)**	1.3538	2.93
Sand, Medium	**No.60 (0.250 mm)**	2.1887	4.74
Sand, Fine	**No.140 (0.106 mm)**	13.3793	28.95
Sand, Very Fine	**No.200 (0.0750 mm)**	7.9502	17.20

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	38.40
Clay	10.53

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510864
Project:	NA	**Date Collected:**	9/24/2015
Sample Matrix:	Sediment	**Date Received:**	9/29/2015
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: 2014-19
Lab Code: K1510864-004

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	1.8627	2.01
Gravel, Medium	**No.4 (4.75 mm)**	7.9602	8.58
Gravel, Fine	**No.10 (2.00 mm)**	8.8567	9.55
Sand, Very Coarse	**No.20 (0.850 mm)**	14.8346	16.06
Sand, Coarse	**No.40 (0.425 mm)**	13.4937	14.61
Sand, Medium	**No.60 (0.250 mm)**	13.1164	14.20
Sand, Fine	**No.140 (0.106 mm)**	17.6226	19.09
Sand, Very Fine	**No.200 (0.0750 mm)**	3.7492	4.06

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	11.45
Clay	4.45

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510864
Project:	NA	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: Batch QC
Lab Code: K1510858-002

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.00
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	1.2327	1.37
Gravel, Fine	**No.10 (2.00 mm)**	2.7943	3.10
Sand, Very Coarse	**No.20 (0.850 mm)**	6.1650	6.91
Sand, Coarse	**No.40 (0.425 mm)**	28.3027	31.69
Sand, Medium	**No.60 (0.250 mm)**	30.0986	33.70
Sand, Fine	**No.140 (0.106 mm)**	13.1189	14.69
Sand, Very Fine	**No.200 (0.0750 mm)**	0.6953	0.78

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.49
Clay	4.05

ALS Group USA, Corp.
dba ALS Environmental
Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510864
Project:	NA	**Date Collected:**	NA
Sample Matrix:	Sediment	**Date Received:**	NA
		Date Analyzed:	10/6/2015

Particle Size Determination
ASTM D422

Sample Name: Batch QC
Lab Code: K1510858-002DUP

Gravel and Sand
(Sieve Analysis)

Description	Sieve Size	Weight (g)	Percent Recovered
Gravel (19.0 mm)	**No.3/4"(19.0 mm)**	0.0000	0.02
Gravel (9.50 mm)	**No.3/8"(9.50 mm)**	0.0000	0.00
Gravel, Medium	**No.4 (4.75 mm)**	0.4244	0.47
Gravel, Fine	**No.10 (2.00 mm)**	3.2234	3.58
Sand, Very Coarse	**No.20 (0.850 mm)**	5.9879	6.70
Sand, Coarse	**No.40 (0.425 mm)**	28.0140	31.34
Sand, Medium	**No.60 (0.250 mm)**	30.5932	34.24
Sand, Fine	**No.140 (0.106 mm)**	13.4812	15.09
Sand, Very Fine	**No.200 (0.0750 mm)**	0.7379	0.82

Silt and Clay
(Hydrometer Analysis)

Particle Diameter	Percent Recovered
Silt	4.52
Clay	4.04

A S Environmental
A S Group SA, Corp
1 1 South 1 th Avenue
  elso, A
T : 1 0
F : 1 0 10
www.alsglobal.com

ovember 0 , 01

Analytical Report for Service Request No: 1 10 0

Eric estler
  ormandeau Associates, Inc.
    ashua Rd.
  edford, 0 110

RE: 23674.000

Dear Eric,

Enclosed are the results of the sample(s) submitted to our laboratory September , 01
For your reference, these analyses have been assigned our service request number **K1510803.**

Analyses were performed according to our laboratory s E AP-approved quality assurance program. The test results meet requirements of the current E AP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of E AP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and A S Group SA Corp. dba A S Environmental (A S) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analy ed, as listed in the report.

Please contact me if you have any questions. My extension is . ou may also contact me via email at Chris. eaf A SGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris eaf
Project Manager

RIG T SO TIO S RIG T PART ER

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Polynuclear Aromatic Hydrocarbons

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client:	Normandeau Associates	**Service Request No.:**	K1510803
Project:	23674.000	**Date Received:**	09/24/15
Sample Matrix:	Tissue		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Sixteen tissue samples were received for analysis at ALS Environmental on 09/24/15. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored frozen at –20ºC upon receipt at the laboratory.

Total Metals

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike recovery of Calcium, Magnesium, Manganese, Potassium, Sodium, Strontium and Zinc for sample HB06-11 were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

The matrix spike recovery of Iron for sample HB06-11 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The data is flagged to denote the exception. No further corrective action was appropriate.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for the replicate analysis of Titanium in sample HB06-11 was outside the Method control limits. The variability in the results was attributed to the heterogeneous distribution of Titanium in the sample. Freeze drying, grinding in combination with standard mixing techniques were used, but were not sufficient for complete homogenization of this sample.

No other anomalies associated with the analysis of these samples were observed.

Lipids

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Organochlorine Pesticides by EPA Method 8081

Matrix Spike Recovery Exceptions:
The control criteria for the matrix spike recovery of alpha-Chlordane for sample HB06-11 was not applicable. The chromatogram indicated non-target matrix background components contributed to the reported matrix spike concentrations. Thus, the reported recoveries contained a high bias. Based on the magnitude of background contribution, the interference appeared to be minimal.

Sample Confirmation Notes:
The confirmation comparison criterion of 40% difference for 4,4'-DDE was exceeded in a few field samples. The lower of the two values was reported when both peaks were within the expected retention time window for this analysis and Gaussian in shape or the higher of the two values was reported when there was an apparent interference on the alternate column that produced the lower value.

Elevated Detection Limits:
The reporting limit is elevated for at least one analyte in all field samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

No other anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Second Source Exceptions:
The analysis of PCB Aroclors by EPA 8082 requires the use of dual column confirmation. When the Initial Calibration Verification (ICV) criteria are met for both columns, the lower of the two sample results is generally reported. The criteria were not met for Aroclor 1260 in CAL 13624. The data quality was not affected. No further corrective action was necessary

Sample Notes and Discussion:
Two Aroclors were identified in a couple field samples: Aroclor 1242 and Aroclor 1254. When mixtures of PCB Aroclors are present in a sample, correct identification and quantitative analysis of the individual Aroclors can be subjective. In particular, when mixtures are present, differentiating Aroclor 1242 from Aroclor 1248 can be difficult.

Three Aroclors were identified in most field samples: Aroclor 1242, Aroclor 1254, and Aroclor 1260. When mixtures of PCB Aroclors are present in a sample, correct identification and quantitative analysis of the individual Aroclors can be subjective. In particular, when mixtures are present, differentiating Aroclor 1242 from Aroclor 1248 can be difficult.

A review of the sample chromatograms indicated the presence of PCB patterns that spanned the entire elution range from Aroclor 1242 through the end of Aroclor 1260. Based on individual PCB peaks in the early portion of the chromatogram, Aroclor 1242/1248 was identified and quantitated. Aroclor 1260 was identified based on the presence of late eluting PCB peaks in the chromatogram. The remainder of the PCB pattern was identified as Aroclor 1254 because PCB peak height in the middle of the chromatogram was larger than could be attributed to either Aroclor 1242, Aroclor 1248, or Aroclor 1260.

When Aroclor mixtures are present in a sample, care is taken to minimize the possibility of double-counting PCBs. Analytical peaks are selected based on the best resolution possible for that particular sample. However, when a mixture of Aroclors 1242, 1254 and 1260 are present in a sample, the potential exists for a high bias from contribution of one Aroclor to another due to common peaks or peaks that cannot be completely resolved.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Semivolatile Organic Compounds by EPA Method 8270-SIM

Surrogate Exceptions:
The lower control criterion was exceeded by 1-11% for the surrogate Phenol-d6 in samples HB05-9, HB04-6 and Laboratory Control Sample (LCS) KWG1509512-3. The error associated with reduced recovery equates to a potential slight bias. The results were flagged to indicate the exceedance. The samples were re-submitted for re-extraction and re-analysis. The results from both analytical runs are reported.

Matrix Spike Recovery Exceptions:
The lower control criterion was exceeded by 23-27% for 2-Methylphenol in the replicate Matrix Spikes (MS/DMS) KWG1509512-1 and KWG1509512-2 of sample HB06-11. The error associated with reduced recoveries equates to a potential slight bias. The results were flagged to indicate the exception.

Lab Control Sample Exceptions:
The lower control criterion was exceeded by 29-39% for 2-Methylphenol in replicate Laboratory Control Samples (LCS/DLCS) KWG1509512-3 and KWG1509512-4. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential slight low bias. The results were flagged to indicate the exceedance. The samples were re-submitted for re-extraction and re-analysis. The results from both analytical runs are reported.

The lower control criterion was exceeded by 8% for Phenol in Laboratory Control Samples (LCS) KWG1509512-3. The analyte in question was not detected above the Method Reporting limit (MRL) in the associated field samples. The error associated with reduced recovery equates to a potential slight low bias. The results were flagged to indicate the exceedance. The samples were re-submitted for re-extraction and re-analysis. The results from both analytical runs are reported.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 8270-SIM (Re-extract)

Surrogate Exceptions:
The lower control criterion was exceeded by 1-8% for the surrogate Phenol-d6 in several field and QC samples. The error associated with reduced recovery equates to a potential slight bias. The results were flagged to indicate the exceedance.

Matrix Spike Recovery Exceptions:
The lower control criterion was exceeded by 23-24% for 2-Methylphenol in the replicate Matrix Spikes (MS/DMS) KWG1510241-1 and KWG1510241-2 of sample HB05-9. The error associated with reduced recoveries equates to a potential slight bias. The results were flagged to indicate the exception.

Lab Control Sample Exceptions:
The lower control criterion was exceeded by 29-30% for 2-Methylphenol in replicate Laboratory Control Samples (LCS/DLCS) KWG1510241-3 and KWG1510241-4. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential slight low bias. The results were flagged to indicate the exceedance.

The lower control criterion was exceeded by 1% for Phenol in Laboratory Control Samples (LCS) KWG1510241-3. The analyte in question was not detected above the Method Reporting limit (MRL) in the associated field samples. The error associated with reduced recovery equates to a potential slight low bias. The results were flagged to indicate the exceedance.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Polynuclear Aromatic Hydrocarbons by EPA Method 8270

Calibration Verification Exceptions:
The following analytes were flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS14\1016F020.D: Indeno(1,2,3-c,d)pyrene. In accordance with the EPA Method, 80% or more of the CCV analytes must have passed within 20% of the true value. The remaining analytes are allowed a 40% difference as per the ALS SOP. The CCV met these criteria. No further corrective action was required.

Surrogate Exceptions:
The upper control criterion was exceeded for one or more surrogates in samples HB05-8, HB07-14, HB02-2, HB06-11, HB06-12, 2014-19, 2013-28, 2012-9, 2017-12, 1438-23, 1363-24, the Method Blank (MB) KWG1510079-5, the replicate matrix spike analyses of sample HB06-11, and the replicate Laboratory Control Samples (LCS/DLCS) KWG1510079-3 and KWG1510079-4. No target analytes were detected in the affected or associated samples. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Matrix Spike Recovery Exceptions:
The upper control criterion was exceeded for many analytes in the replicate matrix spike analyses of sample HB06-11. The analytes in question were not detected in the associated field samples. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. No further corrective action was appropriate.

Lab Control Sample Exceptions:
The upper control criterion was exceeded for many analytes in replicate Laboratory Control Samples (LCS/DLCS) KWG1510079-3 and KWG1510079-4. The analytes in question were not detected in the associated field samples. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

K1510803

2097173

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of ~~12~~ 4

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.:

Attn: Greg Salata
Ship to ALS-Kelso
See attached email

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing							
	***Container Type						2P	2P							
	***Container Size						1gal	1L							
	*** Preservative						Ice	None							
1	HB05 - 9	1	9/21/15	0857			1								
2	HB05 - 9		9/21/15	1536				1							
3	HB05 - 8	2	9/21/15	0857			1								
4	HB05 - 8		9/21/15	1545				1							
5	HB04 - 6	3	9/21/15	1015			1								
6	HB04 - 6		9/21/15	1553				1							
7	HB04 - 7	4	9/21/15	1015			1								
8	HB04 - 7		9/21/15	1559				1							

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

(completed by Sample Receiver)

Performed by: Rmk

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

Circle appropriate Y or N.	Y	N
Container in good condition?	Y	N
COC/Labels complete/accurate?	Y	N
Received on ice?	Y	N
Headspace/Volatiles?	Y	N
Correct preservation?	Y	N
Correct sample volume?	Y	N
Correct containers?	Y	N
Custody seals Present?	Y	N
(If present) Seals intact?	Y	N

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1159	2 [signature]	9/22	1159
3 [signature]	9/22	1700	4 [signature]	9/22	1700
5 [signature]	9/22	2045	6 Rmk	9/22	2045
7 [signature]	9/22	1600	8 [signature] / ALS	9/24/15	0940
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ other

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐

EDDs Required? X If yes, format type: In Excel Other

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; ☐ Labor; ☐ Composite Sampling; ☐ Rental Equipment; ☐ Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

K1510803

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of 24

Courier:

Tracking #:

173

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. / Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? Y No.:

	***Container Type	PL	CG
	***Container Size	gal	1L
	***Preservative	Ice	None

ANALYSES/METHOD REQUESTED: Clam Tissue; Sediment Testing

Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	HB07 - 13	5	9/21/15	1046			1	
2	HB07 - 13		9/21/15	1611				1
3	HB07 - 14	6	9/21/15	1046			1	
4	HB07 - 14		9/21/15	1616				1
5	HB02 - 1	7	9/21/15	1115			1	
6	HB02 - 2	8	9/21/15	1115			1	
7	HB02 - 1		9/21/15	1625				1
8	HB02 - 2		9/21/15	1631				1

Receipt Information (completed by Sample Receiving)
Performed by: [signature]
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers? Correct sample volume? Correct preservation? Headspace/Volatiles? Circle appropriate Y or N.
Custody seals Present? (If present) Seals intact? Received on ice? COC/Labels complete/accurate? Container in good condition?

SAMPLED BY (Please Print):

Project Comments: [initials] 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Burnett Normandeau	9/22	1159	2	[signature]	9/22	1159
3	[signature]	9/22	1800	4	[signature]	9/22	1800
5	[signature]	9/22	2045	6	[signature]	9/22	2045
7				8	[signature] / ALS	9/24/15	0940
9				10			

Data Deliverables: [X] Standard; CLP-like; NJ-Reduced; NJ-Full; (other)
SDWA Forms? yes
State Samples Collected In? MD; NJ; NY [X]; PA; Other
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 3 of ~~12~~ 4

Courier:

Tracking #:

K1510803

173

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] -Y cnestler@normandeau.com

Fax? [ ] -Y No.:

***Container Type	PL	CG																					
***Container Size	Gal	1L																					
***Preservative	Ice	None																					
*G or C																							
**Matrix																							
ANALYSES/METHOD REQUESTED			Clam Tissue	Sediment Testing																			
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time			Enter Number of Containers Per Analysis																	
1 HB06 - 11	9	9/21/15	1145			1																	
2 HB06 - 11		9/21/15	1636				1																
3 HB06 - 12	10	9/21/15	1645			1																	
4 HB06 - 12		9/21/15	1640				1																
5 2014 - 19		9/21/15	1645				1																
6 2013 - 28		9/21/15	1651				1																
7 2012 - 9		9/21/15	1655				1																
8 2071 - 12		9/21/15	1659				1																

Receipt Information (completed by Sample Receiver)

Performed by: RMK

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

Correct containers?	Y	Correct sample volume?	Y	Circle appropriate Y or N.
Correct preservation?	Y	Headspace/Volatiles?	Y	
Custody seals Present?	Y	(If present) Seals Intact?	Y	
Received on Ice?	Y	COC/Labels complete/accurate?	Y	
Container in good condition?	Y			

SAMPLED BY (Please Print):

Project Comments: RMK 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burtt Normandeau	9/22	1169	2	9/22	1157
3	9/22	1900	4	9/22	1900
5	9/22	2045	6 RMK	9/22	2045
7			8 /ALS	9/24/15	0940
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ Reduced [ ] NJ Full [ ] (specify)

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? yes / yes / yes

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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K1510803

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Middletown, PA 17057
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F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 4
Courier:
Tracking #:

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110
Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. / Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] Y enestler@normandeau.com
Fax? Y No.:

***Container Type	PL	CG
***Container Size	Gal	1L
***Preservative	ICE	None

ANALYSES/METHOD REQUESTED: Clam Tissue; Sediment Testing

Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	1438-23		9/21/15	1704				1
2	1363-24		9/21/15	1708				1
3	2014-19	11	9/21/15	1225			1	
4	2013-28	12	9/21/15	1236			1	
5	2012-9	13	9/21/15	1247			1	
6	2017-12	14	9/21/15	1250			1	
7	1438-23	15	9/21/15	1305			1	
8	1363-24	16	9/21/15	1316			1	

Receipt Information (completed by Sample Receiving)
Performed by: RMK
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers? Y
Correct sample volume? Y
Correct preservation? Y
Headspace/Volatiles? Y
Circle appropriate Y or N.

Custody seals Present? N
(If present) Seals intact? Y
Received on ice? Y
COC/Labels complete/accurate? Y
Container in good condition? Y

SAMPLED BY (Please Print):

Project Comments: RMK 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Burnett Normandeau	9/22	1115	2	[signature]	9/22	1115
3	[signature]	9/22	1700	4	[signature]	9/22	1700
5	[signature]	9/22	2045	6	RMK	9/22	2045
7				8	[signature] / ALS	9/24/15	0940
9				10			

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] (other)
SDWA Forms? yes [ ]
State Samples Collected In? NJ [ ]; NJ [ ]; NY [X]; PA [ ]
EDDs Required? [X] If yes, format type: In Excel
Other:
DOD Criteria Required?

ALS FIELD SERVICES
[X] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

PC CL

Cooler Receipt and Preservation Form

Client / Project: ALS/Middletown Service Request K15 10803

Received: 9/24/15 Opened: 9/24/15 By: [illegible] Unloaded: 9/24/15 By: [illegible]

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.3	-0.2	0.3	0.4	+0.1	338		7745 8145 9674	
-0.3	-0.3	1.0	1.2	+0.2	358		" " 9620	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/15
Sample Matrix:	Tissue	**Date Received:**	09/24/15
Analysis Method:	Freeze Dry	**Units:**	Percent
Prep Method:	None	**Basis:**	Wet

Total Solids

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
HB05-9	K1510803-001	**10.9**	-	-	1	10/05/15 16:53	
HB05-8	K1510803-002	**11.0**	-	-	1	10/05/15 16:53	
HB04-6	K1510803-003	**11.3**	-	-	1	10/05/15 16:53	
HB04-7	K1510803-004	**11.0**	-	-	1	10/05/15 16:53	
HB07-13	K1510803-005	**11.1**	-	-	1	10/05/15 16:53	
HB07-14	K1510803-006	**11.0**	-	-	1	10/05/15 16:53	
HB02-1	K1510803-007	**10.9**	-	-	1	10/05/15 16:53	
HB02-2	K1510803-008	**11.3**	-	-	1	10/05/15 16:53	
HB06-11	K1510803-009	**9.84**	-	-	1	10/05/15 16:53	
HB06-12	K1510803-010	**10.6**	-	-	1	10/05/15 16:53	
2014-19	K1510803-011	**10.9**	-	-	1	10/05/15 16:53	
2013-28	K1510803-012	**10.7**	-	-	1	10/05/15 16:53	
2012-9	K1510803-013	**11.0**	-	-	1	10/05/15 16:53	
2017-12	K1510803-014	**11.7**	-	-	1	10/05/15 16:53	
1438-23	K1510803-015	**11.5**	-	-	1	10/05/15 16:53	
1363-24	K1510803-016	**12.6**	-	-	1	10/05/15 16:53	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project	23674.000	**Date Collected:**	09/21/15
Sample Matrix:	Tissue	**Date Received:**	09/24/15
		Date Analyzed:	10/05/15

Replicate Sample Summary
Inorganic Parameters

Sample Name:	HB06-11	**Units:**	Percent
Lab Code:	K1510803-009	**Basis:**	Wet

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1510803-009DUP Result	Average	RPD	RPD Limit
Total Solids	Freeze Dry	-	-	9.84	9.84	9.84	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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www.alsglobal.com

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB05-9** **Lab Code:** **K1510803-001**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	109		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.028	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	22.1		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.93		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.043		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.28		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	7790		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	1.28		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.68		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	14.8		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	269		N
Lead	6020A	0.0195	0.0005	5.0	10/22/15	10/23/15	2.06		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6920		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	354		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.117		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	5.25		
Potassium	6010C	39	8.8	1.0	10/22/15	10/27/15	13900		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	3.2		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	4.71		
Sodium	6010C	390	19.5	10.0	10/22/15	10/27/15	47100		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	98.8		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.103		
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	2.89		*
Vanadium	6020A	0.195	0.007	5.0	10/22/15	10/23/15	1.20		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	207		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB05-8** **Lab Code:** **K1510803-002**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	19.1		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.007	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	12.1		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.35		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.035		
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	0.947		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	6490		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.64		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	1.58		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	12.4		
Iron	6010C	4.0	1.0	1.0	10/22/15	10/27/15	89		N
Lead	6020A	0.0197	0.0005	5.0	10/22/15	10/23/15	1.17		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6630		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	134		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.051		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	4.21		
Potassium	6010C	39	8.9	1.0	10/22/15	10/27/15	14100		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	1.9		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	2.27		
Sodium	6010C	395	19.7	10.0	10/22/15	10/27/15	48900		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	85.1		
Tin	6020A	0.049	0.030	5.0	10/22/15	10/23/15	0.030	U	
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	0.33		*
Vanadium	6020A	0.197	0.007	5.0	10/22/15	10/23/15	0.465		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	168		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB04-6** **Lab Code:** **K1510803-003**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	20.6		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.028	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	16.7		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.58		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.038		
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	1.31		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	7850		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.91		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	2.35		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	16.7		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	94		N
Lead	6020A	0.0195	0.0005	5.0	10/22/15	10/23/15	1.58		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6940		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	221		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.118		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	5.60		
Potassium	6010C	39	8.8	1.0	10/22/15	10/27/15	13600		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	3.3		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	8.22		
Sodium	6010C	391	19.5	10.0	10/22/15	10/27/15	51800		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	103		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.080		
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	0.37		*
Vanadium	6020A	0.195	0.007	5.0	10/22/15	10/23/15	0.780		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	246		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB04-7** **Lab Code:** **K1510803-004**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	22.2		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.008	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	12.4		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.36		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.032		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	0.953		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6660		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.63		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.50		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	12.3		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	97		N
Lead	6020A	0.0194	0.0005	5.0	10/22/15	10/23/15	1.21		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6540		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	148		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.052		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.12		
Potassium	6010C	39	8.7	1.0	10/22/15	10/27/15	14000		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.2		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	2.85		
Sodium	6010C	388	19.4	10.0	10/22/15	10/27/15	50000		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	87.5		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.029	U	
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.29		*
Vanadium	6020A	0.194	0.007	5.0	10/22/15	10/23/15	0.481		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	169		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB07-13** **Lab Code:** **K1510803-005**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	24.4		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.008	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	11.4		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.72		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.020		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.42		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	7010		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.49		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	2.07		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	16.6		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	155		N
Lead	6020A	0.0195	0.0005	5.0	10/22/15	10/23/15	3.89		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	7050		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	388		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.070		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	5.65		
Potassium	6010C	39	8.8	1.0	10/22/15	10/27/15	14700		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.9		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	3.83		
Sodium	6010C	390	19.5	10.0	10/22/15	10/27/15	49500		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	99.2		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.046	J	
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	0.52		*
Vanadium	6020A	0.195	0.007	5.0	10/22/15	10/23/15	0.538		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	310		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB07-14** **Lab Code:** **K1510803-006**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	30.9		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.008	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	10.3		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.98		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.018	J	
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.01		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	7240		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.56		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.79		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	17.2		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	161		N
Lead	6020A	0.0194	0.0005	5.0	10/22/15	10/23/15	2.97		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	7080		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	277		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.072		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	6.43		
Potassium	6010C	39	8.7	1.0	10/22/15	10/27/15	13800		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.2		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	3.26		
Sodium	6010C	388	19.4	10.0	10/22/15	10/27/15	47000		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	103		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.055		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.67		*
Vanadium	6020A	0.194	0.007	5.0	10/22/15	10/23/15	0.551		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	302		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB02-1** **Lab Code:** **K1510803-007**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	112		
Antimony	6020A	0.048	0.002	5.0	10/22/15	10/23/15	0.015	J	
Arsenic	6020A	0.48	0.02	5.0	10/22/15	10/23/15	13.0		
Barium	6020A	0.048	0.005	5.0	10/22/15	10/23/15	2.08		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.035		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.41		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	7000		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.91		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.54		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	14.3		
Iron	6010C	3.8	1.0	1.0	10/22/15	10/27/15	286		N
Lead	6020A	0.0190	0.0005	5.0	10/22/15	10/23/15	2.21		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6700		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	211		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.066		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	5.40		
Potassium	6010C	38	8.6	1.0	10/22/15	10/27/15	13800		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.8		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	3.74		
Sodium	6010C	381	19.0	10.0	10/22/15	10/27/15	47500		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	97.2		
Tin	6020A	0.048	0.029	5.0	10/22/15	10/23/15	0.082		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	3.73		*
Vanadium	6020A	0.190	0.007	5.0	10/22/15	10/23/15	0.841		
Zinc	6020A	0.48	0.06	5.0	10/22/15	10/23/15	235		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB02-2** **Lab Code:** **K1510803-008**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.8	0.2	5.0	10/22/15	10/23/15	123		
Antimony	6020A	0.046	0.002	5.0	10/22/15	10/23/15	0.016	J	
Arsenic	6020A	0.46	0.02	5.0	10/22/15	10/23/15	14.5		
Barium	6020A	0.046	0.005	5.0	10/22/15	10/23/15	1.62		
Beryllium	6020A	0.018	0.003	5.0	10/22/15	10/23/15	0.032		
Cadmium	6020A	0.018	0.004	5.0	10/22/15	10/23/15	1.11		
Calcium	6010C	1.8	1.8	1.0	10/22/15	10/27/15	7240		
Chromium	6020A	0.18	0.02	5.0	10/22/15	10/23/15	0.93		
Cobalt	6020A	0.018	0.003	5.0	10/22/15	10/23/15	1.48		
Copper	6020A	0.09	0.02	5.0	10/22/15	10/23/15	13.9		
Iron	6010C	3.7	0.9	1.0	10/22/15	10/27/15	261		N
Lead	6020A	0.0184	0.0005	5.0	10/22/15	10/23/15	1.99		
Magnesium	6010C	0.9	0.6	1.0	10/22/15	10/27/15	6420		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	147		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.068		
Nickel	6020A	0.18	0.02	5.0	10/22/15	10/23/15	4.49		
Potassium	6010C	37	8.3	1.0	10/22/15	10/27/15	13800		
Selenium	6020A	0.9	0.2	5.0	10/22/15	10/23/15	2.4		
Silver	6020A	0.018	0.006	5.0	10/22/15	10/23/15	3.28		
Sodium	6010C	368	18.4	10.0	10/22/15	10/27/15	46100		
Strontium	6010C	0.09	0.03	1.0	10/22/15	10/27/15	93.6		
Tin	6020A	0.046	0.028	5.0	10/22/15	10/23/15	0.074		
Titanium	6010C	0.18	0.07	1.0	10/22/15	10/27/15	3.47		*
Vanadium	6020A	0.184	0.006	5.0	10/22/15	10/23/15	0.856		
Zinc	6020A	0.46	0.06	5.0	10/22/15	10/23/15	174		

Comments:

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB06-11** **Lab Code:** **K1510803-009**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	53.5		
Antimony	6020A	0.050	0.002	5.0	10/22/15	10/23/15	0.011	J	
Arsenic	6020A	0.50	0.02	5.0	10/22/15	10/23/15	13.5		
Barium	6020A	0.050	0.005	5.0	10/22/15	10/23/15	1.71		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.021		
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	1.11		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	9160		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.68		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	1.54		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	16.6		
Iron	6010C	4.0	1.0	1.0	10/22/15	10/27/15	220		N
Lead	6020A	0.0200	0.0005	5.0	10/22/15	10/23/15	4.32		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	7970		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	248		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.070		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	5.83		
Potassium	6010C	40	9.0	1.0	10/22/15	10/27/15	15100		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.7		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	3.35		
Sodium	6010C	400	20.0	10.0	10/22/15	10/27/15	57300		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	111		
Tin	6020A	0.050	0.030	5.0	10/22/15	10/23/15	0.067		
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	1.84		*
Vanadium	6020A	0.200	0.007	5.0	10/22/15	10/23/15	0.645		
Zinc	6020A	0.50	0.06	5.0	10/22/15	10/23/15	250		

Comments:

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **HB06-12** **Lab Code:** **K1510803-010**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	54.6		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.012	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	13.8		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.61		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.017	J	
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	0.996		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	7880		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	1.23		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.45		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	17.1		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	260		N
Lead	6020A	0.0194	0.0005	5.0	10/22/15	10/23/15	4.03		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	7090		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	208		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.055		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.46		
Potassium	6010C	39	8.7	1.0	10/22/15	10/27/15	14600		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.5		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	2.32		
Sodium	6010C	388	19.4	10.0	10/22/15	10/27/15	49100		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	101		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.069		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	1.98		*
Vanadium	6020A	0.194	0.007	5.0	10/22/15	10/23/15	0.532		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	216		

Comments:

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **2014-19** **Lab Code:** **K1510803-011**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	114		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.016	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	11.1		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	2.17		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.027		
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	1.46		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	8640		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.86		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	1.78		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	16.2		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	276		N
Lead	6020A	0.0195	0.0005	5.0	10/22/15	10/23/15	3.51		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	7000		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	276		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.060		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	5.66		
Potassium	6010C	39	8.8	1.0	10/22/15	10/27/15	13900		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.5		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	3.38		
Sodium	6010C	391	19.5	10.0	10/22/15	10/27/15	48800		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	110		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.097		
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	3.78		*
Vanadium	6020A	0.195	0.007	5.0	10/22/15	10/23/15	0.763		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	268		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **2013-28** **Lab Code:** **K1510803-012**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	81.7		
Antimony	6020A	0.048	0.002	5.0	10/22/15	10/23/15	0.012	J	
Arsenic	6020A	0.48	0.02	5.0	10/22/15	10/23/15	9.64		
Barium	6020A	0.048	0.005	5.0	10/22/15	10/23/15	2.11		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.027		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.49		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	7900		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.69		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	2.15		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	14.3		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	215		N
Lead	6020A	0.0194	0.0005	5.0	10/22/15	10/23/15	2.55		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	7180		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	234		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.068		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	8.00		
Potassium	6010C	39	8.7	1.0	10/22/15	10/27/15	13300		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.3		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	3.21		
Sodium	6010C	387	19.4	10.0	10/22/15	10/27/15	50200		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	104		
Tin	6020A	0.048	0.029	5.0	10/22/15	10/23/15	0.073		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	2.31		*
Vanadium	6020A	0.194	0.007	5.0	10/22/15	10/23/15	0.630		
Zinc	6020A	0.48	0.06	5.0	10/22/15	10/23/15	263		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **2012-9** **Lab Code:** **K1510803-013**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	63.3		
Antimony	6020A	0.050	0.002	5.0	10/22/15	10/23/15	0.010	J	
Arsenic	6020A	0.50	0.02	5.0	10/22/15	10/23/15	12.5		
Barium	6020A	0.050	0.005	5.0	10/22/15	10/23/15	2.18		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.027		
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	1.25		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	7730		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.60		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	1.82		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	17.4		
Iron	6010C	4.0	1.0	1.0	10/22/15	10/27/15	237		N
Lead	6020A	0.0200	0.0005	5.0	10/22/15	10/23/15	4.18		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6760		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	342		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.064		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	5.42		
Potassium	6010C	40	9.0	1.0	10/22/15	10/27/15	13300		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.8		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	3.52		
Sodium	6010C	400	20.0	10.0	10/22/15	10/27/15	48100		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	107		
Tin	6020A	0.050	0.030	5.0	10/22/15	10/23/15	0.068		
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	1.76		*
Vanadium	6020A	0.200	0.007	5.0	10/22/15	10/23/15	0.610		
Zinc	6020A	0.50	0.06	5.0	10/22/15	10/23/15	281		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **2017-12** **Lab Code:** **K1510803-014**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	51.9		
Antimony	6020A	0.048	0.002	5.0	10/22/15	10/23/15	0.009	J	
Arsenic	6020A	0.48	0.02	5.0	10/22/15	10/23/15	11.3		
Barium	6020A	0.048	0.005	5.0	10/22/15	10/23/15	1.50		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.021		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.05		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	7030		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.63		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.26		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	15.3		
Iron	6010C	3.8	1.0	1.0	10/22/15	10/27/15	167		N
Lead	6020A	0.0192	0.0005	5.0	10/22/15	10/23/15	2.33		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6010		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	140		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.054		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.99		
Potassium	6010C	38	8.6	1.0	10/22/15	10/27/15	12000		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.5		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	2.76		
Sodium	6010C	383	19.2	10.0	10/22/15	10/27/15	44000		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	89.9		
Tin	6020A	0.048	0.029	5.0	10/22/15	10/23/15	0.061		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	1.51		*
Vanadium	6020A	0.192	0.007	5.0	10/22/15	10/23/15	0.525		
Zinc	6020A	0.48	0.06	5.0	10/22/15	10/23/15	195		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1438-23** **Lab Code:** **K1510803-015**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	106		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.014	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	14.4		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.88		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.031		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.50		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	6440		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	1.04		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	2.70		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	14.2		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	224		N
Lead	6020A	0.0195	0.0005	5.0	10/22/15	10/23/15	2.51		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6730		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	212		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.119		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	7.24		
Potassium	6010C	39	8.8	1.0	10/22/15	10/27/15	13200		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	3.5		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	6.06		
Sodium	6010C	390	19.5	10.0	10/22/15	10/27/15	44400		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	93.3		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.080		
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	2.81		*
Vanadium	6020A	0.195	0.007	5.0	10/22/15	10/23/15	0.961		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	238		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	09/21/15
Project Name:	23674.000	**Date Received:**	09/24/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1363-24** **Lab Code:** **K1510803-016**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	126		
Antimony	6020A	0.048	0.002	5.0	10/22/15	10/23/15	0.017	J	
Arsenic	6020A	0.48	0.02	5.0	10/22/15	10/23/15	15.1		
Barium	6020A	0.048	0.005	5.0	10/22/15	10/23/15	1.98		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.040		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.34		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6320		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	1.06		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.76		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	14.0		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	281		N
Lead	6020A	0.0192	0.0005	5.0	10/22/15	10/23/15	3.03		
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	5620		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	326		
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.125		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	5.63		
Potassium	6010C	38	8.7	1.0	10/22/15	10/27/15	11700		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	3.1		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	5.86		
Sodium	6010C	385	19.2	10.0	10/22/15	10/27/15	39000		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	86.4		
Tin	6020A	0.048	0.029	5.0	10/22/15	10/23/15	0.093		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	3.42		*
Vanadium	6020A	0.192	0.007	5.0	10/22/15	10/23/15	1.04		
Zinc	6020A	0.48	0.06	5.0	10/22/15	10/23/15	251		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510803
Project No.:	NA	**Date Collected:**	
Project Name:	23674.000	**Date Received:**	
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **Method Blank** **Lab Code:** **KQ1511949-01**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Mercury	7471B	0.020	0.004	2.0	10/16/15	10/19/15	0.004	U	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client: Normandeau Associates
Service Request: K1510803
Project No.: NA
Date Collected:
Project Name: 23674.000
Date Received:
Matrix: TISSUE
Units: mg/Kg
Basis: DRY

Sample Name: Method Blank
Lab Code: KQ1512195-01

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	0.2	U	
Antimony	6020A	0.050	0.002	5.0	10/22/15	10/23/15	0.002	U	
Arsenic	6020A	0.50	0.02	5.0	10/22/15	10/23/15	0.02	U	
Barium	6020A	0.050	0.005	5.0	10/22/15	10/23/15	0.005	U	
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.003	U	
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	0.004	U	
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	2.0	U	
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.02	U	
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.003	U	
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	0.02	U	
Iron	6010C	4.0	1.0	1.0	10/22/15	10/27/15	1.0	U	N
Lead	6020A	0.0200	0.0005	5.0	10/22/15	10/23/15	0.0005	U	
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	0.6	U	
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	0.01	U	
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.02	U	
Potassium	6010C	40	9.0	1.0	10/22/15	10/27/15	9.0	U	
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	0.2	U	
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	0.006	U	
Sodium	6010C	40.0	2.0	1.0	10/22/15	10/27/15	2.0	U	
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	0.03	U	
Tin	6020A	0.050	0.030	5.0	10/22/15	10/23/15	0.030	U	
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	0.08	U	*
Vanadium	6020A	0.200	0.007	5.0	10/22/15	10/23/15	0.007	U	
Zinc	6020A	0.50	0.06	5.0	10/22/15	10/23/15	0.06	U	

Comments:

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Normandeau Associates **Service Request:** K1510803

Project No.: NA **Units:** MG/KG

Project Name: 23674.000 **Basis:** DRY

Matrix: TISSUE

Sample Name: HB06-11S **Lab Code:** K1510803-009S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum	75 - 125	271.4		53.5		196.7	111		6020A
Antimony	75 - 125	50.584		0.011	J	49.180	103		6020A
Arsenic	75 - 125	30.29		13.50		16.43	102		6020A
Barium	75 - 125	99.473		1.706		98.361	99		6020A
Beryllium	75 - 125	4.602		0.021		4.918	93		6020A
Cadmium	75 - 125	6.02		1.11		4.92	100		6020A
Calcium		10100		9160		983.61	96		6010C
Chromium	75 - 125	20.40		0.68		19.67	100		6020A
Cobalt	75 - 125	49.561		1.540		49.180	98		6020A
Copper	75 - 125	38.40		16.56		24.59	89		6020A
Iron	75 - 125	682		220		98.36	470	N	6010C
Lead	75 - 125	46.1103		4.3221		49.1803	85		6020A
Magnesium		8230		7970		983.61	26		6010C
Manganese		313.44		247.94		49.18	133		6020A
Mercury	80 - 120	0.513		0.070		0.50	88.6		7471B
Nickel	75 - 125	50.95		5.83		49.18	92		6020A
Potassium		14700		15100		983.61	-41		6010C
Selenium	75 - 125	19.1		2.7		16.4	100		6020A
Silver	75 - 125	7.778		3.355		4.918	90		6020A
Sodium		57900		57300		983.61	61		6010C
Strontium		122		111		9.84	112		6010C
Tin	75 - 125	9.998		0.067		9.8	101		6020A
Titanium	75 - 125	12		1.84		9.84	103		6010C
Vanadium	75 - 125	51.568		0.645		49.180	104		6020A
Zinc		294.05		250.37		49.18	89		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

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DUPLICATES

Client: Normandeau Associates **Service Request:** K1510803

Project No.: NA **Units:** MG/KG

Project Name: 23674.000 **Basis:** DRY

Matrix: TISSUE

Sample Name: HB06-11D **Lab Code:** K1510803-009D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum	20	53.5		48.6		9.6		6020A
Antimony		0.011	J	0.014	J	24.0		6020A
Arsenic	20	13.50		13.56		0.4		6020A
Barium	20	1.706		1.725		1.1		6020A
Beryllium		0.021		0.022		4.7		6020A
Cadmium	20	1.11		1.11		0.0		6020A
Calcium	20	9160		8920		2.7		6010C
Chromium		0.68		0.61		10.9		6020A
Cobalt	20	1.540		1.485		3.6		6020A
Copper	20	16.56		16.16		2.4		6020A
Iron	20	220		187		16.2		6010C
Lead	20	4.3221		3.8314		12.0		6020A
Magnesium	20	7970		8030		0.8		6010C
Manganese	20	247.94		221.02		11.5		6020A
Mercury		0.070		0.064		9.0		7471B
Nickel	20	5.83		5.76		1.2		6020A
Potassium	20	15100		15200		0.7		6010C
Selenium		2.7		2.6		3.8		6020A
Silver	20	3.355		3.518		4.7		6020A
Sodium	20	57300		58100		1.4		6010C
Strontium	20	111		109		1.8		6010C
Tin		0.067		0.065		3.0		6020A
Titanium	20	1.84		1.48		21.7	*	6010C
Vanadium		0.645		0.609		5.7		6020A
Zinc	20	250.37		241.94		3.4		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: Normandeau Associates **Service Request:** K1510803

Project No.: NA

Project Name: 23674.000

Aqueous LCS Source: ALS MIXED **Solid LCS Source:** ERA D065540

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	Solid (mg/kg) C	Solid (mg/kg) Limits	Solid (mg/kg) %R
Aluminum	2000.0	1918.6	96					
Antimony	500.0	499.1	100					
Arsenic	167.0	167.3	100					
Barium	1000.0	930.4	93					
Beryllium	50.0	46.7	93					
Cadmium	50.0	50.3	101					
Calcium	10000	9660	97					
Chromium	200.0	191.3	96					
Cobalt	500.0	478.0	96					
Copper	250.0	235.2	94					
Iron	1000	967	97					
Lead	500.0	461.9	92					
Magnesium	10000	9950	100					
Manganese	500.0	507.8	102					
Mercury	5	5.40	108					
Nickel	500.0	468.6	94					
Potassium	10000	9630	96					
Selenium	167.0	173.0	104					
Silver	50.0	46.4	93					
Sodium	10000	9630	96					
Strontium	100	102	102					
Tin	100.0	101.5	102					
Titanium	100	103	103					
Vanadium	500.0	473.4	95					
Zinc	500.0	473.7	95					

ALS Group USA, Corp.
dba ALS Environmental
QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	NA
LCS Matrix:	Tissue	**Date Received:**	NA
		Date Extracted:	10/16,22/15
		Date Analyzed:	10/19-27/15

Standard Reference Material Summary
Total Metals

Sample Name:	Standard Reference Material	Units:	mg/Kg (ppm)
Lab Code:	K1510803-SRM1	Basis:	Dry
Test Notes:	Dorm-4 Solids = 94.5%		

Source: N.R.C.C. Dorm-4

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	6.8	6.87	101	4.93-8.93	
Cadmium	PSEP Tissue	6020A	0.306	0.319	104	0.233 - 0.385	
Chromium	PSEP Tissue	6020A	1.87	1.78	95	1.37-2.44	
Copper	PSEP Tissue	6020A	15.9	14.9	94	12.0 - 20.2	
Iron	PSEP Tissue	6010C	341	304	89	251-442	
Lead	PSEP Tissue	6020A	0.416	0.318	76	0.290 - 0.563	
Mercury	PSEP Tissue	7471B	0.41	0.325	79	0.28-0.56	
Nickel	PSEP Tissue	6020A	1.36	1.2	88	0.912-1.9	
Selenium	PSEP Tissue	6020A	3.56	3.79	106	2.58 - 4.68	
Zinc	PSEP Tissue	6020A	52.20	50.2	96	39.2 - 66.5	

ALS Group USA, Corp.
dba ALS Environmental
QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	NA
LCS Matrix:	Tissue	**Date Received:**	NA
		Date Extracted:	10/16,22/15
		Date Analyzed:	10/19-27/15

Standard Reference Material Summary
Total Metals

Sample Name:	Standard Reference Material	Units:	mg/Kg (ppm)
Lab Code:	K1510803-SRM2	Basis:	Dry
Test Notes:	Tort-3 Solids = 99.1%		

Source: N.R.C.C. Tort-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	59.5	63.0	106	44.6-76.0	
Cadmium	PSEP Tissue	6020A	42.3	42.5	100	32.4-52.9	
Chromium	PSEP Tissue	6020A	1.95	1.77	91	1.37-2.63	
Copper	PSEP Tissue	6020A	497	441	89	380-623	
Iron	PSEP Tissue	6010C	179	176	98	137-224	
Lead	PSEP Tissue	6020A	0.225	0.181	80	0.166-0.292	
Manganese	PSEP Tissue	6020A	15.6	14.7	94	11.7-19.9	
Nickel	PSEP Tissue	6020A	5.3	4.92	93	4.05-6.65	
Selenium	PSEP Tissue	6020A	10.9	11.3	104	7.9-14.3	
Strontium	PSEP Tissue	6010C	36.5	34.1	93	27.9-45.7	
Vanadium	PSEP Tissue	6020A	9.1	8.87	97	7.0-11.4	
Zinc	PSEP Tissue	6020A	136	133	98	104-170	

LIPIDS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674	**Date Collected:**	9/21/2015
Sample Matrix:	Tissue	**Date Received:**	9/24/2015

Lipids, Total

Prep Method:	EPA 3541	Units:	PERCENT
Analysis Method:	NOAA	Basis:	Wet Weight
Test Notes:			

Sample Name	Lab Code	MRL	Date Extracted	Date Analyzed	Result	Result Notes
HB05-9	K1510803-001	0.02	10/23/2015	10/27/2015	0.24	
HB05-8	K1510803-002	0.02	10/23/2015	10/27/2015	0.22	
HB04-6	K1510803-003	0.02	10/23/2015	10/27/2015	0.44	
HB04-7	K1510803-004	0.02	10/23/2015	10/27/2015	0.17	
HB07-13	K1510803-005	0.02	10/23/2015	10/27/2015	0.25	
HB07-14	K1510803-006	0.02	10/23/2015	10/27/2015	0.20	
HB02-1	K1510803-007	0.02	10/23/2015	10/27/2015	0.21	
HB02-2	K1510803-008	0.02	10/23/2015	10/27/2015	0.19	
HB06-11	K1510803-009	0.02	10/23/2015	10/27/2015	0.17	
HB06-12	K1510803-010	0.02	10/23/2015	10/27/2015	0.39	
2014-19	K1510803-011	0.02	10/23/2015	10/27/2015	0.36	
2013-28	K1510803-012	0.02	10/23/2015	10/27/2015	0.39	
2012-9	K1510803-013	0.02	10/23/2015	10/27/2015	0.48	
2017-12	K1510803-014	0.02	10/23/2015	10/27/2015	0.58	
1438-23	K1510803-015	0.02	10/23/2015	10/27/2015	0.54	
1363-24	K1510803-016	0.02	10/23/2015	10/27/2015	0.73	
Method Blank	KWG1510241-6 MB	0.02	10/23/2015	10/27/2015	0.02	U

ALS ENVIRONMENTAL

QA/QC Report

Client: Normandeau Associates
Project: 23674
Sample Matrix: Tissue

Service Request: K1510803
Date Collected: 9/21/2015
Date Received: 9/24/2015
Date Extracted: 10/23/2015
Date Analyzed: 10/27/2015

Triplicate Summary
Lipids, Total

Sample Name: HB05-9
Lab Code: K1510803-001 TRP
Test Notes:

Units: PERCENT
Basis: Wet Weight

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Triplicate Sample Result	Average	Percent Relative Standard Deviation	Result Notes
Lipids, Total	EPA 3541	NOAA	0.02	0.24	0.28	0.27	0.26	7	

ALS ENVIRONMENTAL

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674	**Date Collected:**	NA
Matrix:	Tissue	**Date Received:**	NA
		Date Extracted:	10/23/2015
		Date Analyzed:	10/27/2015

Laboratory Control Sample
Lipids, Total

Sample Name: KWG1510241-5 LCS

Units: PERCENT
Basis: Wet Weight

Test Notes:

Analyte	Prep Method	Analysis Method	Spike Level Percent	Result	CAS Advisory Limits	Result Notes
Lipids, Total	EPA 3541	NOAA	100	92	70-130	

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB05-9	**Units:**	ug/Kg
Lab Code:	K1510803-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	1.0	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	Ui	1.0	0.23	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.67	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	Ui	1.0	0.94	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**1.4**		1.0	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	U	1.0	0.49	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	70	29-117	10/09/15	Acceptable
Decachlorobiphenyl	73	22-121	10/09/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB05-8	**Units:**	ug/Kg
Lab Code:	K1510803-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	1.0	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.52	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	Ui	1.0	0.59	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**0.61**	J	1.0	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	U	1.0	0.49	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	77	29-117	10/09/15	Acceptable
Decachlorobiphenyl	78	22-121	10/09/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB04-6	**Units:**	ug/Kg
Lab Code:	K1510803-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.96	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	0.96	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	0.96	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	0.96	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	0.96	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	0.96	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	0.96	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	U	0.96	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	0.96	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	0.96	0.60	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	0.96	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	Ui	0.96	0.60	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	0.96	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	0.96	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**0.73**	J	0.96	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	0.96	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	0.96	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	U	0.96	0.49	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	0.96	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	0.96	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	48	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	71	29-117	10/09/15	Acceptable
Decachlorobiphenyl	71	22-121	10/09/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB04-7	**Units:**	ug/Kg
Lab Code:	K1510803-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	1.0	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.49	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	U	1.0	0.45	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	ND	U	1.0	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	U	1.0	0.49	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	69	29-117	10/09/15	Acceptable
Decachlorobiphenyl	72	22-121	10/09/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB07-13	**Units:**	ug/Kg
Lab Code:	K1510803-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	**0.43**	JP	1.0	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.83	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**1.6**		1.0	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	U	1.0	0.49	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	77	29-117	10/09/15	Acceptable
Decachlorobiphenyl	76	22-121	10/09/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB07-14	**Units:**	ug/Kg
Lab Code:	K1510803-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	1.0	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.68	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**1.4**		1.0	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	Ui	1.0	0.51	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	75	29-117	10/09/15	Acceptable
Decachlorobiphenyl	76	22-121	10/09/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB02-1	**Units:**	ug/Kg
Lab Code:	K1510803-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	1.0	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.92	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	Ui	1.2	1.2	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**1.9**		1.0	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	Ui	1.0	0.64	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	82	29-117	10/09/15	Acceptable
Decachlorobiphenyl	79	22-121	10/09/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB02-2	**Units:**	ug/Kg
Lab Code:	K1510803-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	1.0	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	ND	Ui	1.0	0.44	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.79	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**1.8**		1.0	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	Ui	1.0	0.54	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	29-117	10/09/15	Acceptable
Decachlorobiphenyl	75	22-121	10/09/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.98	0.16	1	10/06/15	10/09/15	KWG1509513	
beta-BHC	ND	U	0.98	0.41	1	10/06/15	10/09/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	0.98	0.21	1	10/06/15	10/09/15	KWG1509513	
delta-BHC	ND	U	0.98	0.20	1	10/06/15	10/09/15	KWG1509513	
Heptachlor	ND	U	0.98	0.27	1	10/06/15	10/09/15	KWG1509513	
Aldrin	ND	U	0.98	0.74	1	10/06/15	10/09/15	KWG1509513	
Heptachlor Epoxide	ND	U	0.98	0.18	1	10/06/15	10/09/15	KWG1509513	
gamma-Chlordane†	**0.47**	J	0.98	0.26	1	10/06/15	10/09/15	KWG1509513	
Endosulfan I	ND	U	0.98	0.22	1	10/06/15	10/09/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.3	1.3	1	10/06/15	10/09/15	KWG1509513	
Dieldrin	ND	Ui	0.98	0.37	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDE	**1.4**	P	0.98	0.45	1	10/06/15	10/09/15	KWG1509513	
Endrin	ND	U	0.98	0.28	1	10/06/15	10/09/15	KWG1509513	
Endosulfan II	ND	U	0.98	0.24	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDD	**1.7**		0.98	0.55	1	10/06/15	10/09/15	KWG1509513	
Endrin Aldehyde	ND	U	0.98	0.62	1	10/06/15	10/09/15	KWG1509513	
Endosulfan Sulfate	ND	U	0.98	0.53	1	10/06/15	10/09/15	KWG1509513	
4,4'-DDT	ND	Ui	0.98	0.66	1	10/06/15	10/09/15	KWG1509513	
Endrin Ketone	ND	U	0.98	0.39	1	10/06/15	10/09/15	KWG1509513	
Methoxychlor	ND	U	0.98	0.48	1	10/06/15	10/09/15	KWG1509513	
Toxaphene	ND	U	49	13	1	10/06/15	10/09/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	66	29-117	10/09/15	Acceptable
Decachlorobiphenyl	74	22-121	10/09/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	HB06-12	**Units:**	ug/Kg
Lab Code:	K1510803-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	ND	U	1.0	0.41	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	Ui	1.0	0.24	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.3	1.3	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	**1.4**	P	1.0	0.45	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	**1.6**		1.0	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	Ui	1.0	0.75	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	Ui	50	14	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	67	29-117	10/10/15	Acceptable
Decachlorobiphenyl	77	22-121	10/10/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	2014-19	**Units:**	ug/Kg
Lab Code:	K1510803-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	ND	Ui	1.0	0.48	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	Ui	1.0	0.76	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	Ui	1.0	0.29	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.71	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	ND	Ui	1.3	1.3	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	**1.6**		1.0	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	Ui	1.0	0.64	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	69	29-117	10/10/15	Acceptable
Decachlorobiphenyl	71	22-121	10/10/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	2013-28	**Units:**	ug/Kg
Lab Code:	K1510803-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	ND	Ui	1.0	0.52	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	Ui	1.0	0.50	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.66	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	ND	Ui	1.4	1.4	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	**2.0**		1.0	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	Ui	1.0	0.69	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	U	50	13	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	29-117	10/10/15	Acceptable
Decachlorobiphenyl	73	22-121	10/10/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	2012-9	**Units:**	ug/Kg
Lab Code:	K1510803-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	ND	Ui	1.0	0.60	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	1.0	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	U	1.0	0.74	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	U	1.0	0.22	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.0	0.57	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	1.0	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	ND	Ui	1.3	1.3	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	1.0	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	1.0	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	**1.9**		1.0	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	Ui	1.0	0.68	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	1.0	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	1.0	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	Ui	50	15	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	29-117	10/10/15	Acceptable
Decachlorobiphenyl	75	22-121	10/10/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	2017-12	**Units:**	ug/Kg
Lab Code:	K1510803-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.99	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	ND	Ui	0.99	0.45	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	0.99	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	0.99	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	0.99	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	Ui	1.1	1.1	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	U	0.99	0.18	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	Ui	0.99	0.29	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	U	0.99	0.22	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	Ui	0.99	0.80	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	0.99	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	ND	Ui	1.5	1.5	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	0.99	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	0.99	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	**2.0**		0.99	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	0.99	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	0.99	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	Ui	0.99	0.79	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	0.99	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	0.99	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	Ui	50	15	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	80	29-117	10/10/15	Acceptable
Decachlorobiphenyl	78	22-121	10/10/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	1438-23	**Units:**	ug/Kg
Lab Code:	K1510803-015	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.97	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	ND	Ui	0.97	0.65	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	0.97	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	0.97	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	0.97	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	Ui	1.1	1.1	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	U	0.97	0.18	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	Ui	0.97	0.38	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	U	0.97	0.22	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	Ui	0.97	0.80	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	0.97	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	0.97	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	0.97	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	**1.6**		0.97	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	0.97	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	0.97	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	U	0.97	0.49	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	0.97	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	0.97	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	Ui	49	17	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	60	29-117	10/10/15	Acceptable
Decachlorobiphenyl	60	22-121	10/10/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Organochlorine Pesticides

Sample Name:	1363-24	**Units:**	ug/Kg
Lab Code:	K1510803-016	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.98	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	**0.49**	JP	0.98	0.41	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	0.98	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	0.98	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	0.98	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	Ui	1.1	1.1	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	Ui	0.98	0.28	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	U	0.98	0.26	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	U	0.98	0.22	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	Ui	1.2	1.2	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	0.98	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	ND	Ui	1.3	1.3	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	0.98	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	0.98	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	**2.2**		0.98	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	0.98	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	0.98	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	Ui	0.98	0.59	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	0.98	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	0.98	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	U	49	13	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	66	29-117	10/10/15	Acceptable
Decachlorobiphenyl	65	22-121	10/10/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1509513-7	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.97	0.16	1	10/06/15	10/10/15	KWG1509513	
beta-BHC	ND	U	0.97	0.41	1	10/06/15	10/10/15	KWG1509513	
gamma-BHC (Lindane)	ND	U	0.97	0.21	1	10/06/15	10/10/15	KWG1509513	
delta-BHC	ND	U	0.97	0.20	1	10/06/15	10/10/15	KWG1509513	
Heptachlor	ND	U	0.97	0.27	1	10/06/15	10/10/15	KWG1509513	
Aldrin	ND	U	0.97	0.74	1	10/06/15	10/10/15	KWG1509513	
Heptachlor Epoxide	ND	U	0.97	0.18	1	10/06/15	10/10/15	KWG1509513	
gamma-Chlordane†	ND	U	0.97	0.26	1	10/06/15	10/10/15	KWG1509513	
Endosulfan I	ND	U	0.97	0.22	1	10/06/15	10/10/15	KWG1509513	
alpha-Chlordane	ND	U	0.97	0.25	1	10/06/15	10/10/15	KWG1509513	
Dieldrin	ND	U	0.97	0.20	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDE	ND	U	0.97	0.45	1	10/06/15	10/10/15	KWG1509513	
Endrin	ND	U	0.97	0.28	1	10/06/15	10/10/15	KWG1509513	
Endosulfan II	ND	U	0.97	0.24	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDD	ND	U	0.97	0.55	1	10/06/15	10/10/15	KWG1509513	
Endrin Aldehyde	ND	U	0.97	0.62	1	10/06/15	10/10/15	KWG1509513	
Endosulfan Sulfate	ND	U	0.97	0.53	1	10/06/15	10/10/15	KWG1509513	
4,4'-DDT	ND	U	0.97	0.49	1	10/06/15	10/10/15	KWG1509513	
Endrin Ketone	ND	U	0.97	0.39	1	10/06/15	10/10/15	KWG1509513	
Methoxychlor	ND	U	0.97	0.48	1	10/06/15	10/10/15	KWG1509513	
Toxaphene	ND	U	49	13	1	10/06/15	10/10/15	KWG1509513	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	63	29-117	10/10/15	Acceptable
Decachlorobiphenyl	74	22-121	10/10/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

QA/QC Report

Client: Normandeau Associates **Service Request:** K1510803
Project: 23674.000
Sample Matrix: Tissue

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8081B **Level:** Low

Sample Name	Lab Code	Sur1	Sur2
HB05-9	K1510803-001	70	73
HB05-8	K1510803-002	77	78
HB04-6	K1510803-003	71	71
HB04-7	K1510803-004	69	72
HB07-13	K1510803-005	77	76
HB07-14	K1510803-006	75	76
HB02-1	K1510803-007	82	79
HB02-2	K1510803-008	73	75
HB06-11	K1510803-009	66	74
HB06-12	K1510803-010	67	77
2014-19	K1510803-011	69	71
2013-28	K1510803-012	73	73
2012-9	K1510803-013	73	75
2017-12	K1510803-014	80	78
1438-23	K1510803-015	60	60
1363-24	K1510803-016	66	65
Method Blank	KWG1509513-7	63	74
HB06-11MS	KWG1509513-1	73	73
HB06-11DMS	KWG1509513-2	64	65
Lab Control Sample	KWG1509513-3	54	62

Surrogate Recovery Control Limits (%)

Sur1	=	Tetrachloro-m-xylene	29-117
Sur2	=	Decachlorobiphenyl	22-121

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/09/2015 - 10/10/2015

Matrix Spike/Duplicate Matrix Spike Summary
Organochlorine Pesticides

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B	**Extraction Lot:**	KWG1509513

		HB06-11MS KWG1509513-1 Matrix Spike				HB06-11DMS KWG1509513-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
alpha-BHC	ND	15.3	19.8	77		13.4	19.8	68		31-118	13	40
beta-BHC	ND	15.0	19.8	76		13.3	19.8	67		22-123	12	40
gamma-BHC (Lindane)	ND	15.9	19.8	80		14.0	19.8	70		34-123	13	40
delta-BHC	ND	16.3	19.8	82		14.2	19.8	72		38-133	14	40
Heptachlor	ND	16.4	19.8	83		14.6	19.8	74		37-122	12	40
Aldrin	ND	15.0	19.8	76		13.3	19.8	67		38-116	12	40
Heptachlor Epoxide	ND	15.8	19.8	80		13.9	19.8	70		39-113	13	40
gamma-Chlordane	0.47	16.2	19.8	79		14.0	19.8	68		34-123	15	40
Endosulfan I	ND	13.3	19.8	67		11.7	19.8	59		22-113	12	40
alpha-Chlordane	ND	16.3	19.8	82	#	14.5	19.8	73	#	39-113	12	40
Dieldrin	ND	15.8	19.8	80		14.0	19.8	71		33-120	13	40
4,4'-DDE	1.4	16.7	19.8	77		14.6	19.8	67		33-134	13	40
Endrin	ND	18.0	19.8	91		15.7	19.8	79		43-124	13	40
Endosulfan II	ND	14.2	19.8	72		12.6	19.8	64		28-120	12	40
4,4'-DDD	1.7	17.8	19.8	81		15.5	19.8	70		35-126	13	40
Endrin Aldehyde	ND	10.4	19.8	52		9.09	19.8	46		10-118	13	40
Endosulfan Sulfate	ND	15.4	19.8	78		13.7	19.8	69		23-128	12	40
4,4'-DDT	ND	17.8	19.8	90		15.5	19.8	78		26-133	13	40
Endrin Ketone	ND	14.9	19.8	75		13.0	19.8	66		27-128	13	40
Methoxychlor	ND	16.9	19.8	85		15.0	19.8	76		27-148	12	40
Toxaphene	ND	66.2	99.1	67		59.6	99.0	60		21-152	10	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/10/2015

Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8081B	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1509513

	Lab Control Sample KWG1509513-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
alpha-BHC	14.0	20.0	70	42-124
beta-BHC	13.0	20.0	65	39-122
gamma-BHC (Lindane)	14.0	20.0	70	44-123
delta-BHC	14.6	20.0	73	44-141
Heptachlor	14.3	20.0	71	39-126
Aldrin	13.3	20.0	67	46-116
Heptachlor Epoxide	13.4	20.0	67	43-119
gamma-Chlordane	12.9	20.0	65	38-121
Endosulfan I	11.1	20.0	56	23-116
alpha-Chlordane	12.7	20.0	63	40-121
Dieldrin	13.9	20.0	69	40-120
4,4'-DDE	13.9	20.0	70	36-139
Endrin	14.5	20.0	72	44-130
Endosulfan II	11.8	20.0	59	35-111
4,4'-DDD	13.6	20.0	68	33-138
Endrin Aldehyde	12.0	20.0	60	11-110
Endosulfan Sulfate	13.1	20.0	66	36-127
4,4'-DDT	13.5	20.0	67	49-136
Endrin Ketone	12.3	20.0	62	29-133
Methoxychlor	13.0	20.0	65	37-144
Toxaphene	70.3	100	70	21-152

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Polychlorinated Biphenyls (PCBs)

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB05-9	**Units:**	ug/Kg
Lab Code:	K1510803-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1242	**6.6**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1254	**6.0**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1260	**4.0**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	85	37-139	10/11/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB05-8	**Units:**	ug/Kg
Lab Code:	K1510803-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1242	**4.5**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1254	**4.6**	JP	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1260	**3.3**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	37-139	10/11/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB04-6	**Units:**	ug/Kg
Lab Code:	K1510803-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.6	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1232	ND	U	9.6	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1242	**5.5**	J	9.6	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1248	ND	U	9.6	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1254	**5.1**	J	9.6	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1260	**3.7**	J	9.6	2.8	1	10/06/15	10/11/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	84	37-139	10/11/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB04-7	**Units:**	ug/Kg
Lab Code:	K1510803-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1242	**3.0**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1254	**5.6**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1260	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	84	37-139	10/11/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB07-13	**Units:**	ug/Kg
Lab Code:	K1510803-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1242	**7.2**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1254	**5.6**	JP	10	2.8	1	10/06/15	10/11/15	KWG1509514	
Aroclor 1260	**4.8**	J	10	2.8	1	10/06/15	10/11/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	37-139	10/11/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB07-14	**Units:**	ug/Kg
Lab Code:	K1510803-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**5.3**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**8.1**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**4.1**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	86	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB02-1	**Units:**	ug/Kg
Lab Code:	K1510803-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**7.0**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**11**		10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**5.0**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	86	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB02-2	**Units:**	ug/Kg
Lab Code:	K1510803-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**7.2**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**10**		10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**4.0**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	90	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**6.6**	J	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**12**		9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**5.6**	J	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	88	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	HB06-12	**Units:**	ug/Kg
Lab Code:	K1510803-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**7.7**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**15**		10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**5.7**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	92	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	2014-19	**Units:**	ug/Kg
Lab Code:	K1510803-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**6.9**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**11**		10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**4.7**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	86	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	2013-28	**Units:**	ug/Kg
Lab Code:	K1510803-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**7.9**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**13**		10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**4.2**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	2012-9	**Units:**	ug/Kg
Lab Code:	K1510803-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**7.0**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**13**		10	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**5.0**	J	10	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	89	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	2017-12	**Units:**	ug/Kg
Lab Code:	K1510803-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.9	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	9.9	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**7.4**	J	9.9	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	9.9	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**16**		9.9	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**5.1**	J	9.9	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	93	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1438-23	**Units:**	ug/Kg
Lab Code:	K1510803-015	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.7	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	9.7	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**6.0**	J	9.7	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	9.7	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**11**		9.7	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	ND	U	9.7	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	70	37-139	10/12/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1363-24	**Units:**	ug/Kg
Lab Code:	K1510803-016	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	**7.3**	J	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	**14**		9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	**4.1**	J	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	76	37-139	10/12/15	Acceptable

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1509514-4	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1221	ND	U	20	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1232	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1242	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1248	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1254	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	
Aroclor 1260	ND	U	9.8	2.8	1	10/06/15	10/12/15	KWG1509514	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	93	37-139	10/12/15	Acceptable

Comments:

QA/QC Report

Client: Normandeau Associates **Service Request:** K1510803
Project: 23674.000
Sample Matrix: Tissue

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
HB05-9	K1510803-001	85
HB05-8	K1510803-002	90
HB04-6	K1510803-003	84
HB04-7	K1510803-004	84
HB07-13	K1510803-005	89
HB07-14	K1510803-006	86
HB02-1	K1510803-007	86
HB02-2	K1510803-008	90
HB06-11	K1510803-009	88
HB06-12	K1510803-010	92
2014-19	K1510803-011	86
2013-28	K1510803-012	87
2012-9	K1510803-013	89
2017-12	K1510803-014	93
1438-23	K1510803-015	70
1363-24	K1510803-016	76
Method Blank	KWG1509514-4	93
HB06-11MS	KWG1509514-1	68
HB06-11DMS	KWG1509514-2	80
Lab Control Sample	KWG1509514-3	78

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 37-139

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/12/2015

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1509514

		HB06-11MS KWG1509514-1 Matrix Spike			HB06-11DMS KWG1509514-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND	120	195	61	138	198	70	46-128	14	40
Aroclor 1260	5.6	134	195	66	150	198	73	46-128	12	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/12/2015

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8082A	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1509514

	Lab Control Sample KWG1509514-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Aroclor 1016	130	200	65	46-128
Aroclor 1260	154	200	77	46-128

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB05-9	**Units:**	ug/Kg
Lab Code:	K1510803-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**66**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	**12**	J	100	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	41	52-100	10/15/15	Outside Control Limits
2,4,6-Tribromophenol	65	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB05-8	**Units:**	ug/Kg
Lab Code:	K1510803-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**59**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	**11**	J	99	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	56	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	95	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB04-6	**Units:**	ug/Kg
Lab Code:	K1510803-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**69**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	ND	U	100	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	51	52-100	10/15/15	Outside Control Limits
2,4,6-Tribromophenol	79	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB04-7	**Units:**	ug/Kg
Lab Code:	K1510803-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**57**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	**38**	J	100	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	52	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	74	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB07-13	**Units:**	ug/Kg
Lab Code:	K1510803-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**60**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	ND	U	99	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	88	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB07-14	**Units:**	ug/Kg
Lab Code:	K1510803-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**66**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	**8.0**	J	99	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	56	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	88	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB02-1	**Units:**	ug/Kg
Lab Code:	K1510803-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**53**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	ND	U	100	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	52	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	80	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB02-2	**Units:**	ug/Kg
Lab Code:	K1510803-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**75**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	**48**	J	99	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	85	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**62**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	ND	U	100	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	60	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	86	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB06-12	**Units:**	ug/Kg
Lab Code:	K1510803-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**59**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	ND	U	99	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	58	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	86	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2014-19	**Units:**	ug/Kg
Lab Code:	K1510803-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**78**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	ND	U	99	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	63	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	93	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2013-28	**Units:**	ug/Kg
Lab Code:	K1510803-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**72**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	ND	U	100	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	64	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	94	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2012-9	**Units:**	ug/Kg
Lab Code:	K1510803-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**70**	J	2000	19	1	10/06/15	10/16/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/16/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/16/15	KWG1509512	
Pentachlorophenol	ND	U	100	7.6	1	10/06/15	10/16/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	61	52-100	10/16/15	Acceptable
2,4,6-Tribromophenol	85	44-125	10/16/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2017-12	**Units:**	ug/Kg
Lab Code:	K1510803-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**72**	J	2000	19	1	10/06/15	10/16/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/16/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/16/15	KWG1509512	
Pentachlorophenol	ND	U	100	7.6	1	10/06/15	10/16/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	52	52-100	10/16/15	Acceptable
2,4,6-Tribromophenol	75	44-125	10/16/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1438-23	**Units:**	ug/Kg
Lab Code:	K1510803-015	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**66**	J	2000	19	1	10/06/15	10/16/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/16/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/16/15	KWG1509512	
Pentachlorophenol	ND	U	99	7.6	1	10/06/15	10/16/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	65	52-100	10/16/15	Acceptable
2,4,6-Tribromophenol	94	44-125	10/16/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1363-24	**Units:**	ug/Kg
Lab Code:	K1510803-016	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**58**	J	2000	19	1	10/06/15	10/16/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/16/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/16/15	KWG1509512	
Pentachlorophenol	ND	U	100	7.6	1	10/06/15	10/16/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	72	52-100	10/16/15	Acceptable
2,4,6-Tribromophenol	105	44-125	10/16/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1509512-5	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**55**	J	2000	19	1	10/06/15	10/15/15	KWG1509512	*
2-Methylphenol	ND	U	40	8.1	1	10/06/15	10/15/15	KWG1509512	*
4-Methylphenol†	ND	U	40	8.7	1	10/06/15	10/15/15	KWG1509512	
Pentachlorophenol	**36**	J	99	7.6	1	10/06/15	10/15/15	KWG1509512	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	73	52-100	10/15/15	Acceptable
2,4,6-Tribromophenol	78	44-125	10/15/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

QA/QC Report

Client: Normandeau Associates **Service Request:** K1510803
Project: 23674.000
Sample Matrix: Tissue

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1		Sur2
HB05-9	K1510803-001	41	*	65
HB05-8	K1510803-002	56		95
HB04-6	K1510803-003	51	*	79
HB04-7	K1510803-004	52		74
HB07-13	K1510803-005	57		88
HB07-14	K1510803-006	56		88
HB02-1	K1510803-007	52		80
HB02-2	K1510803-008	57		85
HB06-11	K1510803-009	60		86
HB06-12	K1510803-010	58		86
2014-19	K1510803-011	63		93
2013-28	K1510803-012	64		94
2012-9	K1510803-013	61		85
2017-12	K1510803-014	52		75
1438-23	K1510803-015	65		94
1363-24	K1510803-016	72		105
Method Blank	KWG1509512-5	73		78
HB06-11MS	KWG1509512-1	56		85
HB06-11DMS	KWG1509512-2	61		93
Lab Control Sample	KWG1509512-3	44	*	61
Duplicate Lab Control Sample	KWG1509512-4	54		66

Surrogate Recovery Control Limits (%)

Sur1	=	Phenol-d6	52-100
Sur2	=	2,4,6-Tribromophenol	44-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/15/2015

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1509512

		HB06-11MS KWG1509512-1 Matrix Spike				HB06-11DMS KWG1509512-2 Duplicate Matrix Spike						
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	62	1430	2950	46		1570	2970	51		46-126	9	40
2-Methylphenol	ND	1430	2950	49	*	1570	2970	53	*	76-159	9	40
4-Methylphenol	ND	1560	2950	53		1730	2970	58		22-125	10	40
Pentachlorophenol	ND	2070	2950	70		2260	2970	76		41-105	9	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/15/2015 - 10/19/2015

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1509512

	Lab Control Sample KWG1509512-3 Lab Control Spike				Duplicate Lab Control Sample KWG1509512-4 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	1150	3000	38	*	1460	3000	49		46-126	24	40
2-Methylphenol	1100	3000	37	*	1420	3000	47	*	76-159	25	40
4-Methylphenol	1230	3000	41		1620	3000	54		22-125	27	40
Pentachlorophenol	1640	3000	55		1810	3000	60		41-105	10	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds by GC/MS

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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB05-9	**Units:**	ug/Kg
Lab Code:	K1510803-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**55**	J	2000	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	40	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	**7.9**	J	98	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	54	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	70	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB05-8	**Units:**	ug/Kg
Lab Code:	K1510803-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**32**	J	2000	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	40	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	99	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	46	52-100	11/02/15	Outside Control Limits
2,4,6-Tribromophenol	66	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB04-6	**Units:**	ug/Kg
Lab Code:	K1510803-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**42**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	37	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	92	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	56	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	72	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB04-7	**Units:**	ug/Kg
Lab Code:	K1510803-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**53**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	37	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	92	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	50	52-100	11/02/15	Outside Control Limits
2,4,6-Tribromophenol	62	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB07-13	**Units:**	ug/Kg
Lab Code:	K1510803-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**37**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	38	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	38	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	93	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	76	44-125	11/02/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB07-14	**Units:**	ug/Kg
Lab Code:	K1510803-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**41**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	37	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	92	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	50	52-100	11/02/15	Outside Control Limits
2,4,6-Tribromophenol	64	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB02-1	**Units:**	ug/Kg
Lab Code:	K1510803-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**44**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	37	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	92	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	47	52-100	11/02/15	Outside Control Limits
2,4,6-Tribromophenol	61	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB02-2	**Units:**	ug/Kg
Lab Code:	K1510803-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**42**	J	2000	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	39	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	39	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	97	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	50	52-100	11/02/15	Outside Control Limits
2,4,6-Tribromophenol	63	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**46**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	37	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	92	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	51	52-100	11/02/15	Outside Control Limits
2,4,6-Tribromophenol	65	44-125	11/02/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB06-12	**Units:**	ug/Kg
Lab Code:	K1510803-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**52**	J	2000	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	40	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	98	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	54	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	71	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2014-19	**Units:**	ug/Kg
Lab Code:	K1510803-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**62**	J	2000	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	40	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	99	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	55	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	72	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2013-28	**Units:**	ug/Kg
Lab Code:	K1510803-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**58**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	38	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	38	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	95	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	55	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	69	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2012-9	**Units:**	ug/Kg
Lab Code:	K1510803-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**59**	J	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	38	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	38	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	93	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	55	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	71	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2017-12	**Units:**	ug/Kg
Lab Code:	K1510803-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**53**	J	2000	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	40	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	ND	U	99	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	55	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	70	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1438-23	**Units:**	ug/Kg
Lab Code:	K1510803-015	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**39**	J	2000	19	1	10/23/15	11/03/15	KWG1510241	*
2-Methylphenol	ND	U	39	8.1	1	10/23/15	11/03/15	KWG1510241	*
4-Methylphenol†	ND	U	39	8.7	1	10/23/15	11/03/15	KWG1510241	
Pentachlorophenol	ND	U	98	7.6	1	10/23/15	11/03/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	55	52-100	11/03/15	Acceptable
2,4,6-Tribromophenol	67	44-125	11/03/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1363-24	**Units:**	ug/Kg
Lab Code:	K1510803-016	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**44**	J	1900	19	1	10/23/15	11/03/15	KWG1510241	*
2-Methylphenol	ND	U	38	8.1	1	10/23/15	11/03/15	KWG1510241	*
4-Methylphenol†	ND	U	38	8.7	1	10/23/15	11/03/15	KWG1510241	
Pentachlorophenol	ND	U	95	7.6	1	10/23/15	11/03/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	58	52-100	11/03/15	Acceptable
2,4,6-Tribromophenol	74	44-125	11/03/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1510241-6	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	1900	19	1	10/23/15	11/02/15	KWG1510241	*
2-Methylphenol	ND	U	37	8.1	1	10/23/15	11/02/15	KWG1510241	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	11/02/15	KWG1510241	
Pentachlorophenol	**7.7**	J	92	7.6	1	10/23/15	11/02/15	KWG1510241	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	11/02/15	Acceptable
2,4,6-Tribromophenol	66	44-125	11/02/15	Acceptable

† **Analyte Comments**

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Client: Normandeau Associates **Service Request:** K1510803
Project: 23674.000
Sample Matrix: Tissue

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8270D SIM **Level:** Low

Sample Name	Lab Code	Sur1		Sur2
HB05-9	K1510803-001	54		70
HB05-8	K1510803-002	46	*	66
HB04-6	K1510803-003	56		72
HB04-7	K1510803-004	50	*	62
HB07-13	K1510803-005	57		76
HB07-14	K1510803-006	50	*	64
HB02-1	K1510803-007	47	*	61
HB02-2	K1510803-008	50	*	63
HB06-11	K1510803-009	51	*	65
HB06-12	K1510803-010	54		71
2014-19	K1510803-011	55		72
2013-28	K1510803-012	55		69
2012-9	K1510803-013	55		71
2017-12	K1510803-014	55		70
1438-23	K1510803-015	55		67
1363-24	K1510803-016	58		74
Method Blank	KWG1510241-6	57		66
HB05-9MS	KWG1510241-1	52		67
HB05-9DMS	KWG1510241-2	50	*	62
Lab Control Sample	KWG1510241-3	44	*	56
Duplicate Lab Control Sample	KWG1510241-4	46	*	58

Surrogate Recovery Control Limits (%)

Sur1	=	Phenol-d6	52-100
Sur2	=	2,4,6-Tribromophenol	44-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/23/2015
Sample Matrix:	Tissue	**Date Analyzed:**	11/02/2015

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	HB05-9	**Units:**	ug/Kg
Lab Code:	K1510803-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1510241

		HB05-9MS KWG1510241-1 Matrix Spike				HB05-9DMS KWG1510241-2 Duplicate Matrix Spike						
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	55	1500	2940	49		1520	2930	50		46-126	1	40
2-Methylphenol	ND	1550	2940	53	*	1530	2930	52	*	76-159	1	40
4-Methylphenol	ND	1630	2940	56		1690	2930	58		22-125	4	40
Pentachlorophenol	7.9	1870	2940	63		1760	2930	60		41-105	6	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/23/2015
Sample Matrix:	Tissue	**Date Analyzed:**	11/02/2015

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1510241

	Lab Control Sample KWG1510241-3 Lab Control Spike				Duplicate Lab Control Sample KWG1510241-4 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	1360	3000	45	*	1390	3000	46		46-126	2	40
2-Methylphenol	1370	3000	46	*	1400	3000	47	*	76-159	3	40
4-Methylphenol	1550	3000	52		1480	3000	49		22-125	4	40
Pentachlorophenol	1660	3000	55		1720	3000	57		41-105	4	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Polynuclear Aromatic Hydrocarbons

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB05-9	**Units:**	ug/Kg
Lab Code:	K1510803-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	ND	U	10	0.98	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	ND	U	10	1.0	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	65	39-96	10/16/15	Acceptable
Fluoranthene-d10	79	41-100	10/16/15	Acceptable
Terphenyl-d14	56	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB05-8	**Units:**	ug/Kg
Lab Code:	K1510803-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.91	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.90	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	9.9	1.4	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	9.9	0.76	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	ND	U	9.9	0.97	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	ND	U	9.9	0.99	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	ND	U	9.9	0.76	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.8	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	92	39-96	10/16/15	Acceptable
Fluoranthene-d10	111	41-100	10/16/15	Outside Control Limits
Terphenyl-d14	79	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB04-6	**Units:**	ug/Kg
Lab Code:	K1510803-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	ND	U	10	0.98	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	ND	U	10	1.0	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	79	39-96	10/16/15	Acceptable
Fluoranthene-d10	94	41-100	10/16/15	Acceptable
Terphenyl-d14	69	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB04-7	**Units:**	ug/Kg
Lab Code:	K1510803-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	ND	U	10	0.98	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	ND	U	10	1.0	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	39-96	10/16/15	Acceptable
Fluoranthene-d10	93	41-100	10/16/15	Acceptable
Terphenyl-d14	67	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB07-13	**Units:**	ug/Kg
Lab Code:	K1510803-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.91	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.89	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	**2.8**	J	9.9	0.97	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	**4.6**	J	9.9	0.99	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**1.3**	J	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	**1.7**	J	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	90	39-96	10/16/15	Acceptable
Fluoranthene-d10	100	41-100	10/16/15	Acceptable
Terphenyl-d14	73	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB07-14	**Units:**	ug/Kg
Lab Code:	K1510803-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.92	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.90	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	9.9	1.4	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	9.9	0.76	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	**2.9**	J	9.9	0.97	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	**4.8**	J	9.9	0.99	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**1.3**	J	9.9	0.76	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	**1.8**	J	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.8	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	92	39-96	10/16/15	Acceptable
Fluoranthene-d10	108	41-100	10/16/15	Outside Control Limits
Terphenyl-d14	78	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB02-1	**Units:**	ug/Kg
Lab Code:	K1510803-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	**3.8**	J	10	0.98	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	**6.7**	J	10	1.0	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**1.4**	J	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	**2.5**	J	10	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	82	39-96	10/16/15	Acceptable
Fluoranthene-d10	96	41-100	10/16/15	Acceptable
Terphenyl-d14	70	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB02-2	**Units:**	ug/Kg
Lab Code:	K1510803-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.91	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.89	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	**1.5**	J	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	**0.85**	J	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	**4.1**	J	9.9	0.97	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	**6.2**	J	9.9	0.99	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**1.6**	J	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	**2.5**	J	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	96	39-96	10/16/15	Acceptable
Fluoranthene-d10	110	41-100	10/16/15	Outside Control Limits
Terphenyl-d14	80	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	**4.3**	J	10	0.98	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	**8.7**	J	10	1.0	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**1.9**	J	10	0.76	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	ND	U	10	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	**2.1**	J	10	1.4	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	101	39-96	10/16/15	Outside Control Limits
Fluoranthene-d10	114	41-100	10/16/15	Outside Control Limits
Terphenyl-d14	83	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	HB06-12	**Units:**	ug/Kg
Lab Code:	K1510803-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.91	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.89	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	**4.0**	J	9.9	0.97	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	**7.2**	J	9.9	0.99	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**1.6**	J	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	**3.1**	J	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	**1.6**	J	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	96	39-96	10/16/15	Acceptable
Fluoranthene-d10	109	41-100	10/16/15	Outside Control Limits
Terphenyl-d14	80	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	2014-19	**Units:**	ug/Kg
Lab Code:	K1510803-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.91	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.89	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	**2.8**	J	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	**0.92**	J	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	**7.4**	J	9.9	0.97	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	**9.3**	J	9.9	0.99	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**2.5**	J	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	**1.6**	J	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	**1.8**	J	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	96	39-96	10/16/15	Acceptable
Fluoranthene-d10	108	41-100	10/16/15	Outside Control Limits
Terphenyl-d14	78	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	2013-28	**Units:**	ug/Kg
Lab Code:	K1510803-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/17/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/17/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/17/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/17/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/17/15	KWG1510079	
Phenanthrene	**2.0**	J	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Anthracene	ND	U	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Fluoranthene	**5.6**	J	10	0.98	1	10/06/15	10/17/15	KWG1510079	*
Pyrene	**7.9**	J	10	1.0	1	10/06/15	10/17/15	KWG1510079	
Benz(a)anthracene	**1.6**	J	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Chrysene	ND	U	10	1.1	1	10/06/15	10/17/15	KWG1510079	*
Benzo(b)fluoranthene†	**1.4**	J	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/17/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/17/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/17/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/17/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/17/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	100	39-96	10/17/15	Outside Control Limits
Fluoranthene-d10	112	41-100	10/17/15	Outside Control Limits
Terphenyl-d14	81	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	2012-9	**Units:**	ug/Kg
Lab Code:	K1510803-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/17/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/17/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/17/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/17/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/17/15	KWG1510079	
Phenanthrene	**2.1**	J	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Anthracene	**0.77**	J	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Fluoranthene	**5.9**	J	10	0.98	1	10/06/15	10/17/15	KWG1510079	*
Pyrene	**8.5**	J	10	1.0	1	10/06/15	10/17/15	KWG1510079	
Benz(a)anthracene	**2.0**	J	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Chrysene	ND	U	10	1.1	1	10/06/15	10/17/15	KWG1510079	*
Benzo(b)fluoranthene†	**1.5**	J	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/17/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/17/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/17/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/17/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/17/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	87	39-96	10/17/15	Acceptable
Fluoranthene-d10	104	41-100	10/17/15	Outside Control Limits
Terphenyl-d14	76	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	2017-12	**Units:**	ug/Kg
Lab Code:	K1510803-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/17/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/17/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/17/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/17/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/17/15	KWG1510079	
Phenanthrene	**2.1**	J	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Anthracene	**0.80**	J	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Fluoranthene	**5.5**	J	10	0.98	1	10/06/15	10/17/15	KWG1510079	*
Pyrene	**7.8**	J	10	1.0	1	10/06/15	10/17/15	KWG1510079	
Benz(a)anthracene	**1.8**	J	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Chrysene	ND	U	10	1.1	1	10/06/15	10/17/15	KWG1510079	*
Benzo(b)fluoranthene†	**1.4**	J	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/17/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/17/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/17/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/17/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/17/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	89	39-96	10/17/15	Acceptable
Fluoranthene-d10	102	41-100	10/17/15	Outside Control Limits
Terphenyl-d14	73	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1438-23	**Units:**	ug/Kg
Lab Code:	K1510803-015	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/17/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.91	1	10/06/15	10/17/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/17/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.90	1	10/06/15	10/17/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/17/15	KWG1510079	
Phenanthrene	**1.5**	J	9.9	1.4	1	10/06/15	10/17/15	KWG1510079	*
Anthracene	ND	U	9.9	0.76	1	10/06/15	10/17/15	KWG1510079	*
Fluoranthene	**4.1**	J	9.9	0.97	1	10/06/15	10/17/15	KWG1510079	*
Pyrene	**6.7**	J	9.9	0.99	1	10/06/15	10/17/15	KWG1510079	
Benz(a)anthracene	**1.6**	J	9.9	0.76	1	10/06/15	10/17/15	KWG1510079	*
Chrysene	ND	U	9.9	1.1	1	10/06/15	10/17/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/06/15	10/17/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/17/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/17/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/17/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.8	1	10/06/15	10/17/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/17/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	99	39-96	10/17/15	Outside Control Limits
Fluoranthene-d10	114	41-100	10/17/15	Outside Control Limits
Terphenyl-d14	81	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	09/21/2015
Sample Matrix:	Tissue	**Date Received:**	09/24/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1363-24	**Units:**	ug/Kg
Lab Code:	K1510803-016	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/06/15	10/17/15	KWG1510079	
Acenaphthylene	ND	U	10	0.92	1	10/06/15	10/17/15	KWG1510079	*
Acenaphthene	ND	U	10	0.94	1	10/06/15	10/17/15	KWG1510079	
Dibenzofuran	ND	U	10	0.90	1	10/06/15	10/17/15	KWG1510079	
Fluorene	ND	U	10	1.1	1	10/06/15	10/17/15	KWG1510079	
Phenanthrene	ND	U	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Anthracene	ND	U	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Fluoranthene	**4.7**	J	10	0.98	1	10/06/15	10/17/15	KWG1510079	*
Pyrene	**7.4**	J	10	1.0	1	10/06/15	10/17/15	KWG1510079	
Benz(a)anthracene	**1.3**	J	10	0.76	1	10/06/15	10/17/15	KWG1510079	*
Chrysene	**2.7**	J	10	1.1	1	10/06/15	10/17/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/06/15	10/17/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/06/15	10/17/15	KWG1510079	
Benzo(a)pyrene	ND	U	10	1.5	1	10/06/15	10/17/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/06/15	10/17/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/06/15	10/17/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/06/15	10/17/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	104	39-96	10/17/15	Outside Control Limits
Fluoranthene-d10	119	41-100	10/17/15	Outside Control Limits
Terphenyl-d14	87	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1510079-5	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/06/15	10/16/15	KWG1510079	
Acenaphthylene	ND	U	9.9	0.91	1	10/06/15	10/16/15	KWG1510079	*
Acenaphthene	ND	U	9.9	0.93	1	10/06/15	10/16/15	KWG1510079	
Dibenzofuran	ND	U	9.9	0.89	1	10/06/15	10/16/15	KWG1510079	
Fluorene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	
Phenanthrene	ND	U	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Anthracene	ND	U	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Fluoranthene	ND	U	9.9	0.97	1	10/06/15	10/16/15	KWG1510079	*
Pyrene	ND	U	9.9	0.99	1	10/06/15	10/16/15	KWG1510079	
Benz(a)anthracene	**0.98**	J	9.9	0.75	1	10/06/15	10/16/15	KWG1510079	*
Chrysene	ND	U	9.9	1.1	1	10/06/15	10/16/15	KWG1510079	*
Benzo(b)fluoranthene†	ND	U	9.9	1.3	1	10/06/15	10/16/15	KWG1510079	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/06/15	10/16/15	KWG1510079	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/06/15	10/16/15	KWG1510079	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/06/15	10/16/15	KWG1510079	
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/06/15	10/16/15	KWG1510079	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	102	39-96	10/16/15	Outside Control Limits
Fluoranthene-d10	114	41-100	10/16/15	Outside Control Limits
Terphenyl-d14	83	39-111	10/16/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

QA/QC Report

Client: Normandeau Associates
Project: 23674.000
Sample Matrix: Tissue

Service Request: K1510803

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270D SIM

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1		Sur2		Sur3
HB05-9	K1510803-001	65		79		56
HB05-8	K1510803-002	92		111	*	79
HB04-6	K1510803-003	79		94		69
HB04-7	K1510803-004	77		93		67
HB07-13	K1510803-005	90		100		73
HB07-14	K1510803-006	92		108	*	78
HB02-1	K1510803-007	82		96		70
HB02-2	K1510803-008	96		110	*	80
HB06-11	K1510803-009	101	*	114	*	83
HB06-12	K1510803-010	96		109	*	80
2014-19	K1510803-011	96		108	*	78
2013-28	K1510803-012	100	*	112	*	81
2012-9	K1510803-013	87		104	*	76
2017-12	K1510803-014	89		102	*	73
1438-23	K1510803-015	99	*	114	*	81
1363-24	K1510803-016	104	*	119	*	87
Method Blank	KWG1510079-5	102	*	114	*	83
HB06-11MS	KWG1510079-1	98	*	108	*	83
HB06-11DMS	KWG1510079-2	103	*	112	*	86
Lab Control Sample	KWG1510079-3	92		104	*	83
Duplicate Lab Control Sample	KWG1510079-4	91		100		78

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	39-96
Sur2	=	Fluoranthene-d10	41-100
Sur3	=	Terphenyl-d14	39-111

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/16/2015

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	HB06-11	**Units:**	ug/Kg
Lab Code:	K1510803-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1510079

		HB06-11MS KWG1510079-1 Matrix Spike			HB06-11DMS KWG1510079-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	ND	1800	1970	92	1940	1980	98	43-102	7	40
Acenaphthylene	ND	2040	1970	103 *	2160	1980	109 *	53-100	6	40
Acenaphthene	ND	1990	1970	101	2110	1980	107 *	52-101	6	40
Dibenzofuran	ND	2010	1970	102	2120	1980	107 *	55-103	5	40
Fluorene	ND	2100	1970	107 *	2200	1980	111 *	56-104	5	40
Phenanthrene	ND	2060	1970	105 *	2150	1980	109 *	54-100	5	40
Anthracene	ND	2140	1970	109 *	2240	1980	113 *	57-103	4	40
Fluoranthene	4.3	2200	1970	112 *	2300	1980	116 *	55-108	5	40
Pyrene	8.7	2310	1970	117	2450	1980	123 *	48-117	6	40
Benz(a)anthracene	1.9	2360	1970	120 *	2480	1980	125 *	55-105	5	40
Chrysene	ND	2300	1970	117 *	2420	1980	122 *	58-112	5	40
Benzo(b)fluoranthene	2.1	2200	1970	112 *	2340	1980	118 *	60-107	6	40
Benzo(k)fluoranthene	ND	2020	1970	103	2120	1980	107	58-115	5	40
Benzo(a)pyrene	ND	2530	1970	129 *	2680	1980	136 *	56-110	6	40
Indeno(1,2,3-cd)pyrene	ND	2580	1970	131 *	2710	1980	137 *	50-117	5	40
Dibenz(a,h)anthracene	ND	2240	1970	114 *	2390	1980	121 *	52-112	6	40
Benzo(g,h,i)perylene	ND	2150	1970	109	2260	1980	114	56-117	5	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510803
Project:	23674.000	**Date Extracted:**	10/06/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/16/2015

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1510079

	Lab Control Sample KWG1510079-3 Lab Control Spike			Duplicate Lab Control Sample KWG1510079-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	1730	2000	86	1870	2000	93	43-102	8	40
Acenaphthylene	2000	2000	100	2060	2000	103 *	53-100	3	40
Acenaphthene	1930	2000	97	2000	2000	100	52-101	3	40
Dibenzofuran	1980	2000	99	2020	2000	101	55-103	2	40
Fluorene	2010	2000	101	2080	2000	104	56-104	3	40
Phenanthrene	1960	2000	98	2020	2000	101 *	54-100	3	40
Anthracene	2100	2000	105 *	2140	2000	107 *	57-103	2	40
Fluoranthene	2150	2000	107	2170	2000	109 *	55-108	1	40
Pyrene	2340	2000	117	2330	2000	116	48-117	0	40
Benz(a)anthracene	2400	2000	120 *	2380	2000	119 *	55-105	1	40
Chrysene	2270	2000	113 *	2280	2000	114 *	58-112	0	40
Benzo(b)fluoranthene	2230	2000	111 *	2220	2000	111 *	60-107	0	40
Benzo(k)fluoranthene	1980	2000	99	2010	2000	100	58-115	2	40
Benzo(a)pyrene	2550	2000	128 *	2560	2000	128 *	56-110	0	40
Indeno(1,2,3-cd)pyrene	2420	2000	121 *	2480	2000	124 *	50-117	2	40
Dibenz(a,h)anthracene	2140	2000	107	2150	2000	108	52-112	1	40
Benzo(g,h,i)perylene	1980	2000	99	2040	2000	102	56-117	3	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

A S Environmental
A S Group SA, Corp
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Analytical Report for Service Request No: 1 10 1

Eric estler
  ormandeau Associates, Inc.
    ashua Rd.
  edford, 0 110

RE: 23674.000

Dear Eric,

Enclosed are the results of the sample(s) submitted to our laboratory September , 01
For your reference, these analyses have been assigned our service request number **K1510861.**

Analyses were performed according to our laboratory s E AP-approved quality assurance program. The test results meet requirements of the current E AP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of E AP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and A S Group SA Corp. dba A S Environmental (A S) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analy ed, as listed in the report.

Please contact me if you have any questions. My extension is . ou may also contact me via email at Chris. eaf A SGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris eaf
Project Manager

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Polynuclear Aromatic Hydrocarbons

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Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS ENVIRONMENTAL

Client:	Normandeau Associates	**Service Request No.:**	K1510861
Project:	23674.000	**Date Received:**	09/29/15
Sample Matrix:	Tissue		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt

Fourteen tissue samples were received for analysis at ALS Environmental on 09/29/15. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored frozen at –20ºC upon receipt at the laboratory.

Total Metals

Matrix Spike Recovery Exceptions:
The control criteria for matrix spike recovery of Calcium, Magnesium, Manganese, Potassium, Sodium, Strontium and Zinc for sample 1374-22 were not applicable. The analyzed concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery. The data is flagged to denote the exception.

The matrix spike recovery of Iron for sample 1374-22 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. No further corrective action was appropriate.

Relative Percent Difference Exceptions:
The Relative Percent Difference (RPD) for the replicate analysis of Lead in sample 1374-22 was outside the Method control limits. The variability in the results was attributed to the heterogeneous distribution of Lead in the sample. Freeze drying, grinding in combination with standard mixing techniques were used, but were not sufficient for complete homogenization of this sample.

No other anomalies associated with the analysis of these samples were observed.

Lipids

No anomalies associated with the analysis of these samples were observed.

Approved by_____

Organochlorine Pesticides by EPA Method 8081

Sample Confirmation Notes:
The confirmation comparison criterion of 40% difference for at least one analyte was exceeded in several field samples. The lower of the two values was reported when both peaks were within the expected retention time window for this analysis and Gaussian in shape or the higher of the two values was reported when there was an apparent interference on the alternate column that produced the lower value.

Elevated Detection Limits:
The reporting limit is elevated for at least a couple analytes in all field samples. The chromatogram indicated the presence of non-target background components. The matrix interference prevented adequate resolution of the target compounds at the reporting limit. The results are flagged to indicate the matrix interference.

Matrix Spike Recovery Exceptions:
The control criteria for the matrix spike recovery of beta-BHC and 4,4'-DDT for sample 1374-22 was not applicable. The chromatogram indicated non-target matrix background components contributed to the reported matrix spike concentrations. Thus, the reported recoveries contained a high bias. Based on the magnitude of background contribution, the interference appeared to be minimal.

No other anomalies associated with the analysis of these samples were observed.

PCB Aroclors by EPA Method 8082

Second Source Exceptions:
The analysis of PCB Aroclors by EPA 8082 requires the use of dual column confirmation. When the Initial Calibration Verification (ICV) criteria are met for both columns, the lower of the two sample results is generally reported. The criteria were not met for Aroclor 1260 in CAL 13624. The data quality was not affected. No further corrective action was necessary

Sample Notes and Discussion:
Two Aroclors were identified in several samples: Aroclor 1242 and Aroclor 1254. When mixtures of PCB Aroclors are present in a sample, correct identification and quantitative analysis of the individual Aroclors can be subjective

Three Aroclors were identified in several samples: Aroclor 1242, Aroclor 1254, and Aroclor 1260. When mixtures of PCB Aroclors are present in a sample, correct identification and quantitative analysis of the individual Aroclors can be subjective. In particular, when mixtures are present, differentiating Aroclor 1242 from Aroclor 1248 can be difficult.

A review of the sample chromatograms indicated the presence of PCB patterns that spanned the entire elution range from Aroclor 1242 through the end of Aroclor 1260. Based on individual PCB peaks in the early portion of the chromatogram, Aroclor 1242was identified and quantitated. Aroclor 1260 was identified based on the presence of late eluting PCB peaks in the chromatogram. The remainder of the PCB pattern was identified as Aroclor 1254 because PCB peak height in the middle of the chromatogram was larger than could be attributed to either Aroclor 1242, Aroclor 1248, or Aroclor 1260.

When Aroclor mixtures are present in a sample, care is taken to minimize the possibility of double-counting PCBs. Analytical peaks are selected based on the best resolution possible for that particular sample. However, when a mixture of Aroclors 1242, 1254 and 1260 are present in a sample, the potential exists for a high bias from contribution of one Aroclor to another due to common peaks or peaks that cannot be completely resolved.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Semivolatile Organic Compounds by EPA Method 8270-SIM

Surrogate Exceptions:
The lower control criterion was exceeded by 1-9% for the surrogate Phenol-d6 in samples 1439-20, 717-59 and 1787-44. The error associated with reduced recovery equates to a potential slight bias. The results were flagged to indicate the exceedance. The samples were submitted for re-extraction and re-analysis. The results from both analytical runs are included in this report.

Matrix Spike Recovery Exceptions:
The lower control criterion was exceeded by 24-28% for 2-Methylphenol in the replicate Matrix Spikes (MS/DMS) KWG1509498-1 and KWG1509498-2 of sample 1374-22. The error associated with reduced recoveries equates to a potential slight bias. The results were flagged to indicate the exception.

Lab Control Sample Exceptions:
The lower control criterion was exceeded by 20-26% for 2-Methylphenol in replicate Laboratory Control Samples (LCS/DLCS) KWG1509498-3 and KWG1509498-4. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential slight low bias. The results were flagged to indicate the exceedance. The samples were submitted for re-extraction and re-analysis. The results from both analytical runs are included in this report.

No other anomalies associated with the analysis of these samples were observed.

Semivolatile Organic Compounds by EPA Method 8270-SIM (Re-extract)

Surrogate Exceptions:
The lower control criterion was exceeded by 3-8% for the surrogate Phenol-d6 in sample 1364-6 and Laboratory Control Sample (LCS) KWG1510242-3. The error associated with reduced recovery equates to a potential slight bias. The results were flagged to indicate the exceedance.

Matrix Spike Recovery Exceptions:
The lower control criterion was exceeded by 13-27% for 2-Methylphenol in the replicate Matrix Spikes (MS/DMS) KWG1510242-1 and KWG1510242-2 of sample 714-40. The error associated with reduced recoveries equates to a potential slight bias. The results were flagged to indicate the exception.

Lab Control Sample Exceptions:
The lower control criterion was exceeded by 15-24% for 2-Methylphenol in replicate Laboratory Control Samples (LCS/DLCS) KWG1510242-3 and KWG1510242-4. The analyte in question was not detected in the associated field samples. The error associated with reduced recovery equates to a potential slight low bias. The results were flagged to indicate the exceedance.

No other anomalies associated with the analysis of these samples were observed.

Polynuclear Aromatic Hydrocarbons by EPA Method 8270

Surrogate Exceptions:
The upper control criterion was exceeded by 5-10% for the surrogate Fluoranthene-d10 in sample 2146-25 and 1374-22DMS. The error associated with reduced recovery equates to a potential slight bias. The results were flagged to indicate the exceedance.

Matrix Spike Recovery Exceptions:
The upper control criterion was exceeded by 2-16% for several analytes in replicate Matrix Spikes/Duplicate Matrix Spike (MS/DMS) KWG1510085-1 and KWG1510085-2 of sample 1374-22. The matrix spike outliers suggested a potential high bias in this matrix. The data is flagged to denote the exception.

Approved by_____

Lab Control Sample Exceptions:
The upper control criterion was exceeded by 2-32% for several analytes in replicate Laboratory Control Samples (LCS/DLCS) KWG1510085-3 and KWG1510085-4. The analytes in question were not detected above the Method Reporting Limit (MRL) in the associated field samples. The error associated with elevated recoveries equates to a potential slight high bias. The results were flagged to indicate the exceedance. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by_____

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

K1510861

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

VAF

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 4

Courier:

Tracking #:

2098079

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] Y enestler@normandeau.com

Fax? [ ] Y No.

***Container Type	PL	CG																					
***Container Size	1gal	32oz																					
*** Preservative	None	None																					
ANALYSES/METHOD REQUESTED																							
			Clam Tissue	Sediment Testing																			

only subbed out clams to KELSO

Receipt Information (completed by Sample Receiving): Performed by: SIGN HERE

Cooler Temp: 1

Therm. ID: IR30

No. of Coolers:

Notes:

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis																	
1 1364-6		9/24/15	1245			1																	
2 1364-6			1255				1																
3 1440-8			1304			1																	
4 1440-8			1316				1																
5 1439-20			1320			1																	
6 1439-20			1331				1																
7 717-59	9-25-15 1259		1348			1																	
8 717-59		9/24/15	1357				1																

SSL 9/28/15

	Y	Y	Y	Y	Y	Y	Y	Y
Correct containers?	Y	Correct sample volume?	Y	Correct preservation?	Y	Headspace/Volatiles?	Y	Circle appropriate Y or N.
Custody seals Present?	Y	(If present) Seals intact?	Y	Received on ice?	Y	COC/Labels complete/accurate?	Y	Container in good condition?

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Cullen Tompkins Normandeau	9/25/15	0900	2	9/25	0900
3	9/25	1800	4	9/25	1800
5	9/25	2000	6	9/25	2000
7	9/28	1715	8 /ALS	9/29/15	0920
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other

SDWA Forms? → yes [ ]; yes [ ]; yes [ ]

State Samples Collected In? MD [ ]; NJ [ ]; NY [X]; PA [ ]

EDDs Needed? [X] If yes, format type: In Excel Other

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

K1510861
2098079

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-485330
TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] -Y enestler@normandeau.com
Fax? [ ] -Y No.

***Container Type	PL	CG																
***Container Size	1 gal	32oz																
*** Preservative	None	None																
ANALYSES/METHOD REQUESTED	Clam Tissue	Sediment Testing																
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis												
1 714-40		9/24/15	1404			1												
2 714-40			1404				1											
3 2146-25			1420			1												
4 2146-25			1431				1											
5 1787-44			1436			1												
6 1787-44			1447				1											
7 659-7	9-25-15 1259		1457			1												
8 659-7		9/24/15	1506				1											

only submit out clams SS 9/28/15

Receipt Information (completed by Sample Receiving)
Performed by: actual IR/RE
Cooler Temp:
Therm. ID: 9/15/7
No. of Coolers:
Notes:

	Y	N
Correct containers?	✓	
Correct sample volume?	✓	
Correct preservation?		✓
Headspace/Volatiles?	✓	
Circle appropriate Y or N.		
Custody seals Present?	✓	
(if present) Seals intact?	✓	
Received on Ice?	✓	
COC/Labels complete/accurate?	✓	
Container in good condition?	✓	

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/25/15	0900	2 [signature] UPS	9/25	900
3 [signature]	9/25	1800	4 [signature] UPS	9/25	1800
5 [signature]	9/25	2000	6 [signature]	9/25/15	2000
7 [signature]	9/28	1715	8 [signature] / ALS	9/29/15	0920
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] other
SDWA forms? ⇒ yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected in? MD [ ] NJ [ ] NY [X] PA [ ] Other
EDDs [X] If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES
[X] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

K1510861

2098079

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-195330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X -Y enestler@normandeau.com

Fax? -Y No.:

***Container Type			PL	CG													
***Container Size			1gal	32oz													
*** Preservative			None	None													
ANALYSES/METHOD REQUESTED			Clam Tissue	Sediment Testing													
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Enter Number of Containers Per Analysis											
1 654-9		9/24/15	1512			1											
2 654-9			1523				1										
3 720-16			1527			1											
4 720-16			1539				1										
5 1374-22			1615			1											
6 1374-22			1626				1										
7 1217-42	9/25/15 2259		1636			1											
8 1217-42		9/24/15	1646				1										

only subbed out clams to Kelso

Receipt Information (completed by Sample Receiver)

Performed by: Initials Here

Cooler Temp:

Therm. ID: HT309

No. of Coolers:

Notes:

	1	2	3	4	5
Correct containers?	Y	N	N	N	Circle appropriate Y or N.
Correct sample volume?	Y	N	N	Y	
Correct preservation?	Y	N	N	N	
Headspace/Volatiles?	N	N	Y	Y	
Custody seals Present?	Y	Y	Y	Y	
(if present) Seals intact?	Y	Y	Y	Y	
Received on Ice?	Y	N	N	N	
COC/Labels complete/accurate?	Y	N	N	N	
Container in good condition?	Y	N	N	N	

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 (J. Tomlinson) Normandeau	9/25/15	0900	2 [illegible]	9/25	900
3 [illegible]	9/25	1800	4 [illegible]	9/25	1800
5 [illegible]	9/25	2000	6 [illegible]	9/25	2000
7 [illegible]	9/28	1715	8 [illegible] 1/25	9/29/15	0900
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; (specify); EDDs: X If yes, format type: In Excel

SDWA Forms? yes

State Samples Collected In? MD; NJ; NY X; PA; Other

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

R150801
2098079

Co. Name: Normandeau Associates Inc
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.

***Container Type	PL	CG														
***Container Size	1gal.	32oz														
Preservative	None	None														
*G or C																
**Matrix																
ANALYSES/METHOD REQUESTED	Clam Tissue	Sediment Testing														
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	Enter Number of Containers Per Analysis												
1 986-26		9/24/15	1652	1												
2 986-26		"	1704		1											
3 1129-20		"	1710	1												
4 1129-20		9/24/15	1724		1											
5																
6																
7	9-25-15 2259															
8																

only supplied clams to Kelso

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	Y	Y	Y	Y	
2	N	N	N	N	N
3	Y	Y	Y	Y	Y
4					
5					
6					
7					
8					

	Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
1	Y	Y	Y	Y	Y
2	N	N	N	N	N
3	Y	Y	Y	Y	Y
4					
5					
6					
7					
8					

Receipt Information (completed by Sample Receiving)
Performed by: Initial, Name
Cooler Temp:
Therm. ID: 171509
No. of Coolers:
Notes:

SAMPLED BY (Please Print):
Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/25/15	0900	2 [illegible]	9/25	9:06
3 [illegible]	9/25	1800	4 [illegible]	9/25	1800
5 [illegible]	9/25	2400	6	9/25/15	2000
7 [illegible]	9/28	1715	8 [illegible] / ALS	9/29/15	0900
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; Other
SDWA forms? ⇒ yes; yes; yes; yes
State Samples Collected In? MD; NJ; NY X; PA
EDDs required? X If yes, format type: In Excel
Other:
DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

PC CV

Cooler Receipt and Preservation Form

Client / Project: AIS Middle Fork Service Request K15 10861

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746141768 25	
1.4	1.7	3.8	4.1	+0.3	320	2 of 5	7746141771 11	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746141770 41	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746141776 81	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746141767 55	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

Total Solids

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/15
Sample Matrix:	Tissue	**Date Received:**	09/29/15
Analysis Method:	Freeze Dry	**Units:**	Percent
Prep Method:	None	**Basis:**	Wet

Total Solids

Sample Name	Lab Code	Result	MRL	MDL	Dil.	Date Analyzed	Q
1364-6	K1510861-001	**12.3**	-	-	1	10/05/15 16:53	
1440-8	K1510861-002	**11.8**	-	-	1	10/05/15 16:53	
1439-20	K1510861-003	**11.7**	-	-	1	10/05/15 16:53	
717-59	K1510861-004	**12.5**	-	-	1	10/05/15 16:53	
714-40	K1510861-005	**12.6**	-	-	1	10/05/15 16:53	
2146-25	K1510861-006	**12.6**	-	-	1	10/05/15 16:53	
1787-44	K1510861-007	**11.6**	-	-	1	10/05/15 16:53	
659-7	K1510861-008	**12.0**	-	-	1	10/05/15 16:53	
654-9	K1510861-009	**12.8**	-	-	1	10/05/15 16:53	
720-16	K1510861-010	**11.6**	-	-	1	10/05/15 16:53	
1374-22	K1510861-011	**11.1**	-	-	1	10/05/15 16:53	
1217-42	K1510861-012	**12.4**	-	-	1	10/05/15 16:53	
986-26	K1510861-013	**11.2**	-	-	1	10/05/15 16:53	
1129-20	K1510861-014	**11.7**	-	-	1	10/05/15 16:53	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project	23674.000	**Date Collected:**	09/24/15
Sample Matrix:	Tissue	**Date Received:**	09/29/15
		Date Analyzed:	10/05/15

Replicate Sample Summary
Inorganic Parameters

Sample Name:	1374-22	**Units:**	Percent
Lab Code:	K1510861-011	**Basis:**	Wet

Analyte Name	Analysis Method	MRL	MDL	Sample Result	Duplicate Sample K1510861-011DUP Result	Average	RPD	RPD Limit
Total Solids	Freeze Dry	-	-	11.1	11.1	11.1	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1364-6** **Lab Code:** **K1510861-001**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	23.8		
Antimony	6020A	0.047	0.002	5.0	10/22/15	10/23/15	0.011	J	
Arsenic	6020A	0.47	0.02	5.0	10/22/15	10/23/15	10.9		
Barium	6020A	0.047	0.005	5.0	10/22/15	10/23/15	1.67		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.025		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.63		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	7270		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.75		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.38		
Copper	6020A	0.09	0.02	5.0	10/22/15	10/23/15	14.0		
Iron	6010C	3.8	0.9	1.0	10/22/15	10/27/15	142		
Lead	6020A	0.0189	0.0005	5.0	10/22/15	10/23/15	1.99		*
Magnesium	6010C	0.9	0.6	1.0	10/22/15	10/27/15	6450		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	304		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.094		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.58		
Potassium	6010C	38	8.5	1.0	10/22/15	10/27/15	14100		
Selenium	6020A	0.9	0.2	5.0	10/22/15	10/23/15	2.6		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	3.41		
Sodium	6010C	377	18.9	10.0	10/22/15	10/27/15	46000		
Strontium	6010C	0.09	0.03	1.0	10/22/15	10/27/15	98.3		
Tin	6020A	0.047	0.028	5.0	10/22/15	10/23/15	0.064		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.54		
Vanadium	6020A	0.189	0.007	5.0	10/22/15	10/23/15	0.605		
Zinc	6020A	0.47	0.06	5.0	10/22/15	10/23/15	218		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1440-8** **Lab Code:** **K1510861-002**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	19.8		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.016	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	13.8		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.75		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.025		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.08		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6940		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.87		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.63		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	15.0		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	181		
Lead	6020A	0.0194	0.0005	5.0	10/22/15	10/23/15	2.67		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6030		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	258		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.090		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.23		
Potassium	6010C	39	8.7	1.0	10/22/15	10/27/15	13900		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.8		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	4.26		
Sodium	6010C	388	19.4	10.0	10/22/15	10/27/15	40700		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	96.2		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.057		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.32		
Vanadium	6020A	0.194	0.007	5.0	10/22/15	10/23/15	0.651		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	236		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1439-20** **Lab Code:** **K1510861-003**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	31.8		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.011	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	11.4		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.29		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.029		
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	1.42		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	7150		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.60		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	1.28		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	12.6		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	126		
Lead	6020A	0.0197	0.0005	5.0	10/22/15	10/23/15	1.26		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	5820		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	242		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.086		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	2.94		
Potassium	6010C	39	8.9	1.0	10/22/15	10/27/15	12800		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.1		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	2.38		
Sodium	6010C	393	19.7	10.0	10/22/15	10/27/15	44500		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	87.8		
Tin	6020A	0.049	0.030	5.0	10/22/15	10/23/15	0.047	J	
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	0.78		
Vanadium	6020A	0.197	0.007	5.0	10/22/15	10/23/15	0.568		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	168		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **717-59** **Lab Code:** **K1510861-004**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	38.0		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.016	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	10.2		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.24		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.021		
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	1.09		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	7190		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.52		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	1.16		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	12.5		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	158		
Lead	6020A	0.0196	0.0005	5.0	10/22/15	10/23/15	1.53		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	5510		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	261		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.048		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	3.37		
Potassium	6010C	39	8.8	1.0	10/22/15	10/27/15	13400		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.0		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	2.32		
Sodium	6010C	392	19.6	10.0	10/22/15	10/27/15	40000		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	83.4		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.038	J	
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	1.05		
Vanadium	6020A	0.196	0.007	5.0	10/22/15	10/23/15	0.435		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	158		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **714-40** **Lab Code:** **K1510861-005**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	36.2		
Antimony	6020A	0.048	0.002	5.0	10/22/15	10/23/15	0.007	J	
Arsenic	6020A	0.48	0.02	5.0	10/22/15	10/23/15	7.53		
Barium	6020A	0.048	0.005	5.0	10/22/15	10/23/15	1.49		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.018	J	
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.18		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6670		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.38		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.881		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	12.4		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	151		
Lead	6020A	0.0192	0.0005	5.0	10/22/15	10/23/15	1.60		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	5470		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	292		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.042		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	2.62		
Potassium	6010C	38	8.7	1.0	10/22/15	10/27/15	14100		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	1.7		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	1.52		
Sodium	6010C	385	19.2	10.0	10/22/15	10/27/15	36400		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	81.7		
Tin	6020A	0.048	0.029	5.0	10/22/15	10/23/15	0.040	J	
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.94		
Vanadium	6020A	0.192	0.007	5.0	10/22/15	10/23/15	0.396		
Zinc	6020A	0.48	0.06	5.0	10/22/15	10/23/15	222		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **2146-25** **Lab Code:** **K1510861-006**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	19.4		
Antimony	6020A	0.048	0.002	5.0	10/22/15	10/23/15	0.006	J	
Arsenic	6020A	0.48	0.02	5.0	10/22/15	10/23/15	11.2		
Barium	6020A	0.048	0.005	5.0	10/22/15	10/23/15	0.988		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.021		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	0.930		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6350		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.43		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.08		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	11.1		
Iron	6010C	3.8	1.0	1.0	10/22/15	10/27/15	92		
Lead	6020A	0.0190	0.0005	5.0	10/22/15	10/23/15	0.831		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	5430		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	94.4		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.064		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	3.84		
Potassium	6010C	38	8.6	1.0	10/22/15	10/27/15	12700		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	1.8		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	1.24		
Sodium	6010C	381	19.0	10.0	10/22/15	10/27/15	38700		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	79.3		
Tin	6020A	0.048	0.029	5.0	10/22/15	10/23/15	0.037	J	
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.38		
Vanadium	6020A	0.190	0.007	5.0	10/22/15	10/23/15	0.546		
Zinc	6020A	0.48	0.06	5.0	10/22/15	10/23/15	147		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1787-44** **Lab Code:** **K1510861-007**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	46.7		
Antimony	6020A	0.047	0.002	5.0	10/22/15	10/23/15	0.011	J	
Arsenic	6020A	0.47	0.02	5.0	10/22/15	10/23/15	12.1		
Barium	6020A	0.047	0.005	5.0	10/22/15	10/23/15	1.60		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.023		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.36		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	7860		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.61		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.971		
Copper	6020A	0.09	0.02	5.0	10/22/15	10/23/15	14.0		
Iron	6010C	3.8	0.9	1.0	10/22/15	10/27/15	171		
Lead	6020A	0.0188	0.0005	5.0	10/22/15	10/23/15	2.34		*
Magnesium	6010C	0.9	0.6	1.0	10/22/15	10/27/15	6210		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	224		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.074		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	5.38		
Potassium	6010C	38	8.4	1.0	10/22/15	10/27/15	14100		
Selenium	6020A	0.9	0.2	5.0	10/22/15	10/23/15	2.3		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	1.08		
Sodium	6010C	375	18.8	10.0	10/22/15	10/27/15	47900		
Strontium	6010C	0.09	0.03	1.0	10/22/15	10/27/15	92.8		
Tin	6020A	0.047	0.028	5.0	10/22/15	10/23/15	0.077		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	1.19		
Vanadium	6020A	0.188	0.007	5.0	10/22/15	10/23/15	0.659		
Zinc	6020A	0.47	0.06	5.0	10/22/15	10/23/15	198		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **659-7** **Lab Code:** **K1510861-008**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	32.6		
Antimony	6020A	0.048	0.002	5.0	10/22/15	10/23/15	0.011	J	
Arsenic	6020A	0.48	0.02	5.0	10/22/15	10/23/15	11.2		
Barium	6020A	0.048	0.005	5.0	10/22/15	10/23/15	1.44		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.024		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.17		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6070		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.76		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.66		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	15.0		
Iron	6010C	3.8	1.0	1.0	10/22/15	10/27/15	180		
Lead	6020A	0.0190	0.0005	5.0	10/22/15	10/23/15	2.53		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6050		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	288		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.092		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.63		
Potassium	6010C	38	8.6	1.0	10/22/15	10/27/15	13600		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.9		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	4.78		
Sodium	6010C	381	19.0	10.0	10/22/15	10/27/15	43200		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	80.9		
Tin	6020A	0.048	0.029	5.0	10/22/15	10/23/15	0.054		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.87		
Vanadium	6020A	0.190	0.007	5.0	10/22/15	10/23/15	0.547		
Zinc	6020A	0.48	0.06	5.0	10/22/15	10/23/15	235		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **654-9** **Lab Code:** **K1510861-009**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.8	0.2	5.0	10/22/15	10/23/15	37.7		
Antimony	6020A	0.046	0.002	5.0	10/22/15	10/23/15	0.007	J	
Arsenic	6020A	0.46	0.02	5.0	10/22/15	10/23/15	9.85		
Barium	6020A	0.046	0.005	5.0	10/22/15	10/23/15	1.42		
Beryllium	6020A	0.018	0.003	5.0	10/22/15	10/23/15	0.021		
Cadmium	6020A	0.018	0.004	5.0	10/22/15	10/23/15	1.09		
Calcium	6010C	1.8	1.8	1.0	10/22/15	10/27/15	6250		
Chromium	6020A	0.18	0.02	5.0	10/22/15	10/23/15	0.51		
Cobalt	6020A	0.018	0.003	5.0	10/22/15	10/23/15	1.85		
Copper	6020A	0.09	0.02	5.0	10/22/15	10/23/15	10.6		
Iron	6010C	3.7	0.9	1.0	10/22/15	10/27/15	184		
Lead	6020A	0.0183	0.0005	5.0	10/22/15	10/23/15	1.40		*
Magnesium	6010C	0.9	0.5	1.0	10/22/15	10/27/15	5760		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	221		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.050		
Nickel	6020A	0.18	0.02	5.0	10/22/15	10/23/15	7.21		
Potassium	6010C	37	8.2	1.0	10/22/15	10/27/15	13400		
Selenium	6020A	0.9	0.2	5.0	10/22/15	10/23/15	1.9		
Silver	6020A	0.018	0.005	5.0	10/22/15	10/23/15	1.62		
Sodium	6010C	366	18.3	10.0	10/22/15	10/27/15	40500		
Strontium	6010C	0.09	0.03	1.0	10/22/15	10/27/15	82.4		
Tin	6020A	0.046	0.027	5.0	10/22/15	10/23/15	0.048		
Titanium	6010C	0.18	0.07	1.0	10/22/15	10/27/15	1.10		
Vanadium	6020A	0.183	0.006	5.0	10/22/15	10/23/15	0.451		
Zinc	6020A	0.46	0.06	5.0	10/22/15	10/23/15	189		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **720-16** **Lab Code:** **K1510861-010**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.8	0.2	5.0	10/22/15	10/23/15	18.6		
Antimony	6020A	0.046	0.002	5.0	10/22/15	10/23/15	0.008	J	
Arsenic	6020A	0.46	0.02	5.0	10/22/15	10/23/15	11.4		
Barium	6020A	0.046	0.005	5.0	10/22/15	10/23/15	1.42		
Beryllium	6020A	0.018	0.003	5.0	10/22/15	10/23/15	0.025		
Cadmium	6020A	0.018	0.004	5.0	10/22/15	10/23/15	1.44		
Calcium	6010C	1.8	1.8	1.0	10/22/15	10/27/15	7140		
Chromium	6020A	0.18	0.02	5.0	10/22/15	10/23/15	0.54		
Cobalt	6020A	0.018	0.003	5.0	10/22/15	10/23/15	1.36		
Copper	6020A	0.09	0.02	5.0	10/22/15	10/23/15	11.9		
Iron	6010C	3.7	0.9	1.0	10/22/15	10/27/15	119		
Lead	6020A	0.0184	0.0005	5.0	10/22/15	10/23/15	1.31		*
Magnesium	6010C	0.9	0.6	1.0	10/22/15	10/27/15	6400		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	241		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.067		
Nickel	6020A	0.18	0.02	5.0	10/22/15	10/23/15	5.43		
Potassium	6010C	37	8.3	1.0	10/22/15	10/27/15	13100		
Selenium	6020A	0.9	0.2	5.0	10/22/15	10/23/15	2.3		
Silver	6020A	0.018	0.006	5.0	10/22/15	10/23/15	1.59		
Sodium	6010C	368	18.4	10.0	10/22/15	10/27/15	47400		
Strontium	6010C	0.09	0.03	1.0	10/22/15	10/27/15	92.2		
Tin	6020A	0.046	0.028	5.0	10/22/15	10/23/15	0.075		
Titanium	6010C	0.18	0.07	1.0	10/22/15	10/27/15	0.31		
Vanadium	6020A	0.184	0.006	5.0	10/22/15	10/23/15	0.520		
Zinc	6020A	0.46	0.06	5.0	10/22/15	10/23/15	207		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1374-22** **Lab Code:** **K1510861-011**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	37.7		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.013	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	14.0		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.45		
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.019	J	
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	1.39		
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	7120		
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.64		
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	1.42		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	13.5		
Iron	6010C	4.0	1.0	1.0	10/22/15	10/27/15	201		
Lead	6020A	0.0197	0.0005	5.0	10/22/15	10/23/15	2.65		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6130		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	295		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.092		
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	5.57		
Potassium	6010C	39	8.9	1.0	10/22/15	10/27/15	12900		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	2.9		
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	3.48		
Sodium	6010C	395	19.7	10.0	10/22/15	10/27/15	44300		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	91.7		
Tin	6020A	0.049	0.030	5.0	10/22/15	10/23/15	0.063		
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	0.90		
Vanadium	6020A	0.197	0.007	5.0	10/22/15	10/23/15	0.537		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	211		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1217-42** **Lab Code:** **K1510861-012**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	20.3		
Antimony	6020A	0.047	0.002	5.0	10/22/15	10/23/15	0.009	J	
Arsenic	6020A	0.47	0.02	5.0	10/22/15	10/23/15	10.9		
Barium	6020A	0.047	0.005	5.0	10/22/15	10/23/15	1.42		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.018	J	
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.05		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	8750		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.46		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.21		
Copper	6020A	0.09	0.02	5.0	10/22/15	10/23/15	13.7		
Iron	6010C	3.7	0.9	1.0	10/22/15	10/27/15	141		
Lead	6020A	0.0186	0.0005	5.0	10/22/15	10/23/15	2.15		*
Magnesium	6010C	0.9	0.6	1.0	10/22/15	10/27/15	5530		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	190		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.062		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.15		
Potassium	6010C	37	8.4	1.0	10/22/15	10/27/15	12900		
Selenium	6020A	0.9	0.2	5.0	10/22/15	10/23/15	1.9		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	2.03		
Sodium	6010C	373	18.6	10.0	10/22/15	10/27/15	39200		
Strontium	6010C	0.09	0.03	1.0	10/22/15	10/27/15	94.9		
Tin	6020A	0.047	0.028	5.0	10/22/15	10/23/15	0.045	J	
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.49		
Vanadium	6020A	0.186	0.007	5.0	10/22/15	10/23/15	0.440		
Zinc	6020A	0.47	0.06	5.0	10/22/15	10/23/15	208		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **986-26** **Lab Code:** **K1510861-013**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	33.4		
Antimony	6020A	0.049	0.002	5.0	10/22/15	10/23/15	0.017	J	
Arsenic	6020A	0.49	0.02	5.0	10/22/15	10/23/15	17.4		
Barium	6020A	0.049	0.005	5.0	10/22/15	10/23/15	1.66		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.029		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.05		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6780		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.76		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.33		
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	14.1		
Iron	6010C	3.9	1.0	1.0	10/22/15	10/27/15	222		
Lead	6020A	0.0194	0.0005	5.0	10/22/15	10/23/15	3.33		*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	6370		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	374		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.130		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	4.44		
Potassium	6010C	39	8.7	1.0	10/22/15	10/27/15	13500		
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	4.7		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	7.66		
Sodium	6010C	388	19.4	10.0	10/22/15	10/27/15	46900		
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	90.5		
Tin	6020A	0.049	0.029	5.0	10/22/15	10/23/15	0.092		
Titanium	6010C	0.19	0.08	1.0	10/22/15	10/27/15	0.60		
Vanadium	6020A	0.194	0.007	5.0	10/22/15	10/23/15	0.758		
Zinc	6020A	0.49	0.06	5.0	10/22/15	10/23/15	244		

Comments:

Metals

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INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	09/24/15
Project Name:	23674.000	**Date Received:**	09/29/15
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **1129-20** **Lab Code:** **K1510861-014**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	1.9	0.2	5.0	10/22/15	10/23/15	31.8		
Antimony	6020A	0.046	0.002	5.0	10/22/15	10/23/15	0.014	J	
Arsenic	6020A	0.46	0.02	5.0	10/22/15	10/23/15	14.2		
Barium	6020A	0.046	0.005	5.0	10/22/15	10/23/15	1.59		
Beryllium	6020A	0.019	0.003	5.0	10/22/15	10/23/15	0.028		
Cadmium	6020A	0.019	0.004	5.0	10/22/15	10/23/15	1.42		
Calcium	6010C	1.9	1.9	1.0	10/22/15	10/27/15	6490		
Chromium	6020A	0.19	0.02	5.0	10/22/15	10/23/15	0.53		
Cobalt	6020A	0.019	0.003	5.0	10/22/15	10/23/15	1.21		
Copper	6020A	0.09	0.02	5.0	10/22/15	10/23/15	13.7		
Iron	6010C	3.7	0.9	1.0	10/22/15	10/27/15	167		
Lead	6020A	0.0186	0.0005	5.0	10/22/15	10/23/15	2.61		*
Magnesium	6010C	0.9	0.6	1.0	10/22/15	10/27/15	5770		
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	289		
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.102		
Nickel	6020A	0.19	0.02	5.0	10/22/15	10/23/15	3.66		
Potassium	6010C	37	8.4	1.0	10/22/15	10/27/15	12600		
Selenium	6020A	0.9	0.2	5.0	10/22/15	10/23/15	2.8		
Silver	6020A	0.019	0.006	5.0	10/22/15	10/23/15	4.21		
Sodium	6010C	372	18.6	10.0	10/22/15	10/27/15	43000		
Strontium	6010C	0.09	0.03	1.0	10/22/15	10/27/15	88.0		
Tin	6020A	0.046	0.028	5.0	10/22/15	10/23/15	0.059		
Titanium	6010C	0.19	0.07	1.0	10/22/15	10/27/15	0.68		
Vanadium	6020A	0.186	0.007	5.0	10/22/15	10/23/15	0.670		
Zinc	6020A	0.46	0.06	5.0	10/22/15	10/23/15	221		

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	
Project Name:	23674.000	**Date Received:**	
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **Method Blank** **Lab Code:** **KQ1512128-01**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Mercury	7471B	0.020	0.004	2.0	10/21/15	10/21/15	0.006	J	

Comments:

Metals

- 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:	Normandeau Associates	**Service Request:**	K1510861
Project No.:	NA	**Date Collected:**	
Project Name:	23674.000	**Date Received:**	
Matrix:	TISSUE	**Units:**	mg/Kg
		Basis:	DRY

Sample Name: **Method Blank** **Lab Code:** **KQ1512196-01**

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6020A	2.0	0.2	5.0	10/22/15	10/23/15	0.2	U	
Antimony	6020A	0.050	0.002	5.0	10/22/15	10/23/15	0.002	U	
Arsenic	6020A	0.50	0.02	5.0	10/22/15	10/23/15	0.02	U	
Barium	6020A	0.050	0.005	5.0	10/22/15	10/23/15	0.005	U	
Beryllium	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.003	U	
Cadmium	6020A	0.020	0.004	5.0	10/22/15	10/23/15	0.004	U	
Calcium	6010C	2.0	2.0	1.0	10/22/15	10/27/15	2.0	U	
Chromium	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.02	U	
Cobalt	6020A	0.020	0.003	5.0	10/22/15	10/23/15	0.003	U	
Copper	6020A	0.10	0.02	5.0	10/22/15	10/23/15	0.02	U	
Iron	6010C	4.0	1.0	1.0	10/22/15	10/27/15	1.0	U	
Lead	6020A	0.0200	0.0005	5.0	10/22/15	10/23/15	0.0005	U	*
Magnesium	6010C	1.0	0.6	1.0	10/22/15	10/27/15	0.6	U	
Manganese	6020A	0.05	0.01	5.0	10/22/15	10/23/15	0.01	U	
Nickel	6020A	0.20	0.02	5.0	10/22/15	10/23/15	0.02	U	
Potassium	6010C	40	9.0	1.0	10/22/15	10/27/15	9.0	U	
Selenium	6020A	1.0	0.2	5.0	10/22/15	10/23/15	0.2	U	
Silver	6020A	0.020	0.006	5.0	10/22/15	10/23/15	0.006	J	
Sodium	6010C	40.0	2.0	1.0	10/22/15	10/27/15	4.1	J	
Strontium	6010C	0.10	0.03	1.0	10/22/15	10/27/15	0.03	U	
Tin	6020A	0.050	0.030	5.0	10/22/15	10/23/15	0.030	U	
Titanium	6010C	0.20	0.08	1.0	10/22/15	10/27/15	0.08	U	
Vanadium	6020A	0.200	0.007	5.0	10/22/15	10/23/15	0.007	U	
Zinc	6020A	0.50	0.06	5.0	10/22/15	10/23/15	0.06	U	

Comments:

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Normandeau Associates **Service Request:** K1510861

Project No.: NA **Units:** MG/KG

Project Name: 23674.000 **Basis:** DRY

Matrix: TISSUE

Sample Name: **2146-25S** **Lab Code:** **K1510861-006S**

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Mercury	80 - 120	0.530		0.064		0.50	93.2		7471B

An empty field in the Control Limit column indicates the control limit is not applicable

Metals
- 5A -
SPIKE SAMPLE RECOVERY

Client: Normandeau Associates **Service Request:** K1510861

Project No.: NA **Units:** MG/KG

Project Name: 23674.000 **Basis:** DRY

Matrix: TISSUE

Sample Name: 1374-22S **Lab Code:** K1510861-011S

Analyte	Control Limit %R	Spike Result	C	Sample Result	C	Spike Added	%R	Q	Method
Aluminum	75 - 125	237.9		37.7		198.0	101		6020A
Antimony	75 - 125	51.280		0.013	J	49.505	104		6020A
Arsenic	75 - 125	31.13		13.99		16.53	104		6020A
Barium	75 - 125	98.117		1.450		99.010	98		6020A
Beryllium	75 - 125	4.631		0.019	J	4.950	93		6020A
Cadmium	75 - 125	6.55		1.39		4.95	104		6020A
Calcium		8290		7120		990.10	118		6010C
Chromium	75 - 125	20.35		0.64		19.80	100		6020A
Cobalt	75 - 125	49.513		1.420		49.505	97		6020A
Copper	75 - 125	36.57		13.46		24.75	93		6020A
Iron	75 - 125	273		201		99.01	73	N	6010C
Lead	75 - 125	45.3510		2.6505		49.5050	86		6020A
Magnesium		7700		6130		990.10	159		6010C
Manganese		378.10		295.29		49.50	167		6020A
Nickel	75 - 125	51.12		5.57		49.50	92		6020A
Potassium		15500		12900		990.10	263		6010C
Selenium	75 - 125	19.2		2.9		16.5	99		6020A
Silver	75 - 125	8.061		3.481		4.950	93		6020A
Sodium		50200		44300		990.10	596		6010C
Strontium		108		91.7		9.90	165		6010C
Tin	75 - 125	9.702		0.063		9.9	97		6020A
Titanium	75 - 125	10		0.90		9.90	92		6010C
Vanadium	75 - 125	50.824		0.537		49.505	102		6020A
Zinc		270.10		211.21		49.50	119		6020A

An empty field in the Control Limit column indicates the control limit is not applicable

Metals

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DUPLICATES

Client: Normandeau Associates **Service Request:** K1510861

Project No.: NA **Units:** MG/KG

Project Name: 23674.000 **Basis:** DRY

Matrix: TISSUE

Sample Name: **2146-25D** **Lab Code:** **K1510861-006D**

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Mercury		0.064		0.068		6.1		7471B

An empty field in the Control Limit column indicates the control limit is not applicable.

Form VI - IN

Metals

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DUPLICATES

Client: Normandeau Associates **Service Request:** K1510861

Project No.: NA **Units:** MG/KG

Project Name: 23674.000 **Basis:** DRY

Matrix: TISSUE

Sample Name: 1374-22D **Lab Code:** K1510861-011D

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	Method
Aluminum	20	37.7		37.2		1.3		6020A
Antimony		0.013	J	0.014	J	7.4		6020A
Arsenic	20	13.99		15.50		10.2		6020A
Barium	20	1.450		1.511		4.1		6020A
Beryllium		0.019	J	0.020		5.1		6020A
Cadmium	20	1.39		1.49		6.9		6020A
Calcium	20	7120		7410		4.0		6010C
Chromium		0.64		0.63		1.6		6020A
Cobalt	20	1.420		1.514		6.4		6020A
Copper	20	13.46		13.78		2.3		6020A
Iron	20	201		168		17.9		6010C
Lead	20	2.6505		2.0749		24.4	*	6020A
Magnesium	20	6130		6570		6.9		6010C
Manganese	20	295.29		287.79		2.6		6020A
Nickel	20	5.57		5.85		4.9		6020A
Potassium	20	12900		14100		8.9		6010C
Selenium		2.9		3.1		6.7		6020A
Silver	20	3.481		3.626		4.1		6020A
Sodium	20	44300		47000		5.9		6010C
Strontium	20	91.7		96.0		4.6		6010C
Tin		0.063		0.067		6.2		6020A
Titanium		0.90		1.01		11.5		6010C
Vanadium		0.537		0.642		17.8		6020A
Zinc	20	211.21		211.55		0.2		6020A

An empty field in the Control Limit column indicates the control limit is not applicable.

Metals

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LABORATORY CONTROL SAMPLE

Client: Normandeau Associates **Service Request:** K1510861

Project No.: NA

Project Name: 23674.000

Aqueous LCS Source: ALS MIXED **Solid LCS Source:** ERA D065540

Analyte	Aqueous (ug/L) True	Aqueous (ug/L) Found	Aqueous (ug/L) %R	Solid (mg/kg) True	Solid (mg/kg) Found	Solid (mg/kg) C	Solid (mg/kg) Limits	Solid (mg/kg) %R
Aluminum	2000.0	1902.2	95					
Antimony	500.0	501.9	100					
Arsenic	167.0	167.0	100					
Barium	1000.0	939.3	94					
Beryllium	50.0	47.1	94					
Cadmium	50.0	51.7	103					
Calcium	10000	9540	95					
Chromium	200.0	190.1	95					
Cobalt	500.0	475.5	95					
Copper	250.0	235.4	94					
Iron	1000	969	97					
Lead	500.0	464.5	93					
Magnesium	10000	10100	101					
Manganese	500.0	528.8	106					
Mercury	5	4.80	96					
Nickel	500.0	456.5	91					
Potassium	10000	10100	101					
Selenium	167.0	175.1	105					
Silver	50.0	47.5	95					
Sodium	10000	10200	102					
Strontium	100	106	106					
Tin	100.0	102.8	103					
Titanium	100	104	104					
Vanadium	500.0	472.4	94					
Zinc	500.0	471.3	94					

ALS Group USA, Corp.
dba ALS Environmental
QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	NA
LCS Matrix:	Tissue	**Date Received:**	NA
		Date Extracted:	10/21,22/15
		Date Analyzed:	10/21-27/15

Standard Reference Material Summary
Total Metals

Sample Name:	Standard Reference Material	Units:	mg/Kg (ppm)
Lab Code:	K1510861-SRM1	Basis:	Dry
Test Notes:	Dorm-4 Solids = 94.5%		

Source: N.R.C.C. Dorm-4

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	6.8	7.07	104	4.93-8.93	
Cadmium	PSEP Tissue	6020A	0.306	0.318	104	0.233 - 0.385	
Chromium	PSEP Tissue	6020A	1.87	1.85	99	1.37-2.44	
Copper	PSEP Tissue	6020A	15.9	15.5	97	12.0 - 20.2	
Iron	PSEP Tissue	6010C	341	338	99	251-442	
Lead	PSEP Tissue	6020A	0.416	0.322	77	0.290 - 0.563	
Mercury	PSEP Tissue	7471B	0.41	0.344	84	0.28-0.56	
Nickel	PSEP Tissue	6020A	1.36	1.55	114	0.912-1.9	
Selenium	PSEP Tissue	6020A	3.56	4.06	114	2.58 - 4.68	
Zinc	PSEP Tissue	6020A	52.20	53.2	102	39.2 - 66.5	

ALS Group USA, Corp.
dba ALS Environmental
QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	NA
LCS Matrix:	Tissue	**Date Received:**	NA
		Date Extracted:	10/21,22/15
		Date Analyzed:	10/21-27/15

Standard Reference Material Summary
Total Metals

Sample Name:	Standard Reference Material	Units:	mg/Kg (ppm)
Lab Code:	K1510861-SRM2	Basis:	Dry
Test Notes:	Tort-3 Solids = 99.1%		

Source: N.R.C.C. Tort-3

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	Control Limits	Result Notes
Arsenic	PSEP Tissue	6020A	59.5	63.3	106	44.6-76.0	
Cadmium	PSEP Tissue	6020A	42.3	42.5	100	32.4-52.9	
Chromium	PSEP Tissue	6020A	1.95	1.79	92	1.37-2.63	
Copper	PSEP Tissue	6020A	497	443	89	380-623	
Iron	PSEP Tissue	6010C	179	167	93	137-224	
Lead	PSEP Tissue	6020A	0.225	0.179	80	0.166-0.292	
Manganese	PSEP Tissue	6020A	15.6	14.6	94	11.7-19.9	
Nickel	PSEP Tissue	6020A	5.3	4.95	93	4.05-6.65	
Selenium	PSEP Tissue	6020A	10.9	11.0	101	7.9-14.3	
Strontium	PSEP Tissue	6010C	36.5	35.3	97	27.9-45.7	
Vanadium	PSEP Tissue	6020A	9.1	8.92	98	7.0-11.4	
Zinc	PSEP Tissue	6020A	136	134	99	104-170	

LIPIDS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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ALS ENVIRONMENTAL

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674	**Date Collected:**	9/24/2015
Sample Matrix:	Tissue	**Date Received:**	9/29/2015

Lipids, Total

Prep Method:	EPA 3541	Units:	PERCENT
Analysis Method:	NOAA	Basis:	Wet Weight
Test Notes:			

Sample Name	Lab Code	MRL	Date Extracted	Date Analyzed	Result	Result Notes
1364-6	K1510861-001	0.005	10/7/2015	10/8/2015	0.29	
1440-8	K1510861-002	0.005	10/7/2015	10/8/2015	0.25	
1439-20	K1510861-003	0.005	10/7/2015	10/8/2015	0.30	
717-59	K1510861-004	0.005	10/7/2015	10/8/2015	0.31	
714-40	K1510861-005	0.005	10/7/2015	10/8/2015	0.32	
2146-25	K1510861-006	0.005	10/7/2015	10/8/2015	0.27	
1787-44	K1510861-007	0.005	10/7/2015	10/8/2015	0.28	
659-7	K1510861-008	0.005	10/7/2015	10/8/2015	0.31	
654-9	K1510861-009	0.005	10/7/2015	10/8/2015	0.31	
720-16	K1510861-010	0.005	10/7/2015	10/8/2015	0.30	
1374-22	K1510861-011	0.005	10/7/2015	10/8/2015	0.28	
1217-42	K1510861-012	0.005	10/7/2015	10/8/2015	0.27	
986-26	K1510861-013	0.005	10/7/2015	10/8/2015	0.27	
1129-20	K1510861-014	0.005	10/7/2015	10/8/2015	0.34	
Method Blank	KWG1509496-8 MB	0.005	10/7/2015	10/8/2015	0.005	U

ALS ENVIRONMENTAL

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674	**Date Collected:**	9/24/2015
Sample Matrix:	Tissue	**Date Received:**	9/29/2015
		Date Extracted:	10/7/2015
		Date Analyzed:	10/8/2015

Triplicate Summary
Lipids, Total

Sample Name:	1374-22	Units:	PERCENT
Lab Code:	K1510861-011 TRP	Basis:	Wet Weight
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Sample Result	Duplicate Sample Result	Triplicate Sample Result	Average	Percent Relative Standard Deviation	Result Notes
Lipids, Total	EPA 3541	NOAA	0.005	0.28	0.30	0.32	0.30	7	

ALS ENVIRONMENTAL

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674	**Date Collected:**	NA
Matrix:	Tissue	**Date Received:**	NA
		Date Extracted:	10/7/2015
		Date Analyzed:	10/8/2015

Laboratory Control Sample
Lipids, Total

Sample Name: KWG1509496-7 LCS

Units: PERCENT
Basis: Wet Weight

Test Notes:

Analyte	Prep Method	Analysis Method	Spike Level Percent	Result	CAS Advisory Limits	Result Notes
Lipids, Total	EPA 3541	NOAA	100	82	70-130	

Organochlorine Pesticides

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	1364-6	**Units:**	ug/Kg
Lab Code:	K1510861-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	**2.1**	P	1.0	0.41	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	Ui	1.0	0.26	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	Ui	1.0	0.29	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	**0.39**	J	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	4.6	4.6	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.5**	P	1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.61	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	Ui	50	14	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	68	29-117	10/13/15	Acceptable
Decachlorobiphenyl	71	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	1440-8	**Units:**	ug/Kg
Lab Code:	K1510861-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	ND	Ui	1.1	1.1	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	Ui	1.0	0.23	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	**0.47**	J	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	5.8	5.8	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	**1.0**	P	1.0	0.45	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.4**	P	1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.75	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	29-117	10/13/15	Acceptable
Decachlorobiphenyl	79	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	1439-20	**Units:**	ug/Kg
Lab Code:	K1510861-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	ND	Ui	1.0	0.54	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	Ui	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	Ui	1.0	0.43	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	ND	U	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	1.0	0.95	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	ND	Ui	1.3	1.3	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.9**		1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	Ui	1.0	0.60	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	U	1.0	0.49	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	29-117	10/13/15	Acceptable
Decachlorobiphenyl	77	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	717-59	**Units:**	ug/Kg
Lab Code:	K1510861-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	**1.1**	P	1.0	0.41	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	**0.44**	J	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	1.0	0.71	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	ND	Ui	1.0	0.86	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.5**		1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	U	1.0	0.49	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	68	29-117	10/13/15	Acceptable
Decachlorobiphenyl	73	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	714-40	**Units:**	ug/Kg
Lab Code:	K1510861-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	ND	Ui	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	Ui	1.0	0.34	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	Ui	1.0	0.43	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	ND	U	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	**1.0**	P	1.0	0.45	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.2**		1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	Ui	1.0	0.82	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	U	1.0	0.49	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	74	29-117	10/13/15	Acceptable
Decachlorobiphenyl	75	22-121	10/13/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	2146-25	**Units:**	ug/Kg
Lab Code:	K1510861-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	ND	U	1.0	0.41	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	**0.32**	JP	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	1.5	1.5	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	ND	Ui	1.2	1.2	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.4**		1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.60	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	64	29-117	10/13/15	Acceptable
Decachlorobiphenyl	68	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	1787-44	**Units:**	ug/Kg
Lab Code:	K1510861-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	**1.5**	P	1.0	0.41	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	Ui	1.0	0.23	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	Ui	1.0	0.35	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	Ui	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	**0.26**	JP	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	3.4	3.4	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	**1.1**	P	1.0	0.45	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.0**	P	1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.84	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	66	29-117	10/13/15	Acceptable
Decachlorobiphenyl	64	22-121	10/13/15	Acceptable

† **Analyte Comments**

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	659-7	**Units:**	ug/Kg
Lab Code:	K1510861-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	ND	Ui	1.2	1.2	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	Ui	1.0	0.29	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	ND	U	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	4.0	4.0	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	ND	Ui	1.4	1.4	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.8**	P	1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.83	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	62	29-117	10/13/15	Acceptable
Decachlorobiphenyl	69	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	654-9	**Units:**	ug/Kg
Lab Code:	K1510861-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	**2.3**		1.0	0.41	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	Ui	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	Ui	1.0	0.41	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	**0.49**	J	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	1.0	0.77	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.3**		1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	U	1.0	0.49	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	70	29-117	10/13/15	Acceptable
Decachlorobiphenyl	73	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	720-16	**Units:**	ug/Kg
Lab Code:	K1510861-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	**1.4**		1.0	0.41	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	Ui	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	Ui	1.0	0.29	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	**0.54**	J	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	1.2	1.2	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.4**	P	1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.98	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	Ui	50	15	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	73	29-117	10/13/15	Acceptable
Decachlorobiphenyl	73	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/13/15	KWG1509496	
beta-BHC	ND	Ui	1.5	1.5	1	10/07/15	10/13/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/13/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/13/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/13/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/13/15	KWG1509496	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/07/15	10/13/15	KWG1509496	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/07/15	10/13/15	KWG1509496	
Endosulfan I	ND	Ui	1.0	0.51	1	10/07/15	10/13/15	KWG1509496	
alpha-Chlordane	ND	U	1.0	0.25	1	10/07/15	10/13/15	KWG1509496	
Dieldrin	ND	Ui	1.0	0.36	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDE	**1.4**	P	1.0	0.45	1	10/07/15	10/13/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/13/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDD	**1.6**	P	1.0	0.55	1	10/07/15	10/13/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/13/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/13/15	KWG1509496	
4,4'-DDT	ND	Ui	5.6	5.6	1	10/07/15	10/13/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/13/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/13/15	KWG1509496	
Toxaphene	ND	Ui	50	15	1	10/07/15	10/13/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	66	29-117	10/13/15	Acceptable
Decachlorobiphenyl	71	22-121	10/13/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	1217-42	**Units:**	ug/Kg
Lab Code:	K1510861-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/14/15	KWG1509496	
beta-BHC	**1.1**		1.0	0.41	1	10/07/15	10/14/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/14/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/14/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/14/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/14/15	KWG1509496	
Heptachlor Epoxide	ND	U	1.0	0.18	1	10/07/15	10/14/15	KWG1509496	
gamma-Chlordane†	ND	U	1.0	0.26	1	10/07/15	10/14/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/14/15	KWG1509496	
alpha-Chlordane	ND	U	1.0	0.25	1	10/07/15	10/14/15	KWG1509496	
Dieldrin	ND	U	1.0	0.20	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDE	ND	Ui	1.3	1.3	1	10/07/15	10/14/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/14/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDD	**1.7**		1.0	0.55	1	10/07/15	10/14/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/14/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.56	1	10/07/15	10/14/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/14/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/14/15	KWG1509496	
Toxaphene	ND	U	50	13	1	10/07/15	10/14/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	61	29-117	10/14/15	Acceptable
Decachlorobiphenyl	66	22-121	10/14/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	986-26	**Units:**	ug/Kg
Lab Code:	K1510861-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.96	0.16	1	10/07/15	10/14/15	KWG1509496	
beta-BHC	**0.47**	JP	0.96	0.41	1	10/07/15	10/14/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	0.96	0.21	1	10/07/15	10/14/15	KWG1509496	
delta-BHC	ND	U	0.96	0.20	1	10/07/15	10/14/15	KWG1509496	
Heptachlor	ND	U	0.96	0.27	1	10/07/15	10/14/15	KWG1509496	
Aldrin	ND	U	0.96	0.74	1	10/07/15	10/14/15	KWG1509496	
Heptachlor Epoxide	ND	U	0.96	0.18	1	10/07/15	10/14/15	KWG1509496	
gamma-Chlordane†	ND	U	0.96	0.26	1	10/07/15	10/14/15	KWG1509496	
Endosulfan I	ND	U	0.96	0.22	1	10/07/15	10/14/15	KWG1509496	
alpha-Chlordane	**0.30**	JP	0.96	0.25	1	10/07/15	10/14/15	KWG1509496	
Dieldrin	**1.1**		0.96	0.20	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDE	ND	Ui	1.1	1.1	1	10/07/15	10/14/15	KWG1509496	
Endrin	ND	U	0.96	0.28	1	10/07/15	10/14/15	KWG1509496	
Endosulfan II	ND	U	0.96	0.24	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDD	**1.4**		0.96	0.55	1	10/07/15	10/14/15	KWG1509496	
Endrin Aldehyde	ND	U	0.96	0.62	1	10/07/15	10/14/15	KWG1509496	
Endosulfan Sulfate	ND	U	0.96	0.53	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDT	ND	Ui	0.96	0.64	1	10/07/15	10/14/15	KWG1509496	
Endrin Ketone	ND	U	0.96	0.39	1	10/07/15	10/14/15	KWG1509496	
Methoxychlor	ND	U	0.96	0.48	1	10/07/15	10/14/15	KWG1509496	
Toxaphene	ND	Ui	48	19	1	10/07/15	10/14/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	71	29-117	10/14/15	Acceptable
Decachlorobiphenyl	73	22-121	10/14/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Organochlorine Pesticides

Sample Name:	1129-20	**Units:**	ug/Kg
Lab Code:	K1510861-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	1.0	0.16	1	10/07/15	10/14/15	KWG1509496	
beta-BHC	ND	U	1.0	0.41	1	10/07/15	10/14/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	1.0	0.21	1	10/07/15	10/14/15	KWG1509496	
delta-BHC	ND	U	1.0	0.20	1	10/07/15	10/14/15	KWG1509496	
Heptachlor	ND	U	1.0	0.27	1	10/07/15	10/14/15	KWG1509496	
Aldrin	ND	U	1.0	0.74	1	10/07/15	10/14/15	KWG1509496	
Heptachlor Epoxide	ND	Ui	1.0	0.23	1	10/07/15	10/14/15	KWG1509496	
gamma-Chlordane†	ND	Ui	1.0	0.28	1	10/07/15	10/14/15	KWG1509496	
Endosulfan I	ND	U	1.0	0.22	1	10/07/15	10/14/15	KWG1509496	
alpha-Chlordane	**0.43**	JP	1.0	0.25	1	10/07/15	10/14/15	KWG1509496	
Dieldrin	ND	U	1.0	0.20	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDE	ND	Ui	1.4	1.4	1	10/07/15	10/14/15	KWG1509496	
Endrin	ND	U	1.0	0.28	1	10/07/15	10/14/15	KWG1509496	
Endosulfan II	ND	U	1.0	0.24	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDD	**1.6**	P	1.0	0.55	1	10/07/15	10/14/15	KWG1509496	
Endrin Aldehyde	ND	U	1.0	0.62	1	10/07/15	10/14/15	KWG1509496	
Endosulfan Sulfate	ND	U	1.0	0.53	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDT	ND	Ui	1.0	0.65	1	10/07/15	10/14/15	KWG1509496	
Endrin Ketone	ND	U	1.0	0.39	1	10/07/15	10/14/15	KWG1509496	
Methoxychlor	ND	U	1.0	0.48	1	10/07/15	10/14/15	KWG1509496	
Toxaphene	ND	Ui	50	16	1	10/07/15	10/14/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	75	29-117	10/14/15	Acceptable
Decachlorobiphenyl	75	22-121	10/14/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Organochlorine Pesticides

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1509496-8	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
alpha-BHC	ND	U	0.96	0.16	1	10/07/15	10/14/15	KWG1509496	
beta-BHC	ND	U	0.96	0.41	1	10/07/15	10/14/15	KWG1509496	
gamma-BHC (Lindane)	ND	U	0.96	0.21	1	10/07/15	10/14/15	KWG1509496	
delta-BHC	ND	U	0.96	0.20	1	10/07/15	10/14/15	KWG1509496	
Heptachlor	ND	U	0.96	0.27	1	10/07/15	10/14/15	KWG1509496	
Aldrin	ND	U	0.96	0.74	1	10/07/15	10/14/15	KWG1509496	
Heptachlor Epoxide	ND	U	0.96	0.18	1	10/07/15	10/14/15	KWG1509496	
gamma-Chlordane†	ND	U	0.96	0.26	1	10/07/15	10/14/15	KWG1509496	
Endosulfan I	ND	U	0.96	0.22	1	10/07/15	10/14/15	KWG1509496	
alpha-Chlordane	ND	U	0.96	0.25	1	10/07/15	10/14/15	KWG1509496	
Dieldrin	ND	U	0.96	0.20	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDE	ND	U	0.96	0.45	1	10/07/15	10/14/15	KWG1509496	
Endrin	ND	U	0.96	0.28	1	10/07/15	10/14/15	KWG1509496	
Endosulfan II	ND	U	0.96	0.24	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDD	ND	U	0.96	0.55	1	10/07/15	10/14/15	KWG1509496	
Endrin Aldehyde	ND	U	0.96	0.62	1	10/07/15	10/14/15	KWG1509496	
Endosulfan Sulfate	ND	U	0.96	0.53	1	10/07/15	10/14/15	KWG1509496	
4,4'-DDT	ND	U	0.96	0.49	1	10/07/15	10/14/15	KWG1509496	
Endrin Ketone	ND	U	0.96	0.39	1	10/07/15	10/14/15	KWG1509496	
Methoxychlor	ND	U	0.96	0.48	1	10/07/15	10/14/15	KWG1509496	
Toxaphene	ND	U	48	13	1	10/07/15	10/14/15	KWG1509496	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Tetrachloro-m-xylene	57	29-117	10/14/15	Acceptable
Decachlorobiphenyl	67	22-121	10/14/15	Acceptable

† Analyte Comments

gamma-Chlordane	For this analyte (CAS Registry No. 5103-74-2), USEPA has corrected the name to be beta-Chlordane, also known as trans-Chlordane.

Comments:

QA/QC Report

Client: Normandeau Associates **Service Request:** K1510861
Project: 23674.000
Sample Matrix: Tissue

Surrogate Recovery Summary
Organochlorine Pesticides

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8081B **Level:** Low

Sample Name	Lab Code	Sur1	Sur2
1364-6	K1510861-001	68	71
1440-8	K1510861-002	73	79
1439-20	K1510861-003	73	77
717-59	K1510861-004	68	73
714-40	K1510861-005	74	75
2146-25	K1510861-006	64	68
1787-44	K1510861-007	66	64
659-7	K1510861-008	62	69
654-9	K1510861-009	70	73
720-16	K1510861-010	73	73
1374-22	K1510861-011	66	71
1217-42	K1510861-012	61	66
986-26	K1510861-013	71	73
1129-20	K1510861-014	75	75
Method Blank	KWG1509496-8	57	67
1374-22MS	KWG1509496-1	66	65
1374-22DMS	KWG1509496-2	73	73
Lab Control Sample	KWG1509496-3	55	67

Surrogate Recovery Control Limits (%)

Sur1	=	Tetrachloro-m-xylene	29-117
Sur2	=	Decachlorobiphenyl	22-121

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/07/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/13/2015 - 10/14/2015

Matrix Spike/Duplicate Matrix Spike Summary
Organochlorine Pesticides

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8081B	**Extraction Lot:**	KWG1509496

		1374-22MS KWG1509496-1 Matrix Spike				1374-22DMS KWG1509496-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
alpha-BHC	ND	13.1	20.0	66		14.8	20.0	74		31-118	12	40
beta-BHC	ND	14.1	20.0	71	#	16.9	20.0	85	#	22-123	18	40
gamma-BHC (Lindane)	ND	13.6	20.0	68		15.5	20.0	78		34-123	13	40
delta-BHC	ND	13.2	20.0	66		15.4	20.0	77		38-133	15	40
Heptachlor	ND	13.9	20.0	70		15.9	20.0	80		37-122	13	40
Aldrin	ND	13.2	20.0	66		15.5	20.0	77		38-116	15	40
Heptachlor Epoxide	ND	13.4	20.0	67		15.4	20.0	77		39-113	14	40
gamma-Chlordane	ND	13.6	20.0	68		15.4	20.0	77		34-123	13	40
Endosulfan I	ND	10.8	20.0	54		12.4	20.0	62		22-113	14	40
alpha-Chlordane	ND	12.7	20.0	64		14.7	20.0	74		39-113	14	40
Dieldrin	ND	13.9	20.0	70		16.0	20.0	80		33-120	14	40
4,4'-DDE	1.4	13.9	20.0	63		16.1	20.0	73		33-134	14	40
Endrin	ND	15.4	20.0	77		18.0	20.0	90		43-124	16	40
Endosulfan II	ND	11.9	20.0	60		12.9	20.0	65		28-120	8	40
4,4'-DDD	1.6	15.2	20.0	68		18.3	20.0	83		35-126	18	40
Endrin Aldehyde	ND	6.47	20.0	32		7.96	20.0	40		10-118	21	40
Endosulfan Sulfate	ND	13.1	20.0	66		14.9	20.0	75		23-128	13	40
4,4'-DDT	ND	15.5	20.0	78	#	18.4	20.0	92	#	26-133	17	40
Endrin Ketone	ND	13.6	20.0	68		15.5	20.0	78		27-128	13	40
Methoxychlor	ND	14.7	20.0	74		16.6	20.0	83		27-148	12	40
Toxaphene	ND	60.7	99.8	61		54.7	99.8	55		21-152	11	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/07/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/14/2015

Lab Control Spike Summary
Organochlorine Pesticides

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8081B	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1509496

	Lab Control Sample KWG1509496-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
alpha-BHC	12.4	20.0	62	42-124
beta-BHC	12.1	20.0	60	39-122
gamma-BHC (Lindane)	12.6	20.0	63	44-123
delta-BHC	13.5	20.0	67	44-141
Heptachlor	12.7	20.0	64	39-126
Aldrin	11.8	20.0	59	46-116
Heptachlor Epoxide	12.6	20.0	63	43-119
gamma-Chlordane	12.4	20.0	62	38-121
Endosulfan I	10.3	20.0	52	23-116
alpha-Chlordane	12.4	20.0	62	40-121
Dieldrin	13.0	20.0	65	40-120
4,4'-DDE	13.1	20.0	66	36-139
Endrin	13.8	20.0	69	44-130
Endosulfan II	11.0	20.0	55	35-111
4,4'-DDD	13.0	20.0	65	33-138
Endrin Aldehyde	11.5	20.0	57	11-110
Endosulfan Sulfate	12.5	20.0	63	36-127
4,4'-DDT	13.2	20.0	66	49-136
Endrin Ketone	11.9	20.0	59	29-133
Methoxychlor	12.7	20.0	64	37-144
Toxaphene	53.6	100	54	21-152

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Polychlorinated Biphenyls (PCBs)

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1364-6	**Units:**	ug/Kg
Lab Code:	K1510861-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**6.8**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**11**		10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.4**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	74	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1440-8	**Units:**	ug/Kg
Lab Code:	K1510861-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**6.1**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**9.7**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.7**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	80	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1439-20	**Units:**	ug/Kg
Lab Code:	K1510861-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**6.0**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**11**		10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	83	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	717-59	**Units:**	ug/Kg
Lab Code:	K1510861-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**5.9**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**8.6**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	80	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	714-40	**Units:**	ug/Kg
Lab Code:	K1510861-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**5.9**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**8.0**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**2.9**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	81	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	2146-25	**Units:**	ug/Kg
Lab Code:	K1510861-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**7.3**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**11**		10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	76	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1787-44	**Units:**	ug/Kg
Lab Code:	K1510861-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**5.4**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**8.9**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.0**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	68	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	659-7	**Units:**	ug/Kg
Lab Code:	K1510861-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**6.9**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**10**		10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**4.1**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	74	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	654-9	**Units:**	ug/Kg
Lab Code:	K1510861-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**5.4**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**8.9**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.1**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	77	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	720-16	**Units:**	ug/Kg
Lab Code:	K1510861-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**6.5**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**9.6**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.1**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	80	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**5.9**	JP	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**11**		10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.3**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	76	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1217-42	**Units:**	ug/Kg
Lab Code:	K1510861-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**5.0**	JP	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**10**		10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.6**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	75	37-139	10/14/15	Acceptable

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	986-26	**Units:**	ug/Kg
Lab Code:	K1510861-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**6.6**	J	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**9.7**		9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**2.8**	J	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	82	37-139	10/14/15	Acceptable

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polychlorinated Biphenyls (PCBs)

Sample Name:	1129-20	**Units:**	ug/Kg
Lab Code:	K1510861-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	**7.4**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	**13**		10	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	**3.9**	J	10	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	82	37-139	10/14/15	Acceptable

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Polychlorinated Biphenyls (PCBs)

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1509497-4	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1221	ND	U	20	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1232	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1242	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1248	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1254	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	
Aroclor 1260	ND	U	9.6	2.8	1	10/07/15	10/14/15	KWG1509497	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	73	37-139	10/14/15	Acceptable

Comments:

QA/QC Report

Client: Normandeau Associates **Service Request:** K1510861
Project: 23674.000
Sample Matrix: Tissue

Surrogate Recovery Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 **Units:** Percent
Analysis Method: 8082A **Level:** Low

Sample Name	Lab Code	Sur1
1364-6	K1510861-001	74
1440-8	K1510861-002	80
1439-20	K1510861-003	83
717-59	K1510861-004	80
714-40	K1510861-005	81
2146-25	K1510861-006	76
1787-44	K1510861-007	68
659-7	K1510861-008	74
654-9	K1510861-009	77
720-16	K1510861-010	80
1374-22	K1510861-011	76
1217-42	K1510861-012	75
986-26	K1510861-013	82
1129-20	K1510861-014	82
Method Blank	KWG1509497-4	73
1374-22MS	KWG1509497-1	83
1374-22DMS	KWG1509497-2	63
Lab Control Sample	KWG1509497-3	76

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl 37-139

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/07/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/14/2015

Matrix Spike/Duplicate Matrix Spike Summary
Polychlorinated Biphenyls (PCBs)

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8082A	**Extraction Lot:**	KWG1509497

		1374-22MS KWG1509497-1 Matrix Spike			1374-22DMS KWG1509497-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Aroclor 1016	ND	151	200	75	157	200	78	46-128	4	40
Aroclor 1260	3.3	157	200	77	163	200	80	46-128	4	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/07/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/14/2015

Lab Control Spike Summary
Polychlorinated Biphenyls (PCBs)

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8082A	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1509497

	Lab Control Sample KWG1509497-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
Aroclor 1016	129	200	64	46-128
Aroclor 1260	153	200	77	46-128

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds by GC/MS

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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1364-6	**Units:**	ug/Kg
Lab Code:	K1510861-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**56**	J	1900	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	37	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	37	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	92	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	53	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	78	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1440-8	**Units:**	ug/Kg
Lab Code:	K1510861-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**67**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	60	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	78	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1439-20	**Units:**	ug/Kg
Lab Code:	K1510861-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**70**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	39	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	39	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	96	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	48	52-100	10/19/15	Outside Control Limits
2,4,6-Tribromophenol	71	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	717-59	**Units:**	ug/Kg
Lab Code:	K1510861-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**42**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	100	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	43	52-100	10/19/15	Outside Control Limits
2,4,6-Tribromophenol	77	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	714-40	**Units:**	ug/Kg
Lab Code:	K1510861-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**85**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	60	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	77	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2146-25	**Units:**	ug/Kg
Lab Code:	K1510861-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**60**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	69	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	90	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1787-44	**Units:**	ug/Kg
Lab Code:	K1510861-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**40**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	51	52-100	10/19/15	Outside Control Limits
2,4,6-Tribromophenol	77	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	659-7	**Units:**	ug/Kg
Lab Code:	K1510861-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**67**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	100	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	56	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	74	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	654-9	**Units:**	ug/Kg
Lab Code:	K1510861-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**69**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	100	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	69	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	85	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	720-16	**Units:**	ug/Kg
Lab Code:	K1510861-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**61**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	55	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	69	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**62**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	60	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	80	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1217-42	**Units:**	ug/Kg
Lab Code:	K1510861-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**62**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	73	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	986-26	**Units:**	ug/Kg
Lab Code:	K1510861-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**67**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	39	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	39	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	97	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	72	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1129-20	**Units:**	ug/Kg
Lab Code:	K1510861-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**67**	J	2000	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	40	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	40	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	99	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	62	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	84	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1509498-5	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**39**	J	1900	19	1	10/07/15	10/19/15	KWG1509498	
2-Methylphenol	ND	U	37	8.1	1	10/07/15	10/19/15	KWG1509498	*
4-Methylphenol†	ND	U	37	8.7	1	10/07/15	10/19/15	KWG1509498	
Pentachlorophenol	ND	U	92	7.6	1	10/07/15	10/19/15	KWG1509498	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	62	52-100	10/19/15	Acceptable
2,4,6-Tribromophenol	70	44-125	10/19/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

QA/QC Report

Client: Normandeau Associates
Project: 23674.000
Sample Matrix: Tissue

Service Request: K1510861

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270D SIM

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1		Sur2
1364-6	K1510861-001	53		78
1440-8	K1510861-002	60		78
1439-20	K1510861-003	48	*	71
717-59	K1510861-004	43	*	77
714-40	K1510861-005	60		77
2146-25	K1510861-006	69		90
1787-44	K1510861-007	51	*	77
659-7	K1510861-008	56		74
654-9	K1510861-009	69		85
720-16	K1510861-010	55		69
1374-22	K1510861-011	60		80
1217-42	K1510861-012	57		73
986-26	K1510861-013	57		72
1129-20	K1510861-014	62		84
Method Blank	KWG1509498-5	62		70
1374-22MS	KWG1509498-1	55		78
1374-22DMS	KWG1509498-2	60		83
Lab Control Sample	KWG1509498-3	58		73
Duplicate Lab Control Sample	KWG1509498-4	55		68

Surrogate Recovery Control Limits (%)

Sur1	=	Phenol-d6	52-100
Sur2	=	2,4,6-Tribromophenol	44-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/07/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/19/2015

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1509498

		1374-22MS KWG1509498-1 Matrix Spike				1374-22DMS KWG1509498-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	62	1430	2960	46		1560	2960	51		46-126	8	40
2-Methylphenol	ND	1430	2960	48	*	1540	2960	52	*	76-159	8	40
4-Methylphenol	ND	1670	2960	57		1640	2960	56		22-125	2	40
Pentachlorophenol	ND	1890	2960	64		2000	2960	68		41-105	6	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/07/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/19/2015

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1509498

	Lab Control Sample KWG1509498-3 Lab Control Spike			Duplicate Lab Control Sample KWG1509498-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	1650	3000	55	1510	3000	50	46-126	9	40
2-Methylphenol	1670	3000	56 *	1510	3000	50 *	76-159	10	40
4-Methylphenol	1820	3000	61	1610	3000	54	22-125	12	40
Pentachlorophenol	2100	3000	70	1840	3000	61	41-105	13	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Semi-Volatile Organic Compounds by GC/MS

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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1364-6	**Units:**	ug/Kg
Lab Code:	K1510861-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**39**	J	2000	19	1	10/23/15	10/29/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/29/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/29/15	KWG1510242	
Pentachlorophenol	ND	U	98	7.6	1	10/23/15	10/29/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	44	52-100	10/29/15	Outside Control Limits
2,4,6-Tribromophenol	55	44-125	10/29/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1440-8	**Units:**	ug/Kg
Lab Code:	K1510861-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**65**	J	1900	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	37	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	**10**	J	93	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	68	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	90	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1439-20	**Units:**	ug/Kg
Lab Code:	K1510861-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**64**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	100	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	58	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	79	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	717-59	**Units:**	ug/Kg
Lab Code:	K1510861-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**49**	J	1900	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	37	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	92	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	63	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	83	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	714-40	**Units:**	ug/Kg
Lab Code:	K1510861-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**88**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	99	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	60	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	83	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	2146-25	**Units:**	ug/Kg
Lab Code:	K1510861-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**69**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	99	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	78	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1787-44	**Units:**	ug/Kg
Lab Code:	K1510861-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**72**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	100	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	54	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	73	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	659-7	**Units:**	ug/Kg
Lab Code:	K1510861-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**84**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	39	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	39	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	97	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	57	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	79	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	654-9	**Units:**	ug/Kg
Lab Code:	K1510861-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**74**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	39	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	39	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	97	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	65	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	85	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	720-16	**Units:**	ug/Kg
Lab Code:	K1510861-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**110**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	99	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	59	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	76	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**75**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	100	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	55	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	75	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1217-42	**Units:**	ug/Kg
Lab Code:	K1510861-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**81**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	39	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	39	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	96	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	61	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	81	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	986-26	**Units:**	ug/Kg
Lab Code:	K1510861-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**65**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	40	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	40	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	98	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	56	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	78	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	1129-20	**Units:**	ug/Kg
Lab Code:	K1510861-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	**72**	J	2000	19	1	10/23/15	10/27/15	KWG1510242	
2-Methylphenol	ND	U	39	8.1	1	10/23/15	10/27/15	KWG1510242	*
4-Methylphenol†	ND	U	39	8.7	1	10/23/15	10/27/15	KWG1510242	
Pentachlorophenol	ND	U	96	7.6	1	10/23/15	10/27/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	60	52-100	10/27/15	Acceptable
2,4,6-Tribromophenol	83	44-125	10/27/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Semi-Volatile Organic Compounds by GC/MS

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1510242-5	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Phenol	ND	U	1900	19	1	10/23/15	10/29/15	KWG1510242	
2-Methylphenol	ND	U	37	8.1	1	10/23/15	10/29/15	KWG1510242	*
4-Methylphenol†	ND	U	37	8.7	1	10/23/15	10/29/15	KWG1510242	
Pentachlorophenol	ND	U	92	7.6	1	10/23/15	10/29/15	KWG1510242	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Phenol-d6	73	52-100	10/29/15	Acceptable
2,4,6-Tribromophenol	81	44-125	10/29/15	Acceptable

† Analyte Comments

4-Methylphenol	This analyte cannot be separated from 3-Methylphenol.

Comments:

QA/QC Report

Client: Normandeau Associates
Project: 23674.000
Sample Matrix: Tissue

Service Request: K1510861

Surrogate Recovery Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method: EPA 3541
Analysis Method: 8270D SIM

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1		Sur2
1364-6	K1510861-001	44	*	55
1440-8	K1510861-002	68		90
1439-20	K1510861-003	58		79
717-59	K1510861-004	63		83
714-40	K1510861-005	60		83
2146-25	K1510861-006	57		78
1787-44	K1510861-007	54		73
659-7	K1510861-008	57		79
654-9	K1510861-009	65		85
720-16	K1510861-010	59		76
1374-22	K1510861-011	55		75
1217-42	K1510861-012	61		81
986-26	K1510861-013	56		78
1129-20	K1510861-014	60		83
Method Blank	KWG1510242-5	73		81
714-40MS	KWG1510242-1	52		74
714-40DMS	KWG1510242-2	69		91
Lab Control Sample	KWG1510242-3	49	*	60
Duplicate Lab Control Sample	KWG1510242-4	64		79

Surrogate Recovery Control Limits (%)

Sur1	=	Phenol-d6	52-100
Sur2	=	2,4,6-Tribromophenol	44-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/23/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/27/2015

Matrix Spike/Duplicate Matrix Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Sample Name:	714-40	**Units:**	ug/Kg
Lab Code:	K1510861-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1510242

		714-40MS KWG1510242-1 Matrix Spike				714-40DMS KWG1510242-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	88	1460	2960	47		1900	2970	61		46-126	26	40
2-Methylphenol	ND	1460	2960	49	*	1870	2970	63	*	76-159	25	40
4-Methylphenol	ND	1600	2960	54		2160	2970	73		22-125	30	40
Pentachlorophenol	ND	1990	2960	67		2450	2970	82		41-105	20	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/23/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/29/2015

Lab Control Spike/Duplicate Lab Control Spike Summary
Semi-Volatile Organic Compounds by GC/MS

Extraction Method:	EPA 3541	**Units:**	ug/Kg
Analysis Method:	8270D SIM	**Basis:**	Wet
		Level:	Low
		Extraction Lot:	KWG1510242

	Lab Control Sample KWG1510242-3 Lab Control Spike				Duplicate Lab Control Sample KWG1510242-4 Duplicate Lab Control Spike						
Analyte Name	**Result**	**Spike Amount**	**%Rec**		**Result**	**Spike Amount**	**%Rec**		**%Rec Limits**	**RPD**	**RPD Limit**
Phenol	1660	3000	55		1850	3000	62		46-126	11	40
2-Methylphenol	1570	3000	52	*	1840	3000	61	*	76-159	15	40
4-Methylphenol	1660	3000	55		2000	3000	67		22-125	19	40
Pentachlorophenol	1760	3000	59		2190	3000	73		41-105	22	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Polynuclear Aromatic Hydrocarbons

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ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1364-6	**Units:**	ug/Kg
Lab Code:	K1510861-001	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.2	2.8	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.2	0.85	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.2	0.87	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.2	0.83	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.2	0.96	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.5**	J	9.2	1.3	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	**0.90**	J	9.2	0.70	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**4.5**	J	9.2	0.90	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**5.1**	J	9.2	0.92	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.6**	J	9.2	0.70	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	**1.9**	J	9.2	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.2	1.3	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.2	1.1	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.2	1.4	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.2	1.8	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.2	1.6	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.2	1.8	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	80	39-96	10/17/15	Acceptable
Fluoranthene-d10	93	41-100	10/17/15	Acceptable
Terphenyl-d14	68	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1440-8	**Units:**	ug/Kg
Lab Code:	K1510861-002	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.9	0.91	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.9	0.93	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.9	0.89	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.5**	J	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	**0.95**	J	9.9	0.76	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**3.4**	J	9.9	0.97	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**4.4**	J	9.9	0.99	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.7**	J	9.9	0.76	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	**1.9**	J	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	39-96	10/17/15	Acceptable
Fluoranthene-d10	98	41-100	10/17/15	Acceptable
Terphenyl-d14	71	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1439-20	**Units:**	ug/Kg
Lab Code:	K1510861-003	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.6	2.9	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	**1.2**	J	9.6	0.88	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	**1.1**	J	9.6	0.90	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	**1.0**	J	9.6	0.86	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	**1.3**	J	9.6	1.0	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.4**	J	9.6	1.3	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	**0.92**	J	9.6	0.73	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**3.2**	J	9.6	0.94	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**4.3**	J	9.6	0.96	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.5**	J	9.6	0.73	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	9.6	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.6	1.3	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.6	1.1	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.6	1.4	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.6	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.6	1.7	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.6	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	75	39-96	10/17/15	Acceptable
Fluoranthene-d10	86	41-100	10/17/15	Acceptable
Terphenyl-d14	62	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	717-59	**Units:**	ug/Kg
Lab Code:	K1510861-004	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	10	0.92	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	10	0.94	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	10	0.90	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	10	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	ND	U	10	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	10	0.76	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**2.6**	J	10	0.98	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**3.0**	J	10	1.0	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.4**	J	10	0.76	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	10	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	10	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	80	39-96	10/17/15	Acceptable
Fluoranthene-d10	93	41-100	10/17/15	Acceptable
Terphenyl-d14	67	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	714-40	**Units:**	ug/Kg
Lab Code:	K1510861-005	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.9	0.91	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.9	0.93	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.9	0.89	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	ND	U	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	9.9	0.76	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**2.5**	J	9.9	0.97	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**3.2**	J	9.9	0.99	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.3**	J	9.9	0.76	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.8	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	67	39-96	10/17/15	Acceptable
Fluoranthene-d10	98	41-100	10/17/15	Acceptable
Terphenyl-d14	73	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	2146-25	**Units:**	ug/Kg
Lab Code:	K1510861-006	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	**1.0**	J	9.9	0.92	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	**1.2**	J	9.9	0.93	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.9	0.90	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.5**	J	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	**0.83**	J	9.9	0.76	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**3.5**	J	9.9	0.97	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**4.4**	J	9.9	0.99	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.5**	J	9.9	0.76	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	**1.7**	J	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.8	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	94	39-96	10/17/15	Acceptable
Fluoranthene-d10	110	41-100	10/17/15	Outside Control Limits
Terphenyl-d14	78	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1787-44	**Units:**	ug/Kg
Lab Code:	K1510861-007	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.9	0.91	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.9	0.93	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.9	0.89	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.6**	J	9.9	1.3	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**5.1**	J	9.9	0.97	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**5.6**	J	9.9	0.99	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.9**	J	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.3	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	83	39-96	10/17/15	Acceptable
Fluoranthene-d10	97	41-100	10/17/15	Acceptable
Terphenyl-d14	69	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	659-7	**Units:**	ug/Kg
Lab Code:	K1510861-008	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	10	0.92	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	**0.97**	J	10	0.94	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	10	0.90	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	10	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.8**	J	10	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	**0.80**	J	10	0.76	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**4.5**	J	10	0.98	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**5.6**	J	10	1.0	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**3.9**	J	10	0.76	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	10	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	10	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	78	39-96	10/17/15	Acceptable
Fluoranthene-d10	94	41-100	10/17/15	Acceptable
Terphenyl-d14	68	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	654-9	**Units:**	ug/Kg
Lab Code:	K1510861-009	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	10	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	**1.1**	J	10	0.92	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	**1.0**	J	10	0.94	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	10	0.90	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	**1.2**	J	10	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.5**	J	10	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	10	0.76	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**3.3**	J	10	0.98	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**3.8**	J	10	1.0	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.5**	J	10	0.76	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	10	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	10	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	10	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	10	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	10	2.0	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	10	1.8	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	10	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	83	39-96	10/17/15	Acceptable
Fluoranthene-d10	97	41-100	10/17/15	Acceptable
Terphenyl-d14	69	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	720-16	**Units:**	ug/Kg
Lab Code:	K1510861-010	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.9	0.91	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.9	0.93	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.9	0.89	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	ND	U	9.9	1.3	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**3.3**	J	9.9	0.97	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**3.9**	J	9.9	0.99	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.3**	J	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.3	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	70	39-96	10/17/15	Acceptable
Fluoranthene-d10	83	41-100	10/17/15	Acceptable
Terphenyl-d14	60	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	**1.4**	J	9.9	0.91	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	**1.4**	J	9.9	0.93	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	**0.97**	J	9.9	0.89	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	**1.2**	J	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.7**	J	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	**0.87**	J	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**4.5**	J	9.9	0.97	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**5.7**	J	9.9	0.99	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.6**	J	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	**2.3**	J	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	81	39-96	10/17/15	Acceptable
Fluoranthene-d10	97	41-100	10/17/15	Acceptable
Terphenyl-d14	70	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1217-42	**Units:**	ug/Kg
Lab Code:	K1510861-012	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.9	0.91	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.9	0.93	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.9	0.89	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	ND	U	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**3.5**	J	9.9	0.97	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**4.7**	J	9.9	0.99	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.5**	J	9.9	0.75	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	**2.1**	J	9.9	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.7	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	77	39-96	10/17/15	Acceptable
Fluoranthene-d10	90	41-100	10/17/15	Acceptable
Terphenyl-d14	66	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

ALS Group USA, Corp. dba ALS Environmental

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	986-26	**Units:**	ug/Kg
Lab Code:	K1510861-013	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.7	3.0	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.7	0.90	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.7	0.92	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.7	0.88	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.7	1.1	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	**1.4**	J	9.7	1.3	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	9.7	0.74	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	**3.7**	J	9.7	0.95	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	**4.2**	J	9.7	0.97	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**1.6**	J	9.7	0.74	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	**1.9**	J	9.7	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.7	1.3	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.7	1.2	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.7	1.5	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.7	1.9	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.7	1.7	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.7	1.9	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	67	39-96	10/17/15	Acceptable
Fluoranthene-d10	78	41-100	10/17/15	Acceptable
Terphenyl-d14	56	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	09/24/2015
Sample Matrix:	Tissue	**Date Received:**	09/29/2015

Polynuclear Aromatic Hydrocarbons

Sample Name:	1129-20	**Units:**	ug/Kg
Lab Code:	K1510861-014	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.9	3.0	1	10/07/15	10/19/15	KWG1510085	
Acenaphthylene	**1.1**	J	9.9	0.91	1	10/07/15	10/19/15	KWG1510085	*
Acenaphthene	**0.99**	J	9.9	0.93	1	10/07/15	10/19/15	KWG1510085	*
Dibenzofuran	ND	U	9.9	0.89	1	10/07/15	10/19/15	KWG1510085	*
Fluorene	**2.2**	J	9.9	1.1	1	10/07/15	10/19/15	KWG1510085	*
Phenanthrene	**3.7**	J	9.9	1.4	1	10/07/15	10/19/15	KWG1510085	*
Anthracene	ND	U	9.9	0.76	1	10/07/15	10/19/15	KWG1510085	*
Fluoranthene	**4.7**	J	9.9	0.97	1	10/07/15	10/19/15	KWG1510085	*
Pyrene	**6.1**	J	9.9	0.99	1	10/07/15	10/19/15	KWG1510085	*
Benz(a)anthracene	**1.6**	J	9.9	0.76	1	10/07/15	10/19/15	KWG1510085	*
Chrysene	**2.5**	J	9.9	1.1	1	10/07/15	10/19/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.9	1.4	1	10/07/15	10/19/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.9	1.2	1	10/07/15	10/19/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.9	1.5	1	10/07/15	10/19/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.9	1.9	1	10/07/15	10/19/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.9	1.8	1	10/07/15	10/19/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.9	1.9	1	10/07/15	10/19/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	39-96	10/19/15	Acceptable
Fluoranthene-d10	99	41-100	10/19/15	Acceptable
Terphenyl-d14	71	39-111	10/19/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

Analytical Results

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA

Polynuclear Aromatic Hydrocarbons

Sample Name:	Method Blank	**Units:**	ug/Kg
Lab Code:	KWG1510085-5	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM		

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Naphthalene	ND	U	9.2	2.8	1	10/07/15	10/17/15	KWG1510085	
Acenaphthylene	ND	U	9.2	0.85	1	10/07/15	10/17/15	KWG1510085	*
Acenaphthene	ND	U	9.2	0.87	1	10/07/15	10/17/15	KWG1510085	*
Dibenzofuran	ND	U	9.2	0.83	1	10/07/15	10/17/15	KWG1510085	*
Fluorene	ND	U	9.2	0.96	1	10/07/15	10/17/15	KWG1510085	*
Phenanthrene	ND	U	9.2	1.3	1	10/07/15	10/17/15	KWG1510085	*
Anthracene	ND	U	9.2	0.70	1	10/07/15	10/17/15	KWG1510085	*
Fluoranthene	ND	U	9.2	0.90	1	10/07/15	10/17/15	KWG1510085	*
Pyrene	ND	U	9.2	0.92	1	10/07/15	10/17/15	KWG1510085	*
Benz(a)anthracene	**0.90**	J	9.2	0.70	1	10/07/15	10/17/15	KWG1510085	*
Chrysene	ND	U	9.2	1.1	1	10/07/15	10/17/15	KWG1510085	*
Benzo(b)fluoranthene†	ND	U	9.2	1.3	1	10/07/15	10/17/15	KWG1510085	*
Benzo(k)fluoranthene	ND	U	9.2	1.1	1	10/07/15	10/17/15	KWG1510085	
Benzo(a)pyrene	ND	U	9.2	1.4	1	10/07/15	10/17/15	KWG1510085	*
Indeno(1,2,3-cd)pyrene	ND	U	9.2	1.8	1	10/07/15	10/17/15	KWG1510085	*
Dibenz(a,h)anthracene	ND	U	9.2	1.6	1	10/07/15	10/17/15	KWG1510085	*
Benzo(g,h,i)perylene	ND	U	9.2	1.8	1	10/07/15	10/17/15	KWG1510085	

* See Case Narrative

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Fluorene-d10	84	39-96	10/17/15	Acceptable
Fluoranthene-d10	94	41-100	10/17/15	Acceptable
Terphenyl-d14	70	39-111	10/17/15	Acceptable

† Analyte Comments

Benzo(b)fluoranthene	This analyte cannot be separated from Benzo(j)fluoranthene.

Comments:

QA/QC Report

Client: Normandeau Associates
Project: 23674.000
Sample Matrix: Tissue

Service Request: K1510861

Surrogate Recovery Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270D SIM

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1	Sur2		Sur3
1364-6	K1510861-001	80	93		68
1440-8	K1510861-002	77	98		71
1439-20	K1510861-003	75	86		62
717-59	K1510861-004	80	93		67
714-40	K1510861-005	67	98		73
2146-25	K1510861-006	94	110	*	78
1787-44	K1510861-007	83	97		69
659-7	K1510861-008	78	94		68
654-9	K1510861-009	83	97		69
720-16	K1510861-010	70	83		60
1374-22	K1510861-011	81	97		70
1217-42	K1510861-012	77	90		66
986-26	K1510861-013	67	78		56
1129-20	K1510861-014	84	99		71
Method Blank	KWG1510085-5	84	94		70
1374-22MS	KWG1510085-1	84	94		72
1374-22DMS	KWG1510085-2	92	105	*	79
Lab Control Sample	KWG1510085-3	90	99		82
Duplicate Lab Control Sample	KWG1510085-4	77	92		75

Surrogate Recovery Control Limits (%)

Sur1	=	Fluorene-d10	39-96
Sur2	=	Fluoranthene-d10	41-100
Sur3	=	Terphenyl-d14	39-111

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

ALS Group USA, Corp. dba ALS Environmental

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1510861
Project:	23674.000	**Date Extracted:**	10/07/2015
Sample Matrix:	Tissue	**Date Analyzed:**	10/17/2015

Matrix Spike/Duplicate Matrix Spike Summary
Polynuclear Aromatic Hydrocarbons

Sample Name:	1374-22	**Units:**	ug/Kg
Lab Code:	K1510861-011	**Basis:**	Wet
Extraction Method:	EPA 3541	**Level:**	Low
Analysis Method:	8270D SIM	**Extraction Lot:**	KWG1510085

		1374-22MS KWG1510085-1 Matrix Spike			1374-22DMS KWG1510085-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	ND	1570	1970	79	1760	1970	89	43-102	12	40
Acenaphthylene	1.4	1810	1970	92	1960	1970	99	53-100	8	40
Acenaphthene	1.4	1760	1970	89	1910	1970	97	52-101	8	40
Dibenzofuran	0.97	1850	1970	94	1950	1970	99	55-103	5	40
Fluorene	1.2	1890	1970	96	2040	1970	103	56-104	8	40
Phenanthrene	1.7	1870	1970	95	2010	1970	102 *	54-100	7	40
Anthracene	0.87	1940	1970	98	2090	1970	106 *	57-103	7	40
Fluoranthene	4.5	2030	1970	103	2190	1970	111 *	55-108	7	40
Pyrene	5.7	2130	1970	108	2290	1970	116	48-117	7	40
Benz(a)anthracene	1.6	2150	1970	109 *	2290	1970	116 *	55-105	7	40
Chrysene	2.3	2090	1970	106	2250	1970	114 *	58-112	7	40
Benzo(b)fluoranthene	ND	2050	1970	104	2180	1970	111 *	60-107	6	40
Benzo(k)fluoranthene	ND	1870	1970	95	1990	1970	101	58-115	7	40
Benzo(a)pyrene	ND	2320	1970	118 *	2480	1970	126 *	56-110	7	40
Indeno(1,2,3-cd)pyrene	ND	2290	1970	116	2460	1970	125 *	50-117	7	40
Dibenz(a,h)anthracene	ND	2030	1970	103	2180	1970	111	52-112	7	40
Benzo(g,h,i)perylene	ND	1960	1970	99	2090	1970	106	56-117	7	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Normandeau Associates
Project: 23674.000
Sample Matrix: Tissue

Service Request: K1510861
Date Extracted: 10/07/2015
Date Analyzed: 10/17/2015

Lab Control Spike/Duplicate Lab Control Spike Summary
Polynuclear Aromatic Hydrocarbons

Extraction Method: EPA 3541
Analysis Method: 8270D SIM

Units: ug/Kg
Basis: Wet
Level: Low
Extraction Lot: KWG1510085

	Lab Control Sample KWG1510085-3 Lab Control Spike			Duplicate Lab Control Sample KWG1510085-4 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
Naphthalene	1990	2000	100	1650	2000	83	43-102	19	40
Acenaphthylene	2230	2000	111 *	1830	2000	91	53-100	20	40
Acenaphthene	2140	2000	107 *	1770	2000	88	52-101	19	40
Dibenzofuran	2180	2000	109 *	1820	2000	91	55-103	18	40
Fluorene	2230	2000	111 *	1840	2000	92	56-104	19	40
Phenanthrene	2150	2000	108 *	1840	2000	92	54-100	16	40
Anthracene	2290	2000	114 *	1970	2000	98	57-103	15	40
Fluoranthene	2360	2000	118 *	2090	2000	104	55-108	12	40
Pyrene	2650	2000	133 *	2290	2000	115	48-117	15	40
Benz(a)anthracene	2670	2000	133 *	2320	2000	116 *	55-105	14	40
Chrysene	2490	2000	124 *	2220	2000	111	58-112	11	40
Benzo(b)fluoranthene	2500	2000	125 *	2210	2000	111 *	60-107	12	40
Benzo(k)fluoranthene	2230	2000	111	2050	2000	103	58-115	8	40
Benzo(a)pyrene	2850	2000	142 *	2550	2000	127 *	56-110	11	40
Indeno(1,2,3-cd)pyrene	2560	2000	128 *	2300	2000	115	50-117	11	40
Dibenz(a,h)anthracene	2290	2000	114 *	2060	2000	103	52-112	10	40
Benzo(g,h,i)perylene	2130	2000	107	1940	2000	97	56-117	9	40

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

A S Environmental
A S Group SA, Corp
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T : 1 0
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Analytical Report for Service Request No: 1 110

Eric estler
  ormandeau Associates, Inc.
    ashua Rd.
  edford, 0 110

RE: 23674.000

Dear Eric,

Enclosed are the results of the sample(s) submitted to our laboratory September , 01
For your reference, these analyses have been assigned our service request number **K1511065.**

Analyses were performed according to our laboratory s E AP-approved quality assurance program. The test results meet requirements of the current E AP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of E AP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and A S Group SA Corp. dba A S Environmental (A S) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analy ed, as listed in the report.

Please contact me if you have any questions. My extension is . ou may also contact me via email at Chris. eaf A SGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris eaf
Project Manager

RIG T SO TIO S RIG T PART ER

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RIG T SO TIO S RIG T PART ER

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

K1507603 110163

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of ~~12~~ 4

Courier:

Tracking #:

2097173

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-1195330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.:

| | | |

R15~~08~~03 11969

173

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 2 of ~~12~~ 4

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-1195330

TAT: Normal-Standard TAT is 10-12 business days. Date Required:
Rush-Subject to ALS approval and surcharges. Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.:

***Container Type	PL	CG																					
***Container Size	gal	1L																					
*** Preservative	Ice	None																					
*G or C																							
**Matrix																							
ANALYSES/METHOD REQUESTED	Clam Tissue	Sediment Testing																					

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing															
1	HB07 - 13	5	9/21/15	1046			1																
2	HB07 - 13		9/21/15	1611				1															
3	HB07 - 14	6	9/21/15	1046			1																
4	HB07 - 14		9/21/15	1616				1															
5	HB02 - 1	7	9/21/15	1115			1																
6	HB02 - 2	8	9/21/15	1115			1																
7	HB02 - 1		9/21/15	1625				1															
8	HB02 - 2		9/21/15	1631				1															

Enter Number of Containers Per Analysis

SAMPLED BY (Please Print):

Project Comments:

RMK 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnell Normandeau	9/22	1159	2	9/22	1159
3	9/22	1800	4	9/22	1800
5	9/22	2045	6 RMK	9/22	2045
7			8 / ALS	9/24/15	0940
9			10		

Data Deliverables: X Standard; CLP-like; N.J.-Reduced; N.J. full; other

SDWA Forms? yes; yes; yes

State Samples Collected in? MD; NJ; NY X; PA; Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

Receipt Information (completed by Sample Receiving)
Performed by: RMK
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	N	N	N	N	Circle appropriate Y or N.
Correct sample volume?					
Correct preservation?					
Headspace/Volatiles?					
Custody seals Present?	Y	Y	Y	Y	Y
(If present) Seals intact?					
Received on Ice?					
COC/Labels complete/accurate?					
Container in good condition?					

ALS FIELD SERVICES
- Pickup
- Labor
- Composite Sampling
- Rental Equipment
- Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

K15-11065 (K15-10803 struck through)

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 3 of 4 (12 struck through)

Courier:
Tracking #:

173

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. / Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? Y No

	***Container Type	PL	CG
	***Container Size	Gal	1L
	***Preservative	Ice	None

ANALYSES/METHOD REQUESTED: Clam Tissue; Sediment Testing

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	HB06 - 11	9	9/21/15	1145			1	
2	HB06 - 11		9/21/15	1636				1
3	HB06 - 12	10	9/21/15	1145			1	
4	HB06 - 12		9/21/15	1640				1
5	2014 - 19		9/21/15	1645				1
6	2013 - 28		9/21/15	1651				1
7	2012 - 9		9/21/15	1655				1
8	2071 - 12		9/21/15	1659				1

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by: [signature]
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Circle appropriate Y or N: Correct containers? / Correct sample volume? / Correct preservation? / Headspace/Volatiles? — Y (marked)
Custody seals Present? / (If present) Seals intact? / Received on ice? / COC/Labels complete/accurate? / Container in good condition? — N / N / N / N / N (marked)

SAMPLED BY (Please Print):

Project Comments: [initials] 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Bratt Normandeau	9/22	1165	2	[signature]	9/22	1157
3	[signature]	9/22	1900	4	[signature]	9/22	1900
5	[signature]	9/22	2045	6	[signature]	9/22	2045
7				8	[signature] / ALS	9/24/15	0940
9				10			

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] (other)
EDDs Required? [X] If yes, format type: In Excel
SDWA Forms? yes
State Samples Collected In? ND / NJ / NY [X] / PA / Other
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

K15-10863

173

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

Page 4 of ~~12~~ 4

Courier:

Tracking #:

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing							
	***Container Type						PL	CG							
	***Container Size						Gal	1L							
	*** Preservative						ICE	None							
1	1438-23		9/21/15	1704				1							
2	1363-24		9/21/15	1708				1							
3	2014-19	11	9/21/15	1225			1								
4	2013-28	12	9/21/15	1236			1								
5	2012-9	13	9/21/15	1247			1								
6	2017-12	14	9/21/15	1250			1								
7	1438-23	15	9/21/15	1305			1								
8	1363-24	16	9/21/15	1316			1								

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

SAMPLED BY (Please Print):

Project Comments: RMC 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Barrett Normandeau	9/22	1155	2		9/22	1155
3		9/22	1900	4		9/22	1900
5		9/22	2045	6	RMC	9/22	2045
7				8	/ ALS	9/24/15	0940
9				10			

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; (Other)

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? yes

State Samples Collected In? MD; NJ; NY X; PA; Other

Receipt Information (completed by Sample Receiving): Performed by: RMC; Cooler Temp: 1; Therm. ID: 309; No. of Coolers:

Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	Y	Y	Y	Y	
	Y	Y	N	N	N
	Y	Y	Y	Y	Y

Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y	Y	Y	Y	Y

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

ALS

Cooler Receipt and Preservation Form

11065 PC CL

Client / Project: ALS / Middletown Service Request K15 10803

Received: 9/24/15 Opened: 9/24/15 By: [illegible] Unloaded: 9/24/15 By: [illegible]

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number NA	Filed
-0.3	-0.2	0.3	0.4	+0.1	338		7745 8145 9674	
-0.3	-0.3	1.0	1.2	+0.2	358		" " 9620	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Subcontract Lab Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

October 29, 2015. Service Request No: K1511065

Chris Leaf.

ALS Environmental
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Result for: Normandeau Associates, Inc.
Dear Chris:

Enclosed are the results of the sample(s) submitted to our laboratory on October 07, 2015. For Your reference, these analyses have been assigned our service request number: **K1511065.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct line is 281-575-2279. You may also contact me via email at Arthi.Kodur@alsglobal.com

Respectfully submitted,

ALS Group USA Corp., dba ALS Environmental

Arthi Kodur
Project Manager

Page 1 of _____

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

ALS ENVIRONMENTAL

Client:	Normandeau Associates	**Service Request No.:**	K1511065
Project:	23674.000	**Date Received:**	10/7/15
Sample Matrix:	Tissue		

ALS ENVIRONMENTAL NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Sixteen tissue samples were received for analysis at ALS Environmental – Houston HRMS on 10/7/15.

The date of receipt currently references the date ALS Environmental-Kelso received the samples (9/24/15) and not the date ALS Environmental-Houston HRMS received the samples (10/7/15).

The samples were received at -33.8°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a freezer at -18°C upon receipt at the laboratory.

Data Validation Notes and Discussion

MS/MSD

EQ1500614: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions were sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS ENVIRONMENTAL/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Normandeau Associates **Service Request:**K1511065
Project: 23674.000

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1511065-001	HB05-9	9/21/2015	0857
K1511065-002	HB05-8	9/21/2015	0857
K1511065-003	HB04-6	9/21/2015	1015
K1511065-004	HB04-7	9/21/2015	1015
K1511065-005	HB07-13	9/21/2015	1046
K1511065-006	HB07-14	9/21/2015	1046
K1511065-007	HB02-1	9/21/2015	1115
K1511065-008	HB02-2	9/21/2015	1115
K1511065-009	HB06-11	9/21/2015	1145
K1511065-010	HB06-12	9/21/2015	1145
K1511065-011	2014-19	9/21/2015	1225
K1511065-012	2013-28	9/21/2015	1236
K1511065-013	2012-9	9/21/2015	1247
K1511065-014	2017-12	9/21/2015	1250
K1511065-015	1438-23	9/21/2015	1305
K1511065-016	1363-24	9/21/2015	1316

Service Request Summary

Folder #: **K1511065**
Client Name: Normandeau Associates
Project Name: 23674.000
Project Number:

Report To: Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110
USA
Phone Number: 603-472-5191
Cell Number: 603-637-1146
Fax Number: 603-472-7052
E-mail: enestler@normandeau.com

Project Chemist: Chris Leaf
Originating Lab: KELSO
Logged By: SWOLF
Date Received: 09/24/15
Internal Due Date: 10/23/2015
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: Y
Report to MDL?: Y
P.O. Number: 40-495330
EDD: Normandeau

16 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: EHRMS-Freezer2B
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUST ON PCDD PCDF/8290A
K1511065-001	HB05-9	Tissue	09/21/15 0857	II
K1511065-002	HB05-8	Tissue	09/21/15 0857	II
K1511065-003	HB04-6	Tissue	09/21/15 1015	II
K1511065-004	HB04-7	Tissue	09/21/15 1015	II
K1511065-005	HB07-13	Tissue	09/21/15 1046	II
K1511065-006	HB07-14	Tissue	09/21/15 1046	II
K1511065-007	HB02-1	Tissue	09/21/15 1115	II
K1511065-008	HB02-2	Tissue	09/21/15 1115	II
K1511065-009	HB06-11	Tissue	09/21/15 1145	II
K1511065-010	HB06-12	Tissue	09/21/15 1145	II
K1511065-011	2014-19	Tissue	09/21/15 1225	II
K1511065-012	2013-28	Tissue	09/21/15 1236	II
K1511065-013	2012-9	Tissue	09/21/15 1247	II
K1511065-014	2017-12	Tissue	09/21/15 1250	II
K1511065-015	1438-23	Tissue	09/21/15 1305	II
K1511065-016	1363-24	Tissue	09/21/15 1316	II

Service Request Summary

Folder #:	**K1511065**
Client Name:	Normandeau Associates
Project Name:	23674.000
Project Number:	
Report To:	Eric Nestler Normandeau Associates, Inc. 25 Nashua Rd. Bedford, NH 03110 USA
Phone Number:	603-472-5191
Cell Number:	603-637-1146
Fax Number:	603-472-7052
E-mail:	enestler@normandeau.com

Project Chemist:	Chris Leaf
Originating Lab:	KELSO
Logged By:	SWOLF
Date Received:	09/24/15
Internal Due Date:	10/23/2015
QAP:	LAB QAP
Qualifier Set:	Lab Standard
Formset:	Lab Standard
Merged?:	Y
Report to MDL?:	Y
P.O. Number:	40-495330
EDD:	Normandeau

16 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: EHRMS-Freezer2B

Pressure Gas:

Data Qualifiers

HRMS Qualifier Set

B Indicates the associated analyte was found in the method blank at >1/10th the reported value.

E Estimated value. The reported concentration is above the calibration range of the instrument.

H Sample extracted and/or analyzed out of suggested holding time.

J Estimated value. The reported concentration is below the MRL.

K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. Reported concentration is a conservative estimate, however EMPC correction was not applied.

P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.

Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.

S Signal saturated detector. Result reported from dilution.

U Compound was analyzed for, but was not detected (ND).

X See Case Narrative.

Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.

i The MDL/MRL have been elevated due to a matrix interference.

ALS Laboratory Group

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2015
Arizona Department of Health Services	AZ0793	5/27/2016
Arkansas Department of Environmental Quality	14-038-0	6/16/2016
California Department of Health Services	2452	2/28/2017
Florida Department of Health	E87611	6/30/2016
Kansas Department of Health and Environment	E-10406	1/31/2016
Louisiana Department of Environmental Quality	03048	6/30/2016
Louisiana Department of Health and Hospitals	LA150026	12/31/2015
Maine Center for Disease Control and Prevention	2014019	6/5/2016
Maryland Department of the Environment	343	6/30/2016
Michigan Depratment of Environmental Quality	9971	6/30/2016
Minnesota Department of Health	840911	12/31/2015
Nebraska Department of Health and Human Services	NE-OS-25-13	6/30/2016
New Mexico Environment Department	TX02694	6/30/2016
New York Department of Health	11707	4/1/2016
Oregon Environmental Laboratory Accreditation Program	TX200002	3/24/2016
Pennsylvania Department of Environmental Protection	68-03441	6/30/2016
Texas Commision on Environmental Quality	TX104704216-14-5	6/30/2016
United States Department of Agriculture	P330-14-00067	2/21/2017
Washington Department of Health	c819	11/14/2015
West Virginia Department of Environmental Protection	347	6/30/2016

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1511065 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 10/27/15 Analyst: [illegible] Samples: 001-007

Second Level - Data Review – to be filled by person doing peer review

Date: 10/27/15 Analyst: [illegible] Samples: 001-007

ALS ENVIRONMENTAL – Houston

Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1511065 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 10/27/15 Analyst: [illegible] Samples: 008-014

Second Level - Data Review – to be filled by person doing peer review

Date: 10/28/15 Analyst: [illegible] Samples: 008-014

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1511065 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 10/28/15 Analyst: [illegible] Samples: 015, 016

Second Level - Data Review – to be filled by person doing peer review

Date: 10/29/15 Analyst: [illegible] Samples: 015, 016

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Chris Leaf

Project Name: QU495330
Project Number:
Project Manager: Eric Nestler
Company: Normandeau Associates, Inc.

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290A
K1511065-001	HB05-9		Tissue	9/21/15	0857	9/24/15	HOUSTON	II
K1511065-002	HB05-8		Tissue	9/21/15	0857	9/24/15	HOUSTON	II
K1511065-003	HB04-6		Tissue	9/21/15	1015	9/24/15	HOUSTON	II
K1511065-004	HB04-7		Tissue	9/21/15	1015	9/24/15	HOUSTON	II
K1511065-005	HB07-13		Tissue	9/21/15	1046	9/24/15	HOUSTON	II
K1511065-006	HB07-14		Tissue	9/21/15	1046	9/24/15	HOUSTON	II
K1511065-007	HB02-1		Tissue	9/21/15	1115	9/24/15	HOUSTON	II
K1511065-008	HB02-2		Tissue	9/21/15	1115	9/24/15	HOUSTON	II
K1511065-009	HB06-11		Tissue	9/21/15	1145	9/24/15	HOUSTON	II
K1511065-010	HB06-12		Tissue	9/21/15	1145	9/24/15	HOUSTON	II
K1511065-011	2014-19		Tissue	9/21/15	1225	9/24/15	HOUSTON	II
K1511065-012	2013-28		Tissue	9/21/15	1236	9/24/15	HOUSTON	II

K1511065 5
Normandeau Associates, Inc.
23674.000

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

10/5/15

pH Checked _____

Turnaround Requirements
____ **RUSH** (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
X **STANDARD**
Requested FAX Date: _____
Requested Report Date: 10/23/15

Report Requirements
____ I. Results Only
✓ II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD Y Normandeau

Invoice Information
PO# 51K1511065
Bill to

Relinquished By: 10/6/15 Received By: 10/7/15 Airbill Number:

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Chris Leaf

Project Name: QU495330
Project Number:
Project Manager: Eric Nestler
Company: Normandeau Associates, Inc.

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290A
K1511065-013	2012-9	1	Tissue	9/21/15	1247	9/24/15	HOUSTON	II
K1511065-014	2017-12		Tissue	9/21/15	1250	9/24/15	HOUSTON	II
K1511065-015	1438-23		Tissue	9/21/15	1305	9/24/15	HOUSTON	II
K1511065-016	1363-24		Tissue	9/21/15	1316	9/24/15	HOUSTON	II

Special Instructions/Comments

Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

pH Checked _____

Turnaround Requirements

____ **RUSH** (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

____ **STANDARD**

Requested FAX Date: _____

Requested Report Date: 10/23/15

Report Requirements

____ I. Results Only

____ II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

PQL/MDL/J Y

EDD Y

Invoice Information

PO# 51K1511065

Bill to

Relinquished By: 10/6/15

Received By: 10/7/15

Airbill Number: _____

ALS Environmental

Cooler Receipt Form

Project Chemist Ak

Client/Project Normandeau

Thermometer ID SMO 4

Date/Time Received: 10/7/15 8:51 Initials: AL

Date/Time Logged in: 10/7/15 Initials AL

1. Method of delivery: ○ US Mail ✓ Fed Ex ○ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ✓ Yes ○ No

Were they intact? ✓ Yes ○ No ○ N/A

Were they signed and dated? ✓ Yes ○ No ○ N/A

If yes, how many and where? 2 Seals

4. Packing Material: ○ Inserts ○ Baggies ✓ Bubble Wrap ✓ Gel Packs ○ Wet Ice ○ Sleeves ✓ Other Dry Ice

5. Foreign or Regulated Soil? ○ Yes ✓ No Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
6447 9266 7907		10/7/15	9:27	AL	-34/-33.8	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label: K1511065 Normandeau Associates, Inc. 23674.000 5

Effective 10/04/2013

ALS Environmental - Houston HRMS

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

RIGHT SOLUTIONS | RIGHT PARTNER

Preparation Information Benchsheet

Prep Run#: 247217 **Prep WorkFlow:** OrgExtDioxT(30) **Status:** Prepped
Team: Semivoa GCMS/DEDWARDS **Prep Method:** Method **Prep Date/Time:** 10/14/15 01:50 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ1500614-01	MB		8290A/PCDD PCDF		Tissue	10.290g	
2	EQ1500614-02	LCS		8290A/PCDD PCDF		Tissue	10.250g	
3	EQ1500614-03	DLCS		8290A/PCDD PCDF		Tissue	10.150g	
4	K1511065-001	HB05-9	.01	8290A/PCDD PCDF		Tissue	10.116g	Light Brown Liquid Tissue
5	K1511065-002	HB05-8	.01	8290A/PCDD PCDF		Tissue	10.256g	Light Brown Liquid Tissue
6	K1511065-003	HB04-6	.01	8290A/PCDD PCDF		Tissue	10.281g	Light Brown Liquid Tissue
7	K1511065-004	HB04-7	.01	8290A/PCDD PCDF		Tissue	10.040g	Light Brown Liquid Tissue
8	K1511065-005	HB07-13	.01	8290A/PCDD PCDF		Tissue	10.112g	Light Brown Liquid Tissue
9	K1511065-006	HB07-14	.01	8290A/PCDD PCDF		Tissue	10.097g	Light Brown Liquid Tissue
10	K1511065-007	HB02-1	.01	8290A/PCDD PCDF		Tissue	10.439g	Light Brown Liquid Tissue
11	K1511065-008	HB02-2	.01	8290A/PCDD PCDF		Tissue	10.188g	Light Brown Liquid Tissue
12	K1511065-009	HB06-11	.01	8290A/PCDD PCDF		Tissue	10.056g	Light Brown Liquid Tissue
13	K1511065-010	HB06-12	.01	8290A/PCDD PCDF		Tissue	10.273g	Light Brown Liquid Tissue
14	K1511065-011	2014-19	.01	8290A/PCDD PCDF		Tissue	10.062g	Light Brown Liquid Tissue
15	K1511065-012	2013-28	.01	8290A/PCDD PCDF		Tissue	10.496g	Light Brown Liquid Tissue
16	K1511065-013	2012-9	.01	8290A/PCDD PCDF		Tissue	10.139g	Light Brown Liquid Tissue
17	K1511065-014	2017-12	.01	8290A/PCDD PCDF		Tissue	10.435g	Light Brown Liquid Tissue
18	K1511065-015	1438-23	.01	8290A/PCDD PCDF		Tissue	10.271g	Light Brown Liquid Tissue
19	K1511065-016	1363-24	.01	8290A/PCDD PCDF		Tissue	10.001g	Light Brown Liquid Tissue
20	K1511067-001	1364-6	.02	8290A/PCDD PCDF		Tissue	10.168g	Light Brown Liquid Tissue
21	K1511067-002	1440-8	.01	8290A/PCDD PCDF		Tissue	10.077g	Light Brown Liquid Tissue
22	K1511067-003	1439-20	.01	8290A/PCDD PCDF		Tissue	10.226g	Light Brown Liquid Tissue
23	K1511067-004	717-59	.01	8290A/PCDD PCDF		Tissue	10.186g	Light Brown Liquid Tissue

Preparation Information Benchsheet

Prep Run#: 247217 **Prep WorkFlow:** OrgExtDioxT(30) **Status:** Prepped
Team: Semivoa GCMS/DEDWARDS **Prep Method:** Method **Prep Date/Time:** 10/14/15 01:50 PM

Spiking Solutions

Name:	1613B Matrix Working Standard	Inventory ID	84391	Logbook Ref:	84391 LM 9/21/15 2-20ng/ml	Expires On:	06/01/2016

EQ1500614-02	100.00µL	EQ1500614-03	100.00µL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	84921	Logbook Ref:	84921 CID 10/12/2015 8.0ng/ml	Expires On:	04/09/2016

EQ1500614-01	100.00µL	EQ1500614-02	100.00µL	EQ1500614-03	100.00µL	K1511065-001	100.00µL	K1511065-002	100.00µL	K1511065-003	100.00µL
K1511065-004	100.00µL	K1511065-005	100.00µL	K1511065-006	100.00µL	K1511065-007	100.00µL	K1511065-008	100.00µL	K1511065-009	100.00µL
K1511065-010	100.00µL	K1511065-011	100.00µL	K1511065-012	100.00µL	K1511065-013	100.00µL	K1511065-014	100.00µL	K1511065-015	100.00µL
K1511065-016	100.00µL	K1511067-001	100.00µL	K1511067-002	100.00µL	K1511067-003	100.00µL	K1511067-004	100.00µL		

Name:	1613B Labeled Working Standard	Inventory ID	85063	Logbook Ref:	85063 DE 10/16/15 2-4ng/ml	Expires On:	03/08/2016

EQ1500614-01	1,000.00µL	EQ1500614-02	1,000.00µL	EQ1500614-03	1,000.00µL	K1511065-001	1,000.00µL	K1511065-002	1,000.00µL	K1511065-003	1,000.00µL
K1511065-004	1,000.00µL	K1511065-005	1,000.00µL	K1511065-006	1,000.00µL	K1511065-007	1,000.00µL	K1511065-008	1,000.00µL	K1511065-009	1,000.00µL
K1511065-010	1,000.00µL	K1511065-011	1,000.00µL	K1511065-012	1,000.00µL	K1511065-013	1,000.00µL	K1511065-014	1,000.00µL	K1511065-015	1,000.00µL
K1511065-016	1,000.00µL	K1511067-001	1,000.00µL	K1511067-002	1,000.00µL	K1511067-003	1,000.00µL	K1511067-004	1,000.00µL		

Preparation Materials

Carbon, High Purity	LM 9/1/15 (83844)	Ethyl Acetate 99.9% Minimum EtOAc	LM 10/6/15 (84733)	Glass Wool	CID 09/22/2015 (84411)
Sulfuric Acid Reagent Grade H2SO4	LM 3/4/15 (79265)	Hexanes 95%	AL 10/14/15 (84987)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	LM 10/5/15 (84703)
Sodium Chloride Reagent Grade NaCl	C2-65-5 (38670)	Sodium Hydroxide Reagent Grade NaOH	LM 09/02/14 (74232)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	LM 9/24/15 (84454)
Tridecane (n-Tridecane)	LM 10/8/15 (84812)	Silica Gel	Carlos Diaz (84410)	Toluene 99.9% Minimum	CID 10/15/2015 (85018)

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	10/14/15 13:50	Started:	10/19/15 11:55	Started:	10/20/15 09:30	Started:	10/21/15 13:00
Finished:	10/17/15 06:30	Finished:	10/19/15 12:25	Finished:	10/20/15 12:30	Finished:	10/21/15 14:00
By:	DEDWARDS	By:	CDIAZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: ak Date: 10/26/15

Preparation Information Benchsheet

Prep Run#: 247217
Team: Semivoa GCMS/DEDWARDS

Prep WorkFlow: OrgExtDioxT(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/14/15 01:50 PM

Chain of Custody

Relinquished By:	_____	Date:	_____	Extracts Examined
Received By:	_____	Date:	_____	Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-9	**Units:**	ng/Kg
Lab Code:	K1511065-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 13:56
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.116g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501954	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.247	**JK**	0.0677	0.494	0.53	1.001	1
1,2,3,7,8-PeCDD	0.367	**J**	0.0283	2.47	1.49	1.001	1
1,2,3,6,7,8-HxCDD	0.407	**J**	0.0373	2.47	1.22	1.000	1
1,2,3,4,7,8-HxCDD	0.389	**J**	0.0347	2.47	1.25	1.000	1
1,2,3,7,8,9-HxCDD	0.420	**JK**	0.0331	2.47	1.72	1.007	1
1,2,3,4,6,7,8-HpCDD	1.43	**J**	0.0300	2.47	0.95	1.000	1
OCDD	10.0		0.0581	4.94	0.85	1.000	1
2,3,7,8-TCDF	0.671		0.0532	0.494	0.75	1.001	1
1,2,3,7,8-PeCDF	0.353	**J**	0.0357	2.47	1.37	1.001	1
2,3,4,7,8-PeCDF	0.431	**J**	0.0353	2.47	1.48	1.000	1
1,2,3,6,7,8-HxCDF	0.353	**J**	0.0344	2.47	1.32	1.000	1
1,2,3,7,8,9-HxCDF	0.437	**J**	0.0455	2.47	1.06	1.000	1
1,2,3,4,7,8-HxCDF	0.377	**J**	0.0374	2.47	1.24	1.000	1
2,3,4,6,7,8-HxCDF	0.390	**J**	0.0390	2.47	1.15	1.000	1
1,2,3,4,6,7,8-HpCDF	0.653	**J**	0.0254	2.47	1.13	1.000	1
1,2,3,4,7,8,9-HpCDF	0.496	**J**	0.0289	2.47	1.00	1.000	1
OCDF	1.76	**J**	0.0913	4.94	0.82	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-9	**Units:**	ng/Kg
Lab Code:	K1511065-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 13:56
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.116g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501954	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.302**J**		0.0677	0.494	0.70		1
Total Penta-Dioxins	0.367**J**		0.0283	2.47	1.49		1
Total Hexa-Dioxins	0.796**J**		0.0349	2.47	1.25		1
Total Hepta-Dioxins	2.48		0.0300	2.47	1.18		1
Total Tetra-Furans	2.29		0.0532	0.494	0.79		1
Total Penta-Furans	0.868**J**		0.0355	2.47	1.51		1
Total Hexa-Furans	1.62**J**		0.0386	2.47	1.38		1
Total Hepta-Furans	1.37**J**		0.0270	2.47	1.13		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-9	**Units:**	Percent
Lab Code:	K1511065-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 13:56
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.116g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501954	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1512.035	76		40-135	0.78	1.026
13C-1,2,3,7,8-PeCDD	2000	1522.769	76		40-135	1.58	1.227
13C-1,2,3,4,7,8-HxCDD	2000	1658.297	83		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1648.754	82		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1503.291	75		40-135	1.06	1.070
13C-OCDD	4000	2612.301	65		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1485.678	74		24-169	0.79	0.990
13C-1,2,3,7,8-PeCDF	2000	1598.100	80		40-135	1.60	1.177
13C-2,3,4,7,8-PeCDF	2000	1623.838	81		40-135	1.56	1.216
13C-1,2,3,4,7,8-HxCDF	2000	1514.448	76		40-135	0.52	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1650.483	83		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1408.921	70		40-135	0.54	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1603.148	80		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1633.330	82		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1528.635	76		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	660.107	83		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-9	**Units:**	ng/Kg
Lab Code:	K1511065-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.247**	0.0677	0.494	1	1	0.247
1,2,3,7,8-PeCDD	**0.367**	0.0283	2.47	1	1	0.367
1,2,3,6,7,8-HxCDD	**0.407**	0.0373	2.47	1	0.1	0.0407
1,2,3,4,7,8-HxCDD	**0.389**	0.0347	2.47	1	0.1	0.0389
1,2,3,7,8,9-HxCDD	**0.420**	0.0331	2.47	1	0.1	0.0420
1,2,3,4,6,7,8-HpCDD	**1.43**	0.0300	2.47	1	0.01	0.0143
OCDD	**10.0**	0.0581	4.94	1	0.0003	0.00300
2,3,7,8-TCDF	**0.671**	0.0532	0.494	1	0.1	0.0671
1,2,3,7,8-PeCDF	**0.353**	0.0357	2.47	1	0.03	0.0106
2,3,4,7,8-PeCDF	**0.431**	0.0353	2.47	1	0.3	0.129
1,2,3,6,7,8-HxCDF	**0.353**	0.0344	2.47	1	0.1	0.0353
1,2,3,7,8,9-HxCDF	**0.437**	0.0455	2.47	1	0.1	0.0437
1,2,3,4,7,8-HxCDF	**0.377**	0.0374	2.47	1	0.1	0.0377
2,3,4,6,7,8-HxCDF	**0.390**	0.0390	2.47	1	0.1	0.0390
1,2,3,4,6,7,8-HpCDF	**0.653**	0.0254	2.47	1	0.01	0.00653
1,2,3,4,7,8,9-HpCDF	**0.496**	0.0289	2.47	1	0.01	0.00496
OCDF	**1.76**	0.0913	4.94	1	0.0003	0.000528
		Total TEQ				1.13

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-8	**Units:**	ng/Kg
Lab Code:	K1511065-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 14:43
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.256g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501955	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0896	0.488			1
1,2,3,7,8-PeCDD	0.173**JK**		0.0416	2.44	2.00	1.001	1
1,2,3,6,7,8-HxCDD	0.170**JK**		0.0236	2.44	0.88	1.001	1
1,2,3,4,7,8-HxCDD	0.131**J**		0.0220	2.44	1.07	1.000	1
1,2,3,7,8,9-HxCDD	0.181**JK**		0.0209	2.44	0.92	1.008	1
1,2,3,4,6,7,8-HpCDD	0.648**J**		0.0289	2.44	0.99	1.000	1
OCDD	5.25		0.108	4.88	0.91	1.000	1
2,3,7,8-TCDF	0.380**J**		0.0515	0.488	0.68	1.001	1
1,2,3,7,8-PeCDF	0.165**J**		0.0234	2.44	1.43	1.001	1
2,3,4,7,8-PeCDF	0.174**J**		0.0227	2.44	1.39	1.001	1
1,2,3,6,7,8-HxCDF	0.147**J**		0.0246	2.44	1.20	1.000	1
1,2,3,7,8,9-HxCDF	0.165**J**		0.0307	2.44	1.18	1.000	1
1,2,3,4,7,8-HxCDF	0.131**J**		0.0250	2.44	1.26	1.000	1
2,3,4,6,7,8-HxCDF	0.146**J**		0.0268	2.44	1.18	1.000	1
1,2,3,4,6,7,8-HpCDF	0.290**JK**		0.0190	2.44	1.22	1.000	1
1,2,3,4,7,8,9-HpCDF	0.200**J**		0.0219	2.44	1.08	1.000	1
OCDF	0.714**J**		0.0846	4.88	0.86	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-8	**Units:**	ng/Kg
Lab Code:	K1511065-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 14:43
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.256g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501955	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.215**J**		0.0896	0.488	0.72		1
Total Penta-Dioxins	ND	U	0.0416	2.44			1
Total Hexa-Dioxins	0.285**J**		0.0222	2.44	1.35		1
Total Hepta-Dioxins	0.648**J**		0.0289	2.44	0.99		1
Total Tetra-Furans	0.696		0.0515	0.488	0.82		1
Total Penta-Furans	0.339**J**		0.0230	2.44	1.43		1
Total Hexa-Furans	0.652**J**		0.0265	2.44	1.25		1
Total Hepta-Furans	0.348**J**		0.0203	2.44	0.91		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-8	**Units:**	Percent
Lab Code:	K1511065-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 14:43
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.256g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501955	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1547.574	77		40-135	0.78	1.026
13C-1,2,3,7,8-PeCDD	2000	1642.610	82		40-135	1.60	1.227
13C-1,2,3,4,7,8-HxCDD	2000	1703.208	85		40-135	1.27	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1746.190	87		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1525.016	76		40-135	1.06	1.070
13C-OCDD	4000	2517.431	63		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	1499.481	75		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1708.961	85		40-135	1.60	1.177
13C-2,3,4,7,8-PeCDF	2000	1752.044	88		40-135	1.59	1.216
13C-1,2,3,4,7,8-HxCDF	2000	1565.310	78		40-135	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1692.407	85		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1442.023	72		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1617.167	81		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1641.683	82		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1532.377	77		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	692.309	87		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 08:57
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB05-8	**Units:**	ng/Kg
Lab Code:	K1511065-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0896	0.488	1	1	
1,2,3,7,8-PeCDD	**0.173**	0.0416	2.44	1	1	0.173
1,2,3,6,7,8-HxCDD	**0.170**	0.0236	2.44	1	0.1	0.0170
1,2,3,4,7,8-HxCDD	**0.131**	0.0220	2.44	1	0.1	0.0131
1,2,3,7,8,9-HxCDD	**0.181**	0.0209	2.44	1	0.1	0.0181
1,2,3,4,6,7,8-HpCDD	**0.648**	0.0289	2.44	1	0.01	0.00648
OCDD	**5.25**	0.108	4.88	1	0.0003	0.00158
2,3,7,8-TCDF	**0.380**	0.0515	0.488	1	0.1	0.0380
1,2,3,7,8-PeCDF	**0.165**	0.0234	2.44	1	0.03	0.00495
2,3,4,7,8-PeCDF	**0.174**	0.0227	2.44	1	0.3	0.0522
1,2,3,6,7,8-HxCDF	**0.147**	0.0246	2.44	1	0.1	0.0147
1,2,3,7,8,9-HxCDF	**0.165**	0.0307	2.44	1	0.1	0.0165
1,2,3,4,7,8-HxCDF	**0.131**	0.0250	2.44	1	0.1	0.0131
2,3,4,6,7,8-HxCDF	**0.146**	0.0268	2.44	1	0.1	0.0146
1,2,3,4,6,7,8-HpCDF	**0.290**	0.0190	2.44	1	0.01	0.00290
1,2,3,4,7,8,9-HpCDF	**0.200**	0.0219	2.44	1	0.01	0.00200
OCDF	**0.714**	0.0846	4.88	1	0.0003	0.000214
		Total TEQ				0.388

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-6	**Units:**	ng/Kg
Lab Code:	K1511065-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 15:32
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.281g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501956	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.179	**JK**	0.0564	0.486	0.57	1.002	1
1,2,3,7,8-PeCDD	0.150	**J**	0.0487	2.43	1.61	1.001	1
1,2,3,6,7,8-HxCDD	0.177	**JK**	0.0285	2.43	0.85	1.001	1
1,2,3,4,7,8-HxCDD	0.130	**JK**	0.0260	2.43	1.04	1.001	1
1,2,3,7,8,9-HxCDD	0.135	**JK**	0.0250	2.43	0.95	1.008	1
1,2,3,4,6,7,8-HpCDD	0.646	**J**	0.0373	2.43	1.01	1.000	1
OCDD	5.39		0.106	4.86	0.94	1.000	1
2,3,7,8-TCDF	0.361	**J**	0.0578	0.486	0.66	1.001	1
1,2,3,7,8-PeCDF	0.150	**JK**	0.0404	2.43	1.21	1.001	1
2,3,4,7,8-PeCDF	0.165	**JK**	0.0390	2.43	2.06	1.001	1
1,2,3,6,7,8-HxCDF	0.129	**J**	0.0255	2.43	1.18	1.000	1
1,2,3,7,8,9-HxCDF	0.181	**J**	0.0330	2.43	1.32	1.000	1
1,2,3,4,7,8-HxCDF	0.140	**JK**	0.0260	2.43	1.03	1.000	1
2,3,4,6,7,8-HxCDF	0.148	**J**	0.0280	2.43	1.13	1.000	1
1,2,3,4,6,7,8-HpCDF	0.263	**J**	0.0297	2.43	1.09	1.000	1
1,2,3,4,7,8,9-HpCDF	0.173	**J**	0.0330	2.43	1.03	1.000	1
OCDF	0.627	**J**	0.0727	4.86	0.78	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-6	**Units:**	ng/Kg
Lab Code:	K1511065-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 15:32
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.281g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501956	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.0564	0.486			1
Total Penta-Dioxins	0.150**J**		0.0487	2.43	1.61		1
Total Hexa-Dioxins	0.299**J**		0.0265	2.43	1.33		1
Total Hepta-Dioxins	0.646**J**		0.0373	2.43	1.01		1
Total Tetra-Furans	1.13		0.0578	0.486	0.69		1
Total Penta-Furans	ND	U	0.0397	2.43			1
Total Hexa-Furans	0.458**J**		0.0279	2.43	1.18		1
Total Hepta-Furans	0.586**J**		0.0314	2.43	1.09		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-6	**Units:**	Percent
Lab Code:	K1511065-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 15:32
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.281g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501956	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1548.977	77		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1574.812	79		40-135	1.60	1.226
13C-1,2,3,4,7,8-HxCDD	2000	1650.201	83		40-135	1.28	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1684.613	84		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1478.223	74		40-135	1.07	1.070
13C-OCDD	4000	2716.653	68		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	1515.809	76		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1647.525	82		40-135	1.57	1.177
13C-2,3,4,7,8-PeCDF	2000	1686.744	84		40-135	1.59	1.216
13C-1,2,3,4,7,8-HxCDF	2000	1544.381	77		40-135	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1674.906	84		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1450.135	73		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1589.223	79		40-135	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1584.594	79		40-135	0.44	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1515.975	76		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	660.501	83		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-6	**Units:**	ng/Kg
Lab Code:	K1511065-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.179**	0.0564	0.486	1	1	0.179
1,2,3,7,8-PeCDD	**0.150**	0.0487	2.43	1	1	0.150
1,2,3,6,7,8-HxCDD	**0.177**	0.0285	2.43	1	0.1	0.0177
1,2,3,4,7,8-HxCDD	**0.130**	0.0260	2.43	1	0.1	0.0130
1,2,3,7,8,9-HxCDD	**0.135**	0.0250	2.43	1	0.1	0.0135
1,2,3,4,6,7,8-HpCDD	**0.646**	0.0373	2.43	1	0.01	0.00646
OCDD	**5.39**	0.106	4.86	1	0.0003	0.00162
2,3,7,8-TCDF	**0.361**	0.0578	0.486	1	0.1	0.0361
1,2,3,7,8-PeCDF	**0.150**	0.0404	2.43	1	0.03	0.00450
2,3,4,7,8-PeCDF	**0.165**	0.0390	2.43	1	0.3	0.0495
1,2,3,6,7,8-HxCDF	**0.129**	0.0255	2.43	1	0.1	0.0129
1,2,3,7,8,9-HxCDF	**0.181**	0.0330	2.43	1	0.1	0.0181
1,2,3,4,7,8-HxCDF	**0.140**	0.0260	2.43	1	0.1	0.0140
2,3,4,6,7,8-HxCDF	**0.148**	0.0280	2.43	1	0.1	0.0148
1,2,3,4,6,7,8-HpCDF	**0.263**	0.0297	2.43	1	0.01	0.00263
1,2,3,4,7,8,9-HpCDF	**0.173**	0.0330	2.43	1	0.01	0.00173
OCDF	**0.627**	0.0727	4.86	1	0.0003	0.000188
		Total TEQ				0.536

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-7	**Units:**	ng/Kg
Lab Code:	K1511065-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 16:20
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.040g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501957	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.126**JK**		0.0666	0.498	0.50	1.001	1
1,2,3,7,8-PeCDD	0.0943**JK**		0.0372	2.49	1.87	1.001	1
1,2,3,6,7,8-HxCDD	0.123**JK**		0.0478	2.49	1.44	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.0454	2.49			1
1,2,3,7,8,9-HxCDD	0.116**J**		0.0427	2.49	1.36	1.008	1
1,2,3,4,6,7,8-HpCDD	0.646**J**		0.0218	2.49	0.93	1.000	1
OCDD	5.45		0.107	4.98	0.83	1.000	1
2,3,7,8-TCDF	0.265**J**		0.0591	0.498	0.68	1.001	1
1,2,3,7,8-PeCDF	0.141**JK**		0.0294	2.49	1.07	1.001	1
2,3,4,7,8-PeCDF	0.0976**JK**		0.0281	2.49	1.05	1.001	1
1,2,3,6,7,8-HxCDF	0.0812**J**		0.0151	2.49	1.35	1.000	1
1,2,3,7,8,9-HxCDF	0.0907**JK**		0.0183	2.49	0.90	1.000	1
1,2,3,4,7,8-HxCDF	0.0856**JK**		0.0158	2.49	0.78	1.001	1
2,3,4,6,7,8-HxCDF	0.135**JK**		0.0163	2.49	0.86	1.001	1
1,2,3,4,6,7,8-HpCDF	0.224**J**		0.0225	2.49	1.12	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0731**J**		0.0245	2.49	0.91	1.000	1
OCDF	0.491**J**		0.0912	4.98	0.91	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-7	**Units:**	ng/Kg
Lab Code:	K1511065-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 16:20
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.040g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501957	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.0666	0.498			1
Total Penta-Dioxins	ND	U	0.0372	2.49			1
Total Hexa-Dioxins	0.234**J**		0.0452	2.49	1.30		1
Total Hepta-Dioxins	1.25**J**		0.0218	2.49	1.06		1
Total Tetra-Furans	0.725		0.0591	0.498	0.70		1
Total Penta-Furans	0.128**J**		0.0287	2.49	1.58		1
Total Hexa-Furans	0.116**J**		0.0162	2.49	1.29		1
Total Hepta-Furans	0.445**J**		0.0235	2.49	1.12		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-7	**Units:**	Percent
Lab Code:	K1511065-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 16:20
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.040g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501957	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1430.084	72		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1550.345	78		40-135	1.59	1.227
13C-1,2,3,4,7,8-HxCDD	2000	1589.762	79		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1637.662	82		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1475.708	74		40-135	1.06	1.070
13C-OCDD	4000	2624.687	66		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1395.837	70		24-169	0.79	0.990
13C-1,2,3,7,8-PeCDF	2000	1582.927	79		40-135	1.59	1.177
13C-2,3,4,7,8-PeCDF	2000	1630.322	82		40-135	1.60	1.216
13C-1,2,3,4,7,8-HxCDF	2000	1453.239	73		40-135	0.54	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1592.424	80		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1401.113	70		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1548.376	77		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1560.035	78		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1517.558	76		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	641.246	80		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB04-7	**Units:**	ng/Kg
Lab Code:	K1511065-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.126**	0.0666	0.498	1	1	0.126
1,2,3,7,8-PeCDD	**0.0943**	0.0372	2.49	1	1	0.0943
1,2,3,6,7,8-HxCDD	**0.123**	0.0478	2.49	1	0.1	0.0123
1,2,3,4,7,8-HxCDD	ND	0.0454	2.49	1	0.1	
1,2,3,7,8,9-HxCDD	**0.116**	0.0427	2.49	1	0.1	0.0116
1,2,3,4,6,7,8-HpCDD	**0.646**	0.0218	2.49	1	0.01	0.00646
OCDD	**5.45**	0.107	4.98	1	0.0003	0.00164
2,3,7,8-TCDF	**0.265**	0.0591	0.498	1	0.1	0.0265
1,2,3,7,8-PeCDF	**0.141**	0.0294	2.49	1	0.03	0.00423
2,3,4,7,8-PeCDF	**0.0976**	0.0281	2.49	1	0.3	0.0293
1,2,3,6,7,8-HxCDF	**0.0812**	0.0151	2.49	1	0.1	0.00812
1,2,3,7,8,9-HxCDF	**0.0907**	0.0183	2.49	1	0.1	0.00907
1,2,3,4,7,8-HxCDF	**0.0856**	0.0158	2.49	1	0.1	0.00856
2,3,4,6,7,8-HxCDF	**0.135**	0.0163	2.49	1	0.1	0.0135
1,2,3,4,6,7,8-HpCDF	**0.224**	0.0225	2.49	1	0.01	0.00224
1,2,3,4,7,8,9-HpCDF	**0.0731**	0.0245	2.49	1	0.01	0.000731
OCDF	**0.491**	0.0912	4.98	1	0.0003	0.000147
		Total TEQ				0.355

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-13	**Units:**	ng/Kg
Lab Code:	K1511065-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 17:09
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.112g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501958	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.237	0.494			1
1,2,3,7,8-PeCDD	0.270**J**		0.124	2.47	1.69	1.001	1
1,2,3,6,7,8-HxCDD	0.345**J**		0.102	2.47	1.13	1.000	1
1,2,3,4,7,8-HxCDD	0.201**JK**		0.0943	2.47	0.93	1.001	1
1,2,3,7,8,9-HxCDD	0.227**JK**		0.0897	2.47	1.01	1.008	1
1,2,3,4,6,7,8-HpCDD	2.07**J**		0.0910	2.47	0.98	1.000	1
OCDD	15.5		0.326	4.94	0.83	1.001	1
2,3,7,8-TCDF	0.582		0.151	0.494	0.65	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.167	2.47			1
2,3,4,7,8-PeCDF	ND	U	0.159	2.47			1
1,2,3,6,7,8-HxCDF	0.220**J**		0.0449	2.47	1.09	1.001	1
1,2,3,7,8,9-HxCDF	0.241**JK**		0.0593	2.47	2.08	1.000	1
1,2,3,4,7,8-HxCDF	0.185**J**		0.0468	2.47	1.33	1.000	1
2,3,4,6,7,8-HxCDF	0.224**JK**		0.0497	2.47	2.18	1.000	1
1,2,3,4,6,7,8-HpCDF	0.496**J**		0.0618	2.47	0.94	1.000	1
1,2,3,4,7,8,9-HpCDF	0.220**JK**		0.0695	2.47	0.78	1.000	1
OCDF	1.06**JK**		0.321	4.94	0.69	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-13	**Units:**	ng/Kg
Lab Code:	K1511065-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 17:09
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.112g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501958	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.237	0.494			1
Total Penta-Dioxins	0.270**J**		0.124	2.47	1.69		1
Total Hexa-Dioxins	0.345**J**		0.0950	2.47	1.13		1
Total Hepta-Dioxins	4.05		0.0910	2.47	1.04		1
Total Tetra-Furans	ND	U	0.151	0.494			1
Total Penta-Furans	ND	U	0.163	2.47			1
Total Hexa-Furans	0.406**J**		0.0496	2.47	1.33		1
Total Hepta-Furans	0.496**J**		0.0654	2.47	0.94		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-13	**Units:**	Percent
Lab Code:	K1511065-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 17:09
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.112g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501958	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	749.758	37	**Y**	40-135	0.78	1.026
13C-1,2,3,7,8-PeCDD	2000	841.100	42		40-135	1.61	1.226
13C-1,2,3,4,7,8-HxCDD	2000	839.562	42		40-135	1.27	0.990
13C-1,2,3,6,7,8-HxCDD	2000	858.622	43		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	832.836	42		40-135	1.07	1.070
13C-OCDD	4000	1446.945	36		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	747.085	37		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	878.214	44		40-135	1.58	1.177
13C-2,3,4,7,8-PeCDF	2000	922.191	46		40-135	1.62	1.216
13C-1,2,3,4,7,8-HxCDF	2000	778.523	39	**Y**	40-135	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	859.734	43		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	713.566	36	**Y**	40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	814.242	41		40-135	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	879.643	44		40-135	0.43	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	824.214	41		40-135	0.44	1.082
37Cl-2,3,7,8-TCDD	800	664.483	83		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-13	**Units:**	ng/Kg
Lab Code:	K1511065-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.237	0.494	1	1	
1,2,3,7,8-PeCDD	**0.270**	0.124	2.47	1	1	0.270
1,2,3,6,7,8-HxCDD	**0.345**	0.102	2.47	1	0.1	0.0345
1,2,3,4,7,8-HxCDD	**0.201**	0.0943	2.47	1	0.1	0.0201
1,2,3,7,8,9-HxCDD	**0.227**	0.0897	2.47	1	0.1	0.0227
1,2,3,4,6,7,8-HpCDD	**2.07**	0.0910	2.47	1	0.01	0.0207
OCDD	**15.5**	0.326	4.94	1	0.0003	0.00465
2,3,7,8-TCDF	**0.582**	0.151	0.494	1	0.1	0.0582
1,2,3,7,8-PeCDF	ND	0.167	2.47	1	0.03	
2,3,4,7,8-PeCDF	ND	0.159	2.47	1	0.3	
1,2,3,6,7,8-HxCDF	**0.220**	0.0449	2.47	1	0.1	0.0220
1,2,3,7,8,9-HxCDF	**0.241**	0.0593	2.47	1	0.1	0.0241
1,2,3,4,7,8-HxCDF	**0.185**	0.0468	2.47	1	0.1	0.0185
2,3,4,6,7,8-HxCDF	**0.224**	0.0497	2.47	1	0.1	0.0224
1,2,3,4,6,7,8-HpCDF	**0.496**	0.0618	2.47	1	0.01	0.00496
1,2,3,4,7,8,9-HpCDF	**0.220**	0.0695	2.47	1	0.01	0.00220
OCDF	**1.06**	0.321	4.94	1	0.0003	0.000318
		Total TEQ				0.525

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-14	**Units:**	ng/Kg
Lab Code:	K1511065-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 17:58
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.097g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501959	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0915	0.495			1
1,2,3,7,8-PeCDD	ND	U	0.0710	2.48			1
1,2,3,6,7,8-HxCDD	0.154**JK**		0.0562	2.48	0.99	1.000	1
1,2,3,4,7,8-HxCDD	0.0729**JK**		0.0525	2.48	0.70	1.000	1
1,2,3,7,8,9-HxCDD	0.124**JK**		0.0500	2.48	1.02	1.008	1
1,2,3,4,6,7,8-HpCDD	0.868**J**		0.0279	2.48	1.00	1.000	1
OCDD	5.79		0.0812	4.95	0.93	1.000	1
2,3,7,8-TCDF	0.380**JK**		0.100	0.495	1.01	1.002	1
1,2,3,7,8-PeCDF	ND	U	0.0672	2.48			1
2,3,4,7,8-PeCDF	0.151**JK**		0.0661	2.48	0.71	1.001	1
1,2,3,6,7,8-HxCDF	0.0973**J**		0.0325	2.48	1.25	1.000	1
1,2,3,7,8,9-HxCDF	0.110**J**		0.0427	2.48	1.28	1.000	1
1,2,3,4,7,8-HxCDF	0.101**J**		0.0343	2.48	1.21	1.000	1
2,3,4,6,7,8-HxCDF	0.0992**JK**		0.0350	2.48	1.44	1.000	1
1,2,3,4,6,7,8-HpCDF	0.260**J**		0.0304	2.48	1.00	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0682**JK**		0.0352	2.48	1.57	1.000	1
OCDF	0.468**JK**		0.111	4.95	0.73	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-14	**Units:**	ng/Kg
Lab Code:	K1511065-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 17:58
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.097g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501959	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.255**J**		0.0915	0.495	0.76		1
Total Penta-Dioxins	ND	U	0.0710	2.48			1
Total Hexa-Dioxins	0.237**J**		0.0528	2.48	1.12		1
Total Hepta-Dioxins	1.82**J**		0.0279	2.48	1.04		1
Total Tetra-Furans	0.444**J**		0.100	0.495	0.83		1
Total Penta-Furans	ND	U	0.0666	2.48			1
Total Hexa-Furans	0.419**J**		0.0357	2.48	1.29		1
Total Hepta-Furans	0.453**J**		0.0326	2.48	1.00		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-14	**Units:**	Percent
Lab Code:	K1511065-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 17:58
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.097g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501959	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1554.825	78		40-135	0.80	1.026
13C-1,2,3,7,8-PeCDD	2000	1710.278	86		40-135	1.59	1.226
13C-1,2,3,4,7,8-HxCDD	2000	1731.000	87		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1803.323	90		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1676.959	84		40-135	1.05	1.070
13C-OCDD	4000	3062.139	77		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1493.484	75		24-169	0.79	0.990
13C-1,2,3,7,8-PeCDF	2000	1801.469	90		40-135	1.60	1.177
13C-2,3,4,7,8-PeCDF	2000	1842.514	92		40-135	1.59	1.216
13C-1,2,3,4,7,8-HxCDF	2000	1623.132	81		40-135	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1790.078	90		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1474.257	74		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1722.367	86		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1828.415	91		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1666.085	83		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	682.400	85		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 10:46
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB07-14	**Units:**	ng/Kg
Lab Code:	K1511065-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0915	0.495	1	1	
1,2,3,7,8-PeCDD	ND	0.0710	2.48	1	1	
1,2,3,6,7,8-HxCDD	**0.154**	0.0562	2.48	1	0.1	0.0154
1,2,3,4,7,8-HxCDD	**0.0729**	0.0525	2.48	1	0.1	0.00729
1,2,3,7,8,9-HxCDD	**0.124**	0.0500	2.48	1	0.1	0.0124
1,2,3,4,6,7,8-HpCDD	**0.868**	0.0279	2.48	1	0.01	0.00868
OCDD	**5.79**	0.0812	4.95	1	0.0003	0.00174
2,3,7,8-TCDF	**0.380**	0.100	0.495	1	0.1	0.0380
1,2,3,7,8-PeCDF	ND	0.0672	2.48	1	0.03	
2,3,4,7,8-PeCDF	**0.151**	0.0661	2.48	1	0.3	0.0453
1,2,3,6,7,8-HxCDF	**0.0973**	0.0325	2.48	1	0.1	0.00973
1,2,3,7,8,9-HxCDF	**0.110**	0.0427	2.48	1	0.1	0.0110
1,2,3,4,7,8-HxCDF	**0.101**	0.0343	2.48	1	0.1	0.0101
2,3,4,6,7,8-HxCDF	**0.0992**	0.0350	2.48	1	0.1	0.00992
1,2,3,4,6,7,8-HpCDF	**0.260**	0.0304	2.48	1	0.01	0.00260
1,2,3,4,7,8,9-HpCDF	**0.0682**	0.0352	2.48	1	0.01	0.000682
OCDF	**0.468**	0.111	4.95	1	0.0003	0.000140
		Total TEQ				0.173

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-1	**Units:**	ng/Kg
Lab Code:	K1511065-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 18:46
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.439g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501960	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.160**JK**		0.0713	0.479	0.42	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.0380	2.39			1
1,2,3,6,7,8-HxCDD	0.133**J**		0.0254	2.39	1.21	1.000	1
1,2,3,4,7,8-HxCDD	0.0558**JK**		0.0230	2.39	1.03	1.000	1
1,2,3,7,8,9-HxCDD	0.0670**J**		0.0223	2.39	1.20	1.008	1
1,2,3,4,6,7,8-HpCDD	0.784**J**		0.0272	2.39	0.98	1.000	1
OCDD	7.61		0.119	4.79	0.91	1.000	1
2,3,7,8-TCDF	0.462**J**		0.0685	0.479	0.74	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.0489	2.39			1
2,3,4,7,8-PeCDF	0.161**JK**		0.0472	2.39	1.03	1.001	1
1,2,3,6,7,8-HxCDF	0.0703**JK**		0.0133	2.39	0.96	1.000	1
1,2,3,7,8,9-HxCDF	0.0767**J**		0.0175	2.39	1.25	1.000	1
1,2,3,4,7,8-HxCDF	0.103**JK**		0.0135	2.39	1.87	1.000	1
2,3,4,6,7,8-HxCDF	0.115**JK**		0.0142	2.39	2.01	1.000	1
1,2,3,4,6,7,8-HpCDF	0.315**J**		0.0254	2.39	1.10	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0921**JK**		0.0299	2.39	0.60	1.000	1
OCDF	0.627**J**		0.110	4.79	0.78	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-1	**Units:**	ng/Kg
Lab Code:	K1511065-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 18:46
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.439g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501960	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.503		0.0713	0.479	0.71		1
Total Penta-Dioxins	ND	U	0.0380	2.39			1
Total Hexa-Dioxins	0.749**J**		0.0235	2.39	1.28		1
Total Hepta-Dioxins	1.56**J**		0.0272	2.39	1.01		1
Total Tetra-Furans	1.99		0.0685	0.479	0.69		1
Total Penta-Furans	ND	U	0.0480	2.39			1
Total Hexa-Furans	0.288**J**		0.0144	2.39	1.22		1
Total Hepta-Furans	0.315**J**		0.0275	2.39	1.10		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-1	**Units:**	Percent
Lab Code:	K1511065-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/24/15 18:46
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.439g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501960	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501952

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1492.651	75		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1583.780	79		40-135	1.58	1.227
13C-1,2,3,4,7,8-HxCDD	2000	1724.596	86		40-135	1.28	0.990
13C-1,2,3,6,7,8-HxCDD	2000	1727.609	86		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1511.768	76		40-135	1.06	1.070
13C-OCDD	4000	2585.599	65		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1460.298	73		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1633.246	82		40-135	1.59	1.177
13C-2,3,4,7,8-PeCDF	2000	1688.118	84		40-135	1.59	1.216
13C-1,2,3,4,7,8-HxCDF	2000	1610.599	81		40-135	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1711.044	86		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1452.882	73		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1664.268	83		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1634.245	82		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1506.972	75		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	666.549	83		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-1	**Units:**	ng/Kg
Lab Code:	K1511065-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.160**	0.0713	0.479	1	1	0.160
1,2,3,7,8-PeCDD	ND	0.0380	2.39	1	1	
1,2,3,6,7,8-HxCDD	**0.133**	0.0254	2.39	1	0.1	0.0133
1,2,3,4,7,8-HxCDD	**0.0558**	0.0230	2.39	1	0.1	0.00558
1,2,3,7,8,9-HxCDD	**0.0670**	0.0223	2.39	1	0.1	0.00670
1,2,3,4,6,7,8-HpCDD	**0.784**	0.0272	2.39	1	0.01	0.00784
OCDD	**7.61**	0.119	4.79	1	0.0003	0.00228
2,3,7,8-TCDF	**0.462**	0.0685	0.479	1	0.1	0.0462
1,2,3,7,8-PeCDF	ND	0.0489	2.39	1	0.03	
2,3,4,7,8-PeCDF	**0.161**	0.0472	2.39	1	0.3	0.0483
1,2,3,6,7,8-HxCDF	**0.0703**	0.0133	2.39	1	0.1	0.00703
1,2,3,7,8,9-HxCDF	**0.0767**	0.0175	2.39	1	0.1	0.00767
1,2,3,4,7,8-HxCDF	**0.103**	0.0135	2.39	1	0.1	0.0103
2,3,4,6,7,8-HxCDF	**0.115**	0.0142	2.39	1	0.1	0.0115
1,2,3,4,6,7,8-HpCDF	**0.315**	0.0254	2.39	1	0.01	0.00315
1,2,3,4,7,8,9-HpCDF	**0.0921**	0.0299	2.39	1	0.01	0.000921
OCDF	**0.627**	0.110	4.79	1	0.0003	0.000188
		Total TEQ				0.331

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-2	**Units:**	ng/Kg
Lab Code:	K1511065-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 00:34
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.188g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501967	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.209	**JK**	0.0674	0.491	0.52	1.000	1
1,2,3,7,8-PeCDD	0.121	**JK**	0.0458	2.45	2.52	1.000	1
1,2,3,6,7,8-HxCDD	0.150	**J**	0.0303	2.45	1.37	1.000	1
1,2,3,4,7,8-HxCDD	0.102	**JK**	0.0277	2.45	1.03	1.000	1
1,2,3,7,8,9-HxCDD	0.124	**J**	0.0266	2.45	1.28	1.008	1
1,2,3,4,6,7,8-HpCDD	0.819	**J**	0.0157	2.45	1.03	1.000	1
OCDD	7.72		0.0498	4.91	0.91	1.000	1
2,3,7,8-TCDF	0.504		0.0474	0.491	0.74	1.000	1
1,2,3,7,8-PeCDF	0.131	**J**	0.0517	2.45	1.32	1.001	1
2,3,4,7,8-PeCDF	0.165	**J**	0.0494	2.45	1.38	1.001	1
1,2,3,6,7,8-HxCDF	0.0881	**JK**	0.0285	2.45	0.79	1.000	1
1,2,3,7,8,9-HxCDF	0.172	**JK**	0.0370	2.45	0.82	1.001	1
1,2,3,4,7,8-HxCDF	0.124	**JK**	0.0305	2.45	0.85	1.000	1
2,3,4,6,7,8-HxCDF	0.108	**J**	0.0320	2.45	1.05	1.000	1
1,2,3,4,6,7,8-HpCDF	0.302	**JK**	0.0253	2.45	0.87	1.000	1
1,2,3,4,7,8,9-HpCDF	0.152	**J**	0.0273	2.45	0.97	1.000	1
OCDF	0.613	**JK**	0.0829	4.91	0.74	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-2	**Units:**	ng/Kg
Lab Code:	K1511065-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 00:34
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.188g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501967	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.122**J**		0.0674	0.491	0.69		1
Total Penta-Dioxins	0.133**J**		0.0458	2.45	1.57		1
Total Hexa-Dioxins	0.274**J**		0.0281	2.45	1.37		1
Total Hepta-Dioxins	1.71**J**		0.0157	2.45	0.97		1
Total Tetra-Furans	2.25		0.0474	0.491	0.68		1
Total Penta-Furans	0.689**J**		0.0505	2.45	1.49		1
Total Hexa-Furans	0.176**J**		0.0317	2.45	1.14		1
Total Hepta-Furans	0.330**J**		0.0263	2.45	0.88		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-2	**Units:**	Percent
Lab Code:	K1511065-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 00:34
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.188g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501967	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1525.361	76		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1640.334	82		40-135	1.59	1.229
13C-1,2,3,4,7,8-HxCDD	2000	1723.719	86		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1685.845	84		40-135	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1518.368	76		40-135	1.05	1.070
13C-OCDD	4000	2601.005	65		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1472.841	74		24-169	0.81	0.991
13C-1,2,3,7,8-PeCDF	2000	1696.008	85		40-135	1.59	1.178
13C-2,3,4,7,8-PeCDF	2000	1756.357	88		40-135	1.61	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1574.340	79		40-135	0.52	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1695.317	85		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1449.405	72		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1649.195	82		40-135	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1620.459	81		40-135	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1564.434	78		40-135	0.45	1.083
37Cl-2,3,7,8-TCDD	800	669.443	84		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:15
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB02-2	**Units:**	ng/Kg
Lab Code:	K1511065-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.209**	0.0674	0.491	1	1	0.209
1,2,3,7,8-PeCDD	**0.121**	0.0458	2.45	1	1	0.121
1,2,3,6,7,8-HxCDD	**0.150**	0.0303	2.45	1	0.1	0.0150
1,2,3,4,7,8-HxCDD	**0.102**	0.0277	2.45	1	0.1	0.0102
1,2,3,7,8,9-HxCDD	**0.124**	0.0266	2.45	1	0.1	0.0124
1,2,3,4,6,7,8-HpCDD	**0.819**	0.0157	2.45	1	0.01	0.00819
OCDD	**7.72**	0.0498	4.91	1	0.0003	0.00232
2,3,7,8-TCDF	**0.504**	0.0474	0.491	1	0.1	0.0504
1,2,3,7,8-PeCDF	**0.131**	0.0517	2.45	1	0.03	0.00393
2,3,4,7,8-PeCDF	**0.165**	0.0494	2.45	1	0.3	0.0495
1,2,3,6,7,8-HxCDF	**0.0881**	0.0285	2.45	1	0.1	0.00881
1,2,3,7,8,9-HxCDF	**0.172**	0.0370	2.45	1	0.1	0.0172
1,2,3,4,7,8-HxCDF	**0.124**	0.0305	2.45	1	0.1	0.0124
2,3,4,6,7,8-HxCDF	**0.108**	0.0320	2.45	1	0.1	0.0108
1,2,3,4,6,7,8-HpCDF	**0.302**	0.0253	2.45	1	0.01	0.00302
1,2,3,4,7,8,9-HpCDF	**0.152**	0.0273	2.45	1	0.01	0.00152
OCDF	**0.613**	0.0829	4.91	1	0.0003	0.000184
		Total TEQ				0.536

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-11	**Units:**	ng/Kg
Lab Code:	K1511065-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 01:22
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.056g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501968	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.131	0.497			1
1,2,3,7,8-PeCDD	0.117**J**		0.0595	2.49	1.50	1.001	1
1,2,3,6,7,8-HxCDD	0.198**J**		0.0532	2.49	1.42	1.001	1
1,2,3,4,7,8-HxCDD	0.101**J**		0.0499	2.49	1.25	1.000	1
1,2,3,7,8,9-HxCDD	0.151**JK**		0.0473	2.49	1.84	1.008	1
1,2,3,4,6,7,8-HpCDD	0.682**JK**		0.0171	2.49	1.23	1.000	1
OCDD	5.88		0.167	4.97	0.91	1.000	1
2,3,7,8-TCDF	0.476**J**		0.110	0.497	0.72	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.0832	2.49			1
2,3,4,7,8-PeCDF	ND	U	0.0786	2.49			1
1,2,3,6,7,8-HxCDF	0.0991**JK**		0.0268	2.49	0.77	1.000	1
1,2,3,7,8,9-HxCDF	0.156**J**		0.0350	2.49	1.20	1.000	1
1,2,3,4,7,8-HxCDF	0.123**J**		0.0277	2.49	1.05	1.000	1
2,3,4,6,7,8-HxCDF	0.141**J**		0.0286	2.49	1.33	1.000	1
1,2,3,4,6,7,8-HpCDF	0.281**JK**		0.0244	2.49	0.64	1.000	1
1,2,3,4,7,8,9-HpCDF	0.139**J**		0.0278	2.49	0.90	1.001	1
OCDF	0.648**JK**		0.146	4.97	1.05	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-11	**Units:**	ng/Kg
Lab Code:	K1511065-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 01:22
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.056g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501968	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.336**J**		0.131	0.497	0.80		1
Total Penta-Dioxins	0.247**J**		0.0595	2.49	1.52		1
Total Hexa-Dioxins	0.514**J**		0.0500	2.49	1.15		1
Total Hepta-Dioxins	0.778**J**		0.0171	2.49	0.95		1
Total Tetra-Furans	1.27		0.110	0.497	0.84		1
Total Penta-Furans	0.444**J**		0.0809	2.49	1.77		1
Total Hexa-Furans	0.388**J**		0.0291	2.49	1.23		1
Total Hepta-Furans	0.139**J**		0.0260	2.49	0.90		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-11	**Units:**	Percent
Lab Code:	K1511065-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 01:22
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.056g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501968	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1411.175	71		40-135	0.80	1.026
13C-1,2,3,7,8-PeCDD	2000	1686.891	84		40-135	1.59	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1696.237	85		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1759.131	88		40-135	1.29	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1588.427	79		40-135	1.07	1.070
13C-OCDD	4000	2641.484	66		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1359.060	68		24-169	0.80	0.991
13C-1,2,3,7,8-PeCDF	2000	1711.008	86		40-135	1.60	1.178
13C-2,3,4,7,8-PeCDF	2000	1795.410	90		40-135	1.58	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1557.331	78		40-135	0.53	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1723.709	86		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1425.023	71		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1652.798	83		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1716.390	86		40-135	0.44	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1629.848	81		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	615.309	77		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-11	**Units:**	ng/Kg
Lab Code:	K1511065-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.131	0.497	1	1	
1,2,3,7,8-PeCDD	**0.117**	0.0595	2.49	1	1	0.117
1,2,3,6,7,8-HxCDD	**0.198**	0.0532	2.49	1	0.1	0.0198
1,2,3,4,7,8-HxCDD	**0.101**	0.0499	2.49	1	0.1	0.0101
1,2,3,7,8,9-HxCDD	**0.151**	0.0473	2.49	1	0.1	0.0151
1,2,3,4,6,7,8-HpCDD	**0.682**	0.0171	2.49	1	0.01	0.00682
OCDD	**5.88**	0.167	4.97	1	0.0003	0.00176
2,3,7,8-TCDF	**0.476**	0.110	0.497	1	0.1	0.0476
1,2,3,7,8-PeCDF	ND	0.0832	2.49	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0786	2.49	1	0.3	
1,2,3,6,7,8-HxCDF	**0.0991**	0.0268	2.49	1	0.1	0.00991
1,2,3,7,8,9-HxCDF	**0.156**	0.0350	2.49	1	0.1	0.0156
1,2,3,4,7,8-HxCDF	**0.123**	0.0277	2.49	1	0.1	0.0123
2,3,4,6,7,8-HxCDF	**0.141**	0.0286	2.49	1	0.1	0.0141
1,2,3,4,6,7,8-HpCDF	**0.281**	0.0244	2.49	1	0.01	0.00281
1,2,3,4,7,8,9-HpCDF	**0.139**	0.0278	2.49	1	0.01	0.00139
OCDF	**0.648**	0.146	4.97	1	0.0003	0.000194
		Total TEQ				0.274

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-12	**Units:**	ng/Kg
Lab Code:	K1511065-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 02:11
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.273g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501969	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.253	**JK**	0.0824	0.487	0.45	1.002	1
1,2,3,7,8-PeCDD	0.177	**J**	0.0637	2.43	1.72	1.001	1
1,2,3,6,7,8-HxCDD	0.407	**JK**	0.0695	2.43	1.50	1.000	1
1,2,3,4,7,8-HxCDD	0.207	**JK**	0.0677	2.43	1.80	1.000	1
1,2,3,7,8,9-HxCDD	0.315	**J**	0.0629	2.43	1.05	1.007	1
1,2,3,4,6,7,8-HpCDD	3.30		0.0426	2.43	1.13	1.000	1
OCDD	21.5		0.151	4.87	0.88	1.000	1
2,3,7,8-TCDF	0.531		0.0977	0.487	0.65	1.001	1
1,2,3,7,8-PeCDF	0.165	**J**	0.0504	2.43	1.52	1.001	1
2,3,4,7,8-PeCDF	0.235	**JK**	0.0561	2.43	1.06	1.000	1
1,2,3,6,7,8-HxCDF	0.120	**JK**	0.0496	2.43	0.79	1.000	1
1,2,3,7,8,9-HxCDF	0.210	**J**	0.0916	2.43	1.23	1.000	1
1,2,3,4,7,8-HxCDF	0.127	**J**	0.0550	2.43	1.09	1.000	1
2,3,4,6,7,8-HxCDF	0.174	**JK**	0.0607	2.43	1.44	1.000	1
1,2,3,4,6,7,8-HpCDF	0.596	**J**	0.0462	2.43	0.97	1.000	1
1,2,3,4,7,8,9-HpCDF	0.368	**J**	0.0759	2.43	1.11	1.000	1
OCDF	1.49	**JK**	0.233	4.87	0.72	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-12	**Units:**	ng/Kg
Lab Code:	K1511065-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 02:11
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.273g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501969	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	2.54		0.0824	0.487	0.82		1
Total Penta-Dioxins	2.16**J**		0.0637	2.43	1.65		1
Total Hexa-Dioxins	7.15		0.0666	2.43	1.25		1
Total Hepta-Dioxins	9.99		0.0426	2.43	1.02		1
Total Tetra-Furans	2.29		0.0977	0.487	0.82		1
Total Penta-Furans	0.824**J**		0.0531	2.43	1.52		1
Total Hexa-Furans	0.540**J**		0.0606	2.43	1.12		1
Total Hepta-Furans	1.60**J**		0.0580	2.43	0.97		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-12	**Units:**	Percent
Lab Code:	K1511065-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 02:11
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.273g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501969	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1157.924	58		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1232.040	62		40-135	1.57	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1058.507	53		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1072.530	54		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	895.325	45		40-135	1.06	1.070
13C-OCDD	4000	1102.889	28		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1161.046	58		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1439.312	72		40-135	1.58	1.178
13C-2,3,4,7,8-PeCDF	2000	1305.099	65		40-135	1.59	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1039.476	52		40-135	0.53	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1159.386	58		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	688.314	34	**Y**	40-135	0.54	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1027.043	51		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	782.973	39	**Y**	40-135	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	512.376	26	**Y**	40-135	0.44	1.083
37Cl-2,3,7,8-TCDD	800	684.091	86		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 11:45
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	HB06-12	**Units:**	ng/Kg
Lab Code:	K1511065-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.253**	0.0824	0.487	1	1	0.253
1,2,3,7,8-PeCDD	**0.177**	0.0637	2.43	1	1	0.177
1,2,3,6,7,8-HxCDD	**0.407**	0.0695	2.43	1	0.1	0.0407
1,2,3,4,7,8-HxCDD	**0.207**	0.0677	2.43	1	0.1	0.0207
1,2,3,7,8,9-HxCDD	**0.315**	0.0629	2.43	1	0.1	0.0315
1,2,3,4,6,7,8-HpCDD	**3.30**	0.0426	2.43	1	0.01	0.0330
OCDD	**21.5**	0.151	4.87	1	0.0003	0.00645
2,3,7,8-TCDF	**0.531**	0.0977	0.487	1	0.1	0.0531
1,2,3,7,8-PeCDF	**0.165**	0.0504	2.43	1	0.03	0.00495
2,3,4,7,8-PeCDF	**0.235**	0.0561	2.43	1	0.3	0.0705
1,2,3,6,7,8-HxCDF	**0.120**	0.0496	2.43	1	0.1	0.0120
1,2,3,7,8,9-HxCDF	**0.210**	0.0916	2.43	1	0.1	0.0210
1,2,3,4,7,8-HxCDF	**0.127**	0.0550	2.43	1	0.1	0.0127
2,3,4,6,7,8-HxCDF	**0.174**	0.0607	2.43	1	0.1	0.0174
1,2,3,4,6,7,8-HpCDF	**0.596**	0.0462	2.43	1	0.01	0.00596
1,2,3,4,7,8,9-HpCDF	**0.368**	0.0759	2.43	1	0.01	0.00368
OCDF	**1.49**	0.233	4.87	1	0.0003	0.000447
		Total TEQ				0.764

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:25
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2014-19	**Units:**	ng/Kg
Lab Code:	K1511065-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 02:59
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.062g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501970	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.181	**JK**	0.0766	0.497	0.52	1.002	1
1,2,3,7,8-PeCDD	0.0811	**J**	0.0395	2.48	1.76	1.001	1
1,2,3,6,7,8-HxCDD	0.171	**J**	0.0359	2.48	1.21	1.000	1
1,2,3,4,7,8-HxCDD	0.0754	**J**	0.0335	2.48	1.42	1.000	1
1,2,3,7,8,9-HxCDD	0.107	**J**	0.0319	2.48	1.17	1.007	1
1,2,3,4,6,7,8-HpCDD	0.853	**J**	0.0408	2.48	1.00	1.000	1
OCDD	8.29		0.0943	4.97	0.89	1.000	1
2,3,7,8-TCDF	0.573	**K**	0.0501	0.497	0.98	1.001	1
1,2,3,7,8-PeCDF	0.102	**JK**	0.0549	2.48	1.18	1.001	1
2,3,4,7,8-PeCDF	0.147	**JK**	0.0552	2.48	1.02	1.001	1
1,2,3,6,7,8-HxCDF	0.0726	**JK**	0.0319	2.48	2.07	1.000	1
1,2,3,7,8,9-HxCDF	0.0934	**JK**	0.0401	2.48	1.49	1.001	1
1,2,3,4,7,8-HxCDF	0.108	**J**	0.0329	2.48	1.13	1.000	1
2,3,4,6,7,8-HxCDF	0.102	**JK**	0.0338	2.48	1.70	1.000	1
1,2,3,4,6,7,8-HpCDF	0.291	**J**	0.0272	2.48	1.09	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0895	**JK**	0.0308	2.48	0.74	1.000	1
OCDF	0.507	**J**	0.104	4.97	0.82	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:25
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2014-19	**Units:**	ng/Kg
Lab Code:	K1511065-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 02:59
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.062g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501970	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.161**J**		0.0766	0.497	0.87		1
Total Penta-Dioxins	0.0811**J**		0.0395	2.48	1.76		1
Total Hexa-Dioxins	0.636**J**		0.0336	2.48	1.23		1
Total Hepta-Dioxins	1.89**J**		0.0408	2.48	1.14		1
Total Tetra-Furans	1.60		0.0501	0.497	0.76		1
Total Penta-Furans	0.248**J**		0.0550	2.48	1.53		1
Total Hexa-Furans	0.347**J**		0.0343	2.48	1.07		1
Total Hepta-Furans	0.291**J**		0.0289	2.48	1.09		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:25
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2014-19	**Units:**	Percent
Lab Code:	K1511065-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 02:59
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.062g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501970	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1514.542	76		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1649.323	82		40-135	1.57	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1669.993	83		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1613.038	81		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1440.274	72		40-135	1.07	1.070
13C-OCDD	4000	2395.687	60		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1484.434	74		24-169	0.79	0.990
13C-1,2,3,7,8-PeCDF	2000	1644.896	82		40-135	1.60	1.178
13C-2,3,4,7,8-PeCDF	2000	1675.101	84		40-135	1.60	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1530.276	77		40-135	0.53	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1612.148	81		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1395.905	70		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1617.882	81		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1537.868	77		40-135	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1436.308	72		40-135	0.45	1.083
37Cl-2,3,7,8-TCDD	800	694.058	87		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:25
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2014-19	**Units:**	ng/Kg
Lab Code:	K1511065-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.181**	0.0766	0.497	1	1	0.181
1,2,3,7,8-PeCDD	**0.0811**	0.0395	2.48	1	1	0.0811
1,2,3,6,7,8-HxCDD	**0.171**	0.0359	2.48	1	0.1	0.0171
1,2,3,4,7,8-HxCDD	**0.0754**	0.0335	2.48	1	0.1	0.00754
1,2,3,7,8,9-HxCDD	**0.107**	0.0319	2.48	1	0.1	0.0107
1,2,3,4,6,7,8-HpCDD	**0.853**	0.0408	2.48	1	0.01	0.00853
OCDD	**8.29**	0.0943	4.97	1	0.0003	0.00249
2,3,7,8-TCDF	**0.573**	0.0501	0.497	1	0.1	0.0573
1,2,3,7,8-PeCDF	**0.102**	0.0549	2.48	1	0.03	0.00306
2,3,4,7,8-PeCDF	**0.147**	0.0552	2.48	1	0.3	0.0441
1,2,3,6,7,8-HxCDF	**0.0726**	0.0319	2.48	1	0.1	0.00726
1,2,3,7,8,9-HxCDF	**0.0934**	0.0401	2.48	1	0.1	0.00934
1,2,3,4,7,8-HxCDF	**0.108**	0.0329	2.48	1	0.1	0.0108
2,3,4,6,7,8-HxCDF	**0.102**	0.0338	2.48	1	0.1	0.0102
1,2,3,4,6,7,8-HpCDF	**0.291**	0.0272	2.48	1	0.01	0.00291
1,2,3,4,7,8,9-HpCDF	**0.0895**	0.0308	2.48	1	0.01	0.000895
OCDF	**0.507**	0.104	4.97	1	0.0003	0.000152
		Total TEQ				0.454

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:36
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2013-28	**Units:**	ng/Kg
Lab Code:	K1511065-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 03:48
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.496g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501971	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.219**J**		0.109	0.476	0.69	1.002	1
1,2,3,7,8-PeCDD	ND	U	0.0691	2.38			1
1,2,3,6,7,8-HxCDD	ND	U	0.0845	2.38			1
1,2,3,4,7,8-HxCDD	ND	U	0.0780	2.38			1
1,2,3,7,8,9-HxCDD	ND	U	0.0745	2.38			1
1,2,3,4,6,7,8-HpCDD	0.979**J**		0.0641	2.38	1.16	1.000	1
OCDD	8.57		0.151	4.76	0.95	1.000	1
2,3,7,8-TCDF	0.546**K**		0.116	0.476	0.59	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.0599	2.38			1
2,3,4,7,8-PeCDF	ND	U	0.0577	2.38			1
1,2,3,6,7,8-HxCDF	0.0839**J**		0.0384	2.38	1.24	1.000	1
1,2,3,7,8,9-HxCDF	0.119**JK**		0.0505	2.38	1.75	1.000	1
1,2,3,4,7,8-HxCDF	0.0938**JK**		0.0389	2.38	0.70	1.000	1
2,3,4,6,7,8-HxCDF	0.113**JK**		0.0406	2.38	1.00	1.000	1
1,2,3,4,6,7,8-HpCDF	0.224**J**		0.0420	2.38	0.97	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0475	2.38			1
OCDF	0.489**J**		0.167	4.76	0.85	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:36
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2013-28	**Units:**	ng/Kg
Lab Code:	K1511065-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 03:48
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.496g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501971	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.623		0.109	0.476	0.66		1
Total Penta-Dioxins	ND	U	0.0691	2.38			1
Total Hexa-Dioxins	0.319**J**		0.0788	2.38	1.34		1
Total Hepta-Dioxins	2.36**J**		0.0641	2.38	0.90		1
Total Tetra-Furans	1.10		0.116	0.476	0.72		1
Total Penta-Furans	ND	U	0.0587	2.38			1
Total Hexa-Furans	0.321**J**		0.0416	2.38	1.06		1
Total Hepta-Furans	0.468**J**		0.0446	2.38	0.97		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:36
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2013-28	**Units:**	Percent
Lab Code:	K1511065-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 03:48
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.496g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501971	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1421.706	71		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1696.437	85		40-135	1.58	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1691.479	85		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1701.289	85		40-135	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1594.434	80		40-135	1.07	1.070
13C-OCDD	4000	2803.869	70		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1378.866	69		24-169	0.78	0.990
13C-1,2,3,7,8-PeCDF	2000	1712.188	86		40-135	1.60	1.178
13C-2,3,4,7,8-PeCDF	2000	1791.474	90		40-135	1.60	1.216
13C-1,2,3,4,7,8-HxCDF	2000	1545.072	77		40-135	0.52	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1665.770	83		40-135	0.54	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1422.942	71		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1644.111	82		40-135	0.51	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1723.373	86		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1613.464	81		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	630.697	79		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:36
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2013-28	**Units:**	ng/Kg
Lab Code:	K1511065-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.219**	0.109	0.476	1	1	0.219
1,2,3,7,8-PeCDD	ND	0.0691	2.38	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0845	2.38	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0780	2.38	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0745	2.38	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.979**	0.0641	2.38	1	0.01	0.00979
OCDD	**8.57**	0.151	4.76	1	0.0003	0.00257
2,3,7,8-TCDF	**0.546**	0.116	0.476	1	0.1	0.0546
1,2,3,7,8-PeCDF	ND	0.0599	2.38	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0577	2.38	1	0.3	
1,2,3,6,7,8-HxCDF	**0.0839**	0.0384	2.38	1	0.1	0.00839
1,2,3,7,8,9-HxCDF	**0.119**	0.0505	2.38	1	0.1	0.0119
1,2,3,4,7,8-HxCDF	**0.0938**	0.0389	2.38	1	0.1	0.00938
2,3,4,6,7,8-HxCDF	**0.113**	0.0406	2.38	1	0.1	0.0113
1,2,3,4,6,7,8-HpCDF	**0.224**	0.0420	2.38	1	0.01	0.00224
1,2,3,4,7,8,9-HpCDF	ND	0.0475	2.38	1	0.01	
OCDF	**0.489**	0.167	4.76	1	0.0003	0.000147
		Total TEQ				0.329

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:47
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2012-9	**Units:**	ng/Kg
Lab Code:	K1511065-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 04:37
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.139g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501972	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0653	0.493			1
1,2,3,7,8-PeCDD	0.0956**JK**		0.0468	2.47	2.56	1.001	1
1,2,3,6,7,8-HxCDD	0.124**J**		0.0368	2.47	1.22	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.0338	2.47			1
1,2,3,7,8,9-HxCDD	0.0836**JK**		0.0324	2.47	1.48	1.007	1
1,2,3,4,6,7,8-HpCDD	0.644**J**		0.0150	2.47	1.13	1.000	1
OCDD	6.45		0.125	4.93	0.88	1.000	1
2,3,7,8-TCDF	0.423**JK**		0.0541	0.493	0.58	1.000	1
1,2,3,7,8-PeCDF	0.0908**JK**		0.0338	2.47	1.93	1.001	1
2,3,4,7,8-PeCDF	0.155**JK**		0.0325	2.47	1.24	1.000	1
1,2,3,6,7,8-HxCDF	0.0597**JK**		0.0182	2.47	1.67	1.000	1
1,2,3,7,8,9-HxCDF	0.0728**J**		0.0228	2.47	1.36	1.000	1
1,2,3,4,7,8-HxCDF	0.0811**JK**		0.0195	2.47	1.82	1.000	1
2,3,4,6,7,8-HxCDF	0.0898**JK**		0.0204	2.47	0.99	1.000	1
1,2,3,4,6,7,8-HpCDF	0.239**J**		0.0235	2.47	1.14	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0792**J**		0.0262	2.47	0.97	1.000	1
OCDF	0.496**J**		0.0908	4.93	0.85	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:47
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2012-9	**Units:**	ng/Kg
Lab Code:	K1511065-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 04:37
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.139g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501972	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.337**J**		0.0653	0.493	0.72		1
Total Penta-Dioxins	ND	U	0.0468	2.47			1
Total Hexa-Dioxins	0.124**J**		0.0343	2.47	1.22		1
Total Hepta-Dioxins	1.47**J**		0.0150	2.47	1.05		1
Total Tetra-Furans	1.04		0.0541	0.493	0.80		1
Total Penta-Furans	0.551**J**		0.0332	2.47	1.75		1
Total Hexa-Furans	0.193**J**		0.0201	2.47	1.28		1
Total Hepta-Furans	0.532**J**		0.0248	2.47	1.14		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:47
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2012-9	**Units:**	Percent
Lab Code:	K1511065-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 04:37
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.139g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501972	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1561.125	78		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1593.858	80		40-135	1.59	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1662.521	83		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1591.498	80		40-135	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1482.741	74		40-135	1.06	1.070
13C-OCDD	4000	2661.087	67		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1509.441	75		24-169	0.80	0.991
13C-1,2,3,7,8-PeCDF	2000	1653.149	83		40-135	1.59	1.178
13C-2,3,4,7,8-PeCDF	2000	1697.007	85		40-135	1.60	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1528.895	76		40-135	0.51	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1632.067	82		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1427.501	71		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1600.329	80		40-135	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1569.380	78		40-135	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1482.492	74		40-135	0.45	1.083
37Cl-2,3,7,8-TCDD	800	678.334	85		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:47
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2012-9	**Units:**	ng/Kg
Lab Code:	K1511065-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0653	0.493	1	1	
1,2,3,7,8-PeCDD	**0.0956**	0.0468	2.47	1	1	0.0956
1,2,3,6,7,8-HxCDD	**0.124**	0.0368	2.47	1	0.1	0.0124
1,2,3,4,7,8-HxCDD	ND	0.0338	2.47	1	0.1	
1,2,3,7,8,9-HxCDD	**0.0836**	0.0324	2.47	1	0.1	0.00836
1,2,3,4,6,7,8-HpCDD	**0.644**	0.0150	2.47	1	0.01	0.00644
OCDD	**6.45**	0.125	4.93	1	0.0003	0.00194
2,3,7,8-TCDF	**0.423**	0.0541	0.493	1	0.1	0.0423
1,2,3,7,8-PeCDF	**0.0908**	0.0338	2.47	1	0.03	0.00272
2,3,4,7,8-PeCDF	**0.155**	0.0325	2.47	1	0.3	0.0465
1,2,3,6,7,8-HxCDF	**0.0597**	0.0182	2.47	1	0.1	0.00597
1,2,3,7,8,9-HxCDF	**0.0728**	0.0228	2.47	1	0.1	0.00728
1,2,3,4,7,8-HxCDF	**0.0811**	0.0195	2.47	1	0.1	0.00811
2,3,4,6,7,8-HxCDF	**0.0898**	0.0204	2.47	1	0.1	0.00898
1,2,3,4,6,7,8-HpCDF	**0.239**	0.0235	2.47	1	0.01	0.00239
1,2,3,4,7,8,9-HpCDF	**0.0792**	0.0262	2.47	1	0.01	0.000792
OCDF	**0.496**	0.0908	4.93	1	0.0003	0.000149
		Total TEQ				0.250

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:50
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2017-12	**Units:**	ng/Kg
Lab Code:	K1511065-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 05:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.435g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501973	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.225**J**		0.109	0.479	0.65	1.001	1
1,2,3,7,8-PeCDD	ND	U	0.0575	2.40			1
1,2,3,6,7,8-HxCDD	0.152**J**		0.0436	2.40	1.39	1.000	1
1,2,3,4,7,8-HxCDD	0.0644**JK**		0.0405	2.40	0.88	1.000	1
1,2,3,7,8,9-HxCDD	0.0815**J**		0.0386	2.40	1.09	1.008	1
1,2,3,4,6,7,8-HpCDD	0.695**J**		0.0325	2.40	0.93	1.000	1
OCDD	6.52		0.105	4.79	0.94	1.000	1
2,3,7,8-TCDF	0.658		0.0903	0.479	0.70	1.000	1
1,2,3,7,8-PeCDF	0.139**JK**		0.0477	2.40	1.17	1.001	1
2,3,4,7,8-PeCDF	0.146**J**		0.0465	2.40	1.60	1.001	1
1,2,3,6,7,8-HxCDF	0.0574**J**		0.0303	2.40	1.26	1.000	1
1,2,3,7,8,9-HxCDF	0.0663**JK**		0.0399	2.40	1.56	1.001	1
1,2,3,4,7,8-HxCDF	0.0905**JK**		0.0320	2.40	2.14	1.000	1
2,3,4,6,7,8-HxCDF	0.0761**J**		0.0339	2.40	1.25	1.000	1
1,2,3,4,6,7,8-HpCDF	0.240**JK**		0.0318	2.40	1.26	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0678**J**		0.0361	2.40	0.92	1.000	1
OCDF	0.535**J**		0.116	4.79	0.79	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:50
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2017-12	**Units:**	ng/Kg
Lab Code:	K1511065-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 05:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.435g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501973	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.574		0.109	0.479	0.76		1
Total Penta-Dioxins	0.101**J**		0.0575	2.40	1.59		1
Total Hexa-Dioxins	0.233**J**		0.0408	2.40	1.39		1
Total Hepta-Dioxins	1.60**J**		0.0325	2.40	1.03		1
Total Tetra-Furans	2.40		0.0903	0.479	0.70		1
Total Penta-Furans	0.727**J**		0.0472	2.40	1.62		1
Total Hexa-Furans	0.461**J**		0.0336	2.40	1.12		1
Total Hepta-Furans	0.0678**J**		0.0339	2.40	0.92		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:50
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2017-12	**Units:**	Percent
Lab Code:	K1511065-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 05:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.435g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501973	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501962

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1515.887	76		40-135	0.79	1.026
13C-1,2,3,7,8-PeCDD	2000	1678.459	84		40-135	1.57	1.229
13C-1,2,3,4,7,8-HxCDD	2000	1780.900	89		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1746.975	87		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1601.785	80		40-135	1.04	1.070
13C-OCDD	4000	2881.028	72		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1453.321	73		24-169	0.79	0.991
13C-1,2,3,7,8-PeCDF	2000	1759.904	88		40-135	1.59	1.178
13C-2,3,4,7,8-PeCDF	2000	1791.939	90		40-135	1.60	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1628.732	81		40-135	0.52	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1752.244	88		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1485.460	74		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1724.978	86		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1738.894	87		40-135	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1609.604	80		40-135	0.45	1.083
37Cl-2,3,7,8-TCDD	800	675.297	84		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 12:50
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	2017-12	**Units:**	ng/Kg
Lab Code:	K1511065-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.225**	0.109	0.479	1	1	0.225
1,2,3,7,8-PeCDD	ND	0.0575	2.40	1	1	
1,2,3,6,7,8-HxCDD	**0.152**	0.0436	2.40	1	0.1	0.0152
1,2,3,4,7,8-HxCDD	**0.0644**	0.0405	2.40	1	0.1	0.00644
1,2,3,7,8,9-HxCDD	**0.0815**	0.0386	2.40	1	0.1	0.00815
1,2,3,4,6,7,8-HpCDD	**0.695**	0.0325	2.40	1	0.01	0.00695
OCDD	**6.52**	0.105	4.79	1	0.0003	0.00196
2,3,7,8-TCDF	**0.658**	0.0903	0.479	1	0.1	0.0658
1,2,3,7,8-PeCDF	**0.139**	0.0477	2.40	1	0.03	0.00417
2,3,4,7,8-PeCDF	**0.146**	0.0465	2.40	1	0.3	0.0438
1,2,3,6,7,8-HxCDF	**0.0574**	0.0303	2.40	1	0.1	0.00574
1,2,3,7,8,9-HxCDF	**0.0663**	0.0399	2.40	1	0.1	0.00663
1,2,3,4,7,8-HxCDF	**0.0905**	0.0320	2.40	1	0.1	0.00905
2,3,4,6,7,8-HxCDF	**0.0761**	0.0339	2.40	1	0.1	0.00761
1,2,3,4,6,7,8-HpCDF	**0.240**	0.0318	2.40	1	0.01	0.00240
1,2,3,4,7,8,9-HpCDF	**0.0678**	0.0361	2.40	1	0.01	0.000678
OCDF	**0.535**	0.116	4.79	1	0.0003	0.000161
		Total TEQ				0.410

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:05
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1438-23	**Units:**	ng/Kg
Lab Code:	K1511065-015	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 11:12
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.271g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501980	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0667	0.487			1
1,2,3,7,8-PeCDD	0.144**J**		0.0420	2.43	1.40	1.001	1
1,2,3,6,7,8-HxCDD	0.123**J**		0.0304	2.43	1.12	1.000	1
1,2,3,4,7,8-HxCDD	0.0877**JK**		0.0280	2.43	0.96	1.000	1
1,2,3,7,8,9-HxCDD	0.0883**J**		0.0268	2.43	1.22	1.007	1
1,2,3,4,6,7,8-HpCDD	0.874**J**		0.0171	2.43	1.01	1.001	1
OCDD	7.37		0.0422	4.87	0.86	1.000	1
2,3,7,8-TCDF	0.504		0.0445	0.487	0.74	1.001	1
1,2,3,7,8-PeCDF	0.108**JK**		0.0372	2.43	1.22	1.000	1
2,3,4,7,8-PeCDF	0.198**JK**		0.0368	2.43	1.06	1.001	1
1,2,3,6,7,8-HxCDF	0.0731**JK**		0.00857	2.43	1.45	1.000	1
1,2,3,7,8,9-HxCDF	0.109**J**		0.0110	2.43	1.24	1.000	1
1,2,3,4,7,8-HxCDF	0.111**J**		0.00916	2.43	1.35	1.000	1
2,3,4,6,7,8-HxCDF	0.0768**J**		0.00935	2.43	1.13	1.000	1
1,2,3,4,6,7,8-HpCDF	0.226**J**		0.0221	2.43	1.11	1.000	1
1,2,3,4,7,8,9-HpCDF	0.135**J**		0.0248	2.43	0.98	1.000	1
OCDF	0.543**J**		0.0637	4.87	0.82	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:05
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1438-23	**Units:**	ng/Kg
Lab Code:	K1511065-015	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 11:12
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.271g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501980	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.316**J**		0.0667	0.487	0.84		1
Total Penta-Dioxins	0.144**J**		0.0420	2.43	1.40		1
Total Hexa-Dioxins	0.723**J**		0.0284	2.43	1.29		1
Total Hepta-Dioxins	1.86**J**		0.0171	2.43	1.17		1
Total Tetra-Furans	2.22		0.0445	0.487	0.73		1
Total Penta-Furans	ND	U	0.0370	2.43			1
Total Hexa-Furans	0.413**J**		0.00945	2.43	1.13		1
Total Hepta-Furans	0.361**J**		0.0233	2.43	1.11		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:05
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1438-23	**Units:**	Percent
Lab Code:	K1511065-015	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 11:12
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.271g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501980	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1550.350	78		40-135	0.80	1.027
13C-1,2,3,7,8-PeCDD	2000	1671.458	84		40-135	1.60	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1743.062	87		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1704.419	85		40-135	1.26	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1492.080	75		40-135	1.07	1.070
13C-OCDD	4000	2563.873	64		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1477.188	74		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1705.772	85		40-135	1.59	1.178
13C-2,3,4,7,8-PeCDF	2000	1735.432	87		40-135	1.60	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1603.267	80		40-135	0.53	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1711.714	86		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1476.749	74		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1668.500	83		40-135	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1590.530	80		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1505.025	75		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	682.420	85		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:05
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1438-23	**Units:**	ng/Kg
Lab Code:	K1511065-015	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0667	0.487	1	1	
1,2,3,7,8-PeCDD	**0.144**	0.0420	2.43	1	1	0.144
1,2,3,6,7,8-HxCDD	**0.123**	0.0304	2.43	1	0.1	0.0123
1,2,3,4,7,8-HxCDD	**0.0877**	0.0280	2.43	1	0.1	0.00877
1,2,3,7,8,9-HxCDD	**0.0883**	0.0268	2.43	1	0.1	0.00883
1,2,3,4,6,7,8-HpCDD	**0.874**	0.0171	2.43	1	0.01	0.00874
OCDD	**7.37**	0.0422	4.87	1	0.0003	0.00221
2,3,7,8-TCDF	**0.504**	0.0445	0.487	1	0.1	0.0504
1,2,3,7,8-PeCDF	**0.108**	0.0372	2.43	1	0.03	0.00324
2,3,4,7,8-PeCDF	**0.198**	0.0368	2.43	1	0.3	0.0594
1,2,3,6,7,8-HxCDF	**0.0731**	0.00857	2.43	1	0.1	0.00731
1,2,3,7,8,9-HxCDF	**0.109**	0.0110	2.43	1	0.1	0.0109
1,2,3,4,7,8-HxCDF	**0.111**	0.00916	2.43	1	0.1	0.0111
2,3,4,6,7,8-HxCDF	**0.0768**	0.00935	2.43	1	0.1	0.00768
1,2,3,4,6,7,8-HpCDF	**0.226**	0.0221	2.43	1	0.01	0.00226
1,2,3,4,7,8,9-HpCDF	**0.135**	0.0248	2.43	1	0.01	0.00135
OCDF	**0.543**	0.0637	4.87	1	0.0003	0.000163
		Total TEQ				0.339

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:16
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1363-24	**Units:**	ng/Kg
Lab Code:	K1511065-016	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 12:01
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.001g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501981	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.230**JK**		0.0731	0.500	0.55	1.000	1
1,2,3,7,8-PeCDD	0.132**J**		0.0503	2.50	1.42	1.000	1
1,2,3,6,7,8-HxCDD	0.147**J**		0.0327	2.50	1.43	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.0305	2.50			1
1,2,3,7,8,9-HxCDD	0.141**JK**		0.0290	2.50	1.01	1.008	1
1,2,3,4,6,7,8-HpCDD	0.907**J**		0.0393	2.50	1.08	1.000	1
OCDD	9.39		0.122	5.00	0.87	1.000	1
2,3,7,8-TCDF	0.624		0.0566	0.500	0.73	1.001	1
1,2,3,7,8-PeCDF	0.111**JK**		0.0378	2.50	1.85	1.001	1
2,3,4,7,8-PeCDF	0.174**J**		0.0369	2.50	1.54	1.001	1
1,2,3,6,7,8-HxCDF	0.100**J**		0.0276	2.50	1.13	1.001	1
1,2,3,7,8,9-HxCDF	0.121**J**		0.0340	2.50	1.11	1.001	1
1,2,3,4,7,8-HxCDF	0.111**JK**		0.0281	2.50	1.01	1.000	1
2,3,4,6,7,8-HxCDF	0.106**J**		0.0291	2.50	1.11	1.000	1
1,2,3,4,6,7,8-HpCDF	0.401**J**		0.0241	2.50	0.90	1.000	1
1,2,3,4,7,8,9-HpCDF	0.103**JK**		0.0270	2.50	1.53	1.000	1
OCDF	1.33**J**		0.102	5.00	0.95	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:16
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1363-24	**Units:**	ng/Kg
Lab Code:	K1511065-016	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 12:01
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.001g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501981	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.665		0.0731	0.500	0.80		1
Total Penta-Dioxins	0.299**J**		0.0503	2.50	1.75		1
Total Hexa-Dioxins	0.395**J**		0.0307	2.50	1.10		1
Total Hepta-Dioxins	1.98**J**		0.0393	2.50	1.04		1
Total Tetra-Furans	1.72		0.0566	0.500	0.67		1
Total Penta-Furans	0.624**J**		0.0374	2.50	1.53		1
Total Hexa-Furans	0.421**J**		0.0295	2.50	1.15		1
Total Hepta-Furans	0.401**J**		0.0255	2.50	0.90		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:16
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1363-24	**Units:**	Percent
Lab Code:	K1511065-016	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 12:01
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.001g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501981	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1124.243	56		40-135	0.78	1.027
13C-1,2,3,7,8-PeCDD	2000	1242.311	62		40-135	1.59	1.229
13C-1,2,3,4,7,8-HxCDD	2000	1259.113	63		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1285.930	64		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1128.078	56		40-135	1.08	1.070
13C-OCDD	4000	2013.274	50		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1066.606	53		24-169	0.79	0.990
13C-1,2,3,7,8-PeCDF	2000	1257.547	63		40-135	1.58	1.178
13C-2,3,4,7,8-PeCDF	2000	1296.803	65		40-135	1.59	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1159.323	58		40-135	0.52	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1253.745	63		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1123.799	56		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1239.197	62		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1186.007	59		40-135	0.44	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1134.455	57		40-135	0.43	1.083
37Cl-2,3,7,8-TCDD	800	547.853	68		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	09/21/15 13:16
Sample Matrix:	Tissue	**Date Received:**	09/24/15 09:40
Sample Name:	1363-24	**Units:**	ng/Kg
Lab Code:	K1511065-016	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.230**	0.0731	0.500	1	1	0.230
1,2,3,7,8-PeCDD	**0.132**	0.0503	2.50	1	1	0.132
1,2,3,6,7,8-HxCDD	**0.147**	0.0327	2.50	1	0.1	0.0147
1,2,3,4,7,8-HxCDD	ND	0.0305	2.50	1	0.1	
1,2,3,7,8,9-HxCDD	**0.141**	0.0290	2.50	1	0.1	0.0141
1,2,3,4,6,7,8-HpCDD	**0.907**	0.0393	2.50	1	0.01	0.00907
OCDD	**9.39**	0.122	5.00	1	0.0003	0.00282
2,3,7,8-TCDF	**0.624**	0.0566	0.500	1	0.1	0.0624
1,2,3,7,8-PeCDF	**0.111**	0.0378	2.50	1	0.03	0.00333
2,3,4,7,8-PeCDF	**0.174**	0.0369	2.50	1	0.3	0.0522
1,2,3,6,7,8-HxCDF	**0.100**	0.0276	2.50	1	0.1	0.0100
1,2,3,7,8,9-HxCDF	**0.121**	0.0340	2.50	1	0.1	0.0121
1,2,3,4,7,8-HxCDF	**0.111**	0.0281	2.50	1	0.1	0.0111
2,3,4,6,7,8-HxCDF	**0.106**	0.0291	2.50	1	0.1	0.0106
1,2,3,4,6,7,8-HpCDF	**0.401**	0.0241	2.50	1	0.01	0.00401
1,2,3,4,7,8,9-HpCDF	**0.103**	0.0270	2.50	1	0.01	0.00103
OCDF	**1.33**	0.102	5.00	1	0.0003	0.000399
		Total TEQ				0.570

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1500614-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 11:23
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.290g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302332	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.563	0.563			1
1,2,3,7,8-PeCDD	ND	U	0.381	2.43			1
1,2,3,6,7,8-HxCDD	ND	U	0.345	2.43			1
1,2,3,4,7,8-HxCDD	ND	U	0.342	2.43			1
1,2,3,7,8,9-HxCDD	ND	U	0.325	2.43			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.357	2.43			1
OCDD	ND	U	0.706	4.86			1
2,3,7,8-TCDF	ND	U	0.709	0.709			1
1,2,3,7,8-PeCDF	ND	U	0.464	2.43			1
2,3,4,7,8-PeCDF	ND	U	0.452	2.43			1
1,2,3,6,7,8-HxCDF	ND	U	0.254	2.43			1
1,2,3,7,8,9-HxCDF	ND	U	0.359	2.43			1
1,2,3,4,7,8-HxCDF	ND	U	0.269	2.43			1
2,3,4,6,7,8-HxCDF	ND	U	0.274	2.43			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.238	2.43			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.297	2.43			1
OCDF	ND	U	1.06	4.86			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1500614-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 11:23
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.290g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302332	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.563	0.563			1
Total Penta-Dioxins	ND	U	0.381	2.43			1
Total Hexa-Dioxins	ND	U	0.337	2.43			1
Total Hepta-Dioxins	ND	U	0.357	2.43			1
Total Tetra-Furans	ND	U	0.709	0.709			1
Total Penta-Furans	ND	U	0.458	2.43			1
Total Hexa-Furans	ND	U	0.285	2.43			1
Total Hepta-Furans	ND	U	0.266	2.43			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1500614-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 11:23
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.290g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302332	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1488.572	74		40-135	0.74	1.018
13C-1,2,3,7,8-PeCDD	2000	1567.149	78		40-135	1.56	1.173
13C-1,2,3,4,7,8-HxCDD	2000	1561.233	78		40-135	1.23	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1651.112	83		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1643.086	82		40-135	1.07	1.066
13C-OCDD	4000	3103.207	78		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1136.392	57		24-169	0.76	0.992
13C-1,2,3,7,8-PeCDF	2000	1322.501	66		40-135	1.60	1.133
13C-2,3,4,7,8-PeCDF	2000	1411.304	71		40-135	1.60	1.163
13C-1,2,3,4,7,8-HxCDF	2000	1292.481	65		40-135	0.49	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1373.379	69		40-135	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1250.573	63		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1340.732	67		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1399.136	70		40-135	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1523.392	76		40-135	0.41	1.079
37Cl-2,3,7,8-TCDD	800	620.331	78		35-197	NA	1.020

Accuracy & Precision

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Analyzed:**	10/23/15
Sample Matrix:	Tissue	**Date Extracted:**	10/14/15

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Units:**	ng/Kg
Prep Method:	Method	**Basis:**	Wet
		Analysis Lot:	469208

	Lab Control Sample EQ1500614-02			Duplicate Lab Control Sample EQ1500614-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	112	97.6	115	113	98.5	115	70-130	1	25
1,2,3,4,7,8-HxCDD	115	97.6	118	115	98.5	117	70-130	<1	25
1,2,3,6,7,8-HxCDD	111	97.6	114	116	98.5	117	70-130	4	25
1,2,3,7,8,9-HxCDD	106	97.6	108	107	98.5	109	70-130	1	25
1,2,3,7,8-PeCDD	116	97.6	119	116	98.5	118	70-130	<1	25
2,3,7,8-TCDD	18.3	19.5	94	19.3	19.7	98	70-130	5	25
OCDD	235	195	121	240	197	122	70-130	2	25
1,2,3,4,6,7,8-HpCDF	121	97.6	124	122	98.5	124	70-130	<1	25
1,2,3,4,7,8,9-HpCDF	118	97.6	121	120	98.5	122	70-130	2	25
1,2,3,4,7,8-HxCDF	115	97.6	118	119	98.5	121	70-130	3	25
1,2,3,6,7,8-HxCDF	113	97.6	116	116	98.5	117	70-130	2	25
1,2,3,7,8,9-HxCDF	115	97.6	117	115	98.5	117	70-130	<1	25
1,2,3,7,8-PeCDF	109	97.6	112	111	98.5	112	70-130	1	25
2,3,4,6,7,8-HxCDF	116	97.6	119	117	98.5	119	70-130	1	25
2,3,4,7,8-PeCDF	116	97.6	119	116	98.5	117	70-130	<1	25
2,3,7,8-TCDF	21.7	19.5	111	21.6	19.7	110	70-130	<1	25
OCDF	235	195	120	239	197	121	70-130	1	25

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 14:36
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.250g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302336	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.3		0.167	0.488	0.73	1.001	1
1,2,3,7,8-PeCDD	116		0.198	2.44	1.55	1.001	1
1,2,3,6,7,8-HxCDD	111		0.141	2.44	1.24	1.000	1
1,2,3,4,7,8-HxCDD	115		0.145	2.44	1.23	1.000	1
1,2,3,7,8,9-HxCDD	106		0.135	2.44	1.21	1.007	1
1,2,3,4,6,7,8-HpCDD	112		0.109	2.44	1.01	1.000	1
OCDD	235		0.250	4.88	0.89	1.000	1
2,3,7,8-TCDF	21.7		0.281	0.488	0.75	1.001	1
1,2,3,7,8-PeCDF	109		0.122	2.44	1.57	1.001	1
2,3,4,7,8-PeCDF	116		0.125	2.44	1.56	1.000	1
1,2,3,6,7,8-HxCDF	113		0.0940	2.44	1.26	1.000	1
1,2,3,7,8,9-HxCDF	115		0.123	2.44	1.28	1.000	1
1,2,3,4,7,8-HxCDF	115		0.0960	2.44	1.26	1.000	1
2,3,4,6,7,8-HxCDF	116		0.103	2.44	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	121		0.199	2.44	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	118		0.231	2.44	1.03	1.000	1
OCDF	235		0.537	4.88	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 14:36
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.250g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302336	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	18.3		0.167	0.488	0.73		1
Total Penta-Dioxins	116		0.198	2.44	1.55		1
Total Hexa-Dioxins	332		0.140	2.44	1.23		1
Total Hepta-Dioxins	112		0.109	2.44	1.01		1
Total Tetra-Furans	21.7		0.281	0.488	0.75		1
Total Penta-Furans	226		0.124	2.44	1.56		1
Total Hexa-Furans	459		0.103	2.44	1.26		1
Total Hepta-Furans	239		0.214	2.44	1.06		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1500614-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 14:36
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.250g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302336	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1655.597	83		40-135	0.75	1.018
13C-1,2,3,7,8-PeCDD	2000	1569.116	78		40-135	1.55	1.173
13C-1,2,3,4,7,8-HxCDD	2000	1588.410	79		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1634.556	82		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1544.984	77		40-135	1.05	1.066
13C-OCDD	4000	2515.407	63		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1256.269	63		24-169	0.77	0.992
13C-1,2,3,7,8-PeCDF	2000	1332.664	67		40-135	1.58	1.133
13C-2,3,4,7,8-PeCDF	2000	1389.337	69		40-135	1.59	1.164
13C-1,2,3,4,7,8-HxCDF	2000	1353.119	68		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1367.855	68		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1321.322	66		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1335.658	67		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1272.447	64		40-135	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1436.368	72		40-135	0.42	1.079
37Cl-2,3,7,8-TCDD	800	639.815	80		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 15:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.150g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302337	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	19.3		0.199	0.493	0.82	1.001	1
1,2,3,7,8-PeCDD	116		0.232	2.46	1.58	1.000	1
1,2,3,6,7,8-HxCDD	116		0.166	2.46	1.24	1.000	1
1,2,3,4,7,8-HxCDD	115		0.158	2.46	1.25	1.000	1
1,2,3,7,8,9-HxCDD	107		0.153	2.46	1.28	1.007	1
1,2,3,4,6,7,8-HpCDD	113		0.118	2.46	1.04	1.000	1
OCDD	240		0.323	4.93	0.88	1.000	1
2,3,7,8-TCDF	21.6		0.334	0.493	0.76	1.001	1
1,2,3,7,8-PeCDF	111		0.170	2.46	1.55	1.001	1
2,3,4,7,8-PeCDF	116		0.168	2.46	1.58	1.000	1
1,2,3,6,7,8-HxCDF	116		0.0763	2.46	1.26	1.000	1
1,2,3,7,8,9-HxCDF	115		0.0964	2.46	1.27	1.000	1
1,2,3,4,7,8-HxCDF	119		0.0817	2.46	1.24	1.000	1
2,3,4,6,7,8-HxCDF	117		0.0852	2.46	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	122		0.167	2.46	1.04	1.000	1
1,2,3,4,7,8,9-HpCDF	120		0.188	2.46	1.03	1.000	1
OCDF	239		0.496	4.93	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 15:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.150g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302337	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	19.3		0.199	0.493	0.82		1
Total Penta-Dioxins	116		0.232	2.46	1.58		1
Total Hexa-Dioxins	338		0.159	2.46	1.25		1
Total Hepta-Dioxins	113		0.118	2.46	1.04		1
Total Tetra-Furans	21.6		0.334	0.493	0.76		1
Total Penta-Furans	228		0.169	2.46	1.55		1
Total Hexa-Furans	467		0.0843	2.46	1.24		1
Total Hepta-Furans	242		0.177	2.46	1.04		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511065
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1500614-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 15:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.150g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302337	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1443.553	72		40-135	0.76	1.019
13C-1,2,3,7,8-PeCDD	2000	1459.264	73		40-135	1.58	1.174
13C-1,2,3,4,7,8-HxCDD	2000	1563.953	78		40-135	1.23	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1480.317	74		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1443.219	72		40-135	1.07	1.066
13C-OCDD	4000	2365.143	59		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1083.469	54		24-169	0.77	0.993
13C-1,2,3,7,8-PeCDF	2000	1224.725	61		40-135	1.57	1.134
13C-2,3,4,7,8-PeCDF	2000	1309.921	65		40-135	1.58	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1249.487	62		40-135	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1280.261	64		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1253.945	63		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1246.461	62		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1193.098	60		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1378.034	69		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	571.789	71		35-197	NA	1.020

A S Environmental
A S Group SA, Corp
1 1 South 1 th Avenue
  elso, A
T : 1 0
F : 1 0 10
www.alsglobal.com

ovember , 01

Analytical Report for Service Request No: 1 110

Eric estler
  ormandeau Associates, Inc.
    ashua Rd.
  edford, 0 110

RE: 23674.000

Dear Eric,

Enclosed are the results of the sample(s) submitted to our laboratory September , 01
For your reference, these analyses have been assigned our service request number **K1511067.**

Analyses were performed according to our laboratory s E AP-approved quality assurance program. The test results meet requirements of the current E AP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of E AP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and A S Group SA Corp. dba A S Environmental (A S) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analy ed, as listed in the report.

Please contact me if you have any questions. My extension is . ou may also contact me via email at Chris. eaf A SGlobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Chris eaf
Project Manager

RIG T SO TIO S RIG T PART ER

A S Environmental
A S Group SA, Corp
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elso, A
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RIG T SO TIO S RIG T PART ER

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L14-51
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
ISO 17025	http://www.pjlabs.com/	L14-50
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	03016
Maine DHS	Not available	WA01276
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

WAF

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 4

Courier:

Tracking #:

K1510867 11067

* 2 0 9 8 0 7 9 *

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495336

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No

***Container Type	PL	CG														
***Container Size	1gal	32oz														
*** Preservative	None	None														

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing							
1	1364-6		9/24/15	1245			1								
2	1364-6			1255				1							
3	1440-8			1304			1								
4	1440-8			1316				1							
5	1439-20			1320			1								
6	1439-20			1331				1							
7	717-59			1318			1								
8	717-59	9-25-15 1259	9/24/15	1357				1							

Enter Number of Containers Per Analysis

only subbed out clams to Keiso

SSL 9/28/15

	1	2	3	4	5	6	7	8
Correct containers?	Y	Y	Y	Y				
Correct sample volume?	Y	Y	Y	Y				
Correct preservation?	Y	Y	Y	Y				
Headspace/Volatiles?	N	N	N	N				
Circle appropriate Y or N								
Custody seals Present?	Y	Y	Y	Y				
(If present) Seals Intact?	Y	Y	Y	Y				
Received on Ice?	Y	Y	Y	Y				
COC/Labels complete/accurate?	Y	Y	Y	Y				
Container in good condition?	Y	Y	Y	Y				

Receipt Information (completed by Sample Receiver)
Performed by: INITIAL HERE
Cooler Temp: 1
Therm. ID: IR30
No. of Coolers:
Notes:

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Cindy Tomlinson Normandeau	9/25/15	0900	2	9/25	8:00
3	9/25	1800	4	9/25	1800
5	9/25	2000	6	9/25	2000
7	9/28	1715	8 / ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; Other

SDWA Forms? Yes / No
State Samples Delivered In? MD / NJ / NY X / PA / Other

EDDs Required? X Type: Format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Rev 01-2013

K1510861 11067

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

2098079

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-415330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? [ ] Y No

***Container Type	PL	CG
***Container Size	1gal	32oz
***Preservative	None	None

ANALYSES/METHOD REQUESTED: Clam Tissue; Sediment Testing

only subbed out clams SS 9/28/15

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1 714-40		9/24/15	1404			1	
2 714-40			1404				1
3 2146-25			1420			1	
4 2146-25			1431				1
5 1787-44			1436			1	
6 1787-44			1447				1
7 659-7	9-25-15 1259		1457			1	
8 659-7		9/24/15	1506				1

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by:
Cooler Temp:
Therm. ID: 150
No. of Coolers:
Notes:

	Y	N
Correct containers?		
Correct sample volume?	✓	
Correct preservation?	✓	
Headspace/Volatiles?		✓
Custody seals Present?		✓
(If present) Seals intact?		
Received on ice?	✓	
COC/Labels complete/accurate?	✓	
Container in good condition?	✓	

Circle appropriate Y or N.

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomichek Normandeau	9/25/15	0900	2 [signature]	9/25	900
3 [signature]	9/25	1800	4 UNA	9/25	1800
5 [signature]	9/25	2000	6 [signature]	9/25 K	2000
7 [signature]	9/28	1715	8 SW / ALS	9/29/15	0920
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]
SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other:
EDDs Required: [X] If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

11067
K1510861

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F.717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

2098079

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: Normal-Standard TAT is 10-12 business days. / Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No

***Container Type	PL	CG
***Container Size	1gal	32oz
***Preservative	None	None

ANALYSES/METHOD REQUESTED: Clam Tissue; Sediment Testing

only subbed out clams to Kelso

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	654-9		9/24/15	1512			1	
2	654-9			1523				1
3	720-16			1527			1	
4	720-16			1529				1
5	1374-22			1615			1	
6	1374-22			1626				1
7	1217-42	9/25/15 2254		1635			1	
8	1217-42		9/24/15	1646				1

Receipt Information (completed by Sample Receiving)
Performed by:
Cooler Temp:
Therm ID: H309
No. of Coolers:
Notes:

Correct containers? / Correct sample volume? / Correct preservation? / Headspace/Volatiles? / Circle appropriate Y or N
Custody seals Present? / (if present) Seals intact? / Received on ice? / COC/Labels complete/accurate? / Container in good condition?

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Tom [illegible] Normandeau	9/25/15	0900	2 [signature]	9/25	900
3 [signature]	9/25	1800	4 UM	9/25	1840
5 UM	9/25	2000	6 [signature]	9/25K	2000
7 [signature]	9/28	1715	8 [signature] / ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full
SDWA Forms? yes
State Samples Collected In? MD; NJ; NY X; PA; Other:
EDDs: X If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
Rev 01-2013

ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 4

Courier:

Tracking #: 2098079

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.002
ALS Quote #: 40-115330

TAT: Normal Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No

***Container Type	PL	CG																					
***Container Size	1gal	32oz																					
*** Preservative	None	None																					
ANALYSES/METHOD REQUESTED																							
*G or C	**Matrix	Clam Tissue	Sediment Testing																				
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	Enter Number of Containers Per Analysis																			
1 986-26		9/24/15	1652			1																	
2 986-26		"	1704				1																
3 1129-20		"	1710			1																	
4 1129-20		9/24/15	1724				1																
5																							
6																							
7	9-25-15 2259																						
8																							

only sampled out clams to Kelso

Receipt Information (completed by Sample Receiving)
Performed In: Initial Input
Cooler Temp:
Therm. ID: 7 115109
No. of Coolers:
Notes:

Correct containers?	N	N	N	N	Circle appropriate Y or N.
Correct sample volume?	Y	Y	Y	Y	
Correct preservation?					
Headspace/Volatiles?					
Custody seals Present?	N	N	N	N	
(If present) Seals intact?	Y	Y	Y	Y	
Received on ice?					
COC/Labels complete/accurate?					
Container in good condition?					

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tompkins Normandeau	9/25/15	0900	2 [illegible]	9/25	9:00
3 [illegible]	9/25	1800	4 [illegible]	9/25	1800
5 [illegible]	9/25	2000	6 [illegible]	9-25-15	2000
7 [illegible]	9/28	1915	8 [illegible] / ALS	9/29/15	0920
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; other
SDWA Forms? yes
State Samples Collected In? MD; NJ; NY X; PA
EDDs: X Yes, format type: In Excel
Other:
DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc. Rev 01-2013

ALS

11067 PC CV
~~10861~~

Cooler Receipt and Preservation Form

Client / Project: AIS Middle Fork Service Request K15

Received: 9/29/15 Opened: 9/29/15 By: KR Unloaded: 9/29/15 By: KR

1. Samples were received via? *Mail* *Fed Ex* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *Cooler* *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA Y N If yes, how many and where? _____

   If present, were custody seals intact? Y N If present, were they signed and dated? Y N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID # NA	Tracking Number NA	Filed
0.3	0.4	5.7	5.8	+0.1	370	1 of 5	7746141768 25	
1.4	1.7	3.8	4.1	+0.3	360	2 of 5	7746141777 11	
2.1	2.2	5.2	5.3	+0.1	365	3 of 5	7746 141777 041	
-0.7	-0.6	2.5	2.6	+0.1	348	5 of 5	7746 141776 81	
0.8	0.7	0.6	0.5	-0.1	354	4 of 5	7746141776755	

4. Packing material: *Inserts* *Baggies* *Bubble Wrap* *Gel Packs* *Wet Ice* *Dry Ice* *Sleeves* large plastic bag
5. Were custody papers properly filled out (ink, signed, etc.)? NA Y N
6. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA Y N
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA Y N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA Y N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA Y N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y N
12. Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Page ____ *of* ____

Subcontract Lab Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

10450 Stancliff Rd., Suite 210
Houston, TX 77099
T: +1 713 266 1599
F: +1 713 266 1599
www.alsglobal.com

November 19, 2015. Service Request No: K1511067

Chris Leaf.

ALS Environmental
1317 South 13th Avenue
Kelso, WA 98626

Laboratory Results for: Normandeau Associates, Inc.

Dear Chris:

Enclosed are the results of the sample(s) submitted to our laboratory on October 07, 2015. For Your reference, these analyses have been assigned our service request number: **K1511067.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current TNI standards, where applicable, and considered in their entirety, and ALS Environmental is not responsible for use of less than the final complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report. In accordance to the TNI 2009 Standard, a statement on the estimated uncertainty of measurement of any quantitative analysis will be supplied upon request.

Please contact me if you have any questions. My direct line is 281-575-2279. You may also contact me via email at Arthi.Kodur@alsglobal.com

Respectfully submitted,

ALS Group USA Corp., dba ALS Environmental

Arthi Kodur
Project Manager

Page 1 of _____

For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com.

Certificate of Analysis

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS ENVIRONMENTAL

Client:	Normandeau Associates	**Service Request No.:**	K1511067
Project:	23674.000	**Date Received:**	10/7/15
Sample Matrix:	Tissue		

ALS ENVIRONMENTAL NARRATIVE

All analyses were performed in adherence to the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Fourteen tissue samples received for analysis at ALS Environmental – Houston HRMS on 10/7/15.

The date of receipt currently references the date ALS Environmental-Kelso received the samples (9/29/15) and not the date ALS Environmental-Houston HRMS received the samples (10/7/15).

The samples were received at -33.8°C in good condition and are consistent with the accompanying chain of custody form. The samples were stored in a freezer at -18°C upon receipt at the laboratory.

Re-extraction

Samples K1511067-005 through 014 were originally extracted on batch EQ1500618, but required re-extraction due to failing batch LCS/DLCS. The sample was re-extracted on batch EQ150056 using original sample size. The valid results are reported from the second extraction. The results from the first extraction are not included in this report.

Data Validation Notes and Discussion

Method Blank

The Method Blank EQ1500656-01 contained low levels of several analytes above the EDL, but below the Method Reporting Limit (MRL).

The associated compounds in the samples, regardless of concentration, are flagged with 'B' flags, which may be > or equal to 10 times the concentration in the MB.

Precision and Accuracy

EQ1500614: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

EQ1500656: Laboratory Control Spike/Duplicate Laboratory Control Spike (LCS/DLCS) samples were analyzed and reported in lieu of an MS/DMS for this extraction batch. The batch quality control criteria were met.

2378-TCDF

Samples analyzed on the DB-5MSUI column were analyzed under conditions were sufficient separation between 2,3,7,8-TCDF and its closest eluter was achieved. Confirmation of this result was not required.

Y flags – Labeled Standards

Samples that had recoveries of labeled standards outside the acceptance limits are flagged with 'Y' flags on the Labeled Compound summary pages. In all cases, the signal-to-noise ratios are greater than 10:1, making these data acceptable.

K flags

EMPC - When the ion abundance ratios associated with a particular compound are outside the QC limits, samples are flagged with a 'K' flag. A 'K' flag indicates an estimated maximum possible concentration for the associated compound.

Detection Limits

Detection limits are calculated for each analyte in each sample by measuring the height of the noise level for each quantitation ion for the associated labeled standard. The concentration equivalent to 2.5 times the height of the noise is then calculated using the appropriate response factor and the weight of the sample. The calculated concentration equals the detection limit.

The TEQ Summary results for each sample have been calculated by ALS ENVIRONMENTAL/Houston to include:

- WHO-2005 TEFs, The 2005 World Health Organization Reevaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-Like Compounds (M. Van den Berg et al., Toxicological Sciences 93(2):223-241, 2006)
- Non-detected compounds are not included in the 'Total'

The results of analyses are given in the attached laboratory report. All results are intended to be considered in their entirety, and ALS Environmental (ALS) is not responsible for utilization of less than the complete report.

Use of ALS group USA Corp dba ALS Environmental (ALS)'s Name. Client shall not use ALS's name or trademark in any marketing or reporting materials, press releases or in any other manner ("Materials") whatsoever and shall not attribute to ALS any test result, tolerance or specification derived from ALS's data ("Attribution") without ALS's prior written consent, which may be withheld by ALS for any reason in its sole discretion. To request ALS's consent, Client shall provide copies of the proposed Materials or Attribution and describe in writing Client's proposed use of such Materials or Attribution. If ALS has not provided written approval of the Materials or Attribution within ten (10) days of receipt from Client, Client's request to use ALS's name or trademark in any Materials or Attribution shall be deemed denied. ALS may, in its discretion, reasonably charge Client for its time in reviewing Materials or Attribution requests. Client acknowledges and agrees that the unauthorized use of ALS's name or trademark may cause ALS to incur irreparable harm for which the recovery of money damages will be inadequate. Accordingly, Client acknowledges and agrees that a violation shall justify preliminary injunctive relief. For questions contact the laboratory.

Client: Normandeau Associates **Service Request:**K1511067
Project: 23674.000

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1511067-001	1364-6	9/24/2015	1245
K1511067-002	1440-8	9/24/2015	1304
K1511067-003	1439-20	9/24/2015	1320
K1511067-004	717-59	9/24/2015	1348
K1511067-005	714-40	9/24/2015	1404
K1511067-006	2146-25	9/24/2015	1420
K1511067-007	1787-44	9/24/2015	1436
K1511067-008	659-7	9/24/2015	1457
K1511067-009	654-9	9/24/2015	1512
K1511067-010	720-16	9/24/2015	1527
K1511067-011	1374-22	9/24/2015	1615
K1511067-012	1217-42	9/24/2015	1635
K1511067-013	986-26	9/24/2015	1652
K1511067-014	1129-20	9/24/2015	1710

Service Request Summary

Folder #: **K1511067**
Client Name: Normandeau Associates
Project Name: 23674.000
Project Number:

Report To: Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110
USA
Phone Number: 603-472-5191
Cell Number: 603-637-1146
Fax Number: 603-472-7052
E-mail: enestler@normandeau.com

Project Chemist: Chris Leaf
Originating Lab: KELSO
Logged By: SWOLF
Date Received: 09/29/15
Internal Due Date: 10/23/2015
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: 40-495330
EDD: Normandeau

14 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: E-Disposed, EHRMS-Freezer2A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON PCDD PCDF/8290A
K1511067-001	1364-6	Tissue	09/24/15 1245	II
K1511067-002	1440-8	Tissue	09/24/15 1304	II
K1511067-003	1439-20	Tissue	09/24/15 1320	II
K1511067-004	717-59	Tissue	09/24/15 1348	II
K1511067-005	714-40	Tissue	09/24/15 1404	II
K1511067-006	2146-25	Tissue	09/24/15 1420	II
K1511067-007	1787-44	Tissue	09/24/15 1436	II
K1511067-008	659-7	Tissue	09/24/15 1457	II
K1511067-009	654-9	Tissue	09/24/15 1512	II
K1511067-010	720-16	Tissue	09/24/15 1527	II
K1511067-011	1374-22	Tissue	09/24/15 1615	II
K1511067-012	1217-42	Tissue	09/24/15 1635	II
K1511067-013	986-26	Tissue	09/24/15 1652	II
K1511067-014	1129-20	Tissue	09/24/15 1710	II

Service Request Summary

Folder #: **K1511067**
Client Name: Normandeau Associates
Project Name: 23674.000
Project Number:

Report To: Eric Nestler
Normandeau Associates, Inc.
25 Nashua Rd.
Bedford, NH 03110
USA
Phone Number: 603-472-5191
Cell Number: 603-637-1146
Fax Number: 603-472-7052
E-mail: enestler@normandeau.com

Project Chemist: Chris Leaf
Originating Lab: KELSO
Logged By: SWOLF
Date Received: 09/29/15
Internal Due Date: 10/23/2015
QAP: LAB QAP
Qualifier Set: Lab Standard
Formset: Lab Standard
Merged?: N
Report to MDL?: Y
P.O. Number: 40-495330
EDD: Normandeau

14 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved
Location: E-Disposed, EHRMS-Freezer2A
Pressure Gas:

Lab Samp No.	Client Samp No	Matrix	Collected	HOUSTON PCDD PCDF/8290A
K1511067-001	1364-6	Tissue	09/24/15 1245	II
K1511067-002	1440-8	Tissue	09/24/15 1304	II
K1511067-003	1439-20	Tissue	09/24/15 1320	II
K1511067-004	717-59	Tissue	09/24/15 1348	II
K1511067-005	714-40	Tissue	09/24/15 1404	II
K1511067-006	2146-25	Tissue	09/24/15 1420	II
K1511067-007	1787-44	Tissue	09/24/15 1436	II
K1511067-008	659-7	Tissue	09/24/15 1457	II
K1511067-009	654-9	Tissue	09/24/15 1512	II
K1511067-010	720-16	Tissue	09/24/15 1527	II
K1511067-011	1374-22	Tissue	09/24/15 1615	II
K1511067-012	1217-42	Tissue	09/24/15 1635	II
K1511067-013	986-26	Tissue	09/24/15 1652	II
K1511067-014	1129-20	Tissue	09/24/15 1710	II

Service Request Summary

Folder #:	**K1511067**	Project Chemist:	Chris Leaf
Client Name:	Normandeau Associates	Originating Lab:	KELSO
Project Name:	23674.000	Logged By:	SWOLF
Project Number:		Date Received:	09/29/15
		Internal Due Date:	10/23/2015
Report To:	Eric Nestler	QAP:	LAB QAP
	Normandeau Associates, Inc.	Qualifier Set:	Lab Standard
	25 Nashua Rd.	Formset:	Lab Standard
	Bedford, NH 03110 USA	Merged?:	N
Phone Number:	603-472-5191	Report to MDL?:	Y
Cell Number:	603-637-1146	P.O. Number:	40-495330
Fax Number:	603-472-7052	EDD:	Normandeau
E-mail:	enestler@normandeau.com		

14 8 oz-Glass Jar WM CLEAR Teflon Liner Unpreserved

Location: E-Disposed, EHRMS-Freezer2A

Pressure Gas:

Test Comments:

Group	Test/Method	Samples	Comments
Semivoa GCMS	PCDD PCDF/8290A	24	full list (ak 10/7/15)

Data Qualifiers

HRMS Qualifier Set

B Indicates the associated analyte was found in the method blank at >1/10th the reported value.

E Estimated value. The reported concentration is above the calibration range of the instrument.

H Sample extracted and/or analyzed out of suggested holding time.

J Estimated value. The reported concentration is below the MRL.

K The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. Reported concentration is a conservative estimate, however EMPC correction was not applied.

P Chlorodiphenyl ether interference was present at the retention time of the target analyte. Reported result should be considered an estimate.

Q Monitored lock-mass indicates matrix-interference. Reported result is estimated.

S Signal saturated detector. Result reported from dilution.

U Compound was analyzed for, but was not detected (ND).

X See Case Narrative.

Y Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-nois ratios are greater than 10:1, making the recoveries acceptable.

i The MDL/MRL have been elevated due to a matrix interference.

Acronyms

Cal	Calibration
Conc	CONCentration
Dioxin(s)	Polychlorinated dibenzo-p-dioxin(s)
EDL	Estimated Detection Limit
EMPC	Estimated Maximum Possible Concentration
Flags	Data qualifiers
Furan(s)	Polychlorinated dibenzofuran(s)
g	Grams
ICAL	Initial CALibration
ID	IDentifier
Ions	Masses monitored for the analyte during data acquisition
L	Liter (s)
LCS	Laboratory Control Sample
DLCS	Duplicate Laboratory Control Sample
MB	Method Blank
MCL	Method Calibration Limit
MDL	Method Detection Limit
mL	Milliliters
MS	Matrix Spiked sample
DMS	Duplicate Matrix Spiked sample
NO	Number of peaks meeting all identification criteria
PCDD(s)	Polychlorinated dibenzo-p-dioxin(s)
PCDF(s)	Polychlorinated dibenzofuran(s)
ppb	Parts per billion
ppm	Parts per million
ppq	Parts per quadrillion
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
Ratio	Ratio of areas from monitored ions for an analyte
% Rec.	Percent recovery
RPD	Relative Percent Difference
RRF	Relative Response Factor
RT	Retention Time
SDG	Sample Delivery Group
S/N	Signal-to-noise ratio
TEF	Toxicity Equivalence Factor
TEQ	Toxicity Equivalence Quotient

State Certifications, Accreditations, and Licenses

Agency	Number	Expire Date
American Association for Laboratory Accreditation	2897.01	11/30/2015
Arizona Department of Health Services	AZ0793	5/27/2016
Arkansas Department of Environmental Quality	14-038-0	6/16/2016
California Department of Health Services	2452	2/28/2017
Florida Department of Health	E87611	6/30/2016
Kansas Department of Health and Environment	E-10406	1/31/2016
Louisiana Department of Environmental Quality	03048	6/30/2016
Louisiana Department of Health and Hospitals	LA150026	12/31/2015
Maine Center for Disease Control and Prevention	2014019	6/5/2016
Maryland Department of the Environment	343	6/30/2016
Michigan Depratment of Environmental Quality	9971	6/30/2016
Minnesota Department of Health	840911	12/31/2015
Nebraska Department of Health and Human Services	NE-OS-25-13	6/30/2016
New Mexico Environment Department	TX02694	6/30/2016
New York Department of Health	11707	4/1/2016
Oregon Environmental Laboratory Accreditation Program	TX200002	3/24/2016
Pennsylvania Department of Environmental Protection	68-03441	6/30/2016
Texas Commision on Environmental Quality	TX104704216-14-5	6/30/2016
United States Department of Agriculture	P330-14-00067	2/21/2017
West Virginia Department of Environmental Protection	347	6/30/2016

ALS ENVIRONMENTAL – Houston

Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K511067 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 10/28/15 Analyst: JC Samples: 001-004

Second Level - Data Review – to be filled by person doing peer review

Date: 10/29/15 Analyst: [illegible] Samples: 001-004

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1511067 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 11/18/15 Analyst: JC Samples: 005RE -011RE

Second Level - Data Review – to be filled by person doing peer review

Date: 11/19/15 Analyst: [illegible] Samples: 005RE-011RE

ALS ENVIRONMENTAL – Houston
Data Processing/Form Production and Peer Review Signatures

SR# Unique ID K1511067 DB-5MSUI SPB-Octyl

First Level - Data Processing - to be filled by person generating the forms

Date: 11/19/15 Analyst: [illegible] Samples: 012RE, 013RE, 014RE

Second Level - Data Review – to be filled by person doing peer review

Date: 11/19/15 Analyst: [illegible] Samples: 012RE - 014RE

PEER REVIEW PAGE2015

Chain of Custody

ALS Environmental - Houston HRMS
10450 Stancliff Rd, Suite 210, Houston TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Chris Leaf

Project Name: 23674.000
Project Number:
Project Manager: Eric Nestler
Company: Normandeau Associates, Inc.

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290A
K1511067-001	1364-6	1	Tissue	9/24/15	1245	9/29/15	HOUSTON	II
K1511067-002	1440-8		Tissue	9/24/15	1304	9/29/15	HOUSTON	II
K1511067-003	1439-20		Tissue	9/24/15	1320	9/29/15	HOUSTON	II
K1511067-004	717-59		Tissue	9/24/15	1348	9/29/15	HOUSTON	II
K1511067-005	714-40		Tissue	9/24/15	1404	9/29/15	HOUSTON	II
K1511067-006	2146-25		Tissue	9/24/15	1420	9/29/15	HOUSTON	II
K1511067-007	1787-44		Tissue	9/24/15	1436	9/29/15	HOUSTON	II
K1511067-008	659-7		Tissue	9/24/15	1457	9/29/15	HOUSTON	II
K1511067-009	654-9		Tissue	9/24/15	1512	9/29/15	HOUSTON	II
K1511067-010	720-16		Tissue	9/24/15	1527	9/29/15	HOUSTON	II
K1511067-011	1374-22		Tissue	9/24/15	1615	9/29/15	HOUSTON	II
K1511067-012	1217-42		Tissue	9/24/15	1635	9/29/15	HOUSTON	II

K1511067 5
Normandeau Associates, Inc.
23674.000

Special Instructions/Comments
Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

CL 10/6/15

pH Checked _____

Turnaround Requirements
____ **RUSH** (Surcharges Apply)
PLEASE CIRCLE WORK DAYS
1 2 3 4 5
✓ **STANDARD**
Requested FAX Date: _____
Requested Report Date: 10/23/15

Report Requirements
____ I. Results Only
✓ II. Results + QC Summaries
____ III. Results + QC and Calibration Summaries
____ IV. Data Validation Report with Raw Data
PQL/MDL/J Y
EDD Y Normandeau

Invoice Information
PO# 51K1511067
Bill to

Relinquished By: 10/6/15 Received By: 10/7/15 Airbill Number:

Intra-Network Chain of Custody

1317 South 13th Avenue • Kelso, WA 98626 • 1-360-577-7222 • FAX 1-360-636-1068

ALS Contact: Chris Leaf

Project Name: 23674.000
Project Number:
Project Manager: Eric Nestler
Company: Normandeau Associates, Inc.

Lab Code	Client Sample ID	# of Cont.	Matrix	Sample Date	Sample Time	Date Received	Send To	PCDD PCDF 8290A
K1511067-013	986-26	1	Tissue	9/24/15	1652	9/29/15	HOUSTON	II
K1511067-014	1129-20	1	Tissue	9/24/15	1710	9/29/15	HOUSTON	II

Special Instructions/Comments

Please provide the electronic (PDF and EDD) report to the following e-mail address: ALKLS.Data@alsglobal.com.

pH Checked _____

Turnaround Requirements

_____RUSH (Surcharges Apply)

PLEASE CIRCLE WORK DAYS

1 2 3 4 5

____ STANDARD

Requested FAX Date: _____

Requested Report Date: 10/23/15

Report Requirements

____ I. Results Only

____ II. Results + QC Summaries

____ III. Results + QC and Calibration Summaries

____ IV. Data Validation Report with Raw Data

PQL/MDL/J Y

EDD Y

Invoice Information

PO# 51K1511067

Bill to

Relinquished By: 10/6/15

Received By: 10/7/15

Airbill Number:

ALS Environmental

Cooler Receipt Form

Project Chemist AK

Client/Project Normandeau

Thermometer ID SMO 4

Date/Time Received: 10/7/15 8:51 Initials: AL

Date/Time Logged in: 10/7/15 Initials AL

1. Method of delivery: ○ US Mail ✓ Fed Ex ○ UPS ○ DHL ○ Courier ○ Client

2. Samples received in: ✓ Cooler ○ Box ○ Envelope ○ Other

3. Were custody seals on coolers? ✓ Yes ○ No

Were they intact? ✓ Yes ○ No ○ N/A

Were they signed and dated? ✓ Yes ○ No ○ N/A

If yes, how many and where? 2 seals

4. Packing Material: ○ Inserts ○ Baggies ✓ Bubble Wrap ✓ Gel Packs ○ Wet Ice ○ Sleeves ✓ Other Dry Ice

5. Foreign or Regulated Soil? ○ Yes ✓ No

Location of Sampling:

Cooler Tracking Number	COC ID	Date Opened	Time Opened	Opened By	Temp. °C	Temp Blank?
6447 9266 7907		10/7/15	9:27	~~-34/-33.8~~ AL 10/7/15 AL	-34/-33.8	☐
						☐
						☐
						☐

6. Were custody papers properly filled out (ink, signed, dated, etc)? ✓ Yes ○ No

7. Did all bottles arrive in good condition (not broken, no signs of leakage)? ✓ Yes ○ No

8. Were all sample labels complete (i.e., sample ID, analysis, preservation, etc)? ✓ Yes ○ No

9. Were appropriate bottles/containers and volumes received for the requested tests? ✓ Yes ○ No

10. Did sample labels and tags agree with custody documents? ✓ Yes ○ No

Notes, Discrepancies, & Resolutions:

Service request Label: K1511067 5

Normandeau Associates, Inc.
23674.000

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SAMPLE ACCEPTANCE POLICY

This policy outlines the criteria samples must meet to be accepted by ALS Environmental – Houston HRMS.

Cooler Custody Seals (desirable, mandatory if specified in SAP):

- ✓ Intact on outside of cooler, signed and dated

Chain-of-Custody (COC) documentation (mandatory):

The following is required on each COC:

- ✓ Sample ID, the location, date and time of collection, collector's name, preservation type, sample type, and any other special remarks concerning the sampleThe COC must be completed in ink.
- ✓ Signature and date of relinquishing party.

In the absence of a COC at sample receipt, the COC will be requested from the client.

Sample Integrity (mandatory):

Samples are inspected upon arrival to ensure that sample integrity was not compromised during transfer to the laboratory.

- ✓ Sample containers must arrive in good condition (not broken or leaking).
- ✓ Samples must be labeled appropriately, including Sample IDs, and requested test using durable labels and indelible ink.
- ✓ The correct type of sample bottle must be used for the method requested.
- ✓ An appropriate sample volume, or weight, must be received.
- ✓ Sample IDs and number of containers must reconcile with the COC.
- ✓ Samples must be received within the method defined holding time.

Temperature Requirement (varies by sample matrix):

- ✓ Aqueous and Non-aqueous samples must be shipped and stored cold, at 0 to 6ºC.
- ✓ Tissue samples must be shipped and stored frozen, at -20 to -10ºC.
- ✓ Air samples are shipped and stored cold, at 0 to 6ºC
- ✓ The sample temperature must be recorded on the COC

All cooler inspections are documented on the Cooler Receipt Form (CRF). A separate CRF is completed for each service request. Any samples not meeting the above criteria are noted on the CRF and the Project Manager notified. The Project Manager must resolve any sample integrity issues with the client prior to proceeding with the analysis. Such resolutions are documented in writing and filed with the project folder. Data associated with samples received outside of this acceptance policy will be qualified on the case narrative of the final report

Preparation Information Benchsheets

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

Preparation Information Benchsheet

Prep Run#: 247217 **Prep WorkFlow:** OrgExtDioxT(30) **Status:** Prepped
Team: Semivoa GCMS/DEDWARDS **Prep Method:** Method **Prep Date/Time:** 10/14/15 01:50 PM

#	Lab Code	Client ID	B#	Method /Test	pH	Matrix	Amt. Ext.	Sample Description
1	EQ1500614-01	MB		8290A/PCDD PCDF		Tissue	10.290g	
2	EQ1500614-02	LCS		8290A/PCDD PCDF		Tissue	10.250g	
3	EQ1500614-03	DLCS		8290A/PCDD PCDF		Tissue	10.150g	
4	K1511065-001	HB05-9	.01	8290A/PCDD PCDF		Tissue	10.116g	Light Brown Liquid Tissue
5	K1511065-002	HB05-8	.01	8290A/PCDD PCDF		Tissue	10.256g	Light Brown Liquid Tissue
6	K1511065-003	HB04-6	.01	8290A/PCDD PCDF		Tissue	10.281g	Light Brown Liquid Tissue
7	K1511065-004	HB04-7	.01	8290A/PCDD PCDF		Tissue	10.040g	Light Brown Liquid Tissue
8	K1511065-005	HB07-13	.01	8290A/PCDD PCDF		Tissue	10.112g	Light Brown Liquid Tissue
9	K1511065-006	HB07-14	.01	8290A/PCDD PCDF		Tissue	10.097g	Light Brown Liquid Tissue
10	K1511065-007	HB02-1	.01	8290A/PCDD PCDF		Tissue	10.439g	Light Brown Liquid Tissue
11	K1511065-008	HB02-2	.01	8290A/PCDD PCDF		Tissue	10.188g	Light Brown Liquid Tissue
12	K1511065-009	HB06-11	.01	8290A/PCDD PCDF		Tissue	10.056g	Light Brown Liquid Tissue
13	K1511065-010	HB06-12	.01	8290A/PCDD PCDF		Tissue	10.273g	Light Brown Liquid Tissue
14	K1511065-011	2014-19	.01	8290A/PCDD PCDF		Tissue	10.062g	Light Brown Liquid Tissue
15	K1511065-012	2013-28	.01	8290A/PCDD PCDF		Tissue	10.496g	Light Brown Liquid Tissue
16	K1511065-013	2012-9	.01	8290A/PCDD PCDF		Tissue	10.139g	Light Brown Liquid Tissue
17	K1511065-014	2017-12	.01	8290A/PCDD PCDF		Tissue	10.435g	Light Brown Liquid Tissue
18	K1511065-015	1438-23	.01	8290A/PCDD PCDF		Tissue	10.271g	Light Brown Liquid Tissue
19	K1511065-016	1363-24	.01	8290A/PCDD PCDF		Tissue	10.001g	Light Brown Liquid Tissue
20	K1511067-001	1364-6	.02	8290A/PCDD PCDF		Tissue	10.168g	Light Brown Liquid Tissue
21	K1511067-002	1440-8	.01	8290A/PCDD PCDF		Tissue	10.077g	Light Brown Liquid Tissue
22	K1511067-003	1439-20	.01	8290A/PCDD PCDF		Tissue	10.226g	Light Brown Liquid Tissue
23	K1511067-004	717-59	.01	8290A/PCDD PCDF		Tissue	10.186g	Light Brown Liquid Tissue

Preparation Information Benchsheet

Prep Run#: 247217 **Prep WorkFlow:** OrgExtDioxT(30) **Status:** Prepped
Team: Semivoa GCMS/DEDWARDS **Prep Method:** Method **Prep Date/Time:** 10/14/15 01:50 PM

Spiking Solutions

Name:	1613B Matrix Working Standard	Inventory ID	84391	Logbook Ref:	84391 LM 9/21/15 2-20ng/ml	Expires On:	06/01/2016

EQ1500614-02	100.00µL	EQ1500614-03	100.00µL

Name:	8290/1613B Cleanup Working Standard	Inventory ID	84921	Logbook Ref:	84921 CID 10/12/2015 8.0ng/ml	Expires On:	04/09/2016

EQ1500614-01	100.00µL	EQ1500614-02	100.00µL	EQ1500614-03	100.00µL	K1511065-001	100.00µL	K1511065-002	100.00µL	K1511065-003	100.00µL
K1511065-004	100.00µL	K1511065-005	100.00µL	K1511065-006	100.00µL	K1511065-007	100.00µL	K1511065-008	100.00µL	K1511065-009	100.00µL
K1511065-010	100.00µL	K1511065-011	100.00µL	K1511065-012	100.00µL	K1511065-013	100.00µL	K1511065-014	100.00µL	K1511065-015	100.00µL
K1511065-016	100.00µL	K1511067-001	100.00µL	K1511067-002	100.00µL	K1511067-003	100.00µL	K1511067-004	100.00µL		

Name:	1613B Labeled Working Standard	Inventory ID	85063	Logbook Ref:	85063 DE 10/16/15 2-4ng/ml	Expires On:	03/08/2016

EQ1500614-01	1,000.00µL	EQ1500614-02	1,000.00µL	EQ1500614-03	1,000.00µL	K1511065-001	1,000.00µL	K1511065-002	1,000.00µL	K1511065-003	1,000.00µL
K1511065-004	1,000.00µL	K1511065-005	1,000.00µL	K1511065-006	1,000.00µL	K1511065-007	1,000.00µL	K1511065-008	1,000.00µL	K1511065-009	1,000.00µL
K1511065-010	1,000.00µL	K1511065-011	1,000.00µL	K1511065-012	1,000.00µL	K1511065-013	1,000.00µL	K1511065-014	1,000.00µL	K1511065-015	1,000.00µL
K1511065-016	1,000.00µL	K1511067-001	1,000.00µL	K1511067-002	1,000.00µL	K1511067-003	1,000.00µL	K1511067-004	1,000.00µL		

Preparation Materials

Carbon, High Purity	LM 9/1/15 (83844)	Ethyl Acetate 99.9% Minimum EtOAc	LM 10/6/15 (84733)	Glass Wool	CID 09/22/2015 (84411)
Sulfuric Acid Reagent Grade H2SO4	LM 3/4/15 (79265)	Hexanes 95%	AL 10/14/15 (84987)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	LM 10/5/15 (84703)
Sodium Chloride Reagent Grade NaCl	C2-65-5 (38670)	Sodium Hydroxide Reagent Grade NaOH	LM 09/02/14 (74232)	Sodium Sulfate Anhydrous Reagent Grade Na2SO4	LM 9/24/15 (84454)
Tridecane (n-Tridecane)	LM 10/8/15 (84812)	Silica Gel	Carlos Diaz (84410)	Toluene 99.9% Minimum	CID 10/15/2015 (85018)

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	10/14/15 13:50	Started:	10/19/15 11:55	Started:	10/20/15 09:30	Started:	10/21/15 13:00
Finished:	10/17/15 06:30	Finished:	10/19/15 12:25	Finished:	10/20/15 12:30	Finished:	10/21/15 14:00
By:	DEDWARDS	By:	CDIAZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: ak Date: 10/26/15

Preparation Information Benchsheet

Prep Run#: 247217
Team: Semivoa GCMS/DEDWARDS

Prep WorkFlow: OrgExtDioxT(30)
Prep Method: Method

Status: Prepped
Prep Date/Time: 10/14/15 01:50 PM

Chain of Custody

Relinquished By:	_____	Date:	_____	Extracts Examined
Received By:	_____	Date:	_____	Yes No

Preparation Information Benchsheet

Prep Run#: 249580 **Prep WorkFlow:** OrgExtDioxT(30) **Status:** Prepped
Team: Semivoa GCMS/DEDWARDS **Prep Method:** Method **Prep Date/Time:** 11/10/15 11:30 AM

#	Lab Code	Client ID	B#	Method /Test	pH	Cl	Matrix	Amt. Ext.	Sample Description
1	EQ1500656-01	MB		8290A/PCDD PCDF			Tissue	7.140g	
2	EQ1500656-02	LCS		8290A/PCDD PCDF			Tissue	7.260g	
3	EQ1500656-03	DLCS		8290A/PCDD PCDF			Tissue	7.070g	
4	K1511067-005RE	714-40	.01	8290A/PCDD PCDF			Tissue	7.401g	Light Brown Liquid Tissue
5	K1511067-006RE	2146-25	.01	8290A/PCDD PCDF			Tissue	7.903g	Light Brown Liquid Tissue
6	K1511067-007RE	1787-44	.01	8290A/PCDD PCDF			Tissue	7.586g	Light Brown Liquid Tissue
7	K1511067-008RE	659-7	.01	8290A/PCDD PCDF			Tissue	7.096g	Light Brown Liquid Tissue
8	K1511067-009RE	654-9	.01	8290A/PCDD PCDF			Tissue	7.088g	Light Brown Liquid Tissue
9	K1511067-010RE	720-16	.01	8290A/PCDD PCDF			Tissue	7.290g	Light Brown Liquid Tissue
10	K1511067-011RE	1374-22	.01	8290A/PCDD PCDF			Tissue	7.669g	Light Brown Liquid Tissue
11	K1511067-012RE	1217-42	.01	8290A/PCDD PCDF			Tissue	7.509g	Light Brown Liquid Tissue
12	K1511067-013RE	986-26	.01	8290A/PCDD PCDF			Tissue	7.608g	Light Brown Liquid Tissue
13	K1511067-014RE	1129-20	.01	8290A/PCDD PCDF			Tissue	7.160g	Light Brown Liquid Tissue

Spiking Solutions

Name: 8290/1613B Cleanup Working Standard Inventory ID 85674 Logbook Ref: 85674 11/05/2015 .8.0 g/ml Expires On: 10/03/2015

EQ1500656-01	100.00µL	EQ1500656-02	100.00µL	EQ1500656-03	100.00µL	K1511067-005	100.00µL	K1511067-006	100.00µL	K1511067-007	100.00µL
K1511067-008	100.00µL	K1511067-009	100.00µL	K1511067-010	100.00µL	K1511067-011	100.00µL	K1511067-012	100.00µL	K1511067-013	100.00µL
K1511067-014	100.00µL										

Name: 1613B Matrix Working Standard Inventory ID 85723 Logbook Ref: JP 85723 11/06/15 2-20 ng/mL Expires On: 05/04/2016

EQ1500656-02	100.00µL	EQ1500656-03	100.00µL

Name: 1613B Labeled Working Standard Inventory ID 85755 Logbook Ref: 85755 DE 11/10/15 2-4ng/ml Expires On: 04/23/2016

EQ1500656-01	1,000.00µL	EQ1500656-02	1,000.00µL	EQ1500656-03	1,000.00µL	K1511067-005	1,000.00µL	K1511067-006	1,000.00µL	K1511067-007	1,000.00µL
K1511067-008	1,000.00µL	K1511067-009	1,000.00µL	K1511067-010	1,000.00µL	K1511067-011	1,000.00µL	K1511067-012	1,000.00µL	K1511067-013	1,000.00µL
K1511067-014	1,000.00µL										

Preparation Information Benchsheet

Prep Run#: 249580 **Prep WorkFlow:** OrgExtDioxT(30) **Status:** Prepped
Team: Semivoa GCMS/DEDWARDS **Prep Method:** Method **Prep Date/Time:** 11/10/15 11:30 AM

Preparation Materials

Carbon, High Purity	AL 11/02/15 (85542)	Ethyl Acetate 99.9% Minimum EtOAc	LM 10/8/15 (84813)	Glass Wool	CID 11/12/2015 (85842)
Hexanes 95%	CID 10/26/2015 (85403)	Dichloromethane (Methylene Chloride) 99.9% MeCl2	LM 10/5/15 (84703)	Magnesium Sulfate Anhydrous Reagent Grade	LM 1/28/15 (78361)
Sodium Sulfate Anhydrous Reagent Grade Na2SO4	LM 9/24/15 (84454)	Tridecane (n-Tridecane)	DE 10/20/2015 (85175)	Silica Gel	Carlos Diaz 09/22/20 (84409)
sulfuric acid	CID 11/06/15 (85764)	Toluene 99.9% Minimum	DE 10/27/15 (85412)	Asian Taste Pure Canola Oil	DE 5/8/15 (80899)
Sodium Chloride Reagent Grade NaCl	C2-65-5 (38670)	Sodium Hydroxide Reagent Grade NaOH	LM 09/02/14 (74232)		

Preparation Steps

Step:	Extraction	Step:	Acid Clean	Step:	Silica Gel Clean	Step:	Final Volume
Started:	11/10/15 11:30	Started:	11/12/15 09:15	Started:	11/12/15 13:30	Started:	11/14/15 09:20
Finished:	11/12/15 08:00	Finished:	11/12/15 10:00	Finished:	11/12/15 16:00	Finished:	11/14/15 10:00
By:	DEDWARDS	By:	CDIAZ	By:	CDIAZ	By:	CDIAZ
Comments		Comments		Comments		Comments	

Comments: _____

Reviewed By: ak Date: 11/23/15

Chain of Custody

Relinquished By: _____ Date: _____

Received By: _____ Date: _____

Extracts Examined

Yes No

Analytical Results

ALS Environmental - Houston HRMS
10450 Stancliff Rd., Suite 210, Houston, TX 77099
Phone (713)266-1599 Fax (713)266-0130
www.alsglobal.com

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 12:45
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1364-6	**Units:**	ng/Kg
Lab Code:	K1511067-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 12:49
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.168g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501982	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.185	**JK**	0.0893	0.492	0.60	1.001	1
1,2,3,7,8-PeCDD	0.0938	**J**	0.0495	2.46	1.52	1.001	1
1,2,3,6,7,8-HxCDD	0.152	**JK**	0.0553	2.46	1.60	1.000	1
1,2,3,4,7,8-HxCDD	0.0637	**JK**	0.0509	2.46	1.04	1.000	1
1,2,3,7,8,9-HxCDD	0.0976	**JK**	0.0487	2.46	0.85	1.008	1
1,2,3,4,6,7,8-HpCDD	2.10	**J**	0.0265	2.46	1.00	1.000	1
OCDD	8.66		0.144	4.92	0.96	1.000	1
2,3,7,8-TCDF	0.550		0.0576	0.492	0.66	1.001	1
1,2,3,7,8-PeCDF	0.116	**JK**	0.0178	2.46	1.15	1.000	1
2,3,4,7,8-PeCDF	0.163	**J**	0.0173	2.46	1.33	1.001	1
1,2,3,6,7,8-HxCDF	0.0553	**J**	0.0257	2.46	1.17	1.000	1
1,2,3,7,8,9-HxCDF	0.118	**J**	0.0342	2.46	1.21	1.001	1
1,2,3,4,7,8-HxCDF	0.0888	**J**	0.0265	2.46	1.30	1.000	1
2,3,4,6,7,8-HxCDF	0.0953	**JK**	0.0283	2.46	2.18	1.000	1
1,2,3,4,6,7,8-HpCDF	0.261	**J**	0.0294	2.46	1.17	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0842	**J**	0.0334	2.46	0.99	1.000	1
OCDF	0.531	**J**	0.0976	4.92	0.82	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 12:45
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1364-6	**Units:**	ng/Kg
Lab Code:	K1511067-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 12:49
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.168g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501982	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.0893	0.492			1
Total Penta-Dioxins	0.566**J**		0.0495	2.46	1.36		1
Total Hexa-Dioxins	1.48**J**		0.0516	2.46	1.36		1
Total Hepta-Dioxins	4.19		0.0265	2.46	1.06		1
Total Tetra-Furans	1.66		0.0576	0.492	0.68		1
Total Penta-Furans	0.511**J**		0.0176	2.46	1.51		1
Total Hexa-Furans	0.411**J**		0.0283	2.46	1.34		1
Total Hepta-Furans	0.584**J**		0.0312	2.46	1.17		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 12:45
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1364-6	**Units:**	Percent
Lab Code:	K1511067-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 12:49
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.168g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501982	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1327.060	66		40-135	0.80	1.027
13C-1,2,3,7,8-PeCDD	2000	1460.776	73		40-135	1.59	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1600.889	80		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1606.660	80		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1375.797	69		40-135	1.05	1.070
13C-OCDD	4000	2307.932	58		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1260.261	63		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1500.169	75		40-135	1.60	1.178
13C-2,3,4,7,8-PeCDF	2000	1541.363	77		40-135	1.60	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1459.689	73		40-135	0.52	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1570.762	79		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1331.475	67		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1530.416	77		40-135	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1454.546	73		40-135	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1328.327	66		40-135	0.45	1.083
37Cl-2,3,7,8-TCDD	800	659.666	82		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 12:45
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1364-6	**Units:**	ng/Kg
Lab Code:	K1511067-001	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.185**	0.0893	0.492	1	1	0.185
1,2,3,7,8-PeCDD	**0.0938**	0.0495	2.46	1	1	0.0938
1,2,3,6,7,8-HxCDD	**0.152**	0.0553	2.46	1	0.1	0.0152
1,2,3,4,7,8-HxCDD	**0.0637**	0.0509	2.46	1	0.1	0.00637
1,2,3,7,8,9-HxCDD	**0.0976**	0.0487	2.46	1	0.1	0.00976
1,2,3,4,6,7,8-HpCDD	**2.10**	0.0265	2.46	1	0.01	0.0210
OCDD	**8.66**	0.144	4.92	1	0.0003	0.00260
2,3,7,8-TCDF	**0.550**	0.0576	0.492	1	0.1	0.0550
1,2,3,7,8-PeCDF	**0.116**	0.0178	2.46	1	0.03	0.00348
2,3,4,7,8-PeCDF	**0.163**	0.0173	2.46	1	0.3	0.0489
1,2,3,6,7,8-HxCDF	**0.0553**	0.0257	2.46	1	0.1	0.00553
1,2,3,7,8,9-HxCDF	**0.118**	0.0342	2.46	1	0.1	0.0118
1,2,3,4,7,8-HxCDF	**0.0888**	0.0265	2.46	1	0.1	0.00888
2,3,4,6,7,8-HxCDF	**0.0953**	0.0283	2.46	1	0.1	0.00953
1,2,3,4,6,7,8-HpCDF	**0.261**	0.0294	2.46	1	0.01	0.00261
1,2,3,4,7,8,9-HpCDF	**0.0842**	0.0334	2.46	1	0.01	0.000842
OCDF	**0.531**	0.0976	4.92	1	0.0003	0.000159
		Total TEQ				0.480

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1440-8	**Units:**	ng/Kg
Lab Code:	K1511067-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 13:38
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.077g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501983	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0517	0.496			1
1,2,3,7,8-PeCDD	0.0727**JK**		0.0268	2.48	2.06	1.001	1
1,2,3,6,7,8-HxCDD	0.131**J**		0.0514	2.48	1.15	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.0464	2.48			1
1,2,3,7,8,9-HxCDD	0.0863**JK**		0.0448	2.48	0.74	1.008	1
1,2,3,4,6,7,8-HpCDD	1.36**J**		0.0158	2.48	0.92	1.000	1
OCDD	8.51		0.0548	4.96	0.86	1.000	1
2,3,7,8-TCDF	0.413**JK**		0.0806	0.496	0.61	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.0416	2.48			1
2,3,4,7,8-PeCDF	0.102**JK**		0.0406	2.48	1.92	1.001	1
1,2,3,6,7,8-HxCDF	0.0533**JK**		0.0176	2.48	0.68	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.0221	2.48			1
1,2,3,4,7,8-HxCDF	0.0695**JK**		0.0185	2.48	1.74	1.000	1
2,3,4,6,7,8-HxCDF	0.0820**JK**		0.0189	2.48	0.72	1.000	1
1,2,3,4,6,7,8-HpCDF	0.208**J**		0.0205	2.48	0.89	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0799**JK**		0.0231	2.48	0.83	1.000	1
OCDF	0.514**JK**		0.103	4.96	0.66	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1440-8	**Units:**	ng/Kg
Lab Code:	K1511067-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 13:38
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.077g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501983	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.445**J**		0.0517	0.496	0.86		1
Total Penta-Dioxins	ND	U	0.0268	2.48			1
Total Hexa-Dioxins	0.451**J**		0.0474	2.48	1.09		1
Total Hepta-Dioxins	2.46**J**		0.0158	2.48	1.15		1
Total Tetra-Furans	1.78		0.0806	0.496	0.67		1
Total Penta-Furans	0.331**J**		0.0411	2.48	1.43		1
Total Hexa-Furans	0.0742**J**		0.0191	2.48	1.28		1
Total Hepta-Furans	0.447**J**		0.0217	2.48	0.89		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1440-8	**Units:**	Percent
Lab Code:	K1511067-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 13:38
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.077g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501983	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1522.266	76		40-135	0.79	1.027
13C-1,2,3,7,8-PeCDD	2000	1673.012	84		40-135	1.58	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1762.853	88		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1691.107	85		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1504.184	75		40-135	1.06	1.070
13C-OCDD	4000	2640.200	66		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1442.616	72		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1706.681	85		40-135	1.59	1.178
13C-2,3,4,7,8-PeCDF	2000	1733.321	87		40-135	1.59	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1567.786	78		40-135	0.53	0.968
13C-1,2,3,6,7,8-HxCDF	2000	1720.189	86		40-135	0.52	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1475.573	74		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1687.166	84		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1584.909	79		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1465.856	73		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	677.523	85		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1440-8	**Units:**	ng/Kg
Lab Code:	K1511067-002	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0517	0.496	1	1	
1,2,3,7,8-PeCDD	**0.0727**	0.0268	2.48	1	1	0.0727
1,2,3,6,7,8-HxCDD	**0.131**	0.0514	2.48	1	0.1	0.0131
1,2,3,4,7,8-HxCDD	ND	0.0464	2.48	1	0.1	
1,2,3,7,8,9-HxCDD	**0.0863**	0.0448	2.48	1	0.1	0.00863
1,2,3,4,6,7,8-HpCDD	**1.36**	0.0158	2.48	1	0.01	0.0136
OCDD	**8.51**	0.0548	4.96	1	0.0003	0.00255
2,3,7,8-TCDF	**0.413**	0.0806	0.496	1	0.1	0.0413
1,2,3,7,8-PeCDF	ND	0.0416	2.48	1	0.03	
2,3,4,7,8-PeCDF	**0.102**	0.0406	2.48	1	0.3	0.0306
1,2,3,6,7,8-HxCDF	**0.0533**	0.0176	2.48	1	0.1	0.00533
1,2,3,7,8,9-HxCDF	ND	0.0221	2.48	1	0.1	
1,2,3,4,7,8-HxCDF	**0.0695**	0.0185	2.48	1	0.1	0.00695
2,3,4,6,7,8-HxCDF	**0.0820**	0.0189	2.48	1	0.1	0.00820
1,2,3,4,6,7,8-HpCDF	**0.208**	0.0205	2.48	1	0.01	0.00208
1,2,3,4,7,8,9-HpCDF	**0.0799**	0.0231	2.48	1	0.01	0.000799
OCDF	**0.514**	0.103	4.96	1	0.0003	0.000154
		Total TEQ				0.206

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1439-20	**Units:**	ng/Kg
Lab Code:	K1511067-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 14:27
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.226g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501984	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0968	0.489			1
1,2,3,7,8-PeCDD	ND	U	0.0438	2.44			1
1,2,3,6,7,8-HxCDD	0.140**JK**		0.0623	2.44	2.07	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.0573	2.44			1
1,2,3,7,8,9-HxCDD	ND	U	0.0548	2.44			1
1,2,3,4,6,7,8-HpCDD	0.690**J**		0.0508	2.44	0.92	1.000	1
OCDD	6.23		0.0650	4.89	0.85	1.000	1
2,3,7,8-TCDF	0.515		0.108	0.489	0.74	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.0648	2.44			1
2,3,4,7,8-PeCDF	ND	U	0.0631	2.44			1
1,2,3,6,7,8-HxCDF	0.0638**JK**		0.0354	2.44	1.47	1.000	1
1,2,3,7,8,9-HxCDF	0.0799**JK**		0.0476	2.44	2.46	1.000	1
1,2,3,4,7,8-HxCDF	0.0932**J**		0.0376	2.44	1.17	1.000	1
2,3,4,6,7,8-HxCDF	0.0714**J**		0.0389	2.44	1.06	1.000	1
1,2,3,4,6,7,8-HpCDF	0.187**JK**		0.0156	2.44	1.35	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0695**J**		0.0181	2.44	0.99	1.001	1
OCDF	0.459**JK**		0.133	4.89	0.74	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1439-20	**Units:**	ng/Kg
Lab Code:	K1511067-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 14:27
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.226g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501984	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.0968	0.489			1
Total Penta-Dioxins	ND	U	0.0438	2.44			1
Total Hexa-Dioxins	0.532**J**		0.0580	2.44	1.16		1
Total Hepta-Dioxins	1.56**J**		0.0508	2.44	0.89		1
Total Tetra-Furans	1.24		0.108	0.489	0.86		1
Total Penta-Furans	0.308**J**		0.0640	2.44	1.51		1
Total Hexa-Furans	0.165**J**		0.0394	2.44	1.17		1
Total Hepta-Furans	0.0695**J**		0.0168	2.44	0.99		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1439-20	**Units:**	Percent
Lab Code:	K1511067-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 14:27
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.226g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501984	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1557.452	78		40-135	0.78	1.027
13C-1,2,3,7,8-PeCDD	2000	1721.983	86		40-135	1.57	1.228
13C-1,2,3,4,7,8-HxCDD	2000	1776.054	89		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1733.200	87		40-135	1.28	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1612.173	81		40-135	1.06	1.070
13C-OCDD	4000	2955.157	74		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1529.010	76		24-169	0.80	0.990
13C-1,2,3,7,8-PeCDF	2000	1776.847	89		40-135	1.59	1.178
13C-2,3,4,7,8-PeCDF	2000	1810.914	91		40-135	1.60	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1599.203	80		40-135	0.51	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1745.431	87		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1489.507	74		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1731.250	87		40-135	0.52	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1761.923	88		40-135	0.45	1.045
13C-1,2,3,4,7,8,9-HpCDF	2000	1639.747	82		40-135	0.45	1.082
37Cl-2,3,7,8-TCDD	800	699.036	87		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1439-20	**Units:**	ng/Kg
Lab Code:	K1511067-003	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0968	0.489	1	1	
1,2,3,7,8-PeCDD	ND	0.0438	2.44	1	1	
1,2,3,6,7,8-HxCDD	**0.140**	0.0623	2.44	1	0.1	0.0140
1,2,3,4,7,8-HxCDD	ND	0.0573	2.44	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0548	2.44	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.690**	0.0508	2.44	1	0.01	0.00690
OCDD	**6.23**	0.0650	4.89	1	0.0003	0.00187
2,3,7,8-TCDF	**0.515**	0.108	0.489	1	0.1	0.0515
1,2,3,7,8-PeCDF	ND	0.0648	2.44	1	0.03	
2,3,4,7,8-PeCDF	ND	0.0631	2.44	1	0.3	
1,2,3,6,7,8-HxCDF	**0.0638**	0.0354	2.44	1	0.1	0.00638
1,2,3,7,8,9-HxCDF	**0.0799**	0.0476	2.44	1	0.1	0.00799
1,2,3,4,7,8-HxCDF	**0.0932**	0.0376	2.44	1	0.1	0.00932
2,3,4,6,7,8-HxCDF	**0.0714**	0.0389	2.44	1	0.1	0.00714
1,2,3,4,6,7,8-HpCDF	**0.187**	0.0156	2.44	1	0.01	0.00187
1,2,3,4,7,8,9-HpCDF	**0.0695**	0.0181	2.44	1	0.01	0.000695
OCDF	**0.459**	0.133	4.89	1	0.0003	0.000138
		Total TEQ				0.108

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:48
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	717-59	**Units:**	ng/Kg
Lab Code:	K1511067-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 15:15
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.186g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501985	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.0688	0.491			1
1,2,3,7,8-PeCDD	ND	U	0.0330	2.45			1
1,2,3,6,7,8-HxCDD	0.0829**JK**		0.0303	2.45	0.71	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.0282	2.45			1
1,2,3,7,8,9-HxCDD	0.0580**JK**		0.0269	2.45	0.76	1.008	1
1,2,3,4,6,7,8-HpCDD	1.01**J**		0.00423	2.45	0.96	1.000	1
OCDD	7.24		0.0318	4.91	0.87	1.000	1
2,3,7,8-TCDF	0.402**J**		0.0521	0.491	0.71	1.001	1
1,2,3,7,8-PeCDF	0.0688**J**		0.0272	2.45	1.35	1.001	1
2,3,4,7,8-PeCDF	0.0879**JK**		0.0269	2.45	1.03	1.001	1
1,2,3,6,7,8-HxCDF	0.0469**J**		0.0197	2.45	1.06	1.001	1
1,2,3,7,8,9-HxCDF	ND	U	0.0259	2.45			1
1,2,3,4,7,8-HxCDF	0.0682**JK**		0.0208	2.45	0.89	1.000	1
2,3,4,6,7,8-HxCDF	0.0573**J**		0.0215	2.45	1.26	1.000	1
1,2,3,4,6,7,8-HpCDF	0.164**JK**		0.0157	2.45	0.80	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0500**JK**		0.0178	2.45	0.84	1.000	1
OCDF	0.416**JK**		0.0691	4.91	1.04	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:48
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	717-59	**Units:**	ng/Kg
Lab Code:	K1511067-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 15:15
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.186g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501985	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.285**J**		0.0688	0.491	0.82		1
Total Penta-Dioxins	0.0484**J**		0.0330	2.45	1.59		1
Total Hexa-Dioxins	ND	U	0.0284	2.45			1
Total Hepta-Dioxins	2.10**J**		0.00423	2.45	1.10		1
Total Tetra-Furans	1.28		0.0521	0.491	0.72		1
Total Penta-Furans	0.324**J**		0.0271	2.45	1.76		1
Total Hexa-Furans	0.104**J**		0.0216	2.45	1.06		1
Total Hepta-Furans	0.161**J**		0.0167	2.45	0.98		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:48
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	717-59	**Units:**	Percent
Lab Code:	K1511067-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/25/15 15:15
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.186g	**Instrument Name:**	E-HRMS-07
		GC Column:	DB-5MSUI
Data File Name:	P501985	**Blank File Name:**	P302332
ICAL Date:	06/30/15	**Cal Ver. File Name:**	P501976

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1714.661	86		40-135	0.79	1.027
13C-1,2,3,7,8-PeCDD	2000	1785.193	89		40-135	1.58	1.229
13C-1,2,3,4,7,8-HxCDD	2000	1831.477	92		40-135	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1843.132	92		40-135	1.27	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1581.948	79		40-135	1.07	1.070
13C-OCDD	4000	2881.529	72		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1649.888	82		24-169	0.78	0.990
13C-1,2,3,7,8-PeCDF	2000	1845.525	92		40-135	1.59	1.178
13C-2,3,4,7,8-PeCDF	2000	1876.020	94		40-135	1.60	1.217
13C-1,2,3,4,7,8-HxCDF	2000	1667.497	83		40-135	0.53	0.969
13C-1,2,3,6,7,8-HxCDF	2000	1838.044	92		40-135	0.53	0.972
13C-1,2,3,7,8,9-HxCDF	2000	1577.061	79		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1788.570	89		40-135	0.53	0.987
13C-1,2,3,4,6,7,8-HpCDF	2000	1693.358	85		40-135	0.45	1.046
13C-1,2,3,4,7,8,9-HpCDF	2000	1571.736	79		40-135	0.45	1.083
37Cl-2,3,7,8-TCDD	800	765.429	96		35-197	NA	1.027

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 13:48
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	717-59	**Units:**	ng/Kg
Lab Code:	K1511067-004	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.0688	0.491	1	1	
1,2,3,7,8-PeCDD	ND	0.0330	2.45	1	1	
1,2,3,6,7,8-HxCDD	**0.0829**	0.0303	2.45	1	0.1	0.00829
1,2,3,4,7,8-HxCDD	ND	0.0282	2.45	1	0.1	
1,2,3,7,8,9-HxCDD	**0.0580**	0.0269	2.45	1	0.1	0.00580
1,2,3,4,6,7,8-HpCDD	**1.01**	0.00423	2.45	1	0.01	0.0101
OCDD	**7.24**	0.0318	4.91	1	0.0003	0.00217
2,3,7,8-TCDF	**0.402**	0.0521	0.491	1	0.1	0.0402
1,2,3,7,8-PeCDF	**0.0688**	0.0272	2.45	1	0.03	0.00206
2,3,4,7,8-PeCDF	**0.0879**	0.0269	2.45	1	0.3	0.0264
1,2,3,6,7,8-HxCDF	**0.0469**	0.0197	2.45	1	0.1	0.00469
1,2,3,7,8,9-HxCDF	ND	0.0259	2.45	1	0.1	
1,2,3,4,7,8-HxCDF	**0.0682**	0.0208	2.45	1	0.1	0.00682
2,3,4,6,7,8-HxCDF	**0.0573**	0.0215	2.45	1	0.1	0.00573
1,2,3,4,6,7,8-HpCDF	**0.164**	0.0157	2.45	1	0.01	0.00164
1,2,3,4,7,8,9-HpCDF	**0.0500**	0.0178	2.45	1	0.01	0.000500
OCDF	**0.416**	0.0691	4.91	1	0.0003	0.000125
		Total TEQ				0.115

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	714-40	**Units:**	ng/Kg
Lab Code:	K1511067-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 00:49
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.401g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400863	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.203	**JK**	0.0541	0.676	0.36	1.001	1
1,2,3,7,8-PeCDD	0.139	**J**	0.0545	3.38	1.47	1.000	1
1,2,3,6,7,8-HxCDD	0.163	**J**	0.0400	3.38	1.36	1.000	1
1,2,3,4,7,8-HxCDD	0.127	**JK**	0.0388	3.38	0.78	1.001	1
1,2,3,7,8,9-HxCDD	0.180	**J**	0.0365	3.38	1.12	1.006	1
1,2,3,4,6,7,8-HpCDD	0.525	**J**	0.0244	3.38	1.08	1.000	1
OCDD	4.14	**BJ**	0.0788	6.76	0.88	1.000	1
2,3,7,8-TCDF	0.377	**J**	0.0409	0.676	0.70	1.001	1
1,2,3,7,8-PeCDF	0.138	**J**	0.0537	3.38	1.45	1.000	1
2,3,4,7,8-PeCDF	0.162	**J**	0.0557	3.38	1.45	1.000	1
1,2,3,6,7,8-HxCDF	0.122	**J**	0.0248	3.38	1.43	1.000	1
1,2,3,7,8,9-HxCDF	0.240	**J**	0.0327	3.38	1.30	1.001	1
1,2,3,4,7,8-HxCDF	0.155	**JK**	0.0253	3.38	1.61	1.000	1
2,3,4,6,7,8-HxCDF	0.160	**J**	0.0261	3.38	1.12	1.000	1
1,2,3,4,6,7,8-HpCDF	0.278	**BJP**	0.0388	3.38	1.13	1.000	1
1,2,3,4,7,8,9-HpCDF	0.245	**J**	0.0486	3.38	1.17	1.000	1
OCDF	0.558	**BJ**	0.0664	6.76	0.94	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	714-40	**Units:**	ng/Kg
Lab Code:	K1511067-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 00:49
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.401g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400863	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.255**J**		0.0541	0.676	0.69		1
Total Penta-Dioxins	0.252**J**		0.0545	3.38	1.66		1
Total Hexa-Dioxins	0.410**J**		0.0384	3.38	1.36		1
Total Hepta-Dioxins	1.08**J**		0.0244	3.38	1.00		1
Total Tetra-Furans	0.738		0.0409	0.676	0.88		1
Total Penta-Furans	0.680**J**		0.0548	3.38	1.33		1
Total Hexa-Furans	0.549**J**		0.0269	3.38	1.26		1
Total Hepta-Furans	0.523**J**		0.0433	3.38	1.13		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	714-40	**Units:**	Percent
Lab Code:	K1511067-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 00:49
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.401g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400863	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1414.016	71		40-135	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1340.609	67		40-135	1.57	1.171
13C-1,2,3,4,7,8-HxCDD	2000	1465.921	73		40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1609.730	80		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1325.487	66		40-135	1.06	1.065
13C-OCDD	4000	2284.627	57		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	1288.712	64		24-169	0.79	0.995
13C-1,2,3,7,8-PeCDF	2000	1256.908	63		40-135	1.57	1.132
13C-2,3,4,7,8-PeCDF	2000	1211.636	61		40-135	1.58	1.162
13C-1,2,3,4,7,8-HxCDF	2000	1331.490	67		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1425.647	71		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1174.995	59		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1320.737	66		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1177.406	59		40-135	0.45	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	1292.434	65		40-135	0.45	1.078
37Cl-2,3,7,8-TCDD	800	576.056	72		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:04
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	714-40	**Units:**	ng/Kg
Lab Code:	K1511067-005	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.203**	0.0541	0.676	1	1	0.203
1,2,3,7,8-PeCDD	**0.139**	0.0545	3.38	1	1	0.139
1,2,3,6,7,8-HxCDD	**0.163**	0.0400	3.38	1	0.1	0.0163
1,2,3,4,7,8-HxCDD	**0.127**	0.0388	3.38	1	0.1	0.0127
1,2,3,7,8,9-HxCDD	**0.180**	0.0365	3.38	1	0.1	0.0180
1,2,3,4,6,7,8-HpCDD	**0.525**	0.0244	3.38	1	0.01	0.00525
OCDD	**4.14**	0.0788	6.76	1	0.0003	0.00124
2,3,7,8-TCDF	**0.377**	0.0409	0.676	1	0.1	0.0377
1,2,3,7,8-PeCDF	**0.138**	0.0537	3.38	1	0.03	0.00414
2,3,4,7,8-PeCDF	**0.162**	0.0557	3.38	1	0.3	0.0486
1,2,3,6,7,8-HxCDF	**0.122**	0.0248	3.38	1	0.1	0.0122
1,2,3,7,8,9-HxCDF	**0.240**	0.0327	3.38	1	0.1	0.0240
1,2,3,4,7,8-HxCDF	**0.155**	0.0253	3.38	1	0.1	0.0155
2,3,4,6,7,8-HxCDF	**0.160**	0.0261	3.38	1	0.1	0.0160
1,2,3,4,6,7,8-HpCDF	**0.278**	0.0388	3.38	1	0.01	0.00278
1,2,3,4,7,8,9-HpCDF	**0.245**	0.0486	3.38	1	0.01	0.00245
OCDF	**0.558**	0.0664	6.76	1	0.0003	0.000167
		Total TEQ				0.559

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	2146-25	**Units:**	ng/Kg
Lab Code:	K1511067-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:38
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.903g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400864	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.345	**JK**	0.106	0.633	0.41	1.000	1
1,2,3,7,8-PeCDD	0.298	**J**	0.0947	3.16	1.49	1.000	1
1,2,3,6,7,8-HxCDD	0.352	**J**	0.0847	3.16	1.25	1.000	1
1,2,3,4,7,8-HxCDD	0.297	**J**	0.0812	3.16	1.23	1.000	1
1,2,3,7,8,9-HxCDD	0.299	**J**	0.0767	3.16	1.10	1.007	1
1,2,3,4,6,7,8-HpCDD	0.661	**J**	0.0489	3.16	1.18	1.000	1
OCDD	2.66	**BJ**	0.205	6.33	0.94	1.000	1
2,3,7,8-TCDF	0.556	**J**	0.103	0.633	0.79	1.001	1
1,2,3,7,8-PeCDF	0.322	**J**	0.114	3.16	1.36	1.000	1
2,3,4,7,8-PeCDF	0.352	**J**	0.117	3.16	1.44	1.001	1
1,2,3,6,7,8-HxCDF	0.302	**J**	0.0514	3.16	1.22	1.000	1
1,2,3,7,8,9-HxCDF	0.415	**JK**	0.0698	3.16	1.61	1.000	1
1,2,3,4,7,8-HxCDF	0.309	**JK**	0.0545	3.16	1.75	1.000	1
2,3,4,6,7,8-HxCDF	0.298	**J**	0.0574	3.16	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	0.416	**BJKP**	0.0728	3.16	0.72	1.000	1
1,2,3,4,7,8,9-HpCDF	0.393	**JK**	0.0947	3.16	0.75	1.000	1
OCDF	0.782	**BJK**	0.162	6.33	1.08	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	2146-25	**Units:**	ng/Kg
Lab Code:	K1511067-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:38
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.903g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400864	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.106	0.633			1
Total Penta-Dioxins	0.298**J**		0.0947	3.16	1.49		1
Total Hexa-Dioxins	1.32**J**		0.0808	3.16	1.39		1
Total Hepta-Dioxins	1.11**J**		0.0489	3.16	0.98		1
Total Tetra-Furans	1.59		0.103	0.633	0.68		1
Total Penta-Furans	0.947**J**		0.115	3.16	1.36		1
Total Hexa-Furans	0.813**J**		0.0576	3.16	1.41		1
Total Hepta-Furans	ND	U	0.0829	3.16			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	2146-25	**Units:**	Percent
Lab Code:	K1511067-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:38
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.903g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400864	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	684.419	34	**Y**	40-135	0.79	1.019
13C-1,2,3,7,8-PeCDD	2000	661.785	33	**Y**	40-135	1.57	1.171
13C-1,2,3,4,7,8-HxCDD	2000	752.393	38	**Y**	40-135	1.27	0.992
13C-1,2,3,6,7,8-HxCDD	2000	807.330	40		40-135	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	683.979	34	**Y**	40-135	1.05	1.065
13C-OCDD	4000	1128.575	28		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	631.981	32		24-169	0.78	0.995
13C-1,2,3,7,8-PeCDF	2000	613.864	31	**Y**	40-135	1.57	1.132
13C-2,3,4,7,8-PeCDF	2000	605.775	30	**Y**	40-135	1.57	1.162
13C-1,2,3,4,7,8-HxCDF	2000	680.295	34	**Y**	40-135	0.51	0.973
13C-1,2,3,6,7,8-HxCDF	2000	731.978	37	**Y**	40-135	0.53	0.975
13C-1,2,3,7,8,9-HxCDF	2000	600.562	30	**Y**	40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	675.290	34	**Y**	40-135	0.51	0.989
13C-1,2,3,4,6,7,8-HpCDF	2000	594.156	30	**Y**	40-135	0.44	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	653.333	33	**Y**	40-135	0.45	1.078
37Cl-2,3,7,8-TCDD	800	585.867	73		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:20
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	2146-25	**Units:**	ng/Kg
Lab Code:	K1511067-006	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.345**	0.106	0.633	1	1	0.345
1,2,3,7,8-PeCDD	**0.298**	0.0947	3.16	1	1	0.298
1,2,3,6,7,8-HxCDD	**0.352**	0.0847	3.16	1	0.1	0.0352
1,2,3,4,7,8-HxCDD	**0.297**	0.0812	3.16	1	0.1	0.0297
1,2,3,7,8,9-HxCDD	**0.299**	0.0767	3.16	1	0.1	0.0299
1,2,3,4,6,7,8-HpCDD	**0.661**	0.0489	3.16	1	0.01	0.00661
OCDD	**2.66**	0.205	6.33	1	0.0003	0.000798
2,3,7,8-TCDF	**0.556**	0.103	0.633	1	0.1	0.0556
1,2,3,7,8-PeCDF	**0.322**	0.114	3.16	1	0.03	0.00966
2,3,4,7,8-PeCDF	**0.352**	0.117	3.16	1	0.3	0.106
1,2,3,6,7,8-HxCDF	**0.302**	0.0514	3.16	1	0.1	0.0302
1,2,3,7,8,9-HxCDF	**0.415**	0.0698	3.16	1	0.1	0.0415
1,2,3,4,7,8-HxCDF	**0.309**	0.0545	3.16	1	0.1	0.0309
2,3,4,6,7,8-HxCDF	**0.298**	0.0574	3.16	1	0.1	0.0298
1,2,3,4,6,7,8-HpCDF	**0.416**	0.0728	3.16	1	0.01	0.00416
1,2,3,4,7,8,9-HpCDF	**0.393**	0.0947	3.16	1	0.01	0.00393
OCDF	**0.782**	0.162	6.33	1	0.0003	0.000235
		Total TEQ				1.06

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:36
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1787-44	**Units:**	ng/Kg
Lab Code:	K1511067-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 02:27
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.586g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400865	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.182	**JK**	0.0372	0.659	0.47	1.001	1
1,2,3,7,8-PeCDD	0.104	**J**	0.0396	3.30	1.57	1.000	1
1,2,3,6,7,8-HxCDD	0.130	**J**	0.0374	3.30	1.17	1.000	1
1,2,3,4,7,8-HxCDD	0.103	**J**	0.0367	3.30	1.43	1.000	1
1,2,3,7,8,9-HxCDD	0.108	**J**	0.0343	3.30	1.42	1.007	1
1,2,3,4,6,7,8-HpCDD	0.370	**J**	0.0279	3.30	1.10	1.000	1
OCDD	2.35	**BJ**	0.0847	6.59	0.96	1.000	1
2,3,7,8-TCDF	0.429	**J**	0.0364	0.659	0.84	1.001	1
1,2,3,7,8-PeCDF	0.114	**J**	0.0384	3.30	1.34	1.001	1
2,3,4,7,8-PeCDF	0.166	**JK**	0.0380	3.30	1.22	1.000	1
1,2,3,6,7,8-HxCDF	0.101	**JK**	0.0293	3.30	1.04	1.000	1
1,2,3,7,8,9-HxCDF	0.123	**J**	0.0395	3.30	1.27	1.000	1
1,2,3,4,7,8-HxCDF	0.104	**J**	0.0313	3.30	1.27	1.000	1
2,3,4,6,7,8-HxCDF	0.107	**J**	0.0327	3.30	1.12	1.000	1
1,2,3,4,6,7,8-HpCDF	0.211	**BJKP**	0.0339	3.30	0.73	1.000	1
1,2,3,4,7,8,9-HpCDF	0.126	**J**	0.0426	3.30	1.07	1.000	1
OCDF	0.386	**BJK**	0.0791	6.59	0.73	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:36
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1787-44	**Units:**	ng/Kg
Lab Code:	K1511067-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 02:27
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.586g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400865	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.456**J**		0.0372	0.659	0.71		1
Total Penta-Dioxins	0.233**J**		0.0396	3.30	1.51		1
Total Hexa-Dioxins	0.418**J**		0.0360	3.30	1.27		1
Total Hepta-Dioxins	0.791**J**		0.0279	3.30	1.04		1
Total Tetra-Furans	1.94		0.0364	0.659	0.76		1
Total Penta-Furans	0.705**J**		0.0383	3.30	1.66		1
Total Hexa-Furans	0.401**J**		0.0329	3.30	1.31		1
Total Hepta-Furans	0.126**J**		0.0380	3.30	1.07		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:36
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1787-44	**Units:**	Percent
Lab Code:	K1511067-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 02:27
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.586g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400865	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1523.889	76		40-135	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1445.724	72		40-135	1.57	1.171
13C-1,2,3,4,7,8-HxCDD	2000	1546.726	77		40-135	1.26	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1743.121	87		40-135	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1434.894	72		40-135	1.06	1.065
13C-OCDD	4000	2390.447	60		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	1412.082	71		24-169	0.78	0.994
13C-1,2,3,7,8-PeCDF	2000	1340.344	67		40-135	1.56	1.131
13C-2,3,4,7,8-PeCDF	2000	1315.514	66		40-135	1.57	1.162
13C-1,2,3,4,7,8-HxCDF	2000	1471.206	74		40-135	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1576.940	79		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1291.718	65		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1422.996	71		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1258.734	63		40-135	0.45	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	1375.687	69		40-135	0.44	1.078
37Cl-2,3,7,8-TCDD	800	615.453	77		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:36
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1787-44	**Units:**	ng/Kg
Lab Code:	K1511067-007	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.182**	0.0372	0.659	1	1	0.182
1,2,3,7,8-PeCDD	**0.104**	0.0396	3.30	1	1	0.104
1,2,3,6,7,8-HxCDD	**0.130**	0.0374	3.30	1	0.1	0.0130
1,2,3,4,7,8-HxCDD	**0.103**	0.0367	3.30	1	0.1	0.0103
1,2,3,7,8,9-HxCDD	**0.108**	0.0343	3.30	1	0.1	0.0108
1,2,3,4,6,7,8-HpCDD	**0.370**	0.0279	3.30	1	0.01	0.00370
OCDD	**2.35**	0.0847	6.59	1	0.0003	0.000705
2,3,7,8-TCDF	**0.429**	0.0364	0.659	1	0.1	0.0429
1,2,3,7,8-PeCDF	**0.114**	0.0384	3.30	1	0.03	0.00342
2,3,4,7,8-PeCDF	**0.166**	0.0380	3.30	1	0.3	0.0498
1,2,3,6,7,8-HxCDF	**0.101**	0.0293	3.30	1	0.1	0.0101
1,2,3,7,8,9-HxCDF	**0.123**	0.0395	3.30	1	0.1	0.0123
1,2,3,4,7,8-HxCDF	**0.104**	0.0313	3.30	1	0.1	0.0104
2,3,4,6,7,8-HxCDF	**0.107**	0.0327	3.30	1	0.1	0.0107
1,2,3,4,6,7,8-HpCDF	**0.211**	0.0339	3.30	1	0.01	0.00211
1,2,3,4,7,8,9-HpCDF	**0.126**	0.0426	3.30	1	0.01	0.00126
OCDF	**0.386**	0.0791	6.59	1	0.0003	0.000116
		Total TEQ				0.468

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:57
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	659-7	**Units:**	ng/Kg
Lab Code:	K1511067-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 03:16
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.096g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400866	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.177	**JK**	0.0381	0.705	0.43	1.001	1
1,2,3,7,8-PeCDD	0.123	**JK**	0.0385	3.52	2.28	1.001	1
1,2,3,6,7,8-HxCDD	0.172	**J**	0.0356	3.52	1.12	1.000	1
1,2,3,4,7,8-HxCDD	0.127	**JK**	0.0340	3.52	1.52	1.000	1
1,2,3,7,8,9-HxCDD	0.129	**J**	0.0322	3.52	1.09	1.006	1
1,2,3,4,6,7,8-HpCDD	0.629	**J**	0.0305	3.52	1.03	1.000	1
OCDD	4.59	**BJ**	0.135	7.05	0.86	1.000	1
2,3,7,8-TCDF	0.443	**J**	0.0406	0.705	0.77	1.001	1
1,2,3,7,8-PeCDF	0.158	**JK**	0.0574	3.52	1.30	1.001	1
2,3,4,7,8-PeCDF	0.227	**J**	0.0599	3.52	1.48	1.000	1
1,2,3,6,7,8-HxCDF	0.140	**J**	0.0323	3.52	1.05	1.000	1
1,2,3,7,8,9-HxCDF	0.160	**JK**	0.0440	3.52	1.00	1.000	1
1,2,3,4,7,8-HxCDF	0.168	**JK**	0.0342	3.52	1.53	1.001	1
2,3,4,6,7,8-HxCDF	0.156	**J**	0.0367	3.52	1.10	1.000	1
1,2,3,4,6,7,8-HpCDF	0.316	**BJP**	0.0319	3.52	1.12	1.000	1
1,2,3,4,7,8,9-HpCDF	0.190	**J**	0.0428	3.52	1.01	1.000	1
OCDF	0.733	**BJK**	0.0952	7.05	1.13	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:57
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	659-7	**Units:**	ng/Kg
Lab Code:	K1511067-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 03:16
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.096g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400866	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.421**J**		0.0381	0.705	0.83		1
Total Penta-Dioxins	ND	U	0.0385	3.52			1
Total Hexa-Dioxins	0.476**J**		0.0339	3.52	1.14		1
Total Hepta-Dioxins	1.27**J**		0.0305	3.52	1.11		1
Total Tetra-Furans	1.74		0.0406	0.705	0.69		1
Total Penta-Furans	0.825**J**		0.0587	3.52	1.72		1
Total Hexa-Furans	0.156**J**		0.0364	3.52	1.10		1
Total Hepta-Furans	0.506**J**		0.0368	3.52	1.12		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:57
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	659-7	**Units:**	Percent
Lab Code:	K1511067-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 03:16
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.096g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400866	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1553.370	78		40-135	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1452.796	73		40-135	1.58	1.170
13C-1,2,3,4,7,8-HxCDD	2000	1633.047	82		40-135	1.26	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1718.638	86		40-135	1.26	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1380.158	69		40-135	1.05	1.065
13C-OCDD	4000	2206.667	55		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	1451.662	73		24-169	0.79	0.994
13C-1,2,3,7,8-PeCDF	2000	1352.428	68		40-135	1.56	1.131
13C-2,3,4,7,8-PeCDF	2000	1311.877	66		40-135	1.56	1.161
13C-1,2,3,4,7,8-HxCDF	2000	1476.046	74		40-135	0.53	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1571.696	79		40-135	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1267.154	63		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1424.036	71		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1253.563	63		40-135	0.45	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	1317.602	66		40-135	0.45	1.078
37Cl-2,3,7,8-TCDD	800	629.249	79		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 14:57
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	659-7	**Units:**	ng/Kg
Lab Code:	K1511067-008	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.177**	0.0381	0.705	1	1	0.177
1,2,3,7,8-PeCDD	**0.123**	0.0385	3.52	1	1	0.123
1,2,3,6,7,8-HxCDD	**0.172**	0.0356	3.52	1	0.1	0.0172
1,2,3,4,7,8-HxCDD	**0.127**	0.0340	3.52	1	0.1	0.0127
1,2,3,7,8,9-HxCDD	**0.129**	0.0322	3.52	1	0.1	0.0129
1,2,3,4,6,7,8-HpCDD	**0.629**	0.0305	3.52	1	0.01	0.00629
OCDD	**4.59**	0.135	7.05	1	0.0003	0.00138
2,3,7,8-TCDF	**0.443**	0.0406	0.705	1	0.1	0.0443
1,2,3,7,8-PeCDF	**0.158**	0.0574	3.52	1	0.03	0.00474
2,3,4,7,8-PeCDF	**0.227**	0.0599	3.52	1	0.3	0.0681
1,2,3,6,7,8-HxCDF	**0.140**	0.0323	3.52	1	0.1	0.0140
1,2,3,7,8,9-HxCDF	**0.160**	0.0440	3.52	1	0.1	0.0160
1,2,3,4,7,8-HxCDF	**0.168**	0.0342	3.52	1	0.1	0.0168
2,3,4,6,7,8-HxCDF	**0.156**	0.0367	3.52	1	0.1	0.0156
1,2,3,4,6,7,8-HpCDF	**0.316**	0.0319	3.52	1	0.01	0.00316
1,2,3,4,7,8,9-HpCDF	**0.190**	0.0428	3.52	1	0.01	0.00190
OCDF	**0.733**	0.0952	7.05	1	0.0003	0.000220
		Total TEQ				0.535

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:12
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	654-9	**Units:**	ng/Kg
Lab Code:	K1511067-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:05
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.088g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400867	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.164	**JK**	0.0391	0.705	0.48	1.001	1
1,2,3,7,8-PeCDD	0.140	**J**	0.0501	3.53	1.53	1.001	1
1,2,3,6,7,8-HxCDD	0.178	**JK**	0.0342	3.53	1.52	1.000	1
1,2,3,4,7,8-HxCDD	0.140	**J**	0.0322	3.53	1.32	1.000	1
1,2,3,7,8,9-HxCDD	0.137	**J**	0.0308	3.53	1.27	1.006	1
1,2,3,4,6,7,8-HpCDD	0.568	**J**	0.0482	3.53	1.00	1.000	1
OCDD	3.85	**BJ**	0.0958	7.05	0.89	1.000	1
2,3,7,8-TCDF	0.392	**J**	0.0388	0.705	0.70	1.000	1
1,2,3,7,8-PeCDF	0.147	**J**	0.0493	3.53	1.34	1.000	1
2,3,4,7,8-PeCDF	0.207	**J**	0.0513	3.53	1.38	1.000	1
1,2,3,6,7,8-HxCDF	0.115	**J**	0.0328	3.53	1.11	1.000	1
1,2,3,7,8,9-HxCDF	0.142	**J**	0.0411	3.53	1.18	1.000	1
1,2,3,4,7,8-HxCDF	0.145	**J**	0.0335	3.53	1.43	1.000	1
2,3,4,6,7,8-HxCDF	0.139	**JK**	0.0348	3.53	0.95	1.000	1
1,2,3,4,6,7,8-HpCDF	0.285	**BJP**	0.0329	3.53	1.03	1.000	1
1,2,3,4,7,8,9-HpCDF	0.153	**J**	0.0452	3.53	1.03	1.000	1
OCDF	1.26	**BJ**	0.0813	7.05	0.83	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:12
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	654-9	**Units:**	ng/Kg
Lab Code:	K1511067-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:05
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.088g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400867	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.301**J**		0.0391	0.705	0.75		1
Total Penta-Dioxins	0.225**J**		0.0501	3.53	1.59		1
Total Hexa-Dioxins	0.476**J**		0.0324	3.53	1.26		1
Total Hepta-Dioxins	1.07**J**		0.0482	3.53	1.08		1
Total Tetra-Furans	1.25		0.0388	0.705	0.85		1
Total Penta-Furans	0.751**J**		0.0503	3.53	1.56		1
Total Hexa-Furans	0.430**J**		0.0353	3.53	1.42		1
Total Hepta-Furans	0.437**J**		0.0384	3.53	1.03		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:12
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	654-9	**Units:**	Percent
Lab Code:	K1511067-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:05
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.088g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400867	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1480.092	74		40-135	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1373.469	69		40-135	1.57	1.171
13C-1,2,3,4,7,8-HxCDD	2000	1625.751	81		40-135	1.26	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1722.563	86		40-135	1.27	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1486.622	74		40-135	1.05	1.065
13C-OCDD	4000	2749.777	69		17-157	0.90	1.139
13C-2,3,7,8-TCDF	2000	1329.454	66		24-169	0.79	0.995
13C-1,2,3,7,8-PeCDF	2000	1267.534	63		40-135	1.56	1.132
13C-2,3,4,7,8-PeCDF	2000	1242.342	62		40-135	1.57	1.162
13C-1,2,3,4,7,8-HxCDF	2000	1500.923	75		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1564.273	78		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1361.525	68		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1493.089	75		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1340.948	67		40-135	0.45	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	1355.398	68		40-135	0.45	1.078
37Cl-2,3,7,8-TCDD	800	609.546	76		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:12
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	654-9	**Units:**	ng/Kg
Lab Code:	K1511067-009	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.164**	0.0391	0.705	1	1	0.164
1,2,3,7,8-PeCDD	**0.140**	0.0501	3.53	1	1	0.140
1,2,3,6,7,8-HxCDD	**0.178**	0.0342	3.53	1	0.1	0.0178
1,2,3,4,7,8-HxCDD	**0.140**	0.0322	3.53	1	0.1	0.0140
1,2,3,7,8,9-HxCDD	**0.137**	0.0308	3.53	1	0.1	0.0137
1,2,3,4,6,7,8-HpCDD	**0.568**	0.0482	3.53	1	0.01	0.00568
OCDD	**3.85**	0.0958	7.05	1	0.0003	0.00116
2,3,7,8-TCDF	**0.392**	0.0388	0.705	1	0.1	0.0392
1,2,3,7,8-PeCDF	**0.147**	0.0493	3.53	1	0.03	0.00441
2,3,4,7,8-PeCDF	**0.207**	0.0513	3.53	1	0.3	0.0621
1,2,3,6,7,8-HxCDF	**0.115**	0.0328	3.53	1	0.1	0.0115
1,2,3,7,8,9-HxCDF	**0.142**	0.0411	3.53	1	0.1	0.0142
1,2,3,4,7,8-HxCDF	**0.145**	0.0335	3.53	1	0.1	0.0145
2,3,4,6,7,8-HxCDF	**0.139**	0.0348	3.53	1	0.1	0.0139
1,2,3,4,6,7,8-HpCDF	**0.285**	0.0329	3.53	1	0.01	0.00285
1,2,3,4,7,8,9-HpCDF	**0.153**	0.0452	3.53	1	0.01	0.00153
OCDF	**1.26**	0.0813	7.05	1	0.0003	0.000378
		Total TEQ				0.521

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:27
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	720-16	**Units:**	ng/Kg
Lab Code:	K1511067-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:55
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.290g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400868	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.161	0.686			1
1,2,3,7,8-PeCDD	ND	U	0.137	3.43			1
1,2,3,6,7,8-HxCDD	ND	U	0.0928	3.43			1
1,2,3,4,7,8-HxCDD	ND	U	0.0899	3.43			1
1,2,3,7,8,9-HxCDD	ND	U	0.0847	3.43			1
1,2,3,4,6,7,8-HpCDD	0.389**J**		0.0898	3.43	0.92	1.001	1
OCDD	2.40**BJ**		0.300	6.86	0.90	1.000	1
2,3,7,8-TCDF	0.378**J**		0.150	0.686	0.77	1.000	1
1,2,3,7,8-PeCDF	ND	U	0.172	3.43			1
2,3,4,7,8-PeCDF	ND	U	0.174	3.43			1
1,2,3,6,7,8-HxCDF	0.0964**J**		0.0586	3.43	1.43	1.000	1
1,2,3,7,8,9-HxCDF	ND	U	0.0844	3.43			1
1,2,3,4,7,8-HxCDF	ND	U	0.0644	3.43			1
2,3,4,6,7,8-HxCDF	0.116**J**		0.0663	3.43	1.20	1.000	1
1,2,3,4,6,7,8-HpCDF	0.194**BJK**		0.0744	3.43	1.33	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.102	3.43			1
OCDF	0.558**BJ**		0.244	6.86	0.98	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:27
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	720-16	**Units:**	ng/Kg
Lab Code:	K1511067-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:55
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.290g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400868	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.161	0.686			1
Total Penta-Dioxins	ND	U	0.137	3.43			1
Total Hexa-Dioxins	ND	U	0.0891	3.43			1
Total Hepta-Dioxins	0.389**J**		0.0898	3.43	0.92		1
Total Tetra-Furans	0.378**J**		0.150	0.686	0.77		1
Total Penta-Furans	ND	U	0.173	3.43			1
Total Hexa-Furans	0.116**J**		0.0674	3.43	1.20		1
Total Hepta-Furans	ND	U	0.0869	3.43			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:27
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	720-16	**Units:**	Percent
Lab Code:	K1511067-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:55
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.290g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400868	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1336.744	67		40-135	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1417.340	71		40-135	1.58	1.170
13C-1,2,3,4,7,8-HxCDD	2000	1503.153	75		40-135	1.33	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1690.839	85		40-135	1.20	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1457.575	73		40-135	1.07	1.065
13C-OCDD	4000	2414.923	60		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	1190.304	60		24-169	0.78	0.995
13C-1,2,3,7,8-PeCDF	2000	1296.599	65		40-135	1.57	1.131
13C-2,3,4,7,8-PeCDF	2000	1288.134	64		40-135	1.56	1.161
13C-1,2,3,4,7,8-HxCDF	2000	1388.653	69		40-135	0.53	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1528.669	76		40-135	0.51	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1186.554	59		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1364.980	68		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1266.799	63		40-135	0.44	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	1363.151	68		40-135	0.45	1.078
37Cl-2,3,7,8-TCDD	800	542.604	68		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 15:27
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	720-16	**Units:**	ng/Kg
Lab Code:	K1511067-010	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.161	0.686	1	1	
1,2,3,7,8-PeCDD	ND	0.137	3.43	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0928	3.43	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0899	3.43	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0847	3.43	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.389**	0.0898	3.43	1	0.01	0.00389
OCDD	**2.40**	0.300	6.86	1	0.0003	0.000720
2,3,7,8-TCDF	**0.378**	0.150	0.686	1	0.1	0.0378
1,2,3,7,8-PeCDF	ND	0.172	3.43	1	0.03	
2,3,4,7,8-PeCDF	ND	0.174	3.43	1	0.3	
1,2,3,6,7,8-HxCDF	**0.0964**	0.0586	3.43	1	0.1	0.00964
1,2,3,7,8,9-HxCDF	ND	0.0844	3.43	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0644	3.43	1	0.1	
2,3,4,6,7,8-HxCDF	**0.116**	0.0663	3.43	1	0.1	0.0116
1,2,3,4,6,7,8-HpCDF	**0.194**	0.0744	3.43	1	0.01	0.00194
1,2,3,4,7,8,9-HpCDF	ND	0.102	3.43	1	0.01	
OCDF	**0.558**	0.244	6.86	1	0.0003	0.000167
		Total TEQ				0.0658

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:15
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1374-22	**Units:**	ng/Kg
Lab Code:	K1511067-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 05:44
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.669g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400869	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	0.179**JK**		0.0491	0.652	0.49	1.001	1
1,2,3,7,8-PeCDD	0.112**JK**		0.0489	3.26	1.08	1.000	1
1,2,3,6,7,8-HxCDD	0.127**J**		0.0212	3.26	1.23	1.000	1
1,2,3,4,7,8-HxCDD	0.0732**J**		0.0209	3.26	1.43	1.000	1
1,2,3,7,8,9-HxCDD	0.0863**JK**		0.0195	3.26	2.08	1.006	1
1,2,3,4,6,7,8-HpCDD	0.399**J**		0.0392	3.26	0.93	1.000	1
OCDD	2.86**BJ**		0.0933	6.52	0.83	1.000	1
2,3,7,8-TCDF	0.443**J**		0.0410	0.652	0.84	1.001	1
1,2,3,7,8-PeCDF	ND	U	0.0570	3.26			1
2,3,4,7,8-PeCDF	0.169**J**		0.0569	3.26	1.36	1.000	1
1,2,3,6,7,8-HxCDF	0.0827**J**		0.0276	3.26	1.43	1.000	1
1,2,3,7,8,9-HxCDF	0.0778**J**		0.0324	3.26	1.30	1.000	1
1,2,3,4,7,8-HxCDF	0.0991**J**		0.0295	3.26	1.19	1.000	1
2,3,4,6,7,8-HxCDF	0.0863**J**		0.0287	3.26	1.32	1.000	1
1,2,3,4,6,7,8-HpCDF	0.191**BJP**		0.0333	3.26	0.98	1.000	1
1,2,3,4,7,8,9-HpCDF	0.0850**J**		0.0401	3.26	0.91	1.000	1
OCDF	0.519**BJ**		0.0972	6.52	0.86	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:15
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1374-22	**Units:**	ng/Kg
Lab Code:	K1511067-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 05:44
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.669g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400869	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	0.330**J**		0.0491	0.652	0.80		1
Total Penta-Dioxins	ND	U	0.0489	3.26			1
Total Hexa-Dioxins	0.351**J**		0.0205	3.26	1.15		1
Total Hepta-Dioxins	0.831**J**		0.0392	3.26	0.99		1
Total Tetra-Furans	1.47		0.0410	0.652	0.69		1
Total Penta-Furans	0.400**J**		0.0570	3.26	1.36		1
Total Hexa-Furans	0.477**J**		0.0295	3.26	1.37		1
Total Hepta-Furans	0.276**J**		0.0366	3.26	0.98		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:15
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1374-22	**Units:**	Percent
Lab Code:	K1511067-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 05:44
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.669g	**Instrument Name:**	E-HRMS-06
		GC Column:	DB-5MSUI
Data File Name:	P400869	**Blank File Name:**	P601481
ICAL Date:	09/23/15	**Cal Ver. File Name:**	P400859

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1297.093	65		40-135	0.78	1.019
13C-1,2,3,7,8-PeCDD	2000	1302.976	65		40-135	1.57	1.171
13C-1,2,3,4,7,8-HxCDD	2000	1421.960	71		40-135	1.27	0.992
13C-1,2,3,6,7,8-HxCDD	2000	1594.966	80		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1349.736	67		40-135	1.06	1.065
13C-OCDD	4000	2439.602	61		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	1146.126	57		24-169	0.78	0.995
13C-1,2,3,7,8-PeCDF	2000	1176.899	59		40-135	1.57	1.132
13C-2,3,4,7,8-PeCDF	2000	1164.273	58		40-135	1.57	1.162
13C-1,2,3,4,7,8-HxCDF	2000	1338.185	67		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1419.669	71		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1302.728	65		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1371.571	69		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1120.664	56		40-135	0.45	1.040
13C-1,2,3,4,7,8,9-HpCDF	2000	1309.348	65		40-135	0.45	1.078
37Cl-2,3,7,8-TCDD	800	529.450	66		35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:15
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1374-22	**Units:**	ng/Kg
Lab Code:	K1511067-011	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	**0.179**	0.0491	0.652	1	1	0.179
1,2,3,7,8-PeCDD	**0.112**	0.0489	3.26	1	1	0.112
1,2,3,6,7,8-HxCDD	**0.127**	0.0212	3.26	1	0.1	0.0127
1,2,3,4,7,8-HxCDD	**0.0732**	0.0209	3.26	1	0.1	0.00732
1,2,3,7,8,9-HxCDD	**0.0863**	0.0195	3.26	1	0.1	0.00863
1,2,3,4,6,7,8-HpCDD	**0.399**	0.0392	3.26	1	0.01	0.00399
OCDD	**2.86**	0.0933	6.52	1	0.0003	0.000858
2,3,7,8-TCDF	**0.443**	0.0410	0.652	1	0.1	0.0443
1,2,3,7,8-PeCDF	ND	0.0570	3.26	1	0.03	
2,3,4,7,8-PeCDF	**0.169**	0.0569	3.26	1	0.3	0.0507
1,2,3,6,7,8-HxCDF	**0.0827**	0.0276	3.26	1	0.1	0.00827
1,2,3,7,8,9-HxCDF	**0.0778**	0.0324	3.26	1	0.1	0.00778
1,2,3,4,7,8-HxCDF	**0.0991**	0.0295	3.26	1	0.1	0.00991
2,3,4,6,7,8-HxCDF	**0.0863**	0.0287	3.26	1	0.1	0.00863
1,2,3,4,6,7,8-HpCDF	**0.191**	0.0333	3.26	1	0.01	0.00191
1,2,3,4,7,8,9-HpCDF	**0.0850**	0.0401	3.26	1	0.01	0.000850
OCDF	**0.519**	0.0972	6.52	1	0.0003	0.000156
		Total TEQ				0.457

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:35
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1217-42	**Units:**	ng/Kg
Lab Code:	K1511067-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:10
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.509g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601494	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.171	0.666			1
1,2,3,7,8-PeCDD	ND	U	0.220	3.33			1
1,2,3,6,7,8-HxCDD	0.237**J**		0.143	3.33	1.08	1.000	1
1,2,3,4,7,8-HxCDD	ND	U	0.140	3.33			1
1,2,3,7,8,9-HxCDD	ND	U	0.128	3.33			1
1,2,3,4,6,7,8-HpCDD	0.838**JK**		0.0824	3.33	0.77	1.000	1
OCDD	3.27**BJ**		0.0686	6.66	0.85	1.000	1
2,3,7,8-TCDF	ND	U	0.485	0.666			1
1,2,3,7,8-PeCDF	ND	U	0.129	3.33			1
2,3,4,7,8-PeCDF	ND	U	0.122	3.33			1
1,2,3,6,7,8-HxCDF	ND	U	0.110	3.33			1
1,2,3,7,8,9-HxCDF	ND	U	0.158	3.33			1
1,2,3,4,7,8-HxCDF	ND	U	0.121	3.33			1
2,3,4,6,7,8-HxCDF	ND	U	0.119	3.33			1
1,2,3,4,6,7,8-HpCDF	0.265**BJK**		0.0605	3.33	0.62	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0734	3.33			1
OCDF	1.50**BJK**		0.249	6.66	1.11	1.004	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:35
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1217-42	**Units:**	ng/Kg
Lab Code:	K1511067-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:10
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.509g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601494	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.171	0.666			1
Total Penta-Dioxins	ND	U	0.220	3.33			1
Total Hexa-Dioxins	0.237**J**		0.137	3.33	1.08		1
Total Hepta-Dioxins	ND	U	0.0824	3.33			1
Total Tetra-Furans	ND	U	0.485	0.666			1
Total Penta-Furans	ND	U	0.125	3.33			1
Total Hexa-Furans	ND	U	0.125	3.33			1
Total Hepta-Furans	ND	U	0.0668	3.33			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:35
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1217-42	**Units:**	Percent
Lab Code:	K1511067-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:10
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.509g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601494	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1256.661	63		40-135	0.78	1.020
13C-1,2,3,7,8-PeCDD	2000	1675.458	84		40-135	1.64	1.184
13C-1,2,3,4,7,8-HxCDD	2000	1593.442	80		40-135	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1768.786	88		40-135	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1439.584	72		40-135	1.06	1.066
13C-OCDD	4000	2627.446	66		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	1597.949	80		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1847.179	92		40-135	1.61	1.142
13C-2,3,4,7,8-PeCDF	2000	1905.194	95		40-135	1.58	1.174
13C-1,2,3,4,7,8-HxCDF	2000	1542.454	77		40-135	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1794.854	90		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1469.522	73		40-135	0.53	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1618.015	81		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1336.470	67		40-135	0.44	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1239.411	62		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	511.284	64		35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:35
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1217-42	**Units:**	ng/Kg
Lab Code:	K1511067-012	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.171	0.666	1	1	
1,2,3,7,8-PeCDD	ND	0.220	3.33	1	1	
1,2,3,6,7,8-HxCDD	**0.237**	0.143	3.33	1	0.1	0.0237
1,2,3,4,7,8-HxCDD	ND	0.140	3.33	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.128	3.33	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.838**	0.0824	3.33	1	0.01	0.00838
OCDD	**3.27**	0.0686	6.66	1	0.0003	0.000981
2,3,7,8-TCDF	ND	0.485	0.666	1	0.1	
1,2,3,7,8-PeCDF	ND	0.129	3.33	1	0.03	
2,3,4,7,8-PeCDF	ND	0.122	3.33	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.110	3.33	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.158	3.33	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.121	3.33	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.119	3.33	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.265**	0.0605	3.33	1	0.01	0.00265
1,2,3,4,7,8,9-HpCDF	ND	0.0734	3.33	1	0.01	
OCDF	**1.50**	0.249	6.66	1	0.0003	0.000450
		Total TEQ				0.0362

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:52
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	986-26	**Units:**	ng/Kg
Lab Code:	K1511067-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:59
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.608g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601495	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.235	0.657			1
1,2,3,7,8-PeCDD	ND	U	0.157	3.29			1
1,2,3,6,7,8-HxCDD	ND	U	0.0951	3.29			1
1,2,3,4,7,8-HxCDD	ND	U	0.0938	3.29			1
1,2,3,7,8,9-HxCDD	ND	U	0.0854	3.29			1
1,2,3,4,6,7,8-HpCDD	0.454**J**		0.0337	3.29	1.02	1.000	1
OCDD	2.53**BJK**		0.171	6.57	1.08	1.000	1
2,3,7,8-TCDF	ND	U	0.352	0.657			1
1,2,3,7,8-PeCDF	ND	U	0.213	3.29			1
2,3,4,7,8-PeCDF	ND	U	0.217	3.29			1
1,2,3,6,7,8-HxCDF	ND	U	0.0835	3.29			1
1,2,3,7,8,9-HxCDF	ND	U	0.117	3.29			1
1,2,3,4,7,8-HxCDF	ND	U	0.0873	3.29			1
2,3,4,6,7,8-HxCDF	ND	U	0.0927	3.29			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.0606	3.29			1
1,2,3,4,7,8,9-HpCDF	0.159**JK**		0.0792	3.29	0.39	1.001	1
OCDF	ND	U	0.226	6.57			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:52
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	986-26	**Units:**	ng/Kg
Lab Code:	K1511067-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:59
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.608g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601495	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.235	0.657			1
Total Penta-Dioxins	ND	U	0.157	3.29			1
Total Hexa-Dioxins	ND	U	0.0913	3.29			1
Total Hepta-Dioxins	0.454**J**		0.0337	3.29	1.02		1
Total Tetra-Furans	ND	U	0.352	0.657			1
Total Penta-Furans	ND	U	0.215	3.29			1
Total Hexa-Furans	ND	U	0.0938	3.29			1
Total Hepta-Furans	ND	U	0.0695	3.29			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:52
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	986-26	**Units:**	Percent
Lab Code:	K1511067-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 01:59
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.608g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601495	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1356.405	68		40-135	0.78	1.021
13C-1,2,3,7,8-PeCDD	2000	1702.045	85		40-135	1.66	1.184
13C-1,2,3,4,7,8-HxCDD	2000	1517.366	76		40-135	1.28	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1768.136	88		40-135	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1320.601	66		40-135	1.07	1.066
13C-OCDD	4000	2293.601	57		17-157	0.90	1.140
13C-2,3,7,8-TCDF	2000	1770.092	89		24-169	0.81	0.992
13C-1,2,3,7,8-PeCDF	2000	1919.306	96		40-135	1.61	1.142
13C-2,3,4,7,8-PeCDF	2000	1920.155	96		40-135	1.59	1.174
13C-1,2,3,4,7,8-HxCDF	2000	1534.238	77		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1700.568	85		40-135	0.53	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1389.641	69		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1514.979	76		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1227.442	61		40-135	0.44	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1142.605	57		40-135	0.44	1.079
37Cl-2,3,7,8-TCDD	800	550.761	69		35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 16:52
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	986-26	**Units:**	ng/Kg
Lab Code:	K1511067-013	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.235	0.657	1	1	
1,2,3,7,8-PeCDD	ND	0.157	3.29	1	1	
1,2,3,6,7,8-HxCDD	ND	0.0951	3.29	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.0938	3.29	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.0854	3.29	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.454**	0.0337	3.29	1	0.01	0.00454
OCDD	**2.53**	0.171	6.57	1	0.0003	0.000759
2,3,7,8-TCDF	ND	0.352	0.657	1	0.1	
1,2,3,7,8-PeCDF	ND	0.213	3.29	1	0.03	
2,3,4,7,8-PeCDF	ND	0.217	3.29	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0835	3.29	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.117	3.29	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0873	3.29	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0927	3.29	1	0.1	
1,2,3,4,6,7,8-HpCDF	ND	0.0606	3.29	1	0.01	
1,2,3,4,7,8,9-HpCDF	**0.159**	0.0792	3.29	1	0.01	0.00159
OCDF	ND	0.226	6.57	1	0.0003	
		Total TEQ				0.00689

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 17:10
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1129-20	**Units:**	ng/Kg
Lab Code:	K1511067-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 02:48
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.160g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601496	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.248	0.698			1
1,2,3,7,8-PeCDD	ND	U	0.207	3.49			1
1,2,3,6,7,8-HxCDD	ND	U	0.178	3.49			1
1,2,3,4,7,8-HxCDD	ND	U	0.162	3.49			1
1,2,3,7,8,9-HxCDD	ND	U	0.154	3.49			1
1,2,3,4,6,7,8-HpCDD	0.464**JK**		0.0781	3.49	0.81	1.000	1
OCDD	2.46**BJ**		0.267	6.98	0.90	1.000	1
2,3,7,8-TCDF	0.598**JK**		0.341	0.698	0.53	1.000	1
1,2,3,7,8-PeCDF	ND	U	0.129	3.49			1
2,3,4,7,8-PeCDF	ND	U	0.129	3.49			1
1,2,3,6,7,8-HxCDF	ND	U	0.0808	3.49			1
1,2,3,7,8,9-HxCDF	ND	U	0.122	3.49			1
1,2,3,4,7,8-HxCDF	ND	U	0.0873	3.49			1
2,3,4,6,7,8-HxCDF	ND	U	0.0928	3.49			1
1,2,3,4,6,7,8-HpCDF	0.335**BJK**		0.0682	3.49	0.76	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.0872	3.49			1
OCDF	ND	U	0.266	6.98			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 17:10
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1129-20	**Units:**	ng/Kg
Lab Code:	K1511067-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 02:48
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.160g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601496	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.248	0.698			1
Total Penta-Dioxins	ND	U	0.207	3.49			1
Total Hexa-Dioxins	ND	U	0.164	3.49			1
Total Hepta-Dioxins	ND	U	0.0781	3.49			1
Total Tetra-Furans	ND	U	0.341	0.698			1
Total Penta-Furans	ND	U	0.129	3.49			1
Total Hexa-Furans	ND	U	0.0938	3.49			1
Total Hepta-Furans	ND	U	0.0771	3.49			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 17:10
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1129-20	**Units:**	Percent
Lab Code:	K1511067-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 02:48
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.160g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601496	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1313.378	66		40-135	0.76	1.021
13C-1,2,3,7,8-PeCDD	2000	1637.586	82		40-135	1.66	1.184
13C-1,2,3,4,7,8-HxCDD	2000	1481.074	74		40-135	1.29	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1618.116	81		40-135	1.29	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1277.142	64		40-135	1.06	1.066
13C-OCDD	4000	2189.864	55		17-157	0.88	1.140
13C-2,3,7,8-TCDF	2000	1774.170	89		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1871.287	94		40-135	1.58	1.142
13C-2,3,4,7,8-PeCDF	2000	1861.162	93		40-135	1.59	1.174
13C-1,2,3,4,7,8-HxCDF	2000	1459.510	73		40-135	0.50	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1645.787	82		40-135	0.53	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1278.897	64		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1403.764	70		40-135	0.50	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1172.024	59		40-135	0.42	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1054.837	53		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	562.035	70		35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	09/24/15 17:10
Sample Matrix:	Tissue	**Date Received:**	09/29/15 09:20
Sample Name:	1129-20	**Units:**	ng/Kg
Lab Code:	K1511067-014	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method: 8290A

Prep Method: Method

Toxicity Equivalency Quotient

Analyte Name	Result	DL	MRL	Dilution Factor	TEF	TEF - Adjusted Concentration
2,3,7,8-TCDD	ND	0.248	0.698	1	1	
1,2,3,7,8-PeCDD	ND	0.207	3.49	1	1	
1,2,3,6,7,8-HxCDD	ND	0.178	3.49	1	0.1	
1,2,3,4,7,8-HxCDD	ND	0.162	3.49	1	0.1	
1,2,3,7,8,9-HxCDD	ND	0.154	3.49	1	0.1	
1,2,3,4,6,7,8-HpCDD	**0.464**	0.0781	3.49	1	0.01	0.00464
OCDD	**2.46**	0.267	6.98	1	0.0003	0.000738
2,3,7,8-TCDF	**0.598**	0.341	0.698	1	0.1	0.0598
1,2,3,7,8-PeCDF	ND	0.129	3.49	1	0.03	
2,3,4,7,8-PeCDF	ND	0.129	3.49	1	0.3	
1,2,3,6,7,8-HxCDF	ND	0.0808	3.49	1	0.1	
1,2,3,7,8,9-HxCDF	ND	0.122	3.49	1	0.1	
1,2,3,4,7,8-HxCDF	ND	0.0873	3.49	1	0.1	
2,3,4,6,7,8-HxCDF	ND	0.0928	3.49	1	0.1	
1,2,3,4,6,7,8-HpCDF	**0.335**	0.0682	3.49	1	0.01	0.00335
1,2,3,4,7,8,9-HpCDF	ND	0.0872	3.49	1	0.01	
OCDF	ND	0.266	6.98	1	0.0003	
		Total TEQ				0.0685

2005 WHO TEFs, ND = 0

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1500614-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 11:23
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.290g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302332	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.563	0.563			1
1,2,3,7,8-PeCDD	ND	U	0.381	2.43			1
1,2,3,6,7,8-HxCDD	ND	U	0.345	2.43			1
1,2,3,4,7,8-HxCDD	ND	U	0.342	2.43			1
1,2,3,7,8,9-HxCDD	ND	U	0.325	2.43			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.357	2.43			1
OCDD	ND	U	0.706	4.86			1
2,3,7,8-TCDF	ND	U	0.709	0.709			1
1,2,3,7,8-PeCDF	ND	U	0.464	2.43			1
2,3,4,7,8-PeCDF	ND	U	0.452	2.43			1
1,2,3,6,7,8-HxCDF	ND	U	0.254	2.43			1
1,2,3,7,8,9-HxCDF	ND	U	0.359	2.43			1
1,2,3,4,7,8-HxCDF	ND	U	0.269	2.43			1
2,3,4,6,7,8-HxCDF	ND	U	0.274	2.43			1
1,2,3,4,6,7,8-HpCDF	ND	U	0.238	2.43			1
1,2,3,4,7,8,9-HpCDF	ND	U	0.297	2.43			1
OCDF	ND	U	1.06	4.86			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1500614-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 11:23
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.290g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302332	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.563	0.563			1
Total Penta-Dioxins	ND	U	0.381	2.43			1
Total Hexa-Dioxins	ND	U	0.337	2.43			1
Total Hepta-Dioxins	ND	U	0.357	2.43			1
Total Tetra-Furans	ND	U	0.709	0.709			1
Total Penta-Furans	ND	U	0.458	2.43			1
Total Hexa-Furans	ND	U	0.285	2.43			1
Total Hepta-Furans	ND	U	0.266	2.43			1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1500614-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 11:23
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.290g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302332	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1488.572	74		40-135	0.74	1.018
13C-1,2,3,7,8-PeCDD	2000	1567.149	78		40-135	1.56	1.173
13C-1,2,3,4,7,8-HxCDD	2000	1561.233	78		40-135	1.23	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1651.112	83		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1643.086	82		40-135	1.07	1.066
13C-OCDD	4000	3103.207	78		17-157	0.89	1.141
13C-2,3,7,8-TCDF	2000	1136.392	57		24-169	0.76	0.992
13C-1,2,3,7,8-PeCDF	2000	1322.501	66		40-135	1.60	1.133
13C-2,3,4,7,8-PeCDF	2000	1411.304	71		40-135	1.60	1.163
13C-1,2,3,4,7,8-HxCDF	2000	1292.481	65		40-135	0.49	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1373.379	69		40-135	0.50	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1250.573	63		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1340.732	67		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1399.136	70		40-135	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1523.392	76		40-135	0.41	1.079
37Cl-2,3,7,8-TCDD	800	620.331	78		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1500656-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/16/15 13:36
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.140g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601481	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601479

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	ND	U	0.327	0.700			1
1,2,3,7,8-PeCDD	ND	U	0.226	3.50			1
1,2,3,6,7,8-HxCDD	ND	U	0.167	3.50			1
1,2,3,4,7,8-HxCDD	ND	U	0.174	3.50			1
1,2,3,7,8,9-HxCDD	ND	U	0.153	3.50			1
1,2,3,4,6,7,8-HpCDD	ND	U	0.187	3.50			1
OCDD	1.29**J**		0.0995	7.00	0.81	1.000	1
2,3,7,8-TCDF	ND	U	0.579	0.700			1
1,2,3,7,8-PeCDF	ND	U	0.241	3.50			1
2,3,4,7,8-PeCDF	ND	U	0.232	3.50			1
1,2,3,6,7,8-HxCDF	ND	U	0.113	3.50			1
1,2,3,7,8,9-HxCDF	ND	U	0.149	3.50			1
1,2,3,4,7,8-HxCDF	ND	U	0.122	3.50			1
2,3,4,6,7,8-HxCDF	ND	U	0.118	3.50			1
1,2,3,4,6,7,8-HpCDF	0.493**J**		0.120	3.50	1.13	1.000	1
1,2,3,4,7,8,9-HpCDF	ND	U	0.155	3.50			1
OCDF	2.44**JK**		0.255	7.00	0.65	1.006	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ng/Kg
Lab Code:	EQ1500656-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/16/15 13:36
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.140g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601481	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601479

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	ND	U	0.327	0.700			1
Total Penta-Dioxins	ND	U	0.226	3.50			1
Total Hexa-Dioxins	ND	U	0.164	3.50			1
Total Hepta-Dioxins	ND	U	0.187	3.50			1
Total Tetra-Furans	ND	U	0.579	0.700			1
Total Penta-Furans	ND	U	0.236	3.50			1
Total Hexa-Furans	ND	U	0.124	3.50			1
Total Hepta-Furans	0.493**J**		0.137	3.50	1.13		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	Percent
Lab Code:	EQ1500656-01	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/16/15 13:36
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.140g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601481	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601479

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	962.333	48		40-135	0.77	1.020
13C-1,2,3,7,8-PeCDD	2000	1135.055	57		40-135	1.64	1.184
13C-1,2,3,4,7,8-HxCDD	2000	1313.577	66		40-135	1.31	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1790.005	90		40-135	1.30	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1481.731	74		40-135	1.06	1.066
13C-OCDD	4000	2691.294	67		17-157	0.94	1.140
13C-2,3,7,8-TCDF	2000	1205.386	60		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	1275.005	64		40-135	1.60	1.142
13C-2,3,4,7,8-PeCDF	2000	1269.496	63		40-135	1.58	1.174
13C-1,2,3,4,7,8-HxCDF	2000	1360.094	68		40-135	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1683.967	84		40-135	0.53	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1385.352	69		40-135	0.49	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1544.129	77		40-135	0.53	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1343.732	67		40-135	0.41	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1240.966	62		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	391.485	49		35-197	NA	1.021

Accuracy & Precision

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ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Analyzed:**	10/23/15
Sample Matrix:	Tissue	**Date Extracted:**	10/14/15

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Units:**	ng/Kg
Prep Method:	Method	**Basis:**	Wet
		Analysis Lot:	469208

	Lab Control Sample EQ1500614-02			Duplicate Lab Control Sample EQ1500614-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	112	97.6	115	113	98.5	115	70-130	1	25
1,2,3,4,7,8-HxCDD	115	97.6	118	115	98.5	117	70-130	<1	25
1,2,3,6,7,8-HxCDD	111	97.6	114	116	98.5	117	70-130	4	25
1,2,3,7,8,9-HxCDD	106	97.6	108	107	98.5	109	70-130	1	25
1,2,3,7,8-PeCDD	116	97.6	119	116	98.5	118	70-130	<1	25
2,3,7,8-TCDD	18.3	19.5	94	19.3	19.7	98	70-130	5	25
OCDD	235	195	121	240	197	122	70-130	2	25
1,2,3,4,6,7,8-HpCDF	121	97.6	124	122	98.5	124	70-130	<1	25
1,2,3,4,7,8,9-HpCDF	118	97.6	121	120	98.5	122	70-130	2	25
1,2,3,4,7,8-HxCDF	115	97.6	118	119	98.5	121	70-130	3	25
1,2,3,6,7,8-HxCDF	113	97.6	116	116	98.5	117	70-130	2	25
1,2,3,7,8,9-HxCDF	115	97.6	117	115	98.5	117	70-130	<1	25
1,2,3,7,8-PeCDF	109	97.6	112	111	98.5	112	70-130	1	25
2,3,4,6,7,8-HxCDF	116	97.6	119	117	98.5	119	70-130	1	25
2,3,4,7,8-PeCDF	116	97.6	119	116	98.5	117	70-130	<1	25
2,3,7,8-TCDF	21.7	19.5	111	21.6	19.7	110	70-130	<1	25
OCDF	235	195	120	239	197	121	70-130	1	25

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 14:36
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.250g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302336	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	18.3		0.167	0.488	0.73	1.001	1
1,2,3,7,8-PeCDD	116		0.198	2.44	1.55	1.001	1
1,2,3,6,7,8-HxCDD	111		0.141	2.44	1.24	1.000	1
1,2,3,4,7,8-HxCDD	115		0.145	2.44	1.23	1.000	1
1,2,3,7,8,9-HxCDD	106		0.135	2.44	1.21	1.007	1
1,2,3,4,6,7,8-HpCDD	112		0.109	2.44	1.01	1.000	1
OCDD	235		0.250	4.88	0.89	1.000	1
2,3,7,8-TCDF	21.7		0.281	0.488	0.75	1.001	1
1,2,3,7,8-PeCDF	109		0.122	2.44	1.57	1.001	1
2,3,4,7,8-PeCDF	116		0.125	2.44	1.56	1.000	1
1,2,3,6,7,8-HxCDF	113		0.0940	2.44	1.26	1.000	1
1,2,3,7,8,9-HxCDF	115		0.123	2.44	1.28	1.000	1
1,2,3,4,7,8-HxCDF	115		0.0960	2.44	1.26	1.000	1
2,3,4,6,7,8-HxCDF	116		0.103	2.44	1.24	1.000	1
1,2,3,4,6,7,8-HpCDF	121		0.199	2.44	1.06	1.000	1
1,2,3,4,7,8,9-HpCDF	118		0.231	2.44	1.03	1.000	1
OCDF	235		0.537	4.88	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 14:36
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.250g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302336	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	18.3		0.167	0.488	0.73		1
Total Penta-Dioxins	116		0.198	2.44	1.55		1
Total Hexa-Dioxins	332		0.140	2.44	1.23		1
Total Hepta-Dioxins	112		0.109	2.44	1.01		1
Total Tetra-Furans	21.7		0.281	0.488	0.75		1
Total Penta-Furans	226		0.124	2.44	1.56		1
Total Hexa-Furans	459		0.103	2.44	1.26		1
Total Hepta-Furans	239		0.214	2.44	1.06		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1500614-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 14:36
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.250g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302336	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1655.597	83		40-135	0.75	1.018
13C-1,2,3,7,8-PeCDD	2000	1569.116	78		40-135	1.55	1.173
13C-1,2,3,4,7,8-HxCDD	2000	1588.410	79		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1634.556	82		40-135	1.25	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1544.984	77		40-135	1.05	1.066
13C-OCDD	4000	2515.407	63		17-157	0.91	1.141
13C-2,3,7,8-TCDF	2000	1256.269	63		24-169	0.77	0.992
13C-1,2,3,7,8-PeCDF	2000	1332.664	67		40-135	1.58	1.133
13C-2,3,4,7,8-PeCDF	2000	1389.337	69		40-135	1.59	1.164
13C-1,2,3,4,7,8-HxCDF	2000	1353.119	68		40-135	0.52	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1367.855	68		40-135	0.52	0.975
13C-1,2,3,7,8,9-HxCDF	2000	1321.322	66		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1335.658	67		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1272.447	64		40-135	0.43	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1436.368	72		40-135	0.42	1.079
37Cl-2,3,7,8-TCDD	800	639.815	80		35-197	NA	1.020

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 15:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.150g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302337	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	19.3		0.199	0.493	0.82	1.001	1
1,2,3,7,8-PeCDD	116		0.232	2.46	1.58	1.000	1
1,2,3,6,7,8-HxCDD	116		0.166	2.46	1.24	1.000	1
1,2,3,4,7,8-HxCDD	115		0.158	2.46	1.25	1.000	1
1,2,3,7,8,9-HxCDD	107		0.153	2.46	1.28	1.007	1
1,2,3,4,6,7,8-HpCDD	113		0.118	2.46	1.04	1.000	1
OCDD	240		0.323	4.93	0.88	1.000	1
2,3,7,8-TCDF	21.6		0.334	0.493	0.76	1.001	1
1,2,3,7,8-PeCDF	111		0.170	2.46	1.55	1.001	1
2,3,4,7,8-PeCDF	116		0.168	2.46	1.58	1.000	1
1,2,3,6,7,8-HxCDF	116		0.0763	2.46	1.26	1.000	1
1,2,3,7,8,9-HxCDF	115		0.0964	2.46	1.27	1.000	1
1,2,3,4,7,8-HxCDF	119		0.0817	2.46	1.24	1.000	1
2,3,4,6,7,8-HxCDF	117		0.0852	2.46	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	122		0.167	2.46	1.04	1.000	1
1,2,3,4,7,8,9-HpCDF	120		0.188	2.46	1.03	1.000	1
OCDF	239		0.496	4.93	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500614-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 15:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.150g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302337	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	19.3		0.199	0.493	0.82		1
Total Penta-Dioxins	116		0.232	2.46	1.58		1
Total Hexa-Dioxins	338		0.159	2.46	1.25		1
Total Hepta-Dioxins	113		0.118	2.46	1.04		1
Total Tetra-Furans	21.6		0.334	0.493	0.76		1
Total Penta-Furans	228		0.169	2.46	1.55		1
Total Hexa-Furans	467		0.0843	2.46	1.24		1
Total Hepta-Furans	242		0.177	2.46	1.04		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1500614-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	10/23/15 15:25
Prep Method:	Method	**Date Extracted:**	10/14/15
Sample Amount:	10.150g	**Instrument Name:**	E-HRMS-05
		GC Column:	DB-5MSUI
Data File Name:	P302337	**Blank File Name:**	P302332
ICAL Date:	08/21/15	**Cal Ver. File Name:**	P302329

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1443.553	72		40-135	0.76	1.019
13C-1,2,3,7,8-PeCDD	2000	1459.264	73		40-135	1.58	1.174
13C-1,2,3,4,7,8-HxCDD	2000	1563.953	78		40-135	1.23	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1480.317	74		40-135	1.25	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1443.219	72		40-135	1.07	1.066
13C-OCDD	4000	2365.143	59		17-157	0.90	1.141
13C-2,3,7,8-TCDF	2000	1083.469	54		24-169	0.77	0.993
13C-1,2,3,7,8-PeCDF	2000	1224.725	61		40-135	1.57	1.134
13C-2,3,4,7,8-PeCDF	2000	1309.921	65		40-135	1.58	1.165
13C-1,2,3,4,7,8-HxCDF	2000	1249.487	62		40-135	0.51	0.972
13C-1,2,3,6,7,8-HxCDF	2000	1280.261	64		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1253.945	63		40-135	0.51	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1246.461	62		40-135	0.51	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1193.098	60		40-135	0.44	1.041
13C-1,2,3,4,7,8,9-HpCDF	2000	1378.034	69		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	571.789	71		35-197	NA	1.020

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QA/QC Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Analyzed:**	11/17/15
Sample Matrix:	Tissue	**Date Extracted:**	11/10/15

Duplicate Lab Control Sample Summary
Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Units:**	ng/Kg
Prep Method:	Method	**Basis:**	Wet
		Analysis Lot:	472932

	Lab Control Sample EQ1500656-02			Duplicate Lab Control Sample EQ1500656-03					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,2,3,4,6,7,8-HpCDD	130	138	94	131	141	92	70-130	<1	25
1,2,3,4,7,8-HxCDD	143	138	104	149	141	105	70-130	4	25
1,2,3,6,7,8-HxCDD	145	138	105	148	141	105	70-130	2	25
1,2,3,7,8,9-HxCDD	136	138	98	137	141	97	70-130	1	25
1,2,3,7,8-PeCDD	163	138	119	167	141	118	70-130	3	25
2,3,7,8-TCDD	29.5	27.5	107	31.0	28.3	110	70-130	5	25
OCDD	271	275	98	281	283	99	70-130	4	25
1,2,3,4,6,7,8-HpCDF	125	138	91	128	141	91	70-130	2	25
1,2,3,4,7,8,9-HpCDF	125	138	91	131	141	93	70-130	5	25
1,2,3,4,7,8-HxCDF	134	138	97	139	141	98	70-130	4	25
1,2,3,6,7,8-HxCDF	128	138	93	133	141	94	70-130	4	25
1,2,3,7,8,9-HxCDF	123	138	89	125	141	88	70-130	2	25
1,2,3,7,8-PeCDF	130	138	94	133	141	94	70-130	2	25
2,3,4,6,7,8-HxCDF	129	138	93	133	141	94	70-130	4	25
2,3,4,7,8-PeCDF	137	138	99	144	141	102	70-130	5	25
2,3,7,8-TCDF	28.0	27.5	102	28.3	28.3	100	70-130	<1	25
OCDF	266	275	96	277	283	98	70-130	4	25

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Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500656-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 03:37
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.260g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601497	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	29.5		0.256	0.689	0.76	1.001	1
1,2,3,7,8-PeCDD	163		0.109	3.44	1.59	1.000	1
1,2,3,6,7,8-HxCDD	145		0.150	3.44	1.26	1.000	1
1,2,3,4,7,8-HxCDD	143		0.140	3.44	1.21	1.000	1
1,2,3,7,8,9-HxCDD	136		0.131	3.44	1.23	1.007	1
1,2,3,4,6,7,8-HpCDD	130		0.0356	3.44	1.06	1.000	1
OCDD	271		0.269	6.89	0.89	1.000	1
2,3,7,8-TCDF	28.0		0.485	0.689	0.82	1.001	1
1,2,3,7,8-PeCDF	130		0.303	3.44	1.50	1.000	1
2,3,4,7,8-PeCDF	137		0.285	3.44	1.58	1.000	1
1,2,3,6,7,8-HxCDF	128		0.0976	3.44	1.24	1.000	1
1,2,3,7,8,9-HxCDF	123		0.131	3.44	1.20	1.000	1
1,2,3,4,7,8-HxCDF	134		0.103	3.44	1.20	1.000	1
2,3,4,6,7,8-HxCDF	129		0.104	3.44	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	125		0.281	3.44	1.01	1.000	1
1,2,3,4,7,8,9-HpCDF	125		0.340	3.44	1.04	1.000	1
OCDF	266		0.276	6.89	0.88	1.005	1

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Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500656-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 03:37
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.260g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601497	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	29.5		0.256	0.689	0.76		1
Total Penta-Dioxins	163		0.109	3.44	1.59		1
Total Hexa-Dioxins	424		0.140	3.44	1.21		1
Total Hepta-Dioxins	131		0.0356	3.44	0.89		1
Total Tetra-Furans	28.0		0.485	0.689	0.82		1
Total Penta-Furans	267		0.294	3.44	1.50		1
Total Hexa-Furans	514		0.108	3.44	1.20		1
Total Hepta-Furans	251		0.310	3.44	1.01		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1500656-02	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 03:37
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.260g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601497	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1221.791	61		40-135	0.79	1.020
13C-1,2,3,7,8-PeCDD	2000	1623.461	81		40-135	1.65	1.184
13C-1,2,3,4,7,8-HxCDD	2000	1398.247	70		40-135	1.27	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1517.019	76		40-135	1.28	0.994
13C-1,2,3,4,6,7,8-HpCDD	2000	1326.359	66		40-135	1.05	1.066
13C-OCDD	4000	2436.701	61		17-157	0.91	1.140
13C-2,3,7,8-TCDF	2000	1593.464	80		24-169	0.80	0.992
13C-1,2,3,7,8-PeCDF	2000	1756.195	88		40-135	1.63	1.142
13C-2,3,4,7,8-PeCDF	2000	1808.295	90		40-135	1.59	1.174
13C-1,2,3,4,7,8-HxCDF	2000	1343.497	67		40-135	0.51	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1502.684	75		40-135	0.52	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1303.724	65		40-135	0.52	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1368.696	68		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1178.070	59		40-135	0.43	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1094.865	55		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	521.297	65		35-197	NA	1.021

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500656-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:26
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.070g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601498	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
2,3,7,8-TCDD	31.0		0.266	0.707	0.78	1.001	1
1,2,3,7,8-PeCDD	167		0.126	3.54	1.56	1.001	1
1,2,3,6,7,8-HxCDD	148		0.0935	3.54	1.25	1.000	1
1,2,3,4,7,8-HxCDD	149		0.0924	3.54	1.24	1.000	1
1,2,3,7,8,9-HxCDD	137		0.0839	3.54	1.25	1.007	1
1,2,3,4,6,7,8-HpCDD	131		0.0996	3.54	1.01	1.000	1
OCDD	281		0.108	7.07	0.88	1.000	1
2,3,7,8-TCDF	28.3		0.335	0.707	0.79	1.001	1
1,2,3,7,8-PeCDF	133		0.150	3.54	1.54	1.001	1
2,3,4,7,8-PeCDF	144		0.155	3.54	1.52	1.000	1
1,2,3,6,7,8-HxCDF	133		0.0322	3.54	1.25	1.000	1
1,2,3,7,8,9-HxCDF	125		0.0432	3.54	1.23	1.000	1
1,2,3,4,7,8-HxCDF	139		0.0347	3.54	1.22	1.000	1
2,3,4,6,7,8-HxCDF	133		0.0357	3.54	1.22	1.000	1
1,2,3,4,6,7,8-HpCDF	128		0.258	3.54	1.02	1.000	1
1,2,3,4,7,8,9-HpCDF	131		0.328	3.54	1.01	1.000	1
OCDF	277		0.208	7.07	0.89	1.005	1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/Kg
Lab Code:	EQ1500656-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:26
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.070g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601498	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Native Analyte Results

Analyte Name	Result	Q	EDL	MRL	Ion Ratio	RRT	Dilution Factor
Total Tetra-Dioxins	31.0		0.266	0.707	0.78		1
Total Penta-Dioxins	167		0.126	3.54	1.56		1
Total Hexa-Dioxins	434		0.0897	3.54	1.24		1
Total Hepta-Dioxins	131		0.0996	3.54	1.01		1
Total Tetra-Furans	28.3		0.335	0.707	0.79		1
Total Penta-Furans	280		0.152	3.54	1.61		1
Total Hexa-Furans	530		0.0361	3.54	1.22		1
Total Hepta-Furans	260		0.292	3.54	1.02		1

ALS Group USA, Corp. dba ALS Environmental

Analytical Report

Client:	Normandeau Associates	**Service Request:**	K1511067
Project:	23674.000	**Date Collected:**	NA
Sample Matrix:	Tissue	**Date Received:**	NA
Sample Name:	Duplicate Lab Control Sample	**Units:**	Percent
Lab Code:	EQ1500656-03	**Basis:**	Wet

Polychlorinated Dibenzodioxins and Polychlorinated Dibenzofurans by HRGC/HRMS

Analysis Method:	8290A	**Date Analyzed:**	11/17/15 04:26
Prep Method:	Method	**Date Extracted:**	11/10/15
Sample Amount:	7.070g	**Instrument Name:**	E-HRMS-08
		GC Column:	DB-5MSUI
Data File Name:	P601498	**Blank File Name:**	P601481
ICAL Date:	08/19/15	**Cal Ver. File Name:**	P601489

Labeled Standard Results

Labeled Compounds	Spike Conc.(pg)	Conc. Found (pg)	% Rec	Q	Control Limits	Ion Ratio	RRT
13C-2,3,7,8-TCDD	2000	1286.064	64		40-135	0.76	1.021
13C-1,2,3,7,8-PeCDD	2000	1651.694	83		40-135	1.65	1.184
13C-1,2,3,4,7,8-HxCDD	2000	1527.656	76		40-135	1.30	0.991
13C-1,2,3,6,7,8-HxCDD	2000	1801.637	90		40-135	1.30	0.993
13C-1,2,3,4,6,7,8-HpCDD	2000	1414.157	71		40-135	1.06	1.066
13C-OCDD	4000	2438.906	61		17-157	0.89	1.140
13C-2,3,7,8-TCDF	2000	1753.065	88		24-169	0.79	0.992
13C-1,2,3,7,8-PeCDF	2000	1872.331	94		40-135	1.56	1.142
13C-2,3,4,7,8-PeCDF	2000	1826.963	91		40-135	1.59	1.175
13C-1,2,3,4,7,8-HxCDF	2000	1549.214	77		40-135	0.52	0.971
13C-1,2,3,6,7,8-HxCDF	2000	1739.292	87		40-135	0.51	0.974
13C-1,2,3,7,8,9-HxCDF	2000	1467.645	73		40-135	0.50	1.008
13C-2,3,4,6,7,8-HxCDF	2000	1569.195	78		40-135	0.52	0.988
13C-1,2,3,4,6,7,8-HpCDF	2000	1279.428	64		40-135	0.43	1.042
13C-1,2,3,4,7,8,9-HpCDF	2000	1166.975	58		40-135	0.43	1.079
37Cl-2,3,7,8-TCDD	800	553.964	69		35-197	NA	1.021

ALS Environmental
34 Dogwood Lane ▪ Middletown, PA 17057 ▪ Phone: 717-944-5541 ▪ Fax: 717-944-1430 ▪ www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

October 26, 2015

Mr. Eric Nestler
Normandeau Associates, Inc.- Bedford
25 Nashua Road
Bedford, NH 03110

Certificate of Analysis

Project Name:	**2015PC-Clam**	Workorder:	**2097173**
Purchase Order:		Workorder ID:	**23674.000**

Dear Mr. Nestler:

Enclosed are the analytical results for samples received by the laboratory on Tuesday, September 22, 2015.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vicki A. Forney (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

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ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Paul Geoghegan

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

SAMPLE SUMMARY

Workorder: 2097173 23674.000

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2097173001	HB05-9	Other	9/21/2015 08:57	9/22/2015 20:45	Collected by Client
2097173002	HB05-9	Solid	9/21/2015 15:36	9/22/2015 20:45	Collected by Client
2097173003	HB05-8	Other	9/21/2015 08:57	9/22/2015 20:45	Collected by Client
2097173004	HB05-8	Solid	9/21/2015 15:45	9/22/2015 20:45	Collected by Client
2097173005	HB04-6	Other	9/21/2015 10:15	9/22/2015 20:45	Collected by Client
2097173006	HB04-6	Solid	9/21/2015 15:53	9/22/2015 20:45	Collected by Client
2097173007	HB04-7	Other	9/21/2015 10:15	9/22/2015 20:45	Collected by Client
2097173008	HB04-7	Solid	9/21/2015 15:59	9/22/2015 20:45	Collected by Client
2097173009	HB07-13	Other	9/21/2015 10:46	9/22/2015 20:45	Collected by Client
2097173010	HB07-13	Solid	9/21/2015 16:11	9/22/2015 20:45	Collected by Client
2097173011	HB07-14	Other	9/21/2015 10:46	9/22/2015 20:45	Collected by Client
2097173012	HB07-14	Solid	9/21/2015 16:16	9/22/2015 20:45	Collected by Client
2097173013	HB02-1	Other	9/21/2015 11:15	9/22/2015 20:45	Collected by Client
2097173014	HB02-2	Other	9/21/2015 11:15	9/22/2015 20:45	Collected by Client
2097173015	HB02-1	Solid	9/21/2015 16:25	9/22/2015 20:45	Collected by Client
2097173016	HB02-2	Solid	9/21/2015 16:31	9/22/2015 20:45	Collected by Client
2097173017	HB06-11	Other	9/21/2015 11:45	9/22/2015 20:45	Collected by Client
2097173018	HB06-11	Solid	9/21/2015 16:36	9/22/2015 20:45	Collected by Client
2097173019	HB06-12	Other	9/21/2015 11:45	9/22/2015 20:45	Collected by Client
2097173020	HB06-12	Solid	9/21/2015 16:40	9/22/2015 20:45	Collected by Client
2097173021	2014-19	Solid	9/21/2015 16:45	9/22/2015 20:45	Collected by Client
2097173022	2013-28	Solid	9/21/2015 16:51	9/22/2015 20:45	Collected by Client
2097173023	2012-9	Solid	9/21/2015 16:55	9/22/2015 20:45	Collected by Client
2097173024	2071-12	Solid	9/21/2015 16:59	9/22/2015 20:45	Collected by Client
2097173025	1438-23	Solid	9/21/2015 17:04	9/22/2015 20:45	Collected by Client
2097173026	1363-24	Solid	9/21/2015 17:08	9/22/2015 20:45	Collected by Client
2097173027	2014-19	Other	9/21/2015 12:25	9/22/2015 20:45	Collected by Client
2097173028	2013-28	Solid	9/21/2015 12:36	9/22/2015 20:45	Collected by Client
2097173029	2012-9	Other	9/21/2015 12:47	9/22/2015 20:45	Collected by Client
2097173030	2017-12	Other	9/21/2015 12:50	9/22/2015 20:45	Collected by Client
2097173031	1438-23	Other	9/21/2015 13:05	9/22/2015 20:45	Collected by Client
2097173032	1363-24	Other	9/21/2015 13:16	9/22/2015 20:45	Collected by Client

SAMPLE SUMMARY

Workorder: 2097173 23674.000

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

PROJECT SUMMARY

Workorder: 2097173 23674.000

Workorder Comments

Clam tissue results were reported directly from ALS-Kelso. VLF 10/26/15

Sample Comments

Lab ID: 2097173002 **Sample ID:** HB05-9 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173004 **Sample ID:** HB05-8 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173006 **Sample ID:** HB04-6 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173008 **Sample ID:** HB04-7 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173010 **Sample ID:** HB07-13 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173012 **Sample ID:** HB07-14 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173015 **Sample ID:** HB02-1 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173016 **Sample ID:** HB02-2 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173018 **Sample ID:** HB06-11 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173020 **Sample ID:** HB06-12 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

PROJECT SUMMARY

Workorder: 2097173 23674.000

Lab ID: 2097173021 **Sample ID:** 2014-19 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173022 **Sample ID:** 2013-28 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173023 **Sample ID:** 2012-9 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173024 **Sample ID:** 2071-12 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173025 **Sample ID:** 1438-23 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2097173026 **Sample ID:** 1363-24 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173001** Date Collected: 9/21/2015 08:57 Matrix: Other
Sample ID: **HB05-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:30	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173002** Date Collected: 9/21/2015 15:36 Matrix: Solid
Sample ID: **HB05-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	10.9 U	U	ug/kg	10.9	5.0	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Benzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
2-Butanone	10.9 U	U	ug/kg	10.9	3.5	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
n-Butylbenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
tert-Butylbenzene	2.2 U	U	ug/kg	2.2	0.60	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
sec-Butylbenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Carbon Tetrachloride	2.2 U	U	ug/kg	2.2	0.56	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Chlorobenzene	2.2 U	U	ug/kg	2.2	0.56	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Chloroform	2.2 U	U	ug/kg	2.2	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,2-Dichlorobenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,3-Dichlorobenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,4-Dichlorobenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,1-Dichloroethane	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,2-Dichloroethane	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,1-Dichloroethene	2.2 U	U	ug/kg	2.2	0.57	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
cis-1,2-Dichloroethene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
trans-1,2-Dichloroethene	2.2 U	U	ug/kg	2.2	0.57	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,4-Dioxane	81.8 U	U	ug/kg	81.8	19.4	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Ethylbenzene	2.2 U	U	ug/kg	2.2	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Methyl t-Butyl Ether	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Methylene Chloride	21.9		ug/kg	2.2	0.85	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
n-Propylbenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Tetrachloroethene	2.2 U	U	ug/kg	2.2	0.65	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Toluene	2.2 U	U	ug/kg	2.2	0.73	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Total Xylenes	6.5 U	U	ug/kg	6.5	1.5	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,1,1-Trichloroethane	2.2 U	U	ug/kg	2.2	0.68	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Trichloroethene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,2,4-Trimethylbenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
1,3,5-Trimethylbenzene	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Vinyl Chloride	2.2 U	U	ug/kg	2.2	0.55	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	104		%	56 - 124	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
4-Bromofluorobenzene (S)	102		%	51 - 128	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Dibromofluoromethane (S)	108		%	62 - 123	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3
Toluene-d8 (S)	112		%	59 - 131	SW846 8260C	9/23/15	TMP	9/29/15 15:03	DD	A3

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173002** Date Collected: 9/21/2015 15:36 Matrix: Solid
Sample ID: **HB05-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	141 U	U	ug/kg	141	21.2	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Acenaphthylene	141 U	U	ug/kg	141	15.6	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Anthracene	141 U	U	ug/kg	141	14.1	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Benzo(a)anthracene	141 U	U	ug/kg	141	21.2	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Benzo(a)pyrene	141 U	U	ug/kg	141	22.6	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Benzo(b)fluoranthene	141 U	U	ug/kg	141	33.9	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Benzo(g,h,i)perylene	141 U	U	ug/kg	141	29.7	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Benzo(k)fluoranthene	141 U	U	ug/kg	141	26.9	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Chrysene	141 U	U	ug/kg	141	18.4	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
mp-Cresol	382 U	U	ug/kg	382	21.2	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
o-Cresol	382 U	U	ug/kg	382	31.1	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Dibenzo(a,h)anthracene	141 U	U	ug/kg	141	17.0	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Dibenzofuran	141 U	U	ug/kg	141	15.6	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Fluoranthene	141 U	U	ug/kg	141	26.9	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Fluorene	141 U	U	ug/kg	141	28.3	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Hexachlorobenzene	141 U	U	ug/kg	141	26.9	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Indeno(1,2,3-cd)pyrene	141 U	U	ug/kg	141	25.5	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Naphthalene	141 U	U	ug/kg	141	33.9	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Pentachlorophenol	283 U	U	ug/kg	283	50.9	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Phenanthrene	141 U	U	ug/kg	141	19.8	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Phenol	382 U	U	ug/kg	382	21.2	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Pyrene	141 U	U	ug/kg	141	25.5	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	85.3		%	37 - 123	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
2-Fluorobiphenyl (S)	79.6		%	45 - 105	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
2-Fluorophenol (S)	77.5		%	35 - 104	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Nitrobenzene-d5 (S)	81.8		%	41 - 110	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Phenol-d5 (S)	84.8		%	40 - 100	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A
Terphenyl-d14 (S)	90.7		%	38 - 113	SW846 8270D	9/23/15	BS	9/23/15 17:38	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.046 U	U	mg/kg	0.046	0.046	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Aroclor-1016	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Aroclor-1221	0.046 U	U	mg/kg	0.046	0.0042	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Aroclor-1232	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Aroclor-1242	0.046 U	U	mg/kg	0.046	0.013	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Aroclor-1248	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Aroclor-1254	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173002** Date Collected: 9/21/2015 15:36 Matrix: Solid
Sample ID: **HB05-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	62.3		%	46 - 120		SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
Tetrachloro-m-xylene (S)	71.7		%	52 - 115		SW846 8082A	9/24/15	BS	9/24/15 20:23	EGO	A
PESTICIDES											
Aldrin	11.9 U	U	ug/kg	11.9	3.8	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
alpha-BHC	11.9 U	U	ug/kg	11.9	1.0	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
beta-BHC	11.9 U	U	ug/kg	11.9	1.3	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
delta-BHC	11.9 U	U	ug/kg	11.9	0.91	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
gamma-BHC	11.9 U	U	ug/kg	11.9	0.98	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
alpha-Chlordane	11.9 U	U	ug/kg	11.9	1.3	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
4,4'-DDD	23.0 U	U	ug/kg	23.0	1.9	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
4,4'-DDE	23.0 U	U	ug/kg	23.0	3.1	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
4,4'-DDT	23.0 U	U	ug/kg	23.0	2.7	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Dieldrin	23.0 U	U	ug/kg	23.0	2.7	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Endosulfan I	11.9 U	U	ug/kg	11.9	1.5	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Endosulfan II	23.0 U	U	ug/kg	23.0	4.8	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Endosulfan Sulfate	23.0 U	U	ug/kg	23.0	1.5	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Endrin	23.0 U	U	ug/kg	23.0	1.7	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Heptachlor	11.9 U	U	ug/kg	11.9	1.2	SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	74.3		%	30 - 135		SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
Tetrachloro-m-xylene (S)	57.2		%	30 - 111		SW846 8081B	9/24/15	BS	9/28/15 12:10	RWS	A
HERBICIDES											
2,4,5-TP	92.9 U	U	ug/kg	92.9	43.0	SW846 8151A	9/25/15	MPP	9/28/15 11:45	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	56.9		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 11:45	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.34 U	U1	mg/kg	0.34	0.12	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.7 U	U	mg/kg	2.7	0.53	SW846 7196A	9/28/15	NJA	9/29/15 01:30	JAM	A
Moisture	29.3		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	70.7		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	13.2		mg/kg	2.8	2.8	Calculation			10/5/15 12:38	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173002** Date Collected: 9/21/2015 15:36 Matrix: Solid
Sample ID: **HB05-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	4.7		mg/kg	1.9	0.62	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Barium, Total	9.9		mg/kg	3.1	0.99	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Beryllium, Total	0.25J	J	mg/kg	0.62	0.20	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Cadmium, Total	0.62 U	U	mg/kg	0.62	0.20	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Chromium, Total	13.2		mg/kg	1.2	0.41	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Copper, Total	9.2		mg/kg	3.1	0.99	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Lead, Total	20.1		mg/kg	1.2	0.41	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Manganese, Total	282		mg/kg	3.1	0.99	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Mercury, Total	0.070		mg/kg	0.063	0.020	SW846 7471B	10/6/15	MNP	10/6/15 09:01	MNP	A2
Nickel, Total	9.0		mg/kg	3.1	0.99	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Selenium, Total	3.1 U	U	mg/kg	3.1	0.99	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Silver, Total	1.2 U	U	mg/kg	1.2	0.41	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1
Zinc, Total	59.0		mg/kg	3.1	0.99	SW846 6020A	10/4/15	JPS	10/5/15 03:35	ZMC	A1

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Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173003**	Date Collected:	9/21/2015 08:57	Matrix:	Other
Sample ID:	**HB05-8**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:30	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173004** Date Collected: 9/21/2015 15:45 Matrix: Solid
Sample ID: **HB05-8** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	14.9		ug/kg	10.0	4.6	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Benzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
2-Butanone	6.4J	J	ug/kg	10.0	3.2	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
n-Butylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
tert-Butylbenzene	2.0 U	U	ug/kg	2.0	0.55	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
sec-Butylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Carbon Tetrachloride	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Chlorobenzene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Chloroform	2.0 U	U	ug/kg	2.0	0.53	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,2-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,3-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,4-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,1-Dichloroethane	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,2-Dichloroethane	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,1-Dichloroethene	2.0 U	U	ug/kg	2.0	0.52	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
cis-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
trans-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.52	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,4-Dioxane	75.1 U	U	ug/kg	75.1	17.8	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Ethylbenzene	2.0 U	U	ug/kg	2.0	0.68	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Methyl t-Butyl Ether	0.50J	J	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Methylene Chloride	23.0		ug/kg	2.0	0.78	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
n-Propylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Tetrachloroethene	2.0 U	U	ug/kg	2.0	0.60	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Toluene	2.0 U	U	ug/kg	2.0	0.67	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Total Xylenes	6.0 U	U	ug/kg	6.0	1.4	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,1,1-Trichloroethane	2.0 U	U	ug/kg	2.0	0.62	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Trichloroethene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,2,4-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
1,3,5-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Vinyl Chloride	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	103		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
4-Bromofluorobenzene (S)	108		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Dibromofluoromethane (S)	101		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2
Toluene-d8 (S)	106		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 15:53	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173004** Date Collected: 9/21/2015 15:45 Matrix: Solid
Sample ID: **HB05-8** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	139 U	U	ug/kg	139	20.9	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Acenaphthylene	139 U	U	ug/kg	139	15.3	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Anthracene	139 U	U	ug/kg	139	13.9	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Benzo(a)anthracene	139 U	U	ug/kg	139	20.9	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Benzo(a)pyrene	139 U	U	ug/kg	139	22.3	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Benzo(b)fluoranthene	139 U	U	ug/kg	139	33.5	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Benzo(g,h,i)perylene	139 U	U	ug/kg	139	29.3	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Benzo(k)fluoranthene	139 U	U	ug/kg	139	26.5	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Chrysene	139 U	U	ug/kg	139	18.1	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
mp-Cresol	377 U	U	ug/kg	377	20.9	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
o-Cresol	377 U	U	ug/kg	377	30.7	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Dibenzo(a,h)anthracene	139 U	U	ug/kg	139	16.7	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Dibenzofuran	139 U	U	ug/kg	139	15.3	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Fluoranthene	139 U	U	ug/kg	139	26.5	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Fluorene	139 U	U	ug/kg	139	27.9	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Hexachlorobenzene	139 U	U	ug/kg	139	26.5	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Indeno(1,2,3-cd)pyrene	139 U	U	ug/kg	139	25.1	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Naphthalene	139 U	U	ug/kg	139	33.5	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Pentachlorophenol	279 U	U	ug/kg	279	50.2	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Phenanthrene	139 U	U	ug/kg	139	19.5	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Phenol	377 U	U	ug/kg	377	20.9	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Pyrene	139 U	U	ug/kg	139	25.1	SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	86.8		%	37 - 123		SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
2-Fluorobiphenyl (S)	76.9		%	45 - 105		SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
2-Fluorophenol (S)	82.4		%	35 - 104		SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Nitrobenzene-d5 (S)	87.3		%	41 - 110		SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Phenol-d5 (S)	88.8		%	40 - 100		SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
Terphenyl-d14 (S)	87.7		%	38 - 113		SW846 8270D	9/23/15	BS	9/23/15 18:03	CGS	A
PCBs											
Total Polychlorinated Biphenyl	0.046 U	U	mg/kg	0.046	0.046	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Aroclor-1016	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Aroclor-1221	0.046 U	U	mg/kg	0.046	0.0042	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Aroclor-1232	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Aroclor-1242	0.046 U	U	mg/kg	0.046	0.013	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Aroclor-1248	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Aroclor-1254	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173004** Date Collected: 9/21/2015 15:45 Matrix: Solid
Sample ID: **HB05-8** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.046 U	U	mg/kg	0.046	0.0084	SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	85.3		%	46 - 120		SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
Tetrachloro-m-xylene (S)	82.7		%	52 - 115		SW846 8082A	9/24/15	BS	9/24/15 20:34	EGO	A
PESTICIDES											
Aldrin	11.9 U	U	ug/kg	11.9	3.8	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
alpha-BHC	11.9 U	U	ug/kg	11.9	1.0	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
beta-BHC	11.9 U	U	ug/kg	11.9	1.3	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
delta-BHC	11.9 U	U	ug/kg	11.9	0.91	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
gamma-BHC	11.9 U	U	ug/kg	11.9	0.98	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
alpha-Chlordane	11.9 U	U	ug/kg	11.9	1.3	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
4,4'-DDD	23.0 U	U	ug/kg	23.0	1.9	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
4,4'-DDE	23.0 U	U	ug/kg	23.0	3.1	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
4,4'-DDT	23.0 U	U	ug/kg	23.0	2.6	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Dieldrin	23.0 U	U	ug/kg	23.0	2.6	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Endosulfan I	11.9 U	U	ug/kg	11.9	1.5	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Endosulfan II	23.0 U	U	ug/kg	23.0	4.8	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Endosulfan Sulfate	23.0 U	U	ug/kg	23.0	1.5	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Endrin	23.0 U	U	ug/kg	23.0	1.7	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Heptachlor	11.9 U	U	ug/kg	11.9	1.2	SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	77.7		%	30 - 135		SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
Tetrachloro-m-xylene (S)	60.9		%	30 - 111		SW846 8081B	9/24/15	BS	9/28/15 12:26	RWS	A
HERBICIDES											
2,4,5-TP	94.1 U	U	ug/kg	94.1	43.5	SW846 8151A	9/25/15	MPP	9/28/15 12:22	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	60.7		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 12:22	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.36 U	U	mg/kg	0.36	0.13	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.9 U	U	mg/kg	2.9	0.56	SW846 7196A	9/28/15	NJA	9/29/15 01:30	JAM	A
Moisture	29.7		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	70.3		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	14.0		mg/kg	2.8	2.8	Calculation			10/5/15 12:38	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173004** Date Collected: 9/21/2015 15:45 Matrix: Solid
Sample ID: **HB05-8** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.9		mg/kg	1.8	0.59	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Barium, Total	11.3		mg/kg	3.0	0.95	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Beryllium, Total	0.26J	J	mg/kg	0.59	0.20	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Cadmium, Total	0.59 U	U	mg/kg	0.59	0.20	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Chromium, Total	14.0		mg/kg	1.2	0.39	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Copper, Total	8.4		mg/kg	3.0	0.95	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Lead, Total	19.0		mg/kg	1.2	0.39	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Manganese, Total	298		mg/kg	3.0	0.95	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Mercury, Total	0.066J	J	mg/kg	0.068	0.022	SW846 7471B	10/6/15	MNP	10/6/15 09:04	MNP	A2
Nickel, Total	9.3		mg/kg	3.0	0.95	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Selenium, Total	3.0 U	U	mg/kg	3.0	0.95	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Silver, Total	1.2 U	U	mg/kg	1.2	0.39	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1
Zinc, Total	58.5		mg/kg	3.0	0.95	SW846 6020A	10/4/15	JPS	10/5/15 03:39	ZMC	A1

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173005**	Date Collected:	9/21/2015 10:15	Matrix:	Other
Sample ID:	**HB04-6**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:32	VAF	A

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173006** Date Collected: 9/21/2015 15:53 Matrix: Solid
Sample ID: **HB04-6** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	9.9J	J	ug/kg	12.6	5.8	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Benzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
2-Butanone	4.2J	J	ug/kg	12.6	4.0	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
n-Butylbenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
tert-Butylbenzene	2.5 U	U	ug/kg	2.5	0.69	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
sec-Butylbenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Carbon Tetrachloride	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Chlorobenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Chloroform	2.5 U	U	ug/kg	2.5	0.67	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,2-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,3-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,4-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,1-Dichloroethane	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,2-Dichloroethane	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,1-Dichloroethene	2.5 U	U	ug/kg	2.5	0.66	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
cis-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
trans-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.66	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,4-Dioxane	94.7 U	U	ug/kg	94.7	22.5	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Ethylbenzene	2.5 U	U	ug/kg	2.5	0.86	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Methyl t-Butyl Ether	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Methylene Chloride	26.1		ug/kg	2.5	0.98	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
n-Propylbenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Tetrachloroethene	2.5 U	U	ug/kg	2.5	0.76	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Toluene	2.5 U	U	ug/kg	2.5	0.85	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Total Xylenes	7.6 U	U	ug/kg	7.6	1.8	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,1,1-Trichloroethane	2.5 U	U	ug/kg	2.5	0.78	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Trichloroethene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,2,4-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
1,3,5-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Vinyl Chloride	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	104		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
4-Bromofluorobenzene (S)	108		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Dibromofluoromethane (S)	102		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2
Toluene-d8 (S)	115		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 16:16	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173006** Date Collected: 9/21/2015 15:53 Matrix: Solid
Sample ID: **HB04-6** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	141 U	U	ug/kg	141	21.1	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Acenaphthylene	141 U	U	ug/kg	141	15.5	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Anthracene	141 U	U	ug/kg	141	14.1	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Benzo(a)anthracene	141 U	U	ug/kg	141	21.1	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Benzo(a)pyrene	141 U	U	ug/kg	141	22.5	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Benzo(b)fluoranthene	141 U	U	ug/kg	141	33.7	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Benzo(g,h,i)perylene	141 U	U	ug/kg	141	29.5	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Benzo(k)fluoranthene	141 U	U	ug/kg	141	26.7	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Chrysene	141 U	U	ug/kg	141	18.3	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
mp-Cresol	379 U	U	ug/kg	379	21.1	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
o-Cresol	379 U	U	ug/kg	379	30.9	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Dibenzo(a,h)anthracene	141 U	U	ug/kg	141	16.9	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Dibenzofuran	141 U	U	ug/kg	141	15.5	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Fluoranthene	141 U	U	ug/kg	141	26.7	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Fluorene	141 U	U	ug/kg	141	28.1	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Hexachlorobenzene	141 U	U	ug/kg	141	26.7	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Indeno(1,2,3-cd)pyrene	141 U	U	ug/kg	141	25.3	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Naphthalene	141 U	U	ug/kg	141	33.7	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Pentachlorophenol	281 U	U	ug/kg	281	50.6	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Phenanthrene	141 U	U	ug/kg	141	19.7	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Phenol	379 U	U	ug/kg	379	21.1	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Pyrene	141 U	U	ug/kg	141	25.3	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	88.2		%	37 - 123	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
2-Fluorobiphenyl (S)	75.3		%	45 - 105	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
2-Fluorophenol (S)	84.3		%	35 - 104	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Nitrobenzene-d5 (S)	88.2		%	41 - 110	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Phenol-d5 (S)	92.6		%	40 - 100	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A
Terphenyl-d14 (S)	85.3		%	38 - 113	SW846 8270D	9/23/15	BS	9/23/15 18:28	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.046 U	U	mg/kg	0.046	0.046	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Aroclor-1016	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Aroclor-1221	0.046 U	U	mg/kg	0.046	0.0042	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Aroclor-1232	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Aroclor-1242	0.046 U	U	mg/kg	0.046	0.012	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Aroclor-1248	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Aroclor-1254	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173006** Date Collected: 9/21/2015 15:53 Matrix: Solid
Sample ID: **HB04-6** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	66.3		%	46 - 120		SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
Tetrachloro-m-xylene (S)	73.8		%	52 - 115		SW846 8082A	9/24/15	BS	9/24/15 20:46	EGO	A
PESTICIDES											
Aldrin	11.8 U	U	ug/kg	11.8	3.8	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
alpha-BHC	11.8 U	U	ug/kg	11.8	1.0	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
beta-BHC	11.8 U	U	ug/kg	11.8	1.2	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
delta-BHC	11.8 U	U	ug/kg	11.8	0.90	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
gamma-BHC	11.8 U	U	ug/kg	11.8	0.97	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
alpha-Chlordane	11.8 U	U	ug/kg	11.8	1.2	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
4,4'-DDD	22.9 U	U	ug/kg	22.9	1.9	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
4,4'-DDE	22.9 U	U	ug/kg	22.9	3.1	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
4,4'-DDT	22.9 U	U	ug/kg	22.9	2.6	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Dieldrin	22.9 U	U	ug/kg	22.9	2.6	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Endosulfan I	11.8 U	U	ug/kg	11.8	1.5	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Endosulfan II	22.9 U	U	ug/kg	22.9	4.8	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Endosulfan Sulfate	22.9 U	U	ug/kg	22.9	1.5	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Endrin	22.9 U	U	ug/kg	22.9	1.7	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Heptachlor	11.8 U	U	ug/kg	11.8	1.2	SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	73.7		%	30 - 135		SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
Tetrachloro-m-xylene (S)	59		%	30 - 111		SW846 8081B	9/24/15	BS	9/28/15 12:42	RWS	A
HERBICIDES											
2,4,5-TP	93.8 U	U	ug/kg	93.8	43.4	SW846 8151A	9/25/15	MPP	9/28/15 12:59	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	55.4		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 12:59	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.36 U	U	mg/kg	0.36	0.13	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.8 U	U	mg/kg	2.8	0.55	SW846 7196A	9/28/15	NJA	9/29/15 01:30	JAM	A
Moisture	31.1		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	68.9		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	14.7		mg/kg	2.9	2.9	Calculation			10/5/15 12:38	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173006** Date Collected: 9/21/2015 15:53 Matrix: Solid
Sample ID: **HB04-6** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.8		mg/kg	2.0	0.66	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Barium, Total	11.2		mg/kg	3.3	1.1	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Beryllium, Total	0.66 U	U	mg/kg	0.66	0.22	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Cadmium, Total	0.34J	J	mg/kg	0.66	0.22	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Chromium, Total	14.7		mg/kg	1.3	0.44	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Copper, Total	20.1		mg/kg	3.3	1.1	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Lead, Total	24.5		mg/kg	1.3	0.44	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Manganese, Total	335		mg/kg	3.3	1.1	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Mercury, Total	0.17		mg/kg	0.068	0.022	SW846 7471B	10/6/15	MNP	10/6/15 09:05	MNP	A2
Nickel, Total	8.4		mg/kg	3.3	1.1	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Selenium, Total	3.3 U	U	mg/kg	3.3	1.1	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Silver, Total	1.3 U	U	mg/kg	1.3	0.44	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1
Zinc, Total	68.9		mg/kg	3.3	1.1	SW846 6020A	10/4/15	JPS	10/5/15 03:43	ZMC	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173007**	Date Collected:	9/21/2015 10:15	Matrix:	Other
Sample ID:	**HB04-7**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:32	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173008** Date Collected: 9/21/2015 15:59 Matrix: Solid
Sample ID: **HB04-7** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	8.3J	J	ug/kg	12.9	5.9	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Benzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
2-Butanone	12.9 U	U	ug/kg	12.9	4.1	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.71	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.68	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,4-Dioxane	96.4 U	U	ug/kg	96.4	22.9	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.87	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Methylene Chloride	26.7		ug/kg	2.6	1.0	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.77	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Toluene	2.6 U	U	ug/kg	2.6	0.86	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Total Xylenes	7.7 U	U	ug/kg	7.7	1.8	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.80	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
4-Bromofluorobenzene (S)	103		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Dibromofluoromethane (S)	108		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2
Toluene-d8 (S)	116		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 16:39	TMP	A2

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173008** Date Collected: 9/21/2015 15:59 Matrix: Solid
Sample ID: **HB04-7** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	149 U	U	ug/kg	149	22.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Acenaphthylene	149 U	U	ug/kg	149	16.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Anthracene	149 U	U	ug/kg	149	14.9	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Benzo(a)anthracene	149 U	U	ug/kg	149	22.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Benzo(a)pyrene	149 U	U	ug/kg	149	23.9	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Benzo(b)fluoranthene	149 U	U	ug/kg	149	35.8	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Benzo(g,h,i)perylene	149 U	U	ug/kg	149	31.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Benzo(k)fluoranthene	149 U	U	ug/kg	149	28.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Chrysene	149 U	U	ug/kg	149	19.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
mp-Cresol	403 U	U	ug/kg	403	22.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
o-Cresol	403 U	U	ug/kg	403	32.8	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Dibenzo(a,h)anthracene	149 U	U	ug/kg	149	17.9	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Dibenzofuran	149 U	U	ug/kg	149	16.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Fluoranthene	149 U	U	ug/kg	149	28.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Fluorene	149 U	U	ug/kg	149	29.9	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Hexachlorobenzene	149 U	U	ug/kg	149	28.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Indeno(1,2,3-cd)pyrene	149 U	U	ug/kg	149	26.9	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Naphthalene	149 U	U	ug/kg	149	35.8	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Pentachlorophenol	299 U	U	ug/kg	299	53.8	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Phenanthrene	149 U	U	ug/kg	149	20.9	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Phenol	403 U	U	ug/kg	403	22.4	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Pyrene	149 U	U	ug/kg	149	26.9	SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	87.8		%	37 - 123		SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
2-Fluorobiphenyl (S)	67.7		%	45 - 105		SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
2-Fluorophenol (S)	84.5		%	35 - 104		SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Nitrobenzene-d5 (S)	89.1		%	41 - 110		SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Phenol-d5 (S)	92.2		%	40 - 100		SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
Terphenyl-d14 (S)	69.2		%	38 - 113		SW846 8270D	9/23/15	BS	9/23/15 18:52	CGS	A
PCBs											
Total Polychlorinated Biphenyl	0.047 U	U	mg/kg	0.047	0.047	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Aroclor-1016	0.047 U	U	mg/kg	0.047	0.0086	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Aroclor-1221	0.047 U	U	mg/kg	0.047	0.0043	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Aroclor-1232	0.047 U	U	mg/kg	0.047	0.0086	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Aroclor-1242	0.047 U	U	mg/kg	0.047	0.013	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Aroclor-1248	0.047 U	U	mg/kg	0.047	0.0086	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Aroclor-1254	0.047 U	U	mg/kg	0.047	0.0086	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173008** Date Collected: 9/21/2015 15:59 Matrix: Solid
Sample ID: **HB04-7** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.047 U	U	mg/kg	0.047	0.0086	SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	60.2		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
Tetrachloro-m-xylene (S)	61.6		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 18:26	EGO	A
PESTICIDES											
Aldrin	12.2 U	U	ug/kg	12.2	3.9	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
alpha-BHC	12.2 U	U	ug/kg	12.2	1.1	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
beta-BHC	12.2 U	U	ug/kg	12.2	1.3	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
delta-BHC	12.2 U	U	ug/kg	12.2	0.93	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
gamma-BHC	12.2 U	U	ug/kg	12.2	1.0	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
alpha-Chlordane	12.2 U	U	ug/kg	12.2	1.3	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
4,4'-DDD	23.7 U	U	ug/kg	23.7	1.9	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
4,4'-DDE	23.7 U	U	ug/kg	23.7	3.2	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
4,4'-DDT	23.7 U	U	ug/kg	23.7	2.7	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Dieldrin	23.7 U	U	ug/kg	23.7	2.7	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Endosulfan I	12.2 U	U	ug/kg	12.2	1.5	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Endosulfan II	23.7 U	U	ug/kg	23.7	5.0	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Endosulfan Sulfate	23.7 U	U	ug/kg	23.7	1.6	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Endrin	23.7 U	U	ug/kg	23.7	1.7	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Heptachlor	12.2 U	U	ug/kg	12.2	1.2	SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	50.8		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
Tetrachloro-m-xylene (S)	41.9		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 16:17	RWS	A
HERBICIDES											
2,4,5-TP	98.1 U	U	ug/kg	98.1	45.4	SW846 8151A	9/25/15	MPP	9/28/15 13:36	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	54.1		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 13:36	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.38 U	U	mg/kg	0.38	0.14	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.8 U	U	mg/kg	2.8	0.55	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	33.0		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	67.0		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	20.4		mg/kg	3.0	3.0	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173008** Date Collected: 9/21/2015 15:59 Matrix: Solid
Sample ID: **HB04-7** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	5.8		mg/kg	2.2	0.75	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Barium, Total	21.4		mg/kg	3.7	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Beryllium, Total	0.30J	J	mg/kg	0.75	0.25	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Cadmium, Total	0.50J	J	mg/kg	0.75	0.25	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Chromium, Total	20.4		mg/kg	1.5	0.49	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Copper, Total	25.2		mg/kg	3.7	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Lead, Total	36.2		mg/kg	1.5	0.49	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Manganese, Total	490		mg/kg	3.7	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Mercury, Total	0.22		mg/kg	0.062	0.020	SW846 7471B	10/6/15	MNP	10/6/15 09:06	MNP	A2
Nickel, Total	10.7		mg/kg	3.7	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Selenium, Total	1.2J	J	mg/kg	3.7	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Silver, Total	1.5 U	U	mg/kg	1.5	0.49	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1
Zinc, Total	87.4		mg/kg	3.7	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:01	ZMC	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173009**	Date Collected:	9/21/2015 10:46	Matrix:	Other
Sample ID:	**HB07-13**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:33	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173010** Date Collected: 9/21/2015 16:11 Matrix: Solid
Sample ID: **HB07-13** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	5.5J	J	ug/kg	10.4	4.8	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Benzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
2-Butanone	10.4 U	U	ug/kg	10.4	3.3	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
n-Butylbenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
tert-Butylbenzene	2.1 U	U	ug/kg	2.1	0.57	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
sec-Butylbenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Carbon Tetrachloride	2.1 U	U	ug/kg	2.1	0.53	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Chlorobenzene	2.1 U	U	ug/kg	2.1	0.53	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Chloroform	2.1 U	U	ug/kg	2.1	0.55	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,2-Dichlorobenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,3-Dichlorobenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,4-Dichlorobenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,1-Dichloroethane	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,2-Dichloroethane	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,1-Dichloroethene	2.1 U	U	ug/kg	2.1	0.54	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
cis-1,2-Dichloroethene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
trans-1,2-Dichloroethene	2.1 U	U	ug/kg	2.1	0.54	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,4-Dioxane	77.7 U	U	ug/kg	77.7	18.4	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Ethylbenzene	2.1 U	U	ug/kg	2.1	0.70	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Methyl t-Butyl Ether	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Methylene Chloride	24.4		ug/kg	2.1	0.81	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
n-Propylbenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Tetrachloroethene	2.1 U	U	ug/kg	2.1	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Toluene	2.1 U	U	ug/kg	2.1	0.69	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Total Xylenes	6.2 U	U	ug/kg	6.2	1.4	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,1,1-Trichloroethane	2.1 U	U	ug/kg	2.1	0.64	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Trichloroethene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,2,4-Trimethylbenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
1,3,5-Trimethylbenzene	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Vinyl Chloride	2.1 U	U	ug/kg	2.1	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
4-Bromofluorobenzene (S)	108		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Dibromofluoromethane (S)	109		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2
Toluene-d8 (S)	122		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 17:02	TMP	A2

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173010** Date Collected: 9/21/2015 16:11 Matrix: Solid
Sample ID: **HB07-13** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	137 U	U	ug/kg	137	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Acenaphthylene	137 U	U	ug/kg	137	15.1	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Anthracene	137 U	U	ug/kg	137	13.7	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Benzo(a)anthracene	137 U	U	ug/kg	137	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Benzo(a)pyrene	137 U	U	ug/kg	137	22.0	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Benzo(b)fluoranthene	137 U	U	ug/kg	137	33.0	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Benzo(g,h,i)perylene	137 U	U	ug/kg	137	28.8	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Benzo(k)fluoranthene	137 U	U	ug/kg	137	26.1	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Chrysene	137 U	U	ug/kg	137	17.8	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
mp-Cresol	371 U	U	ug/kg	371	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
o-Cresol	371 U	U	ug/kg	371	30.2	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Dibenzo(a,h)anthracene	137 U	U	ug/kg	137	16.5	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Dibenzofuran	137 U	U	ug/kg	137	15.1	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Fluoranthene	137 U	U	ug/kg	137	26.1	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Fluorene	137 U	U	ug/kg	137	27.5	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Hexachlorobenzene	137 U	U	ug/kg	137	26.1	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Indeno(1,2,3-cd)pyrene	137 U	U	ug/kg	137	24.7	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Naphthalene	137 U	U	ug/kg	137	33.0	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Pentachlorophenol	275 U	U	ug/kg	275	49.4	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Phenanthrene	137 U	U	ug/kg	137	19.2	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Phenol	371 U	U	ug/kg	371	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Pyrene	137 U	U	ug/kg	137	24.7	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	76.2		%	37 - 123	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
2-Fluorobiphenyl (S)	69.9		%	45 - 105	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
2-Fluorophenol (S)	70.5		%	35 - 104	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Nitrobenzene-d5 (S)	75.4		%	41 - 110	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Phenol-d5 (S)	77.6		%	40 - 100	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A
Terphenyl-d14 (S)	80		%	38 - 113	SW846 8270D	9/23/15	BS	9/23/15 19:17	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.047 U	U	mg/kg	0.047	0.047	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Aroclor-1016	0.047 U	U	mg/kg	0.047	0.0085	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Aroclor-1221	0.047 U	U	mg/kg	0.047	0.0042	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Aroclor-1232	0.047 U	U	mg/kg	0.047	0.0085	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Aroclor-1242	0.047 U	U	mg/kg	0.047	0.013	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Aroclor-1248	0.047 U	U	mg/kg	0.047	0.0085	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Aroclor-1254	0.047 U	U	mg/kg	0.047	0.0085	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173010** Date Collected: 9/21/2015 16:11 Matrix: Solid
Sample ID: **HB07-13** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.047 U	U	mg/kg	0.047	0.0085	SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	57		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
Tetrachloro-m-xylene (S)	60.1		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 18:38	EGO	A
PESTICIDES											
Aldrin	12.0 U	U	ug/kg	12.0	3.9	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
alpha-BHC	12.0 U	U	ug/kg	12.0	1.1	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
beta-BHC	12.0 U	U	ug/kg	12.0	1.3	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
delta-BHC	12.0 U	U	ug/kg	12.0	0.92	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
gamma-BHC	12.0 U	U	ug/kg	12.0	0.99	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
alpha-Chlordane	12.0 U	U	ug/kg	12.0	1.3	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
4,4'-DDD	23.3 U	U	ug/kg	23.3	1.9	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
4,4'-DDE	23.3 U	U	ug/kg	23.3	3.2	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
4,4'-DDT	23.3 U	U	ug/kg	23.3	2.7	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Dieldrin	23.3 U	U	ug/kg	23.3	2.7	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Endosulfan I	12.0 U	U	ug/kg	12.0	1.5	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Endosulfan II	23.3 U	U	ug/kg	23.3	4.9	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Endosulfan Sulfate	23.3 U	U	ug/kg	23.3	1.6	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Endrin	23.3 U	U	ug/kg	23.3	1.7	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Heptachlor	12.0 U	U	ug/kg	12.0	1.2	SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	48.3		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
Tetrachloro-m-xylene (S)	40.9		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 16:32	RWS	A
HERBICIDES											
2,4,5-TP	92.6 U	U	ug/kg	92.6	42.8	SW846 8151A	9/25/15	MPP	9/28/15 14:14	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	62.6		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 14:14	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.36 U	U	mg/kg	0.36	0.13	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.7 U	U	mg/kg	2.7	0.53	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	29.5		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	70.5		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	11.0		mg/kg	2.8	2.8	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173010** Date Collected: 9/21/2015 16:11 Matrix: Solid
Sample ID: **HB07-13** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.6		mg/kg	2.1	0.70	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Barium, Total	10.0		mg/kg	3.5	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Beryllium, Total	0.70 U	U	mg/kg	0.70	0.23	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Cadmium, Total	0.70 U	U	mg/kg	0.70	0.23	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Chromium, Total	11.0		mg/kg	1.4	0.46	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Copper, Total	13.1		mg/kg	3.5	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Lead, Total	18.1		mg/kg	1.4	0.46	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Manganese, Total	203		mg/kg	3.5	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Mercury, Total	0.089		mg/kg	0.067	0.021	SW846 7471B	10/6/15	MNP	10/6/15 09:09	MNP	A2
Nickel, Total	6.5		mg/kg	3.5	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Selenium, Total	3.5 U	U	mg/kg	3.5	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Silver, Total	1.4 U	U	mg/kg	1.4	0.46	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1
Zinc, Total	49.3		mg/kg	3.5	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:05	ZMC	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173011**	Date Collected:	9/21/2015 10:46	Matrix:	Other
Sample ID:	**HB07-14**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:33	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173012** Date Collected: 9/21/2015 16:16 Matrix: Solid
Sample ID: **HB07-14** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	9.9 U	U	ug/kg	9.9	4.6	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Benzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
2-Butanone	9.9 U	U	ug/kg	9.9	3.2	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
n-Butylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
tert-Butylbenzene	2.0 U	U	ug/kg	2.0	0.55	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
sec-Butylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Carbon Tetrachloride	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Chlorobenzene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Chloroform	2.0 U	U	ug/kg	2.0	0.53	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,2-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,3-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,4-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,1-Dichloroethane	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,2-Dichloroethane	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,1-Dichloroethene	2.0 U	U	ug/kg	2.0	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
cis-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
trans-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.52	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,4-Dioxane	74.5 U	U	ug/kg	74.5	17.7	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Ethylbenzene	2.0 U	U	ug/kg	2.0	0.68	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Methyl t-Butyl Ether	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Methylene Chloride	21.6		ug/kg	2.0	0.77	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
n-Propylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Tetrachloroethene	2.0 U	U	ug/kg	2.0	0.60	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Toluene	2.0 U	U	ug/kg	2.0	0.67	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Total Xylenes	6.0 U	U	ug/kg	6.0	1.4	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,1,1-Trichloroethane	2.0 U	U	ug/kg	2.0	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Trichloroethene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,2,4-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
1,3,5-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Vinyl Chloride	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	107		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
4-Bromofluorobenzene (S)	111		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Dibromofluoromethane (S)	110		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2
Toluene-d8 (S)	124		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 17:26	TMP	A2

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173012** Date Collected: 9/21/2015 16:16 Matrix: Solid
Sample ID: **HB07-14** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	137 U	U	ug/kg	137	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Acenaphthylene	137 U	U	ug/kg	137	15.1	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Anthracene	137 U	U	ug/kg	137	13.7	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Benzo(a)anthracene	137 U	U	ug/kg	137	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Benzo(a)pyrene	137 U	U	ug/kg	137	22.0	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Benzo(b)fluoranthene	137 U	U	ug/kg	137	33.0	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Benzo(g,h,i)perylene	137 U	U	ug/kg	137	28.9	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Benzo(k)fluoranthene	137 U	U	ug/kg	137	26.1	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Chrysene	137 U	U	ug/kg	137	17.9	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
mp-Cresol	371 U	U	ug/kg	371	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
o-Cresol	371 U	U	ug/kg	371	30.2	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Dibenzo(a,h)anthracene	137 U	U	ug/kg	137	16.5	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Dibenzofuran	137 U	U	ug/kg	137	15.1	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Fluoranthene	137 U	U	ug/kg	137	26.1	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Fluorene	137 U	U	ug/kg	137	27.5	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Hexachlorobenzene	137 U	U	ug/kg	137	26.1	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Indeno(1,2,3-cd)pyrene	137 U	U	ug/kg	137	24.7	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Naphthalene	137 U	U	ug/kg	137	33.0	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Pentachlorophenol	275 U	U	ug/kg	275	49.5	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Phenanthrene	137 U	U	ug/kg	137	19.2	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Phenol	371 U	U	ug/kg	371	20.6	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Pyrene	137 U	U	ug/kg	137	24.7	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	84.8		%	37 - 123	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
2-Fluorobiphenyl (S)	70.3		%	45 - 105	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
2-Fluorophenol (S)	80.2		%	35 - 104	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Nitrobenzene-d5 (S)	84.5		%	41 - 110	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Phenol-d5 (S)	87.8		%	40 - 100	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A
Terphenyl-d14 (S)	76.6		%	38 - 113	SW846 8270D	9/23/15	BS	9/23/15 19:42	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.045 U	U	mg/kg	0.045	0.045	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Aroclor-1016	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Aroclor-1221	0.045 U	U	mg/kg	0.045	0.0041	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Aroclor-1232	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Aroclor-1242	0.045 U	U	mg/kg	0.045	0.012	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Aroclor-1248	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Aroclor-1254	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173012** Date Collected: 9/21/2015 16:16 Matrix: Solid
Sample ID: **HB07-14** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	98.9		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
Tetrachloro-m-xylene (S)	89.5		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 18:49	EGO	A
PESTICIDES											
Aldrin	11.6 U	U	ug/kg	11.6	3.8	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
alpha-BHC	11.6 U	U	ug/kg	11.6	1.0	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
beta-BHC	11.6 U	U	ug/kg	11.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
delta-BHC	11.6 U	U	ug/kg	11.6	0.89	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
gamma-BHC	11.6 U	U	ug/kg	11.6	0.96	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
alpha-Chlordane	11.6 U	U	ug/kg	11.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
4,4'-DDD	22.5 U	U	ug/kg	22.5	1.8	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
4,4'-DDE	22.5 U	U	ug/kg	22.5	3.1	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
4,4'-DDT	22.5 U	U	ug/kg	22.5	2.6	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Dieldrin	22.5 U	U	ug/kg	22.5	2.6	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Endosulfan I	11.6 U	U	ug/kg	11.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Endosulfan II	22.5 U	U	ug/kg	22.5	4.7	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Endosulfan Sulfate	22.5 U	U	ug/kg	22.5	1.5	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Endrin	22.5 U	U	ug/kg	22.5	1.6	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Heptachlor	11.6 U	U	ug/kg	11.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	73.1		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
Tetrachloro-m-xylene (S)	70.3		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 16:48	RWS	A
HERBICIDES											
2,4,5-TP	93.9 U	U	ug/kg	93.9	43.5	SW846 8151A	9/25/15	MPP	9/28/15 14:51	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	53.8		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 14:51	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.35 U	U	mg/kg	0.35	0.13	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.7 U	U	mg/kg	2.7	0.53	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	28.7		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	71.3		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	12.0		mg/kg	2.8	2.8	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173012** Date Collected: 9/21/2015 16:16 Matrix: Solid
Sample ID: **HB07-14** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.7		mg/kg	1.8	0.61	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Barium, Total	10.4		mg/kg	3.1	0.98	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Beryllium, Total	0.22J	J	mg/kg	0.61	0.20	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Cadmium, Total	0.24J	J	mg/kg	0.61	0.20	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Chromium, Total	12.0		mg/kg	1.2	0.41	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Copper, Total	15.0		mg/kg	3.1	0.98	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Lead, Total	19.2		mg/kg	1.2	0.41	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Manganese, Total	291		mg/kg	3.1	0.98	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Mercury, Total	0.098		mg/kg	0.059	0.019	SW846 7471B	10/6/15	MNP	10/6/15 09:10	MNP	A2
Nickel, Total	6.8		mg/kg	3.1	0.98	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Selenium, Total	3.1 U	U	mg/kg	3.1	0.98	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Silver, Total	1.2 U	U	mg/kg	1.2	0.41	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1
Zinc, Total	57.2		mg/kg	3.1	0.98	SW846 6020A	10/4/15	JPS	10/5/15 04:09	ZMC	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173013** Date Collected: 9/21/2015 11:15 Matrix: Other
Sample ID: **HB02-1** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:33	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173014** Date Collected: 9/21/2015 11:15 Matrix: Other
Sample ID: **HB02-2** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:34	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173015** Date Collected: 9/21/2015 16:25 Matrix: Solid
Sample ID: **HB02-1** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	12.4 U	U	ug/kg	12.4	5.7	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Benzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
2-Butanone	12.4 U	U	ug/kg	12.4	4.0	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
n-Butylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
tert-Butylbenzene	2.5 U	U	ug/kg	2.5	0.68	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
sec-Butylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Carbon Tetrachloride	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Chlorobenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Chloroform	2.5 U	U	ug/kg	2.5	0.66	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,2-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,3-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,4-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,1-Dichloroethane	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,2-Dichloroethane	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,1-Dichloroethene	2.5 U	U	ug/kg	2.5	0.65	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
cis-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
trans-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.65	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,4-Dioxane	93.1 U	U	ug/kg	93.1	22.1	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Ethylbenzene	2.5 U	U	ug/kg	2.5	0.84	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Methyl t-Butyl Ether	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Methylene Chloride	26.5		ug/kg	2.5	0.97	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
n-Propylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Tetrachloroethene	2.5 U	U	ug/kg	2.5	0.74	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Toluene	2.5 U	U	ug/kg	2.5	0.83	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Total Xylenes	7.4 U	U	ug/kg	7.4	1.7	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,1,1-Trichloroethane	2.5 U	U	ug/kg	2.5	0.77	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Trichloroethene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,2,4-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
1,3,5-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Vinyl Chloride	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	102		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
4-Bromofluorobenzene (S)	107		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Dibromofluoromethane (S)	103		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2
Toluene-d8 (S)	115		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 17:49	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173015** Date Collected: 9/21/2015 16:25 Matrix: Solid
Sample ID: **HB02-1** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	129 U	U	ug/kg	129	19.4	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Acenaphthylene	129 U	U	ug/kg	129	14.2	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Anthracene	129 U	U	ug/kg	129	12.9	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Benzo(a)anthracene	129 U	U	ug/kg	129	19.4	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Benzo(a)pyrene	129 U	U	ug/kg	129	20.7	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Benzo(b)fluoranthene	129 U	U	ug/kg	129	31.0	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Benzo(g,h,i)perylene	129 U	U	ug/kg	129	27.1	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Benzo(k)fluoranthene	129 U	U	ug/kg	129	24.5	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Chrysene	129 U	U	ug/kg	129	16.8	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
mp-Cresol	349 U	U	ug/kg	349	19.4	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
o-Cresol	349 U	U	ug/kg	349	28.4	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Dibenzo(a,h)anthracene	129 U	U	ug/kg	129	15.5	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Dibenzofuran	129 U	U	ug/kg	129	14.2	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Fluoranthene	129 U	U	ug/kg	129	24.5	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Fluorene	129 U	U	ug/kg	129	25.8	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Hexachlorobenzene	129 U	U	ug/kg	129	24.5	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Indeno(1,2,3-cd)pyrene	129 U	U	ug/kg	129	23.3	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Naphthalene	129 U	U	ug/kg	129	31.0	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Pentachlorophenol	258 U	U	ug/kg	258	46.5	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Phenanthrene	129 U	U	ug/kg	129	18.1	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Phenol	349 U	U	ug/kg	349	19.4	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Pyrene	129 U	U	ug/kg	129	23.3	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	88.7		%	37 - 123	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
2-Fluorobiphenyl (S)	78.4		%	45 - 105	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
2-Fluorophenol (S)	79.9		%	35 - 104	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Nitrobenzene-d5 (S)	85.4		%	41 - 110	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Phenol-d5 (S)	88.6		%	40 - 100	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A
Terphenyl-d14 (S)	89.4		%	38 - 113	SW846 8270D	9/23/15	BS	9/23/15 20:07	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.045 U	U	mg/kg	0.045	0.045	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Aroclor-1016	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Aroclor-1221	0.045 U	U	mg/kg	0.045	0.0041	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Aroclor-1232	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Aroclor-1242	0.045 U	U	mg/kg	0.045	0.012	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Aroclor-1248	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Aroclor-1254	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173015** Date Collected: 9/21/2015 16:25 Matrix: Solid
Sample ID: **HB02-1** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	99.6		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
Tetrachloro-m-xylene (S)	82.4		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 19:01	EGO	A
PESTICIDES											
Aldrin	11.6 U	U	ug/kg	11.6	3.7	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
alpha-BHC	11.6 U	U	ug/kg	11.6	1.0	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
beta-BHC	11.6 U	U	ug/kg	11.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
delta-BHC	11.6 U	U	ug/kg	11.6	0.88	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
gamma-BHC	11.6 U	U	ug/kg	11.6	0.95	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
alpha-Chlordane	11.6 U	U	ug/kg	11.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
4,4'-DDD	22.4 U	U	ug/kg	22.4	1.8	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
4,4'-DDE	22.4 U	U	ug/kg	22.4	3.1	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
4,4'-DDT	22.4 U	U	ug/kg	22.4	2.6	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Dieldrin	22.4 U	U	ug/kg	22.4	2.6	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Endosulfan I	11.6 U	U	ug/kg	11.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Endosulfan II	22.4 U	U	ug/kg	22.4	4.7	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Endosulfan Sulfate	22.4 U	U	ug/kg	22.4	1.5	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Endrin	22.4 U	U	ug/kg	22.4	1.6	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Heptachlor	11.6 U	U	ug/kg	11.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	71.5		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
Tetrachloro-m-xylene (S)	51.2		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 17:04	RWS	A
HERBICIDES											
2,4,5-TP	89.1 U	U	ug/kg	89.1	41.2	SW846 8151A	9/25/15	MPP	9/28/15 15:28	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.1		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 15:28	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.33 U	U	mg/kg	0.33	0.12	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.8 U	U	mg/kg	2.8	0.54	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	27.4		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	72.6		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	9.7		mg/kg	2.8	2.8	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173015** Date Collected: 9/21/2015 16:25 Matrix: Solid
Sample ID: **HB02-1** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.5		mg/kg	1.7	0.57	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Barium, Total	5.7		mg/kg	2.9	0.92	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Beryllium, Total	0.57 U	U	mg/kg	0.57	0.19	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Cadmium, Total	0.57 U	U	mg/kg	0.57	0.19	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Chromium, Total	9.7		mg/kg	1.1	0.38	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Copper, Total	7.9		mg/kg	2.9	0.92	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Lead, Total	10.9		mg/kg	1.1	0.38	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Manganese, Total	179		mg/kg	2.9	0.92	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Mercury, Total	0.074		mg/kg	0.057	0.018	SW846 7471B	10/6/15	MNP	10/6/15 09:11	MNP	A2
Nickel, Total	4.9		mg/kg	2.9	0.92	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Selenium, Total	2.9 U	U	mg/kg	2.9	0.92	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Silver, Total	1.1 U	U	mg/kg	1.1	0.38	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1
Zinc, Total	34.3		mg/kg	2.9	0.92	SW846 6020A	10/4/15	JPS	10/5/15 04:12	ZMC	A1

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173016** Date Collected: 9/21/2015 16:31 Matrix: Solid
Sample ID: **HB02-2** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	12.4 U	U	ug/kg	12.4	5.7	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Benzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
2-Butanone	12.4 U	U	ug/kg	12.4	4.0	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
n-Butylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
tert-Butylbenzene	2.5 U	U	ug/kg	2.5	0.68	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
sec-Butylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Carbon Tetrachloride	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Chlorobenzene	2.5 U	U	ug/kg	2.5	0.63	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Chloroform	2.5 U	U	ug/kg	2.5	0.66	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,2-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,3-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,4-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,1-Dichloroethane	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,2-Dichloroethane	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,1-Dichloroethene	2.5 U	U	ug/kg	2.5	0.65	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
cis-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
trans-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.65	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,4-Dioxane	93.1 U	U	ug/kg	93.1	22.1	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Ethylbenzene	2.5 U	U	ug/kg	2.5	0.84	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Methyl t-Butyl Ether	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Methylene Chloride	25.5		ug/kg	2.5	0.97	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
n-Propylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Tetrachloroethene	2.5 U	U	ug/kg	2.5	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Toluene	2.5 U	U	ug/kg	2.5	0.83	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Total Xylenes	7.4 U	U	ug/kg	7.4	1.7	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,1,1-Trichloroethane	2.5 U	U	ug/kg	2.5	0.77	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Trichloroethene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,2,4-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
1,3,5-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Vinyl Chloride	2.5 U	U	ug/kg	2.5	0.62	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	104		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
4-Bromofluorobenzene (S)	104		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Dibromofluoromethane (S)	100		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2
Toluene-d8 (S)	114		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 18:12	TMP	A2

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173016** Date Collected: 9/21/2015 16:31 Matrix: Solid
Sample ID: **HB02-2** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	137 U	U	ug/kg	137	20.5	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Acenaphthylene	137 U	U	ug/kg	137	15.0	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Anthracene	137 U	U	ug/kg	137	13.7	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Benzo(a)anthracene	137 U	U	ug/kg	137	20.5	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Benzo(a)pyrene	137 U	U	ug/kg	137	21.9	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Benzo(b)fluoranthene	137 U	U	ug/kg	137	32.8	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Benzo(g,h,i)perylene	137 U	U	ug/kg	137	28.7	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Benzo(k)fluoranthene	137 U	U	ug/kg	137	26.0	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Chrysene	137 U	U	ug/kg	137	17.8	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
mp-Cresol	369 U	U	ug/kg	369	20.5	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
o-Cresol	369 U	U	ug/kg	369	30.1	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Dibenzo(a,h)anthracene	137 U	U	ug/kg	137	16.4	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Dibenzofuran	137 U	U	ug/kg	137	15.0	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Fluoranthene	137 U	U	ug/kg	137	26.0	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Fluorene	137 U	U	ug/kg	137	27.4	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Hexachlorobenzene	137 U	U	ug/kg	137	26.0	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Indeno(1,2,3-cd)pyrene	137 U	U	ug/kg	137	24.6	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Naphthalene	137 U	U	ug/kg	137	32.8	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Pentachlorophenol	274 U	U	ug/kg	274	49.2	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Phenanthrene	137 U	U	ug/kg	137	19.2	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Phenol	369 U	U	ug/kg	369	20.5	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Pyrene	137 U	U	ug/kg	137	24.6	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	85.7		%	37 - 123	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
2-Fluorobiphenyl (S)	80.6		%	45 - 105	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
2-Fluorophenol (S)	83.8		%	35 - 104	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Nitrobenzene-d5 (S)	87.5		%	41 - 110	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Phenol-d5 (S)	83.6		%	40 - 100	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A
Terphenyl-d14 (S)	93.6		%	38 - 113	SW846 8270D	9/24/15	BS	9/24/15 18:01	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.046 U	U	mg/kg	0.046	0.046	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Aroclor-1016	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Aroclor-1221	0.046 U	U	mg/kg	0.046	0.0042	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Aroclor-1232	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Aroclor-1242	0.046 U	U	mg/kg	0.046	0.012	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Aroclor-1248	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Aroclor-1254	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173016** Date Collected: 9/21/2015 16:31 Matrix: Solid
Sample ID: **HB02-2** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.046 U	U	mg/kg	0.046	0.0083	SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	93.5		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
Tetrachloro-m-xylene (S)	74.3		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 19:12	EGO	A
PESTICIDES											
Aldrin	11.8 U	U	ug/kg	11.8	3.8	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
alpha-BHC	11.8 U	U	ug/kg	11.8	1.0	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
beta-BHC	11.8 U	U	ug/kg	11.8	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
delta-BHC	11.8 U	U	ug/kg	11.8	0.90	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
gamma-BHC	11.8 U	U	ug/kg	11.8	0.97	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
alpha-Chlordane	11.8 U	U	ug/kg	11.8	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
4,4'-DDD	22.9 U	U	ug/kg	22.9	1.9	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
4,4'-DDE	22.9 U	U	ug/kg	22.9	3.1	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
4,4'-DDT	22.9 U	U	ug/kg	22.9	2.6	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Dieldrin	22.9 U	U	ug/kg	22.9	2.6	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Endosulfan I	11.8 U	U	ug/kg	11.8	1.5	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Endosulfan II	22.9 U	U	ug/kg	22.9	4.8	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Endosulfan Sulfate	22.9 U	U	ug/kg	22.9	1.5	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Endrin	22.9 U	U	ug/kg	22.9	1.7	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Heptachlor	11.8 U	U	ug/kg	11.8	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	69.4		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
Tetrachloro-m-xylene (S)	55.4		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 17:19	RWS	A
HERBICIDES											
2,4,5-TP	93.5 U	U	ug/kg	93.5	43.2	SW846 8151A	9/25/15	MPP	9/28/15 16:06	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	59.7		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 16:06	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.37 U	U	mg/kg	0.37	0.13	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	2.9 U	U	mg/kg	2.9	0.55	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	29.7		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	70.3		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	7.6		mg/kg	2.8	2.8	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173016** Date Collected: 9/21/2015 16:31 Matrix: Solid
Sample ID: **HB02-2** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.1		mg/kg	2.0	0.67	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Barium, Total	7.0		mg/kg	3.4	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Beryllium, Total	0.67 U	U	mg/kg	0.67	0.22	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Cadmium, Total	0.67 U	U	mg/kg	0.67	0.22	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Chromium, Total	7.6		mg/kg	1.3	0.44	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Copper, Total	7.4		mg/kg	3.4	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Lead, Total	10.8		mg/kg	1.3	0.44	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Manganese, Total	252		mg/kg	3.4	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Mercury, Total	0.072		mg/kg	0.070	0.022	SW846 7471B	10/6/15	MNP	10/6/15 09:12	MNP	A2
Nickel, Total	4.7		mg/kg	3.4	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Selenium, Total	3.4 U	U	mg/kg	3.4	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Silver, Total	1.3 U	U	mg/kg	1.3	0.44	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1
Zinc, Total	33.2		mg/kg	3.4	1.1	SW846 6020A	10/4/15	JPS	10/5/15 04:16	ZMC	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173017**	Date Collected:	9/21/2015 11:45	Matrix:	Other
Sample ID:	**HB06-11**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:34	VAF	A

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173018** Date Collected: 9/21/2015 16:36 Matrix: Solid
Sample ID: **HB06-11** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	8.3J	J	ug/kg	9.8	4.5	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Benzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
2-Butanone	9.8 U	U	ug/kg	9.8	3.1	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
n-Butylbenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
tert-Butylbenzene	2.0 U	U	ug/kg	2.0	0.54	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
sec-Butylbenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Carbon Tetrachloride	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Chlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Chloroform	2.0 U	U	ug/kg	2.0	0.52	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,2-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,3-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,4-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,1-Dichloroethane	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,2-Dichloroethane	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,1-Dichloroethene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
cis-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
trans-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,4-Dioxane	73.5 U	U	ug/kg	73.5	17.4	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Ethylbenzene	2.0 U	U	ug/kg	2.0	0.67	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Methyl t-Butyl Ether	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Methylene Chloride	19.3		ug/kg	2.0	0.76	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
n-Propylbenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Tetrachloroethene	2.0 U	U	ug/kg	2.0	0.59	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Toluene	2.0 U	U	ug/kg	2.0	0.66	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Total Xylenes	5.9 U	U	ug/kg	5.9	1.4	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,1,1-Trichloroethane	2.0 U	U	ug/kg	2.0	0.61	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Trichloroethene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,2,4-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
1,3,5-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Vinyl Chloride	2.0 U	U	ug/kg	2.0	0.49	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	117		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
4-Bromofluorobenzene (S)	109		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Dibromofluoromethane (S)	117		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2
Toluene-d8 (S)	121		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 18:35	TMP	A2

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173018** Date Collected: 9/21/2015 16:36 Matrix: Solid
Sample ID: **HB06-11** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	160 U	U	ug/kg	160	24.1	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Acenaphthylene	160 U	U	ug/kg	160	17.6	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Anthracene	143J	J	ug/kg	160	16.0	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Benzo(a)anthracene	213		ug/kg	160	24.1	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Benzo(a)pyrene	219		ug/kg	160	25.7	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Benzo(b)fluoranthene	274		ug/kg	160	38.5	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Benzo(g,h,i)perylene	140J	J	ug/kg	160	33.7	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Benzo(k)fluoranthene	104J	J	ug/kg	160	30.5	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Chrysene	215		ug/kg	160	20.9	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
mp-Cresol	433 U	U	ug/kg	433	24.1	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
o-Cresol	433 U	U	ug/kg	433	35.3	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Dibenzo(a,h)anthracene	160 U	U	ug/kg	160	19.2	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Dibenzofuran	160 U	U	ug/kg	160	17.6	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Fluoranthene	339		ug/kg	160	30.5	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Fluorene	160 U	U	ug/kg	160	32.1	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Hexachlorobenzene	160 U	U	ug/kg	160	30.5	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Indeno(1,2,3-cd)pyrene	154J	J	ug/kg	160	28.9	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Naphthalene	160 U	U	ug/kg	160	38.5	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Pentachlorophenol	321 U	U	ug/kg	321	57.7	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Phenanthrene	141J	J	ug/kg	160	22.5	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Phenol	433 U	U	ug/kg	433	24.1	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Pyrene	349		ug/kg	160	28.9	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	89.4		%	37 - 123	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
2-Fluorobiphenyl (S)	76.1		%	45 - 105	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
2-Fluorophenol (S)	81.6		%	35 - 104	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Nitrobenzene-d5 (S)	88.1		%	41 - 110	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Phenol-d5 (S)	82.4		%	40 - 100	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A
Terphenyl-d14 (S)	88		%	38 - 113	SW846 8270D	9/24/15	BS	9/24/15 18:26	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.051 U	U	mg/kg	0.051	0.051	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Aroclor-1016	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Aroclor-1221	0.051 U	U	mg/kg	0.051	0.0046	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Aroclor-1232	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Aroclor-1242	0.051 U	U	mg/kg	0.051	0.014	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Aroclor-1248	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Aroclor-1254	0.037J	J	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173018** Date Collected: 9/21/2015 16:36 Matrix: Solid
Sample ID: **HB06-11** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	86		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
Tetrachloro-m-xylene (S)	85.8		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 19:24	EGO	A
PESTICIDES											
Aldrin	13.1 U	U	ug/kg	13.1	4.2	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
alpha-BHC	13.1 U	U	ug/kg	13.1	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
beta-BHC	13.1 U	U	ug/kg	13.1	1.4	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
delta-BHC	13.1 U	U	ug/kg	13.1	1.0	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
gamma-BHC	13.1 U	U	ug/kg	13.1	1.1	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
alpha-Chlordane	13.1 U	U	ug/kg	13.1	1.4	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
4,4'-DDD	5.2J	J	ug/kg	25.5	2.1	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
4,4'-DDE	6.4J	J	ug/kg	25.5	3.5	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
4,4'-DDT	25.5 U	U	ug/kg	25.5	2.9	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Dieldrin	25.5 U	U	ug/kg	25.5	2.9	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Endosulfan I	13.1 U	U	ug/kg	13.1	1.6	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Endosulfan II	25.5 U	U	ug/kg	25.5	5.3	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Endosulfan Sulfate	25.5 U	U	ug/kg	25.5	1.7	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Endrin	25.5 U	U	ug/kg	25.5	1.9	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Heptachlor	13.1 U	U	ug/kg	13.1	1.3	SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	70.7		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
Tetrachloro-m-xylene (S)	416	1	%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 17:35	RWS	A
HERBICIDES											
2,4,5-TP	108 U	U	ug/kg	108	49.9	SW846 8151A	9/25/15	MPP	9/28/15 17:21	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.8		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 17:21	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.39 U	U	mg/kg	0.39	0.14	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	3.2 U	U	mg/kg	3.2	0.61	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	38.5		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	61.5		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	33.0		mg/kg	3.3	3.3	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173018** Date Collected: 9/21/2015 16:36 Matrix: Solid
Sample ID: **HB06-11** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	10.4		mg/kg	2.4	0.80	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Barium, Total	29.6		mg/kg	4.0	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Beryllium, Total	0.45J	J	mg/kg	0.80	0.26	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Cadmium, Total	1.0		mg/kg	0.80	0.26	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Chromium, Total	33.0		mg/kg	1.6	0.53	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Copper, Total	63.0		mg/kg	4.0	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Lead, Total	65.7		mg/kg	1.6	0.53	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Manganese, Total	186		mg/kg	4.0	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Mercury, Total	0.49		mg/kg	0.081	0.026	SW846 7471B	10/6/15	MNP	10/6/15 09:13	MNP	A2
Nickel, Total	15.8		mg/kg	4.0	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Selenium, Total	1.7J	J	mg/kg	4.0	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Silver, Total	0.99J	J	mg/kg	1.6	0.53	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1
Zinc, Total	141		mg/kg	4.0	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:20	ZMC	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173019** Date Collected: 9/21/2015 11:45 Matrix: Other
Sample ID: **HB06-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:35	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173020** Date Collected: 9/21/2015 16:40 Matrix: Solid
Sample ID: **HB06-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	14.7 U	U	ug/kg	14.7	6.8	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Benzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
2-Butanone	14.7 U	U	ug/kg	14.7	4.7	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
n-Butylbenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
tert-Butylbenzene	2.9 U	U	ug/kg	2.9	0.81	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
sec-Butylbenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Carbon Tetrachloride	2.9 U	U	ug/kg	2.9	0.75	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Chlorobenzene	2.9 U	U	ug/kg	2.9	0.75	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Chloroform	2.9 U	U	ug/kg	2.9	0.78	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,2-Dichlorobenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,3-Dichlorobenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,4-Dichlorobenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,1-Dichloroethane	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,2-Dichloroethane	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,1-Dichloroethene	2.9 U	U	ug/kg	2.9	0.77	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
cis-1,2-Dichloroethene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
trans-1,2-Dichloroethene	2.9 U	U	ug/kg	2.9	0.77	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,4-Dioxane	110 U	U	ug/kg	110	26.2	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Ethylbenzene	2.9 U	U	ug/kg	2.9	1.0	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Methyl t-Butyl Ether	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Methylene Chloride	26.6		ug/kg	2.9	1.1	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
n-Propylbenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Tetrachloroethene	2.9 U	U	ug/kg	2.9	0.88	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Toluene	2.9 U	U	ug/kg	2.9	0.99	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Total Xylenes	8.8 U	U	ug/kg	8.8	2.1	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,1,1-Trichloroethane	2.9 U	U	ug/kg	2.9	0.91	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Trichloroethene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,2,4-Trimethylbenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
1,3,5-Trimethylbenzene	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Vinyl Chloride	2.9 U	U	ug/kg	2.9	0.74	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	108		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
4-Bromofluorobenzene (S)	106		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Dibromofluoromethane (S)	119		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2
Toluene-d8 (S)	106		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 18:59	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173020** Date Collected: 9/21/2015 16:40 Matrix: Solid
Sample ID: **HB06-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	156 U	U	ug/kg	156	23.5	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Acenaphthylene	68.3J	J	ug/kg	156	17.2	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Anthracene	82.9J	J	ug/kg	156	15.6	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Benzo(a)anthracene	286		ug/kg	156	23.5	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Benzo(a)pyrene	343		ug/kg	156	25.0	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Benzo(b)fluoranthene	428		ug/kg	156	37.5	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Benzo(g,h,i)perylene	231		ug/kg	156	32.9	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Benzo(k)fluoranthene	156J	J	ug/kg	156	29.7	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Chrysene	296		ug/kg	156	20.3	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
mp-Cresol	422 U	U	ug/kg	422	23.5	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
o-Cresol	422 U	U	ug/kg	422	34.4	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Dibenzo(a,h)anthracene	69.5J	J	ug/kg	156	18.8	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Dibenzofuran	156 U	U	ug/kg	156	17.2	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Fluoranthene	516		ug/kg	156	29.7	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Fluorene	156 U	U	ug/kg	156	31.3	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Hexachlorobenzene	156 U	U	ug/kg	156	29.7	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Indeno(1,2,3-cd)pyrene	226		ug/kg	156	28.2	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Naphthalene	156 U	U	ug/kg	156	37.5	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Pentachlorophenol	313 U	U	ug/kg	313	56.3	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Phenanthrene	198		ug/kg	156	21.9	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Phenol	422 U	U	ug/kg	422	23.5	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Pyrene	493		ug/kg	156	28.2	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	94.7		%	37 - 123	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
2-Fluorobiphenyl (S)	85.6		%	45 - 105	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
2-Fluorophenol (S)	81.9		%	35 - 104	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Nitrobenzene-d5 (S)	89.2		%	41 - 110	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Phenol-d5 (S)	84.8		%	40 - 100	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A
Terphenyl-d14 (S)	95.3		%	38 - 113	SW846 8270D	9/24/15	BS	9/24/15 21:43	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.053 U	U	mg/kg	0.053	0.053	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Aroclor-1016	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Aroclor-1221	0.053 U	U	mg/kg	0.053	0.0048	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Aroclor-1232	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Aroclor-1242	0.053 U	U	mg/kg	0.053	0.014	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Aroclor-1248	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Aroclor-1254	0.039J	J	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173020** Date Collected: 9/21/2015 16:40 Matrix: Solid
Sample ID: **HB06-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	76		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
Tetrachloro-m-xylene (S)	68.9		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 19:35	EGO	A
PESTICIDES											
Aldrin	13.6 U	U	ug/kg	13.6	4.4	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
alpha-BHC	13.6 U	U	ug/kg	13.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
beta-BHC	13.6 U	U	ug/kg	13.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
delta-BHC	13.6 U	U	ug/kg	13.6	1.0	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
gamma-BHC	13.6 U	U	ug/kg	13.6	1.1	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
alpha-Chlordane	13.6 U	U	ug/kg	13.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
4,4'-DDD	26.3 U	U	ug/kg	26.3	2.2	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
4,4'-DDE	6.4J	J	ug/kg	26.3	3.6	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
4,4'-DDT	26.3 U	U	ug/kg	26.3	3.0	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Dieldrin	26.3 U	U	ug/kg	26.3	3.0	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Endosulfan I	13.6 U	U	ug/kg	13.6	1.7	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Endosulfan II	26.3 U	U	ug/kg	26.3	5.5	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Endosulfan Sulfate	26.3 U	U	ug/kg	26.3	1.8	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Endrin	26.3 U	U	ug/kg	26.3	1.9	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Heptachlor	13.6 U	U	ug/kg	13.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	71		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
Tetrachloro-m-xylene (S)	43.3		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 17:50	RWS	A
HERBICIDES											
2,4,5-TP	108 U	U	ug/kg	108	49.9	SW846 8151A	9/25/15	MPP	9/28/15 17:58	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.1		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 17:58	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.41 U	U1	mg/kg	0.41	0.15	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	3.4 U	U	mg/kg	3.4	0.66	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	39.7		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	60.3		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	31.1		mg/kg	3.3	3.3	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173020** Date Collected: 9/21/2015 16:40 Matrix: Solid
Sample ID: **HB06-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	8.9		mg/kg	2.3	0.77	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Barium, Total	23.3		mg/kg	3.8	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Beryllium, Total	0.42J	J	mg/kg	0.77	0.25	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Cadmium, Total	0.99		mg/kg	0.77	0.25	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Chromium, Total	31.1		mg/kg	1.5	0.51	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Copper, Total	61.4		mg/kg	3.8	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Lead, Total	61.5		mg/kg	1.5	0.51	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Manganese, Total	193		mg/kg	3.8	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Mercury, Total	0.57		mg/kg	0.080	0.026	SW846 7471B	10/6/15	MNP	10/6/15 09:15	MNP	A2
Nickel, Total	15.7		mg/kg	3.8	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Selenium, Total	2.4J	J	mg/kg	3.8	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Silver, Total	0.94J	J	mg/kg	1.5	0.51	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1
Zinc, Total	151		mg/kg	3.8	1.2	SW846 6020A	10/4/15	JPS	10/5/15 04:24	ZMC	A1

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173021** Date Collected: 9/21/2015 16:45 Matrix: Solid
Sample ID: **2014-19** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	11.9J	J	ug/kg	15.7	7.2	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Benzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
2-Butanone	15.7 U	U	ug/kg	15.7	5.0	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
n-Butylbenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
tert-Butylbenzene	3.1 U	U	ug/kg	3.1	0.86	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
sec-Butylbenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Carbon Tetrachloride	3.1 U	U	ug/kg	3.1	0.80	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Chlorobenzene	3.1 U	U	ug/kg	3.1	0.80	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Chloroform	3.1 U	U	ug/kg	3.1	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,2-Dichlorobenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,3-Dichlorobenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,4-Dichlorobenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,1-Dichloroethane	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,2-Dichloroethane	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,1-Dichloroethene	3.1 U	U	ug/kg	3.1	0.82	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
cis-1,2-Dichloroethene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
trans-1,2-Dichloroethene	3.1 U	U	ug/kg	3.1	0.82	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,4-Dioxane	118 U	U	ug/kg	118	28.0	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Ethylbenzene	3.1 U	U	ug/kg	3.1	1.1	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Methyl t-Butyl Ether	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Methylene Chloride	29.8		ug/kg	3.1	1.2	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
n-Propylbenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Tetrachloroethene	3.1 U	U	ug/kg	3.1	0.94	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Toluene	3.1 U	U	ug/kg	3.1	1.1	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Total Xylenes	9.4 U	U	ug/kg	9.4	2.2	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,1,1-Trichloroethane	3.1 U	U	ug/kg	3.1	0.97	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Trichloroethene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,2,4-Trimethylbenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
1,3,5-Trimethylbenzene	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Vinyl Chloride	3.1 U	U	ug/kg	3.1	0.79	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	112		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
4-Bromofluorobenzene (S)	105		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Dibromofluoromethane (S)	108		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2
Toluene-d8 (S)	96.6		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 19:22	TMP	A2

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173021** Date Collected: 9/21/2015 16:45 Matrix: Solid
Sample ID: **2014-19** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	161 U	U	ug/kg	161	24.1	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Acenaphthylene	161 U	U	ug/kg	161	17.7	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Anthracene	84.4J	J	ug/kg	161	16.1	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Benzo(a)anthracene	142J	J	ug/kg	161	24.1	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Benzo(a)pyrene	177		ug/kg	161	25.7	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Benzo(b)fluoranthene	203		ug/kg	161	38.5	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Benzo(g,h,i)perylene	108J	J	ug/kg	161	33.7	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Benzo(k)fluoranthene	84.9J	J	ug/kg	161	30.5	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Chrysene	124J	J	ug/kg	161	20.9	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
mp-Cresol	434 U	U	ug/kg	434	24.1	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
o-Cresol	434 U	U	ug/kg	434	35.3	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Dibenzo(a,h)anthracene	161 U	U	ug/kg	161	19.3	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Dibenzofuran	161 U	U	ug/kg	161	17.7	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Fluoranthene	219		ug/kg	161	30.5	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Fluorene	161 U	U	ug/kg	161	32.1	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Hexachlorobenzene	161 U	U	ug/kg	161	30.5	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Indeno(1,2,3-cd)pyrene	115J	J	ug/kg	161	28.9	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Naphthalene	161 U	U	ug/kg	161	38.5	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Pentachlorophenol	321 U	U	ug/kg	321	57.8	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Phenanthrene	83.4J	J	ug/kg	161	22.5	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Phenol	434 U	U	ug/kg	434	24.1	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Pyrene	237		ug/kg	161	28.9	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	84.8		%	37 - 123	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
2-Fluorobiphenyl (S)	71.5		%	45 - 105	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
2-Fluorophenol (S)	81.1		%	35 - 104	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Nitrobenzene-d5 (S)	87.1		%	41 - 110	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Phenol-d5 (S)	80.8		%	40 - 100	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A
Terphenyl-d14 (S)	82.8		%	38 - 113	SW846 8270D	9/24/15	BS	9/24/15 22:08	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.051 U	U	mg/kg	0.051	0.051	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Aroclor-1016	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Aroclor-1221	0.051 U	U	mg/kg	0.051	0.0046	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Aroclor-1232	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Aroclor-1242	0.051 U	U	mg/kg	0.051	0.014	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Aroclor-1248	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Aroclor-1254	0.024J	J	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173021** Date Collected: 9/21/2015 16:45 Matrix: Solid
Sample ID: **2014-19** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.051 U	U	mg/kg	0.051	0.0093	SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	83.7		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
Tetrachloro-m-xylene (S)	86.6		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 19:58	EGO	A
PESTICIDES											
Aldrin	13.1 U	U	ug/kg	13.1	4.2	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
alpha-BHC	13.1 U	U	ug/kg	13.1	1.2	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
beta-BHC	13.1 U	U	ug/kg	13.1	1.4	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
delta-BHC	13.1 U	U	ug/kg	13.1	1.0	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
gamma-BHC	13.1 U	U	ug/kg	13.1	1.1	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
alpha-Chlordane	13.1 U	U	ug/kg	13.1	1.4	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
4,4'-DDD	25.5 U	U	ug/kg	25.5	2.1	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
4,4'-DDE	25.5 U	U	ug/kg	25.5	3.5	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
4,4'-DDT	25.5 U	U	ug/kg	25.5	2.9	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Dieldrin	25.5 U	U	ug/kg	25.5	2.9	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Endosulfan I	13.1 U	U	ug/kg	13.1	1.6	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Endosulfan II	25.5 U	U	ug/kg	25.5	5.3	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Endosulfan Sulfate	25.5 U	U	ug/kg	25.5	1.7	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Endrin	25.5 U	U	ug/kg	25.5	1.9	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Heptachlor	13.1 U	U	ug/kg	13.1	1.3	SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	78.1		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
Tetrachloro-m-xylene (S)	73.4		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 18:21	RWS	A
HERBICIDES											
2,4,5-TP	109 U	U	ug/kg	109	50.5	SW846 8151A	9/25/15	MPP	9/28/15 18:35	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	58.2		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 18:35	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.40 U	U	mg/kg	0.40	0.14	SW846 9012B	9/24/15	SYB	9/25/15 12:52	LJF	A
Hexavalent Chromium	3.2 U	U	mg/kg	3.2	0.62	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	38.6		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	61.4		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	28.5		mg/kg	3.3	3.3	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173021** Date Collected: 9/21/2015 16:45 Matrix: Solid
Sample ID: **2014-19** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	15.5		mg/kg	2.3	0.78	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Barium, Total	20.6		mg/kg	3.9	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Beryllium, Total	0.38J	J	mg/kg	0.78	0.26	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Cadmium, Total	1.0		mg/kg	0.78	0.26	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Chromium, Total	28.5		mg/kg	1.6	0.52	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Copper, Total	56.8		mg/kg	3.9	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Lead, Total	54.0		mg/kg	1.6	0.52	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Manganese, Total	200		mg/kg	3.9	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Mercury, Total	0.46		mg/kg	0.073	0.023	SW846 7471B	10/6/15	MNP	10/6/15 09:16	MNP	A2
Nickel, Total	14.7		mg/kg	3.9	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Selenium, Total	1.3J	J	mg/kg	3.9	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Silver, Total	0.83J	J	mg/kg	1.6	0.52	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1
Zinc, Total	136		mg/kg	3.9	1.3	SW846 6020A	10/4/15	JPS	10/5/15 04:27	ZMC	A1

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173022** Date Collected: 9/21/2015 16:51 Matrix: Solid
Sample ID: **2013-28** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	16.7 U	U	ug/kg	16.7	7.7	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Benzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
2-Butanone	16.7 U	U	ug/kg	16.7	5.3	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
n-Butylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
tert-Butylbenzene	3.3 U	U	ug/kg	3.3	0.92	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
sec-Butylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Carbon Tetrachloride	3.3 U	U	ug/kg	3.3	0.85	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Chlorobenzene	3.3 U	U	ug/kg	3.3	0.85	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Chloroform	3.3 U	U	ug/kg	3.3	0.88	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,2-Dichlorobenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,3-Dichlorobenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,4-Dichlorobenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,1-Dichloroethane	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,2-Dichloroethane	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,1-Dichloroethene	3.3 U	U	ug/kg	3.3	0.87	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
cis-1,2-Dichloroethene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
trans-1,2-Dichloroethene	3.3 U	U	ug/kg	3.3	0.87	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,4-Dioxane	125 U	U	ug/kg	125	29.7	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Ethylbenzene	3.3 U	U	ug/kg	3.3	1.1	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Methyl t-Butyl Ether	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Methylene Chloride	29.5		ug/kg	3.3	1.3	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
n-Propylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Tetrachloroethene	3.3 U	U	ug/kg	3.3	1.0	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Toluene	3.3 U	U	ug/kg	3.3	1.1	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Total Xylenes	10.0 U	U	ug/kg	10.0	2.3	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,1,1-Trichloroethane	3.3 U	U	ug/kg	3.3	1.0	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Trichloroethene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,2,4-Trimethylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
1,3,5-Trimethylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Vinyl Chloride	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	104		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
4-Bromofluorobenzene (S)	105		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Dibromofluoromethane (S)	109		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2
Toluene-d8 (S)	112		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 19:45	TMP	A2

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173022** Date Collected: 9/21/2015 16:51 Matrix: Solid
Sample ID: **2013-28** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	164 U	U	ug/kg	164	24.6	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Acenaphthylene	45.0J	J	ug/kg	164	18.0	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Anthracene	84.7J	J	ug/kg	164	16.4	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Benzo(a)anthracene	316		ug/kg	164	24.6	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Benzo(a)pyrene	348		ug/kg	164	26.2	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Benzo(b)fluoranthene	454		ug/kg	164	39.3	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Benzo(g,h,i)perylene	234		ug/kg	164	34.4	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Benzo(k)fluoranthene	164 U	U	ug/kg	164	31.1	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Chrysene	334		ug/kg	164	21.3	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
mp-Cresol	442 U	U	ug/kg	442	24.6	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
o-Cresol	442 U	U	ug/kg	442	36.0	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Dibenzo(a,h)anthracene	64.7J	J	ug/kg	164	19.6	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Dibenzofuran	164 U	U	ug/kg	164	18.0	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Fluoranthene	602		ug/kg	164	31.1	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Fluorene	164 U	U	ug/kg	164	32.7	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Hexachlorobenzene	164 U	U	ug/kg	164	31.1	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Indeno(1,2,3-cd)pyrene	274		ug/kg	164	29.5	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Naphthalene	164 U	U	ug/kg	164	39.3	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Pentachlorophenol	327 U	U	ug/kg	327	58.9	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Phenanthrene	258		ug/kg	164	22.9	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Phenol	442 U	U	ug/kg	442	24.6	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Pyrene	488		ug/kg	164	29.5	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	89.6		%	37 - 123	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
2-Fluorobiphenyl (S)	73.8		%	45 - 105	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
2-Fluorophenol (S)	82.1		%	35 - 104	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Nitrobenzene-d5 (S)	87.4		%	41 - 110	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Phenol-d5 (S)	84.3		%	40 - 100	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A
Terphenyl-d14 (S)	77		%	38 - 113	SW846 8270D	9/24/15	BS	9/24/15 18:51	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.055 U	U	mg/kg	0.055	0.055	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Aroclor-1016	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Aroclor-1221	0.055 U	U	mg/kg	0.055	0.0050	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Aroclor-1232	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Aroclor-1242	0.055 U	U	mg/kg	0.055	0.015	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Aroclor-1248	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Aroclor-1254	0.024J	J	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173022** Date Collected: 9/21/2015 16:51 Matrix: Solid
Sample ID: **2013-28** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	74.9		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
Tetrachloro-m-xylene (S)	68.8		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 20:10	EGO	A
PESTICIDES											
Aldrin	14.1 U	U	ug/kg	14.1	4.6	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
alpha-BHC	14.1 U	U	ug/kg	14.1	1.2	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
beta-BHC	14.1 U	U	ug/kg	14.1	1.5	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
delta-BHC	14.1 U	U	ug/kg	14.1	1.1	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
gamma-BHC	14.1 U	U	ug/kg	14.1	1.2	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
alpha-Chlordane	14.1 U	U	ug/kg	14.1	1.5	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
4,4'-DDD	27.4 U	U	ug/kg	27.4	2.2	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
4,4'-DDE	27.4 U	U	ug/kg	27.4	3.7	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
4,4'-DDT	27.4 U	U	ug/kg	27.4	3.2	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Dieldrin	27.4 U	U	ug/kg	27.4	3.2	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Endosulfan I	14.1 U	U	ug/kg	14.1	1.7	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Endosulfan II	27.4 U	U	ug/kg	27.4	5.7	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Endosulfan Sulfate	27.4 U	U	ug/kg	27.4	1.8	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Endrin	27.4 U	U	ug/kg	27.4	2.0	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Heptachlor	14.1 U	U	ug/kg	14.1	1.4	SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	70.1		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
Tetrachloro-m-xylene (S)	307	1	%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 18:37	RWS	A
HERBICIDES											
2,4-D	111 U	U	ug/kg	111	43.1	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
2,4-DB	111 U	U	ug/kg	111	59.7	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
Dalapon	111 U	U	ug/kg	111	28.2	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
Dicamba	111 U	U	ug/kg	111	39.8	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
Dichloroprop	111 U	U	ug/kg	111	44.8	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
Dinoseb	277 U	U	ug/kg	277	56.4	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
Pentachlorophenol	111 U	U	ug/kg	111	63.0	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
2,4,5-T	111 U	U	ug/kg	111	46.4	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
2,4,5-TP	111 U	U	ug/kg	111	51.4	SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.1		%	30 - 153		SW846 8151A	9/30/15	RMP	10/1/15 17:23	KJH	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173022** Date Collected: 9/21/2015 16:51 Matrix: Solid
Sample ID: **2013-28** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Cyanide, Total	0.43 U	U	mg/kg	0.43	0.15	SW846 9012B	9/26/15	SYB	9/28/15 11:26	LJF	A
Hexavalent Chromium	3.4 U	U	mg/kg	3.4	0.65	SW846 7196A	10/5/15	JAM	10/6/15 03:00	JAM	A
Moisture	40.9		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	59.1		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	18.4		mg/kg	3.4	3.4	Calculation			10/7/15 19:26	NJA	A
Arsenic, Total	4.9		mg/kg	2.4	0.80	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Barium, Total	18.3		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Beryllium, Total	0.30J	J	mg/kg	0.80	0.26	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Cadmium, Total	0.48J	J	mg/kg	0.80	0.26	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Chromium, Total	18.4		mg/kg	1.6	0.53	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Copper, Total	32.8		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Lead, Total	33.6		mg/kg	1.6	0.53	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Manganese, Total	119		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Mercury, Total	0.36		mg/kg	0.085	0.027	SW846 7471B	10/6/15	MNP	10/6/15 09:17	MNP	A2
Nickel, Total	9.7		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Selenium, Total	4.0 U	U	mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Silver, Total	1.6 U	U	mg/kg	1.6	0.53	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1
Zinc, Total	85.3		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:33	MO	A1

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Project Coordinator

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173023** Date Collected: 9/21/2015 16:55 Matrix: Solid
Sample ID: **2012-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	10.5J	J	ug/kg	16.7	7.7	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Benzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
2-Butanone	16.7 U	U	ug/kg	16.7	5.3	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
n-Butylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
tert-Butylbenzene	3.3 U	U	ug/kg	3.3	0.92	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
sec-Butylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Carbon Tetrachloride	3.3 U	U	ug/kg	3.3	0.85	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Chlorobenzene	3.3 U	U	ug/kg	3.3	0.85	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Chloroform	3.3 U	U	ug/kg	3.3	0.88	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,2-Dichlorobenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,3-Dichlorobenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,4-Dichlorobenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,1-Dichloroethane	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,2-Dichloroethane	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,1-Dichloroethene	3.3 U	U	ug/kg	3.3	0.87	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
cis-1,2-Dichloroethene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
trans-1,2-Dichloroethene	3.3 U	U	ug/kg	3.3	0.87	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,4-Dioxane	125 U	U	ug/kg	125	29.7	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Ethylbenzene	3.3 U	U	ug/kg	3.3	1.1	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Methyl t-Butyl Ether	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Methylene Chloride	32.6		ug/kg	3.3	1.3	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
n-Propylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Tetrachloroethene	3.3 U	U	ug/kg	3.3	1.0	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Toluene	3.3 U	U	ug/kg	3.3	1.1	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Total Xylenes	10.0 U	U	ug/kg	10.0	2.3	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,1,1-Trichloroethane	3.3 U	U	ug/kg	3.3	1.0	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Trichloroethene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,2,4-Trimethylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
1,3,5-Trimethylbenzene	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Vinyl Chloride	3.3 U	U	ug/kg	3.3	0.83	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	107		%	56 - 124	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
4-Bromofluorobenzene (S)	102		%	51 - 128	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Dibromofluoromethane (S)	106		%	62 - 123	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2
Toluene-d8 (S)	113		%	59 - 131	SW846 8260C	9/23/15	TMP	9/25/15 20:08	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173023** Date Collected: 9/21/2015 16:55 Matrix: Solid
Sample ID: **2012-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	175 U	U	ug/kg	175	26.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Acenaphthylene	52.9J	J	ug/kg	175	19.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Anthracene	119J	J	ug/kg	175	17.5	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Benzo(a)anthracene	211		ug/kg	175	26.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Benzo(a)pyrene	237		ug/kg	175	27.9	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Benzo(b)fluoranthene	303		ug/kg	175	41.9	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Benzo(g,h,i)perylene	151J	J	ug/kg	175	36.7	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Benzo(k)fluoranthene	115J	J	ug/kg	175	33.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Chrysene	218		ug/kg	175	22.7	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
mp-Cresol	471 U	U	ug/kg	471	26.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
o-Cresol	471 U	U	ug/kg	471	38.4	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Dibenzo(a,h)anthracene	175 U	U	ug/kg	175	20.9	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Dibenzofuran	175 U	U	ug/kg	175	19.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Fluoranthene	327		ug/kg	175	33.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Fluorene	175 U	U	ug/kg	175	34.9	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Hexachlorobenzene	175 U	U	ug/kg	175	33.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Indeno(1,2,3-cd)pyrene	176		ug/kg	175	31.4	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Naphthalene	175 U	U	ug/kg	175	41.9	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Pentachlorophenol	349 U	U	ug/kg	349	62.8	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Phenanthrene	116J	J	ug/kg	175	24.4	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Phenol	471 U	U	ug/kg	471	26.2	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Pyrene	305		ug/kg	175	31.4	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	89.3		%	37 - 123	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
2-Fluorobiphenyl (S)	70.8		%	45 - 105	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
2-Fluorophenol (S)	93.7		%	35 - 104	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Nitrobenzene-d5 (S)	87.7		%	41 - 110	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Phenol-d5 (S)	91.2		%	40 - 100	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A
Terphenyl-d14 (S)	72		%	38 - 113	SW846 8270D	9/25/15	BS	9/26/15 05:58	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.055 U	U	mg/kg	0.055	0.055	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Aroclor-1016	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Aroclor-1221	0.055 U	U	mg/kg	0.055	0.0050	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Aroclor-1232	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Aroclor-1242	0.055 U	U	mg/kg	0.055	0.015	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Aroclor-1248	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Aroclor-1254	0.029J	J	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173023** Date Collected: 9/21/2015 16:55 Matrix: Solid
Sample ID: **2012-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.055 U	U	mg/kg	0.055	0.010	SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	86.8		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
Tetrachloro-m-xylene (S)	76.5		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 20:22	EGO	A
PESTICIDES											
Aldrin	14.3 U	U	ug/kg	14.3	4.6	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
alpha-BHC	14.3 U	U	ug/kg	14.3	1.3	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
beta-BHC	14.3 U	U	ug/kg	14.3	1.5	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
delta-BHC	14.3 U	U	ug/kg	14.3	1.1	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
gamma-BHC	14.3 U	U	ug/kg	14.3	1.2	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
alpha-Chlordane	14.3 U	U	ug/kg	14.3	1.5	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
4,4'-DDD	27.7 U	U	ug/kg	27.7	2.3	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
4,4'-DDE	27.7 U	U	ug/kg	27.7	3.8	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
4,4'-DDT	27.7 U	U	ug/kg	27.7	3.2	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Dieldrin	27.7 U	U	ug/kg	27.7	3.2	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Endosulfan I	14.3 U	U	ug/kg	14.3	1.8	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Endosulfan II	27.7 U	U	ug/kg	27.7	5.8	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Endosulfan Sulfate	27.7 U	U	ug/kg	27.7	1.8	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Endrin	27.7 U	U	ug/kg	27.7	2.0	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Heptachlor	14.3 U	U	ug/kg	14.3	1.4	SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	77.2		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
Tetrachloro-m-xylene (S)	111		%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 18:52	RWS	A
HERBICIDES											
2,4-D	120 U	U	ug/kg	120	46.6	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
2,4-DB	120 U	U	ug/kg	120	64.5	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
Dalapon	120 U	U	ug/kg	120	30.5	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
Dicamba	120 U	U	ug/kg	120	43.0	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
Dichloroprop	120 U	U	ug/kg	120	48.4	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
Dinoseb	299 U	U	ug/kg	299	60.9	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
Pentachlorophenol	120 U	U	ug/kg	120	68.1	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
2,4,5-T	120 U	U	ug/kg	120	50.2	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
2,4,5-TP	120 U	U	ug/kg	120	55.5	SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	54.1		%	30 - 153		SW846 8151A	9/30/15	RMP	10/1/15 18:00	KJH	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173023** Date Collected: 9/21/2015 16:55 Matrix: Solid
Sample ID: **2012-9** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
WET CHEMISTRY											
Cyanide, Total	0.43 U	U	mg/kg	0.43	0.15	SW846 9012B	9/26/15	SYB	9/28/15 11:26	LJF	A
Hexavalent Chromium	3.5 U	U	mg/kg	3.5	0.68	SW846 7196A	9/30/15	NJA	9/30/15 23:00	JAM	A
Moisture	44.2		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	55.8		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	15.7		mg/kg	3.6	3.6	Calculation			10/7/15 19:26	NJA	A
Arsenic, Total	4.1		mg/kg	2.4	0.80	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Barium, Total	14.0		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Beryllium, Total	0.80 U	U	mg/kg	0.80	0.26	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Cadmium, Total	0.42J	J	mg/kg	0.80	0.26	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Chromium, Total	15.7		mg/kg	1.6	0.53	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Copper, Total	28.9		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Lead, Total	30.7		mg/kg	1.6	0.53	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Manganese, Total	102		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Mercury, Total	0.40		mg/kg	0.085	0.027	SW846 7471B	10/6/15	MNP	10/6/15 09:18	MNP	A2
Nickel, Total	8.3		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Selenium, Total	4.0 U	U	mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Silver, Total	1.6 U	U	mg/kg	1.6	0.53	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1
Zinc, Total	77.8		mg/kg	4.0	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:37	MO	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173024** Date Collected: 9/21/2015 16:59 Matrix: Solid
Sample ID: **2071-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	15.3		ug/kg	14.9	6.8	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Benzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
2-Butanone	14.9 U	U	ug/kg	14.9	4.8	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
n-Butylbenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
tert-Butylbenzene	3.0 U	U	ug/kg	3.0	0.82	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
sec-Butylbenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Carbon Tetrachloride	3.0 U	U	ug/kg	3.0	0.76	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Chlorobenzene	3.0 U	U	ug/kg	3.0	0.76	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Chloroform	3.0 U	U	ug/kg	3.0	0.79	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,2-Dichlorobenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,3-Dichlorobenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,4-Dichlorobenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,1-Dichloroethane	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,2-Dichloroethane	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,1-Dichloroethene	3.0 U	U	ug/kg	3.0	0.77	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
cis-1,2-Dichloroethene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
trans-1,2-Dichloroethene	3.0 U	U	ug/kg	3.0	0.77	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,4-Dioxane	112 U	U	ug/kg	112	26.5	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Ethylbenzene	3.0 U	U	ug/kg	3.0	1.0	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Methyl t-Butyl Ether	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Methylene Chloride	24.5		ug/kg	3.0	1.2	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
n-Propylbenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Tetrachloroethene	3.0 U	U	ug/kg	3.0	0.89	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Toluene	3.0 U	U	ug/kg	3.0	1.0	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Total Xylenes	8.9 U	U	ug/kg	8.9	2.1	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,1,1-Trichloroethane	3.0 U	U	ug/kg	3.0	0.92	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Trichloroethene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,2,4-Trimethylbenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
1,3,5-Trimethylbenzene	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Vinyl Chloride	3.0 U	U	ug/kg	3.0	0.74	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105		%	56 - 124	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
4-Bromofluorobenzene (S)	107		%	51 - 128	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Dibromofluoromethane (S)	109		%	62 - 123	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3
Toluene-d8 (S)	114		%	59 - 131	SW846 8260C	9/23/15	TMP	9/29/15 15:26	DD	A3

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173024** Date Collected: 9/21/2015 16:59 Matrix: Solid
Sample ID: **2071-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	171 U	U	ug/kg	171	25.6	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Acenaphthylene	171 U	U	ug/kg	171	18.8	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Anthracene	115J	J	ug/kg	171	17.1	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Benzo(a)anthracene	143J	J	ug/kg	171	25.6	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Benzo(a)pyrene	162J	J	ug/kg	171	27.3	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Benzo(b)fluoranthene	215		ug/kg	171	41.0	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Benzo(g,h,i)perylene	112J	J	ug/kg	171	35.9	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Benzo(k)fluoranthene	171 U	U	ug/kg	171	32.5	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Chrysene	154J	J	ug/kg	171	22.2	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
mp-Cresol	461 U	U	ug/kg	461	25.6	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
o-Cresol	461 U	U	ug/kg	461	37.6	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Dibenzo(a,h)anthracene	171 U	U	ug/kg	171	20.5	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Dibenzofuran	171 U	U	ug/kg	171	18.8	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Fluoranthene	247		ug/kg	171	32.5	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Fluorene	171 U	U	ug/kg	171	34.2	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Hexachlorobenzene	171 U	U	ug/kg	171	32.5	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Indeno(1,2,3-cd)pyrene	120J	J	ug/kg	171	30.8	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Naphthalene	171 U	U	ug/kg	171	41.0	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Pentachlorophenol	342 U	U	ug/kg	342	61.5	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Phenanthrene	113J	J	ug/kg	171	23.9	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Phenol	461 U	U	ug/kg	461	25.6	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Pyrene	230		ug/kg	171	30.8	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	88.6		%	37 - 123	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
2-Fluorobiphenyl (S)	54.1		%	45 - 105	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
2-Fluorophenol (S)	98.1		%	35 - 104	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Nitrobenzene-d5 (S)	87.8		%	41 - 110	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Phenol-d5 (S)	94.4		%	40 - 100	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A
Terphenyl-d14 (S)	58.8		%	38 - 113	SW846 8270D	9/25/15	BS	9/26/15 06:23	CGS	A

PCBs

Total Polychlorinated Biphenyl	0.054 U	U	mg/kg	0.054	0.054	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Aroclor-1016	0.054 U	U	mg/kg	0.054	0.0098	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Aroclor-1221	0.054 U	U	mg/kg	0.054	0.0049	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Aroclor-1232	0.054 U	U	mg/kg	0.054	0.0098	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Aroclor-1242	0.054 U	U	mg/kg	0.054	0.015	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Aroclor-1248	0.054 U	U	mg/kg	0.054	0.0098	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Aroclor-1254	0.021J	J	mg/kg	0.054	0.0098	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173024** Date Collected: 9/21/2015 16:59 Matrix: Solid
Sample ID: **2071-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.054 U	U	mg/kg	0.054	0.0098	SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	55		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
Tetrachloro-m-xylene (S)	65.8		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 20:33	EGO	A
PESTICIDES											
Aldrin	13.9 U	U	ug/kg	13.9	4.5	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
alpha-BHC	13.9 U	U	ug/kg	13.9	1.2	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
beta-BHC	13.9 U	U	ug/kg	13.9	1.5	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
delta-BHC	13.9 U	U	ug/kg	13.9	1.1	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
gamma-BHC	13.9 U	U	ug/kg	13.9	1.1	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
alpha-Chlordane	13.9 U	U	ug/kg	13.9	1.5	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
4,4'-DDD	26.9 U	U	ug/kg	26.9	2.2	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
4,4'-DDE	26.9 U	U	ug/kg	26.9	3.7	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
4,4'-DDT	26.9 U	U	ug/kg	26.9	3.1	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Dieldrin	26.9 U	U	ug/kg	26.9	3.1	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Endosulfan I	13.9 U	U	ug/kg	13.9	1.7	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Endosulfan II	26.9 U	U	ug/kg	26.9	5.6	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Endosulfan Sulfate	26.9 U	U	ug/kg	26.9	1.8	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Endrin	26.9 U	U	ug/kg	26.9	2.0	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Heptachlor	13.9 U	U	ug/kg	13.9	1.4	SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	50.5		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
Tetrachloro-m-xylene (S)	340	1	%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 19:08	RWS	A
HERBICIDES											
2,4-D	112 U	U	ug/kg	112	43.4	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
2,4-DB	112 U	U	ug/kg	112	60.1	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
Dalapon	112 U	U	ug/kg	112	28.4	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
Dicamba	112 U	U	ug/kg	112	40.1	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
Dichloroprop	112 U	U	ug/kg	112	45.1	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
Dinoseb	279 U	U	ug/kg	279	56.8	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
Pentachlorophenol	112 U	U	ug/kg	112	63.5	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
2,4,5-T	112 U	U	ug/kg	112	46.8	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
2,4,5-TP	112 U	U	ug/kg	112	51.8	SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	56.4		%	30 - 153		SW846 8151A	9/30/15	RMP	10/1/15 18:37	KJH	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173024** Date Collected: 9/21/2015 16:59 Matrix: Solid
Sample ID: **2071-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
WET CHEMISTRY											
Cyanide, Total	0.43 U	U	mg/kg	0.43	0.15	SW846 9012B	9/26/15	SYB	9/28/15 11:26	LJF	A
Hexavalent Chromium	3.4 U	U	mg/kg	3.4	0.65	SW846 7196A	9/30/15	NJA	9/30/15 23:00	JAM	A
Moisture	42.2		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	57.8		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	16.2		mg/kg	3.5	3.5	Calculation			10/7/15 19:26	NJA	A
Arsenic, Total	4.2		mg/kg	2.4	0.79	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Barium, Total	16.6		mg/kg	3.9	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Beryllium, Total	0.27J	J	mg/kg	0.79	0.26	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Cadmium, Total	0.44J	J	mg/kg	0.79	0.26	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Chromium, Total	16.2		mg/kg	1.6	0.52	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Copper, Total	27.6		mg/kg	3.9	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Lead, Total	30.6		mg/kg	1.6	0.52	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Manganese, Total	111		mg/kg	3.9	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Mercury, Total	0.38		mg/kg	0.077	0.025	SW846 7471B	10/6/15	MNP	10/6/15 09:19	MNP	A2
Nickel, Total	8.5		mg/kg	3.9	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Selenium, Total	3.9 U	U	mg/kg	3.9	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Silver, Total	1.6 U	U	mg/kg	1.6	0.52	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1
Zinc, Total	79.0		mg/kg	3.9	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:41	MO	A1

Vicki Forney
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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173025** Date Collected: 9/21/2015 17:04 Matrix: Solid
Sample ID: **1438-23** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	7.4J	J	ug/kg	11.6	5.4	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Benzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
2-Butanone	11.6 U	U	ug/kg	11.6	3.7	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
n-Butylbenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
tert-Butylbenzene	2.3 U	U	ug/kg	2.3	0.64	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
sec-Butylbenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Carbon Tetrachloride	2.3 U	U	ug/kg	2.3	0.59	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Chlorobenzene	2.3 U	U	ug/kg	2.3	0.59	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Chloroform	2.3 U	U	ug/kg	2.3	0.62	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,2-Dichlorobenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,3-Dichlorobenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,4-Dichlorobenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,1-Dichloroethane	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,2-Dichloroethane	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,1-Dichloroethene	2.3 U	U	ug/kg	2.3	0.60	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
cis-1,2-Dichloroethene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
trans-1,2-Dichloroethene	2.3 U	U	ug/kg	2.3	0.60	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,4-Dioxane	87.3 U	U	ug/kg	87.3	20.7	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Ethylbenzene	2.3 U	U	ug/kg	2.3	0.79	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Methyl t-Butyl Ether	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Methylene Chloride	19.2		ug/kg	2.3	0.91	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
n-Propylbenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Tetrachloroethene	2.3 U	U	ug/kg	2.3	0.70	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Toluene	2.3 U	U	ug/kg	2.3	0.78	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Total Xylenes	7.0 U	U	ug/kg	7.0	1.6	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,1,1-Trichloroethane	2.3 U	U	ug/kg	2.3	0.72	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Trichloroethene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,2,4-Trimethylbenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
1,3,5-Trimethylbenzene	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Vinyl Chloride	2.3 U	U	ug/kg	2.3	0.58	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	106		%	56 - 124	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
4-Bromofluorobenzene (S)	107		%	51 - 128	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Dibromofluoromethane (S)	107		%	62 - 123	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3
Toluene-d8 (S)	116		%	59 - 131	SW846 8260C	9/23/15	TMP	9/29/15 15:49	DD	A3

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173025** Date Collected: 9/21/2015 17:04 Matrix: Solid
Sample ID: **1438-23** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	168 U	U	ug/kg	168	25.2	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Acenaphthylene	65.5J	J	ug/kg	168	18.5	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Anthracene	104J	J	ug/kg	168	16.8	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Benzo(a)anthracene	357		ug/kg	168	25.2	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Benzo(a)pyrene	394		ug/kg	168	26.9	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Benzo(b)fluoranthene	494		ug/kg	168	40.3	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Benzo(g,h,i)perylene	244		ug/kg	168	35.3	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Benzo(k)fluoranthene	178		ug/kg	168	31.9	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Chrysene	375		ug/kg	168	21.8	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
mp-Cresol	453 U	U	ug/kg	453	25.2	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
o-Cresol	453 U	U	ug/kg	453	36.9	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Dibenzo(a,h)anthracene	62.8J	J	ug/kg	168	20.1	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Dibenzofuran	168 U	U	ug/kg	168	18.5	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Fluoranthene	663		ug/kg	168	31.9	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Fluorene	168 U	U	ug/kg	168	33.6	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Hexachlorobenzene	168 U	U	ug/kg	168	31.9	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Indeno(1,2,3-cd)pyrene	268		ug/kg	168	30.2	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Naphthalene	168 U	U	ug/kg	168	40.3	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Pentachlorophenol	336 U	U	ug/kg	336	60.4	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Phenanthrene	302		ug/kg	168	23.5	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Phenol	453 U	U	ug/kg	453	25.2	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Pyrene	592		ug/kg	168	30.2	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	89		%	37 - 123	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
2-Fluorobiphenyl (S)	71.9		%	45 - 105	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
2-Fluorophenol (S)	86.4		%	35 - 104	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Nitrobenzene-d5 (S)	85.4		%	41 - 110	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Phenol-d5 (S)	84.1		%	40 - 100	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A
Terphenyl-d14 (S)	74.5		%	38 - 113	SW846 8270D	9/25/15	BS	9/26/15 06:49	CGS	A

PCBs

Total Polychlorinated Biphenyl	0.053 U	U	mg/kg	0.053	0.053	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Aroclor-1016	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Aroclor-1221	0.053 U	U	mg/kg	0.053	0.0048	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Aroclor-1232	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Aroclor-1242	0.053 U	U	mg/kg	0.053	0.014	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Aroclor-1248	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Aroclor-1254	0.026J	J	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173025** Date Collected: 9/21/2015 17:04 Matrix: Solid
Sample ID: **1438-23** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.053 U	U	mg/kg	0.053	0.0096	SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	95.2		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
Tetrachloro-m-xylene (S)	93.7		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 20:45	EGO	A
PESTICIDES											
Aldrin	13.6 U	U	ug/kg	13.6	4.4	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
alpha-BHC	13.6 U	U	ug/kg	13.6	1.2	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
beta-BHC	13.6 U	U	ug/kg	13.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
delta-BHC	13.6 U	U	ug/kg	13.6	1.0	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
gamma-BHC	13.6 U	U	ug/kg	13.6	1.1	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
alpha-Chlordane	13.6 U	U	ug/kg	13.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
4,4'-DDD	26.5 U	U	ug/kg	26.5	2.2	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
4,4'-DDE	26.5 U	U	ug/kg	26.5	3.6	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
4,4'-DDT	26.5 U	U	ug/kg	26.5	3.1	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Dieldrin	26.5 U	U	ug/kg	26.5	3.1	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Endosulfan I	13.6 U	U	ug/kg	13.6	1.7	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Endosulfan II	26.5 U	U	ug/kg	26.5	5.5	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Endosulfan Sulfate	26.5 U	U	ug/kg	26.5	1.8	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Endrin	26.5 U	U	ug/kg	26.5	1.9	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Heptachlor	13.6 U	U	ug/kg	13.6	1.4	SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	85		%	30 - 135		SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
Tetrachloro-m-xylene (S)	508	2	%	30 - 111		SW846 8081B	9/25/15	BS	10/1/15 19:23	RWS	A
HERBICIDES											
2,4,5-TP	114 U	U	ug/kg	114	52.6	SW846 8151A	9/25/15	MPP	9/28/15 21:04	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	55.7		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 21:04	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.41 U	U1	mg/kg	0.41	0.15	SW846 9012B	9/26/15	SYB	9/28/15 11:26	LJF	A
Hexavalent Chromium	3.5 U	U	mg/kg	3.5	0.67	SW846 7196A	9/30/15	NJA	9/30/15 23:00	JAM	A
Moisture	41.6		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	58.4		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	19.3		mg/kg	3.4	3.4	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173025** Date Collected: 9/21/2015 17:04 Matrix: Solid
Sample ID: **1438-23** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	4.4		mg/kg	2.5	0.82	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Barium, Total	18.6		mg/kg	4.1	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Beryllium, Total	0.29J	J	mg/kg	0.82	0.27	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Cadmium, Total	0.57J	J	mg/kg	0.82	0.27	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Chromium, Total	19.3		mg/kg	1.6	0.54	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Copper, Total	34.5		mg/kg	4.1	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Lead, Total	37.0		mg/kg	1.6	0.54	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Manganese, Total	108		mg/kg	4.1	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Mercury, Total	0.48		mg/kg	0.076	0.024	SW846 7471B	10/6/15	MNP	10/6/15 09:22	MNP	A2
Nickel, Total	10.2		mg/kg	4.1	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Selenium, Total	4.1 U	U	mg/kg	4.1	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Silver, Total	1.6 U	U	mg/kg	1.6	0.54	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1
Zinc, Total	97.3		mg/kg	4.1	1.3	SW846 6020A	10/5/15	JPS	10/6/15 16:44	MO	A1

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173026** Date Collected: 9/21/2015 17:08 Matrix: Solid
Sample ID: **1363-24** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	9.9 U	U	ug/kg	9.9	4.6	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Benzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
2-Butanone	9.9 U	U	ug/kg	9.9	3.2	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
n-Butylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
tert-Butylbenzene	2.0 U	U	ug/kg	2.0	0.54	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
sec-Butylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Carbon Tetrachloride	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Chlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Chloroform	2.0 U	U	ug/kg	2.0	0.52	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,2-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,3-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,4-Dichlorobenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,1-Dichloroethane	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,2-Dichloroethane	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,1-Dichloroethene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
cis-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
trans-1,2-Dichloroethene	2.0 U	U	ug/kg	2.0	0.51	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,4-Dioxane	74.3 U	U	ug/kg	74.3	17.6	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Ethylbenzene	2.0 U	U	ug/kg	2.0	0.67	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Methyl t-Butyl Ether	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Methylene Chloride	19.9		ug/kg	2.0	0.77	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
n-Propylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Tetrachloroethene	2.0 U	U	ug/kg	2.0	0.59	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Toluene	2.0 U	U	ug/kg	2.0	0.66	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Total Xylenes	5.9 U	U	ug/kg	5.9	1.4	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,1,1-Trichloroethane	2.0 U	U	ug/kg	2.0	0.61	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Trichloroethene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,2,4-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
1,3,5-Trimethylbenzene	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Vinyl Chloride	2.0 U	U	ug/kg	2.0	0.50	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	102		%	56 - 124	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
4-Bromofluorobenzene (S)	102		%	51 - 128	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Dibromofluoromethane (S)	101		%	62 - 123	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3
Toluene-d8 (S)	131		%	59 - 131	SW846 8260C	9/23/15	TMP	9/29/15 16:13	DD	A3

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173026** Date Collected: 9/21/2015 17:08 Matrix: Solid
Sample ID: **1363-24** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	132 U	U	ug/kg	132	19.9	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Acenaphthylene	132 U	U	ug/kg	132	14.6	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Anthracene	132 U	U	ug/kg	132	13.2	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Benzo(a)anthracene	132 U	U	ug/kg	132	19.9	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Benzo(a)pyrene	132 U	U	ug/kg	132	21.2	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Benzo(b)fluoranthene	132 U	U	ug/kg	132	31.8	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Benzo(g,h,i)perylene	132 U	U	ug/kg	132	27.8	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Benzo(k)fluoranthene	132 U	U	ug/kg	132	25.2	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Chrysene	132 U	U	ug/kg	132	17.2	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
mp-Cresol	358 U	U	ug/kg	358	19.9	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
o-Cresol	358 U	U	ug/kg	358	29.1	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Dibenzo(a,h)anthracene	132 U	U	ug/kg	132	15.9	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Dibenzofuran	132 U	U	ug/kg	132	14.6	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Fluoranthene	132 U	U	ug/kg	132	25.2	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Fluorene	132 U	U	ug/kg	132	26.5	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Hexachlorobenzene	132 U	U	ug/kg	132	25.2	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Indeno(1,2,3-cd)pyrene	132 U	U	ug/kg	132	23.8	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Naphthalene	132 U	U	ug/kg	132	31.8	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Pentachlorophenol	265 U	U	ug/kg	265	47.7	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Phenanthrene	132 U	U	ug/kg	132	18.5	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Phenol	358 U	U	ug/kg	358	19.9	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Pyrene	132 U	U	ug/kg	132	23.8	SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	85.6		%	37 - 123		SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
2-Fluorobiphenyl (S)	76		%	45 - 105		SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
2-Fluorophenol (S)	93.1		%	35 - 104		SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Nitrobenzene-d5 (S)	86.4		%	41 - 110		SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Phenol-d5 (S)	90.1		%	40 - 100		SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
Terphenyl-d14 (S)	81.6		%	38 - 113		SW846 8270D	9/25/15	BS	9/26/15 01:44	CGS	A
PCBs											
Total Polychlorinated Biphenyl	0.045 U	U	mg/kg	0.045	0.045	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Aroclor-1016	0.045 U	U	mg/kg	0.045	0.0083	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Aroclor-1221	0.045 U	U	mg/kg	0.045	0.0041	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Aroclor-1232	0.045 U	U	mg/kg	0.045	0.0083	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Aroclor-1242	0.045 U	U	mg/kg	0.045	0.012	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Aroclor-1248	0.045 U	U	mg/kg	0.045	0.0083	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Aroclor-1254	0.045 U	U	mg/kg	0.045	0.0083	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173026** Date Collected: 9/21/2015 17:08 Matrix: Solid
Sample ID: **1363-24** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.045 U	U	mg/kg	0.045	0.0083	SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	81.8		%	46 - 120		SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
Tetrachloro-m-xylene (S)	76.7		%	52 - 115		SW846 8082A	9/25/15	BS	9/25/15 21:08	EGO	A
PESTICIDES											
Aldrin	11.7 U	U	ug/kg	11.7	3.8	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
alpha-BHC	11.7 U	U	ug/kg	11.7	1.0	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
beta-BHC	11.7 U	U	ug/kg	11.7	1.2	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
delta-BHC	11.7 U	U	ug/kg	11.7	0.90	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
gamma-BHC	11.7 U	U	ug/kg	11.7	0.96	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
alpha-Chlordane	11.7 U	U	ug/kg	11.7	1.2	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
4,4'-DDD	22.7 U	U	ug/kg	22.7	1.9	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
4,4'-DDE	22.7 U	U	ug/kg	22.7	3.1	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
4,4'-DDT	22.7 U	U	ug/kg	22.7	2.6	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Dieldrin	22.7 U	U	ug/kg	22.7	2.6	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Endosulfan I	11.7 U	U	ug/kg	11.7	1.4	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Endosulfan II	22.7 U	U	ug/kg	22.7	4.8	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Endosulfan Sulfate	22.7 U	U	ug/kg	22.7	1.5	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Endrin	22.7 U	U	ug/kg	22.7	1.7	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Heptachlor	11.7 U	U	ug/kg	11.7	1.2	SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	78.5		%	30 - 135		SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
Tetrachloro-m-xylene (S)	95.4		%	30 - 111		SW846 8081B	9/25/15	BS	10/2/15 00:49	RWS	A
HERBICIDES											
2,4,5-TP	88.7 U	U	ug/kg	88.7	41.1	SW846 8151A	9/25/15	MPP	9/28/15 21:41	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.2		%	30 - 153		SW846 8151A	9/25/15	MPP	9/28/15 21:41	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.36 U	U	mg/kg	0.36	0.13	SW846 9012B	9/26/15	SYB	9/28/15 11:26	LJF	A
Hexavalent Chromium	2.7 U	U	mg/kg	2.7	0.52	SW846 7196A	9/30/15	NJA	9/30/15 23:00	JAM	A
Moisture	27.9		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
Total Solids	72.1		%	0.1	0.01	S2540G-11			9/23/15 11:17	EMW	A
METALS											
Trivalent Chromium	9.5		mg/kg	2.8	2.8	Calculation			10/7/15 19:26	NJA	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173026** Date Collected: 9/21/2015 17:08 Matrix: Solid
Sample ID: **1363-24** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.5		mg/kg	2.1	0.69	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Barium, Total	7.3		mg/kg	3.5	1.1	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Beryllium, Total	0.69 U	U	mg/kg	0.69	0.23	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Cadmium, Total	0.69 U	U	mg/kg	0.69	0.23	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Chromium, Total	9.5		mg/kg	1.4	0.46	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Copper, Total	8.6		mg/kg	3.5	1.1	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Lead, Total	14.0		mg/kg	1.4	0.46	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Manganese, Total	168		mg/kg	3.5	1.1	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Mercury, Total	0.069J	J	mg/kg	0.069	0.022	SW846 7471B	10/6/15	MNP	10/6/15 09:23	MNP	A2
Nickel, Total	7.1		mg/kg	3.5	1.1	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Selenium, Total	3.5 U	U	mg/kg	3.5	1.1	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Silver, Total	1.4 U	U	mg/kg	1.4	0.46	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1
Zinc, Total	41.4		mg/kg	3.5	1.1	SW846 6020A	10/5/15	JPS	10/6/15 16:48	MO	A1

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173027**	Date Collected:	9/21/2015 12:25	Matrix:	Other
Sample ID:	**2014-19**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:35	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173028**	Date Collected:	9/21/2015 12:36	Matrix:	Solid
Sample ID:	**2013-28**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:38	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173029**	Date Collected:	9/21/2015 12:47	Matrix:	Other
Sample ID:	**2012-9**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:38	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173030** Date Collected: 9/21/2015 12:50 Matrix: Other
Sample ID: **2017-12** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:38	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID:	**2097173031**	Date Collected:	9/21/2015 13:05	Matrix:	Other
Sample ID:	**1438-23**	Date Received:	9/22/2015 20:45		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:39	VAF	A

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ANALYTICAL RESULTS

Workorder: 2097173 23674.000

Lab ID: **2097173032** Date Collected: 9/21/2015 13:16 Matrix: Other
Sample ID: **1363-24** Date Received: 9/22/2015 20:45

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:39	VAF	A

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PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2097173002	1	HB05-9	SW846 9012B	Cyanide, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097173018	1	HB06-11	SW846 8081B	Tetrachloro-m-xylene
The surrogate Tetrachloro-m-xylene for method SW846 8081B was outside of control limits. The % Recovery was reported as 416 and the control limits were 30 to 111. This result was reported at a dilution of 5.				
2097173020	1	HB06-12	SW846 9012B	Cyanide, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097173022	1	2013-28	SW846 8081B	Tetrachloro-m-xylene
The surrogate Tetrachloro-m-xylene for method SW846 8081B was outside of control limits. The % Recovery was reported as 307 and the control limits were 30 to 111. This result was reported at a dilution of 5.				
2097173024	1	2071-12	SW846 8081B	Tetrachloro-m-xylene
The surrogate Tetrachloro-m-xylene for method SW846 8081B was outside of control limits. The % Recovery was reported as 340 and the control limits were 30 to 111. This result was reported at a dilution of 5.				
2097173025	1	1438-23	SW846 9012B	Cyanide, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2097173025	2	1438-23	SW846 8081B	Tetrachloro-m-xylene
The surrogate Tetrachloro-m-xylene for method SW846 8081B was outside of control limits. The % Recovery was reported as 508 and the control limits were 30 to 111. This result was reported at a dilution of 5.				

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40834 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2097173002, 2097173004, 2097173006, 2097173008, 2097173010, 2097173012, 2097173015

METHOD BLANK: 2236586

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	100 U	ug/kg	100
Acenaphthylene	100 U	ug/kg	100
Anthracene	100 U	ug/kg	100
Benzo(a)anthracene	100 U	ug/kg	100
Benzo(a)pyrene	100 U	ug/kg	100
Benzo(b)fluoranthene	100 U	ug/kg	100
Benzo(g,h,i)perylene	100 U	ug/kg	100
Benzo(k)fluoranthene	100 U	ug/kg	100
Chrysene	100 U	ug/kg	100
mp-Cresol	270 U	ug/kg	270
o-Cresol	270 U	ug/kg	270
Dibenzo(a,h)anthracene	100 U	ug/kg	100
Dibenzofuran	100 U	ug/kg	100
Fluoranthene	100 U	ug/kg	100
Fluorene	100 U	ug/kg	100
Hexachlorobenzene	100 U	ug/kg	100
Indeno(1,2,3-cd)pyrene	100 U	ug/kg	100
Naphthalene	100 U	ug/kg	100
Pentachlorophenol	200 U	ug/kg	200
Phenanthrene	100 U	ug/kg	100
Phenol	270 U	ug/kg	270
Pyrene	100 U	ug/kg	100
2,4,6-Tribromophenol (S)	88.9	%	37 - 123
2-Fluorobiphenyl (S)	89.4	%	45 - 105
2-Fluorophenol (S)	84.3	%	35 - 104
Nitrobenzene-d5 (S)	90.6	%	41 - 110
Phenol-d5 (S)	88	%	40 - 100
Terphenyl-d14 (S)	98	%	38 - 113

LABORATORY CONTROL SAMPLE: 2236587

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	95.2	ug/kg	3330	3170	63 - 113
Acenaphthylene	98.5	ug/kg	3330	3280	66 - 114
Anthracene	96.6	ug/kg	3330	3220	67 - 114

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Benzo(a)anthracene	95.8	ug/kg	3330	3190	66 - 117
Benzo(a)pyrene	99.4	ug/kg	3330	3310	64 - 118
Benzo(b)fluoranthene	100	ug/kg	3330	3340	64 - 120
Benzo(g,h,i)perylene	100	ug/kg	3330	3350	65 - 119
Benzo(k)fluoranthene	99.5	ug/kg	3330	3320	65 - 119
Chrysene	96.1	ug/kg	3330	3200	67 - 120
mp-Cresol	92.6	ug/kg	6670	6170	50 - 111
o-Cresol	92.7	ug/kg	6670	6180	56 - 109
Dibenzo(a,h)anthracene	100	ug/kg	3330	3340	60 - 124
Dibenzofuran	89.7	ug/kg	3330	2990	65 - 113
Fluoranthene	94.1	ug/kg	3330	3140	67 - 116
Fluorene	93.3	ug/kg	3330	3110	64 - 117
Hexachlorobenzene	94	ug/kg	3330	3130	59 - 123
Indeno(1,2,3-cd)pyrene	97.4	ug/kg	3330	3250	66 - 120
Naphthalene	88	ug/kg	3330	2930	68 - 117
Pentachlorophenol	103	ug/kg	6670	6880	61 - 136
Phenanthrene	92.2	ug/kg	3330	3070	68 - 117
Phenol	93.9	ug/kg	6670	6260	36 - 119
Pyrene	97.6	ug/kg	3330	3250	60 - 121
2,4,6-Tribromophenol (S)	88.2	%			37 - 123
2-Fluorobiphenyl (S)	88	%			45 - 105
2-Fluorophenol (S)	82	%			35 - 104
Nitrobenzene-d5 (S)	86	%			41 - 110
Phenol-d5 (S)	90.7	%			40 - 100
Terphenyl-d14 (S)	91	%			38 - 113

MATRIX SPIKE SAMPLE: 2236588 ORIGINAL: 2097216001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/kg	3310	3229.66	97.5	63 - 113
Acenaphthylene	16.7286	ug/kg	3310	3358.5	101	66 - 114
Anthracene	34.7621	ug/kg	3310	3346.31	100	67 - 114
Benzo(a)anthracene	184.728	ug/kg	3310	3677.01	105	66 - 117
Benzo(a)pyrene	153.599	ug/kg	3310	3632.7	105	64 - 118
Benzo(b)fluoranthene	209.277	ug/kg	3310	3687.29	105	64 - 120
Benzo(g,h,i)perylene	74.3798	ug/kg	3310	3405.37	101	65 - 119
Benzo(k)fluoranthene	87.1225	ug/kg	3310	3487.92	103	65 - 119
Chrysene	176.271	ug/kg	3310	3609.47	104	67 - 120
mp-Cresol	0	ug/kg	6620	5611.04	84.7	50 - 111
o-Cresol	0	ug/kg	6620	5652.7	85.4	56 - 109
Dibenzo(a,h)anthracene	26.7302	ug/kg	3310	3340.88	100	60 - 124
Dibenzofuran	0	ug/kg	3310	3056.33	92.3	65 - 113
Fluoranthene	268.59	ug/kg	3310	3924.11	110	67 - 116

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Fluorene	0	ug/kg	3310	3170.47	95.7	64 - 117
Hexachlorobenzene	0	ug/kg	3310	3198.67	96.6	59 - 123
Indeno(1,2,3-cd)pyrene	88.8527	ug/kg	3310	3456.34	102	66 - 120
Naphthalene	0	ug/kg	3310	3083.02	93.1	68 - 117
Pentachlorophenol	0	ug/kg	6620	5919.28	89.4	61 - 136
Phenanthrene	166.214	ug/kg	3310	3481.88	100	68 - 117
Phenol	0	ug/kg	6620	6023.21	91	36 - 119
Pyrene	287.208	ug/kg	3310	3671.76	102	60 - 121
2,4,6-Tribromophenol (S)	84.6	%				37 - 123
2-Fluorobiphenyl (S)	89.7	%				45 - 105
2-Fluorophenol (S)	77.1	%				35 - 104
Nitrobenzene-d5 (S)	88.7	%				41 - 110
Phenol-d5 (S)	88.4	%				40 - 100
Terphenyl-d14 (S)	88.8	%				38 - 113

SAMPLE DUPLICATE: 2236589 ORIGINAL: 2097216002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Acenaphthene	0	ug/kg	30.2887	NC	17
Acenaphthylene	0	ug/kg	0	NC	17
Anthracene	14.9951	ug/kg	78.3318	136*	20
Benzo(a)anthracene	58.5346	ug/kg	615.002	165*	22
Benzo(a)pyrene	51.2264	ug/kg	620.537	169*	24
Benzo(b)fluoranthene	77.313	ug/kg	887.197	168*	28
Benzo(g,h,i)perylene	37.611	ug/kg	397.699	165*	30
Benzo(k)fluoranthene	28.4501	ug/kg	343	169*	22
Chrysene	57.5071	ug/kg	713.458	170*	20
mp-Cresol	0	ug/kg	0	NC	20
o-Cresol	0	ug/kg	0	NC	21
Dibenzo(a,h)anthracene	13.6676	ug/kg	109.585	156*	28
Dibenzofuran	0	ug/kg	0	NC	18
Fluoranthene	97.0228	ug/kg	1262.35	171*	21
Fluorene	0	ug/kg	0	NC	16
Hexachlorobenzene	0	ug/kg	0	NC	21
Indeno(1,2,3-cd)pyrene	37.7279	ug/kg	427.337	168*	30
Naphthalene	0	ug/kg	0	NC	21
Pentachlorophenol	0	ug/kg	0	NC	25
Phenanthrene	52.6677	ug/kg	487.08	161*	20
Phenol	0	ug/kg	0	NC	23
Pyrene	89.5966	ug/kg	1146.58	171*	20

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40843 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2097173016, 2097173018, 2097173020, 2097173021, 2097173022

METHOD BLANK: 2237222

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	100 U	ug/kg	100
Acenaphthylene	100 U	ug/kg	100
Anthracene	100 U	ug/kg	100
Benzo(a)anthracene	15.8J	ug/kg	100
Benzo(a)pyrene	100 U	ug/kg	100
Benzo(b)fluoranthene	100 U	ug/kg	100
Benzo(g,h,i)perylene	100 U	ug/kg	100
Benzo(k)fluoranthene	100 U	ug/kg	100
Chrysene	100 U	ug/kg	100
mp-Cresol	270 U	ug/kg	270
o-Cresol	270 U	ug/kg	270
Dibenzo(a,h)anthracene	100 U	ug/kg	100
Dibenzofuran	100 U	ug/kg	100
Fluoranthene	100 U	ug/kg	100
Fluorene	100 U	ug/kg	100
Hexachlorobenzene	100 U	ug/kg	100
Indeno(1,2,3-cd)pyrene	100 U	ug/kg	100
Naphthalene	100 U	ug/kg	100
Pentachlorophenol	200 U	ug/kg	200
Phenanthrene	100 U	ug/kg	100
Phenol	270 U	ug/kg	270
Pyrene	100 U	ug/kg	100
2,4,6-Tribromophenol (S)	83	%	37 - 123
2-Fluorobiphenyl (S)	88.9	%	45 - 105
2-Fluorophenol (S)	86.6	%	35 - 104
Nitrobenzene-d5 (S)	91.8	%	41 - 110
Phenol-d5 (S)	86.3	%	40 - 100
Terphenyl-d14 (S)	91.6	%	38 - 113

LABORATORY CONTROL SAMPLE: 2237223

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	97.4	ug/kg	3330	3250	63 - 113
Acenaphthylene	101	ug/kg	3330	3360	66 - 114
Anthracene	99.8	ug/kg	3330	3330	67 - 114

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Benzo(a)anthracene	99.5	ug/kg	3330	3320	66 - 117
Benzo(a)pyrene	102	ug/kg	3330	3420	64 - 118
Benzo(b)fluoranthene	104	ug/kg	3330	3450	64 - 120
Benzo(g,h,i)perylene	101	ug/kg	3330	3370	65 - 119
Benzo(k)fluoranthene	103	ug/kg	3330	3440	65 - 119
Chrysene	99.2	ug/kg	3330	3310	67 - 120
mp-Cresol	95.8	ug/kg	6670	6390	50 - 111
o-Cresol	97.4	ug/kg	6670	6500	56 - 109
Dibenzo(a,h)anthracene	103	ug/kg	3330	3420	60 - 124
Dibenzofuran	93.8	ug/kg	3330	3130	65 - 113
Fluoranthene	104	ug/kg	3330	3450	67 - 116
Fluorene	97.7	ug/kg	3330	3260	64 - 117
Hexachlorobenzene	95	ug/kg	3330	3170	59 - 123
Indeno(1,2,3-cd)pyrene	100	ug/kg	3330	3350	66 - 120
Naphthalene	91.9	ug/kg	3330	3060	68 - 117
Pentachlorophenol	110	ug/kg	6670	7350	61 - 136
Phenanthrene	95.4	ug/kg	3330	3180	68 - 117
Phenol	95.7	ug/kg	6670	6380	36 - 119
Pyrene	98.5	ug/kg	3330	3280	60 - 121
2,4,6-Tribromophenol (S)	88.1	%			37 - 123
2-Fluorobiphenyl (S)	87.1	%			45 - 105
2-Fluorophenol (S)	86.2	%			35 - 104
Nitrobenzene-d5 (S)	91.2	%			41 - 110
Phenol-d5 (S)	89.5	%			40 - 100
Terphenyl-d14 (S)	93.3	%			38 - 113

MATRIX SPIKE SAMPLE: 2237224 ORIGINAL: 2097373001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/kg	3180	2871.15	90.2	63 - 113
Acenaphthylene	0	ug/kg	3180	2944.52	92.5	66 - 114
Anthracene	0	ug/kg	3180	2920.02	91.7	67 - 114
Benzo(a)anthracene	0	ug/kg	3180	2928.3	91.9	66 - 117
Benzo(a)pyrene	0	ug/kg	3180	2987.76	93.8	64 - 118
Benzo(b)fluoranthene	0	ug/kg	3180	2988.51	93.8	64 - 120
Benzo(g,h,i)perylene	0	ug/kg	3180	2899.34	91	65 - 119
Benzo(k)fluoranthene	0	ug/kg	3180	2926.67	91.9	65 - 119
Chrysene	0	ug/kg	3180	2889.09	90.7	67 - 120
mp-Cresol	0	ug/kg	6370	5321.16	83.5	50 - 111
o-Cresol	0	ug/kg	6370	5355.16	84.1	56 - 109
Dibenzo(a,h)anthracene	0	ug/kg	3180	2876.35	90.3	60 - 124
Dibenzofuran	0	ug/kg	3180	2710.4	85.1	65 - 113
Fluoranthene	0	ug/kg	3180	2893.19	90.8	67 - 116

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Fluorene	0	ug/kg	3180	2811.05	88.3	64 - 117
Hexachlorobenzene	0	ug/kg	3180	2896.31	90.9	59 - 123
Indeno(1,2,3-cd)pyrene	0	ug/kg	3180	2933.92	92.1	66 - 120
Naphthalene	0	ug/kg	3180	2679.76	84.1	68 - 117
Pentachlorophenol	0	ug/kg	6370	6384.26	100	61 - 136
Phenanthrene	0	ug/kg	3180	2806.08	88.1	68 - 117
Phenol	0	ug/kg	6370	5444.97	85.5	36 - 119
Pyrene	0	ug/kg	3180	3010.88	94.5	60 - 121
2,4,6-Tribromophenol (S)	81.8	%				37 - 123
2-Fluorobiphenyl (S)	81.1	%				45 - 105
2-Fluorophenol (S)	76.2	%				35 - 104
Nitrobenzene-d5 (S)	82.3	%				41 - 110
Phenol-d5 (S)	79.7	%				40 - 100
Terphenyl-d14 (S)	88.1	%				38 - 113

SAMPLE DUPLICATE: 2237225 ORIGINAL: 2097361003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Acenaphthene	0	ug/kg	0	NC	17
Acenaphthylene	0	ug/kg	0	NC	17
Anthracene	0	ug/kg	0	NC	20
Benzo(a)anthracene	0	ug/kg	0	NC	22
Benzo(a)pyrene	0	ug/kg	0	NC	24
Benzo(b)fluoranthene	0	ug/kg	0	NC	28
Benzo(g,h,i)perylene	0	ug/kg	0	NC	30
Benzo(k)fluoranthene	0	ug/kg	0	NC	22
Chrysene	0	ug/kg	0	NC	20
Dibenzo(a,h)anthracene	0	ug/kg	0	NC	28
Dibenzofuran	0	ug/kg	0	NC	18
Fluoranthene	0	ug/kg	0	NC	21
Fluorene	0	ug/kg	0	NC	16
Hexachlorobenzene	0	ug/kg	0	NC	21
Indeno(1,2,3-cd)pyrene	0	ug/kg	0	NC	30
Naphthalene	0	ug/kg	0	NC	21
Phenanthrene	0	ug/kg	0	NC	20
Pyrene	0	ug/kg	0	NC	20

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40845 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 2097173002, 2097173004, 2097173006

METHOD BLANK: 2237243

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	0.033 U	mg/kg	0.033
Aroclor-1221	0.033 U	mg/kg	0.033
Aroclor-1232	0.033 U	mg/kg	0.033
Aroclor-1242	0.033 U	mg/kg	0.033
Aroclor-1248	0.033 U	mg/kg	0.033
Aroclor-1254	0.033 U	mg/kg	0.033
Aroclor-1260	0.033 U	mg/kg	0.033
Decachlorobiphenyls (S)	111	%	46 - 120
Tetrachloro-m-xylene (S)	92.1	%	52 - 115

LABORATORY CONTROL SAMPLE: 2237244

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	77.6	mg/kg	.33	0.26	43 - 132
Aroclor-1221		mg/kg		0.033 U	
Aroclor-1232		mg/kg		0.033 U	
Aroclor-1242		mg/kg		0.033 U	
Aroclor-1248		mg/kg		0.033 U	
Aroclor-1254		mg/kg		0.033 U	
Aroclor-1260	94.8	mg/kg	.33	0.32	53 - 134
Decachlorobiphenyls (S)	119	%			46 - 120
Tetrachloro-m-xylene (S)	96	%			52 - 115

MATRIX SPIKE SAMPLE: 2237247 ORIGINAL: 2097216001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aroclor-1016	0	mg/kg	.33	.23106	69.8	43 - 132
Aroclor-1260	0	mg/kg	.33	.22964	69.4	53 - 134
Decachlorobiphenyls (S)	81.6	%				46 - 120
Tetrachloro-m-xylene (S)	74.4	%				52 - 115

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

SAMPLE DUPLICATE: 2237248 ORIGINAL: 2097233001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aroclor-1016	0	mg/kg	0	NC	40
Aroclor-1221	0	mg/kg	0	NC	40
Aroclor-1232	0	mg/kg	0	NC	40
Aroclor-1242	0	mg/kg	0	NC	40
Aroclor-1248	0	mg/kg	0	NC	40
Aroclor-1254	.01948	mg/kg	.01645	16.8	40
Aroclor-1260	.01797	mg/kg	.02335	26	40

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40846 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3546

Associated Lab Samples: 2097173002, 2097173004, 2097173006

METHOD BLANK: 2237249

Parameter	Blank Result	Units	Reporting Limit
Aldrin	1.7 U	ug/kg	1.7
alpha-BHC	1.7 U	ug/kg	1.7
beta-BHC	1.7 U	ug/kg	1.7
delta-BHC	1.7 U	ug/kg	1.7
gamma-BHC	1.7 U	ug/kg	1.7
alpha-Chlordane	1.7 U	ug/kg	1.7
4,4'-DDD	3.3 U	ug/kg	3.3
4,4'-DDE	3.3 U	ug/kg	3.3
4,4'-DDT	3.3 U	ug/kg	3.3
Dieldrin	3.3 U	ug/kg	3.3
Endosulfan I	1.7 U	ug/kg	1.7
Endosulfan II	3.3 U	ug/kg	3.3
Endosulfan Sulfate	3.3 U	ug/kg	3.3
Endrin	3.3 U	ug/kg	3.3
Heptachlor	1.7 U	ug/kg	1.7
Decachlorobiphenyls (S)	95.1	%	30 - 135
Tetrachloro-m-xylene (S)	74.8	%	30 - 111

LABORATORY CONTROL SAMPLE: 2237250

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	91.6	ug/kg	33.3	30.5	58 - 103
alpha-BHC	93.2	ug/kg	33.3	31.1	57 - 105
beta-BHC	81.7	ug/kg	33.3	27.2	53 - 106
delta-BHC	95.2	ug/kg	33.3	31.7	60 - 103
gamma-BHC	93.6	ug/kg	33.3	31.2	59 - 102
alpha-Chlordane	90.9	ug/kg	33.3	30.3	62 - 98
4,4'-DDD	91.1	ug/kg	33.3	30.4	57 - 111
4,4'-DDE	96.6	ug/kg	33.3	32.2	63 - 112
4,4'-DDT	116	ug/kg	33.3	38.7	60 - 122
Dieldrin	93.9	ug/kg	33.3	31.3	62 - 109
Endosulfan I	85.7	ug/kg	33.3	28.6	57 - 98
Endosulfan II	111	ug/kg	33.3	37.1	59 - 112
Endosulfan Sulfate	82.7	ug/kg	33.3	27.6	27 - 96
Endrin	105	ug/kg	33.3	35.1	63 - 108

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Heptachlor	88.5	ug/kg	33.3	29.5	51 - 105
Decachlorobiphenyls (S)	93.2	%			30 - 135
Tetrachloro-m-xylene (S)	68.4	%			30 - 111

SAMPLE DUPLICATE: 2237252 ORIGINAL: 2097233001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aldrin	0	ug/kg	0	NC	40
alpha-BHC	0	ug/kg	0	NC	40
beta-BHC	0	ug/kg	0	NC	40
delta-BHC	0	ug/kg	0	NC	40
gamma-BHC	0	ug/kg	0	NC	40
4,4'-DDD	7.8253	ug/kg	9.2672	16.9	40
4,4'-DDE	3.5451	ug/kg	4.9293	32.7	40
4,4'-DDT	10.0519	ug/kg	8.2633	19.5	40
Dieldrin	0	ug/kg	0	NC	40
Endosulfan I	0	ug/kg	0	NC	40
Endosulfan II	0	ug/kg	0	NC	40
Endosulfan Sulfate	0	ug/kg	0	NC	40
Endrin	0	ug/kg	0	NC	40
Heptachlor	0	ug/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40856 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2237747

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	100 U	ug/kg	100
Acenaphthylene	100 U	ug/kg	100
Anthracene	10.4J	ug/kg	100
Benzo(a)anthracene	16.6J	ug/kg	100
Benzo(a)pyrene	100 U	ug/kg	100
Benzo(b)fluoranthene	100 U	ug/kg	100
Benzo(g,h,i)perylene	100 U	ug/kg	100
Benzo(k)fluoranthene	100 U	ug/kg	100
Chrysene	100 U	ug/kg	100
mp-Cresol	24.1J	ug/kg	270
o-Cresol	22.4J	ug/kg	270
Dibenzo(a,h)anthracene	100 U	ug/kg	100
Dibenzofuran	100 U	ug/kg	100
Fluoranthene	100 U	ug/kg	100
Fluorene	100 U	ug/kg	100
Hexachlorobenzene	100 U	ug/kg	100
Indeno(1,2,3-cd)pyrene	100 U	ug/kg	100
Naphthalene	100 U	ug/kg	100
Pentachlorophenol	200 U	ug/kg	200
Phenanthrene	100 U	ug/kg	100
Phenol	270 U	ug/kg	270
Pyrene	100 U	ug/kg	100
2,4,6-Tribromophenol (S)	79.3	%	37 - 123
2-Fluorobiphenyl (S)	92.9	%	45 - 105
2-Fluorophenol (S)	97.7	%	35 - 104
Nitrobenzene-d5 (S)	90	%	41 - 110
Phenol-d5 (S)	95	%	40 - 100
Terphenyl-d14 (S)	91.1	%	38 - 113

LABORATORY CONTROL SAMPLE: 2237748

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	96.6	ug/kg	3330	3220	63 - 113
Acenaphthylene	100	ug/kg	3330	3350	66 - 114
Anthracene	101	ug/kg	3330	3360	67 - 114

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Benzo(a)anthracene	99.3	ug/kg	3330	3310	66 - 117
Benzo(a)pyrene	101	ug/kg	3330	3360	64 - 118
Benzo(b)fluoranthene	104	ug/kg	3330	3470	64 - 120
Benzo(g,h,i)perylene	103	ug/kg	3330	3440	65 - 119
Benzo(k)fluoranthene	103	ug/kg	3330	3420	65 - 119
Chrysene	98.9	ug/kg	3330	3300	67 - 120
mp-Cresol	101	ug/kg	6670	6740	50 - 111
o-Cresol	99.4	ug/kg	6670	6630	56 - 109
Dibenzo(a,h)anthracene	105	ug/kg	3330	3510	60 - 124
Dibenzofuran	93.9	ug/kg	3330	3130	65 - 113
Fluoranthene	102	ug/kg	3330	3410	67 - 116
Fluorene	98.8	ug/kg	3330	3290	64 - 117
Hexachlorobenzene	94.1	ug/kg	3330	3140	59 - 123
Indeno(1,2,3-cd)pyrene	101	ug/kg	3330	3370	66 - 120
Naphthalene	92.9	ug/kg	3330	3100	68 - 117
Pentachlorophenol	115	ug/kg	6670	7690	61 - 136
Phenanthrene	96.2	ug/kg	3330	3210	68 - 117
Phenol	101	ug/kg	6670	6720	36 - 119
Pyrene	99.1	ug/kg	3330	3300	60 - 121
2,4,6-Tribromophenol (S)	91.8	%			37 - 123
2-Fluorobiphenyl (S)	86.2	%			45 - 105
2-Fluorophenol (S)	96.3	%			35 - 104
Nitrobenzene-d5 (S)	91.2	%			41 - 110
Phenol-d5 (S)	98.4	%			40 - 100
Terphenyl-d14 (S)	92.6	%			38 - 113

MATRIX SPIKE SAMPLE: 2237749 ORIGINAL: 2097691001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Anthracene	0	ug/kg	3270	3049.73	93.3	67 - 114
Benzo(a)anthracene	0	ug/kg	3270	3053.91	93.4	66 - 117
Benzo(a)pyrene	0	ug/kg	3270	3079.86	94.2	64 - 118
Benzo(b)fluoranthene	0	ug/kg	3270	3060.21	93.6	64 - 120
Benzo(g,h,i)perylene	0	ug/kg	3270	3082.45	94.3	65 - 119
Chrysene	0	ug/kg	3270	3022.27	92.5	67 - 120
Fluorene	0	ug/kg	3270	2964.06	90.7	64 - 117
Phenanthrene	0	ug/kg	3270	2873.46	87.9	68 - 117
Pyrene	0	ug/kg	3270	3073.87	94.1	60 - 121
2-Fluorobiphenyl (S)	80.2	%				45 - 105
Nitrobenzene-d5 (S)	83.6	%				41 - 110
Phenol-d5 (S)	88.4	%				40 - 100
Terphenyl-d14 (S)	85.9	%				38 - 113

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

SAMPLE DUPLICATE: 2237750 ORIGINAL: 2097727003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Acenaphthene	0	ug/kg	0	NC	17
Acenaphthylene	0	ug/kg	0	NC	17
Anthracene	0	ug/kg	0	NC	20
Benzo(a)anthracene	0	ug/kg	0	NC	22
Benzo(a)pyrene	0	ug/kg	0	NC	24
Benzo(b)fluoranthene	0	ug/kg	0	NC	28
Benzo(g,h,i)perylene	0	ug/kg	0	NC	30
Benzo(k)fluoranthene	0	ug/kg	0	NC	22
Chrysene	0	ug/kg	0	NC	20
Dibenzo(a,h)anthracene	0	ug/kg	0	NC	28
Dibenzofuran	0	ug/kg	0	NC	18
Fluoranthene	0	ug/kg	0	NC	21
Fluorene	0	ug/kg	0	NC	16
Hexachlorobenzene	0	ug/kg	0	NC	21
Indeno(1,2,3-cd)pyrene	0	ug/kg	0	NC	30
Naphthalene	0	ug/kg	0	NC	21
Phenanthrene	0	ug/kg	0	NC	20
Pyrene	0	ug/kg	0	NC	20

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40858 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021, 2097173022, 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2237781

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	0.033 U	mg/kg	0.033
Aroclor-1221	0.033 U	mg/kg	0.033
Aroclor-1232	0.033 U	mg/kg	0.033
Aroclor-1242	0.033 U	mg/kg	0.033
Aroclor-1248	0.033 U	mg/kg	0.033
Aroclor-1254	0.033 U	mg/kg	0.033
Aroclor-1260	0.033 U	mg/kg	0.033
Decachlorobiphenyls (S)	111	%	46 - 120
Tetrachloro-m-xylene (S)	100	%	52 - 115

LABORATORY CONTROL SAMPLE: 2237782

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	77.4	mg/kg	.33	0.26	43 - 132
Aroclor-1221		mg/kg		0.033 U	
Aroclor-1232		mg/kg		0.033 U	
Aroclor-1242		mg/kg		0.033 U	
Aroclor-1248		mg/kg		0.033 U	
Aroclor-1254		mg/kg		0.033 U	
Aroclor-1260	89	mg/kg	.33	0.30	53 - 134
Decachlorobiphenyls (S)	102	%			46 - 120
Tetrachloro-m-xylene (S)	92.6	%			52 - 115

SAMPLE DUPLICATE: 2237784 ORIGINAL: 2097173020

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aroclor-1016	0	mg/kg	0	NC	40
Aroclor-1221	0	mg/kg	0	NC	40
Aroclor-1232	0	mg/kg	0	NC	40
Aroclor-1242	0	mg/kg	0	NC	40
Aroclor-1248	0	mg/kg	0	NC	40
Aroclor-1254	.02343	mg/kg	.02222	5.3	40

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Aroclor-1260	0	mg/kg	0	NC	40

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40859 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3546

Associated Lab Samples: 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021, 2097173022, 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2237799

Parameter	Blank Result	Units	Reporting Limit
Aldrin	1.7 U	ug/kg	1.7
alpha-BHC	1.7 U	ug/kg	1.7
beta-BHC	1.7 U	ug/kg	1.7
delta-BHC	1.7 U	ug/kg	1.7
gamma-BHC	1.7 U	ug/kg	1.7
alpha-Chlordane	1.7 U	ug/kg	1.7
4,4'-DDD	3.3 U	ug/kg	3.3
4,4'-DDE	3.3 U	ug/kg	3.3
4,4'-DDT	3.3 U	ug/kg	3.3
Dieldrin	3.3 U	ug/kg	3.3
Endosulfan I	1.7 U	ug/kg	1.7
Endosulfan II	3.3 U	ug/kg	3.3
Endosulfan Sulfate	3.3 U	ug/kg	3.3
Endrin	3.3 U	ug/kg	3.3
Heptachlor	1.7 U	ug/kg	1.7
Decachlorobiphenyls (S)	93.5	%	30 - 135
Tetrachloro-m-xylene (S)	67.6	%	30 - 111

LABORATORY CONTROL SAMPLE: 2237800

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	83.9	ug/kg	33.3	28.0	58 - 103
alpha-BHC	85.6	ug/kg	33.3	28.5	57 - 105
beta-BHC	79.6	ug/kg	33.3	26.5	53 - 106
delta-BHC	91.1	ug/kg	33.3	30.4	60 - 103
gamma-BHC	86.6	ug/kg	33.3	28.9	59 - 102
alpha-Chlordane	86.6	ug/kg	33.3	28.9	62 - 98
4,4'-DDD	89.8	ug/kg	33.3	29.9	57 - 111
4,4'-DDE	92.6	ug/kg	33.3	30.9	63 - 112
4,4'-DDT	109	ug/kg	33.3	36.5	60 - 122
Dieldrin	89.7	ug/kg	33.3	29.9	62 - 109
Endosulfan I	82.2	ug/kg	33.3	27.4	57 - 98
Endosulfan II	106	ug/kg	33.3	35.5	59 - 112
Endosulfan Sulfate	82.4	ug/kg	33.3	27.5	27 - 96
Endrin	101	ug/kg	33.3	33.6	63 - 108

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Heptachlor	81.9	ug/kg	33.3	27.3	51 - 105
Decachlorobiphenyls (S)	85.6	%			30 - 135
Tetrachloro-m-xylene (S)	62.6	%			30 - 111

SAMPLE DUPLICATE: 2237818 ORIGINAL: 2097173020

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aldrin	0	ug/kg	0	NC	40
alpha-BHC	0	ug/kg	0	NC	40
beta-BHC	0	ug/kg	0	NC	40
delta-BHC	0	ug/kg	0	NC	40
gamma-BHC	0	ug/kg	0	NC	40
alpha-Chlordane	0	ug/kg	0	NC	40
4,4'-DDD	0	ug/kg	0	NC	40
4,4'-DDE	3.8676	ug/kg	0	NC	40
4,4'-DDT	0	ug/kg	75.3333	NC	40
Dieldrin	0	ug/kg	0	NC	40
Endosulfan I	0	ug/kg	0	NC	40
Endosulfan II	0	ug/kg	0	NC	40
Endosulfan Sulfate	0	ug/kg	0	NC	40
Endrin	0	ug/kg	0	NC	40
Heptachlor	0	ug/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40862 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2097173002, 2097173004, 2097173006, 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021, 2097173022, 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2237879

Parameter	Blank Result	Units	Reporting Limit
2,4,5-TP	67.0 U	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	60.5	%	30 - 153

LABORATORY CONTROL SAMPLE: 2237880

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4,5-TP	63.4	ug/kg	333	211	30 - 150
2,4-Dichlorophenylacetic acid (S)	58.1	%			30 - 153

MATRIX SPIKE: 2237881 DUPLICATE: 2237882 ORIGINAL: 2097233001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4,5-TP	0	ug/kg	325	237.821	223.158	73.2	70.1	30 - 150	6.36	20
2,4-Dichlorophenylacetic acid (S)	61.3	%				61.3	59.8	30 - 153		

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: EXTR/40907 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2097173022, 2097173023, 2097173024

METHOD BLANK: 2239863

Parameter	Blank Result	Units	Reporting Limit
2,4-D	67.0 U	ug/kg	67.0
2,4-DB	67.0 U	ug/kg	67.0
Dalapon	67.0 U	ug/kg	67.0
Dicamba	67.0 U	ug/kg	67.0
Dichloroprop	67.0 U	ug/kg	67.0
Dinoseb	167 U	ug/kg	167
Pentachlorophenol	67.0 U	ug/kg	67.0
2,4,5-T	67.0 U	ug/kg	67.0
2,4,5-TP	67.0 U	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	57.5	%	30 - 153

LABORATORY CONTROL SAMPLE: 2239864

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4-D	61	ug/kg	333	203	30 - 150
2,4-DB	67.8	ug/kg	333	226	30 - 150
Dalapon	34.4	ug/kg	333	115	30 - 150
Dicamba	61.2	ug/kg	333	204	30 - 150
Dichloroprop	63.3	ug/kg	333	211	30 - 150
Dinoseb	56.4	ug/kg	333	188	30 - 107
Pentachlorophenol	62	ug/kg	333	207	30 - 150
2,4,5-T	65.2	ug/kg	333	217	30 - 150
2,4,5-TP	67.5	ug/kg	333	225	30 - 150
2,4-Dichlorophenylacetic acid (S)	66.5	%			30 - 153

MATRIX SPIKE: 2239865 DUPLICATE: 2239866 ORIGINAL: 2098558001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4-D	0	ug/kg	330	198.158	190.474	60	58.5	30 - 150	3.95	34
2,4-DB	0	ug/kg	330	318.522	306.385	96.5	94.1	30 - 150	3.88	42

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Dalapon	0	ug/kg	330	102.484	87.211	31.1	26.8*	30 - 150	16.1	35
Dicamba	0	ug/kg	330	184.883	165.925	56	50.9	30 - 150	10.8	24
Dichloroprop	0	ug/kg	330	155.941	130.492	47.3	40.1	30 - 150	17.8	26
Dinoseb	0	ug/kg	330	190.719	178.054	57.8	54.7	30 - 107	6.87	58
Pentachlorophenol	0	ug/kg	330	185.704	170.875	56.3	52.5	30 - 150	8.32	19
2,4,5-T	0	ug/kg	330	214.974	194.79	65.1	59.8	30 - 150	9.85	18
2,4,5-TP	0	ug/kg	330	205.307	186.147	62.2	57.1	30 - 150	9.79	20
2,4-Dichlorophenylacetic acid (S)	62	%				62	55.7	30 - 153		

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: MDIG/53123 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3051

Associated Lab Samples: 2097173002, 2097173004, 2097173006, 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021

METHOD BLANK: 2241623

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	1.5 U	mg/kg	1.5
Barium, Total	2.5 U	mg/kg	2.5
Beryllium, Total	0.50 U	mg/kg	0.50
Cadmium, Total	0.50 U	mg/kg	0.50
Chromium, Total	1.0 U	mg/kg	1.0
Copper, Total	2.5 U	mg/kg	2.5
Lead, Total	1.0 U	mg/kg	1.0
Manganese, Total	2.5 U	mg/kg	2.5
Nickel, Total	2.5 U	mg/kg	2.5
Selenium, Total	2.5 U	mg/kg	2.5
Silver, Total	1.0 U	mg/kg	1.0
Zinc, Total	2.5 U	mg/kg	2.5

LABORATORY CONTROL SAMPLE: 2241624

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	91.3	mg/kg	20	18.3	80 - 120
Barium, Total	109	mg/kg	200	219	80 - 120
Beryllium, Total	91.2	mg/kg	20	18.2	80 - 120
Cadmium, Total	93.6	mg/kg	20	18.7	80 - 120
Chromium, Total	96.8	mg/kg	20	19.4	80 - 120
Copper, Total	94.3	mg/kg	20	18.9	80 - 120
Lead, Total	91.1	mg/kg	20	18.2	80 - 120
Manganese, Total	101	mg/kg	20	20.3	80 - 120
Nickel, Total	98.5	mg/kg	20	19.7	80 - 120
Selenium, Total	83.9	mg/kg	20	16.8	80 - 120
Silver, Total	101	mg/kg	10	10.1	80 - 120
Zinc, Total	94.6	mg/kg	200	189	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

MATRIX SPIKE: 2241625 DUPLICATE: 2241626 ORIGINAL: 2097365001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Selenium, Total	1.13705	mg/kg	19.2	13.2899	17.35142	63.2*	85.9	75 - 125	26.5	20

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: MDIG/53136 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3051

Associated Lab Samples: 2097173022, 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2242022

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	1.5 U	mg/kg	1.5
Barium, Total	2.5 U	mg/kg	2.5
Beryllium, Total	0.50 U	mg/kg	0.50
Cadmium, Total	0.50 U	mg/kg	0.50
Chromium, Total	1.0 U	mg/kg	1.0
Copper, Total	2.5 U	mg/kg	2.5
Lead, Total	1.0 U	mg/kg	1.0
Manganese, Total	2.5 U	mg/kg	2.5
Nickel, Total	2.5 U	mg/kg	2.5
Selenium, Total	2.5 U	mg/kg	2.5
Silver, Total	1.0 U	mg/kg	1.0
Zinc, Total	2.5 U	mg/kg	2.5

LABORATORY CONTROL SAMPLE: 2242024

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	91.1	mg/kg	20	18.2	80 - 120
Barium, Total	117	mg/kg	200	235	80 - 120
Beryllium, Total	90.4	mg/kg	20	18.1	80 - 120
Cadmium, Total	94.6	mg/kg	20	18.9	80 - 120
Chromium, Total	94.3	mg/kg	20	18.9	80 - 120
Copper, Total	94.7	mg/kg	20	18.9	80 - 120
Lead, Total	86.3	mg/kg	20	17.3	80 - 120
Manganese, Total	101	mg/kg	20	20.2	80 - 120
Nickel, Total	102	mg/kg	20	20.3	80 - 120
Selenium, Total	84	mg/kg	20	16.8	80 - 120
Silver, Total	94.1	mg/kg	10	9.4	80 - 120
Zinc, Total	107	mg/kg	200	214	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

MATRIX SPIKE: 2242027 DUPLICATE: 2242028 ORIGINAL: 2098652001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Arsenic, Total	1.03792	mg/kg	20	18.799	14.56442	88.8	70.3*	75 - 125	25.4	20
Beryllium, Total	.10917	mg/kg	20	17.681	13.5226	87.9	69.7*	75 - 125	26.7	20
Cadmium, Total	.63417	mg/kg	20	19.0705	15.09904	92.2	75.2	75 - 125	23.2	20
Chromium, Total	32.15625	mg/kg	20	52.46	41.55192	102	48.9*	75 - 125	23.2	20
Copper, Total	106.33583	mg/kg	20	136.233	107.8889	NC	NC	75 - 125	23.2	20
Lead, Total	14.88417	mg/kg	20	31.244	25.32788	81.8	54.3*	75 - 125	20.9	20
Nickel, Total	5.44417	mg/kg	20	23.7955	18.13654	91.8	66*	75 - 125	27	20
Selenium, Total	1.50417	mg/kg	20	19.234	14.28942	88.6	66.5*	75 - 125	29.5	20
Silver, Total	1.94417	mg/kg	10	11.184	9.17067	92.4	75.2	75 - 125	19.8	20
Zinc, Total	254.78417	mg/kg	200	460.432	366.8302	103	58.3*	75 - 125	22.6	20

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: MDIG/53139 **Analysis Method:** SW846 7471B

QC Batch Method: SW846 7471B

Associated Lab Samples: 2097173002, 2097173004, 2097173006, 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021, 2097173022, 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2242081

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.050 U	mg/kg	0.050

LABORATORY CONTROL SAMPLE: 2242082

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	109	mg/kg	.4	0.44	80 - 120

MATRIX SPIKE: 2242083 DUPLICATE: 2242084 ORIGINAL: 2097173002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.04982	mg/kg	.88	.90175	.90517	97.1	99.2	80 - 120	.38	20

MATRIX SPIKE: 2242085 DUPLICATE: 2242086 ORIGINAL: 2097173026

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.0498	mg/kg	1	1.04	1.044	99	99.4	80 - 120	.38	20

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: VOMS/37256 **Analysis Method:** SW846 8260C

QC Batch Method: SW846 5035

Associated Lab Samples: 2097173002, 2097173004, 2097173006, 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021, 2097173022, 2097173023

METHOD BLANK: 2236892

Parameter	Blank Result	Units	Reporting Limit
Acetone	10.0 U	ug/kg	10.0
Benzene	2.0 U	ug/kg	2.0
2-Butanone	10.0 U	ug/kg	10.0
n-Butylbenzene	2.0 U	ug/kg	2.0
tert-Butylbenzene	2.0 U	ug/kg	2.0
sec-Butylbenzene	2.0 U	ug/kg	2.0
Carbon Tetrachloride	2.0 U	ug/kg	2.0
Chlorobenzene	2.0 U	ug/kg	2.0
Chloroform	2.0 U	ug/kg	2.0
1,2-Dichlorobenzene	2.0 U	ug/kg	2.0
1,3-Dichlorobenzene	2.0 U	ug/kg	2.0
1,4-Dichlorobenzene	2.0 U	ug/kg	2.0
1,1-Dichloroethane	2.0 U	ug/kg	2.0
1,2-Dichloroethane	2.0 U	ug/kg	2.0
1,1-Dichloroethene	2.0 U	ug/kg	2.0
cis-1,2-Dichloroethene	2.0 U	ug/kg	2.0
trans-1,2-Dichloroethene	2.0 U	ug/kg	2.0
1,4-Dioxane	75.0 U	ug/kg	75.0
Ethylbenzene	2.0 U	ug/kg	2.0
Methyl t-Butyl Ether	2.0 U	ug/kg	2.0
Methylene Chloride	1.1J	ug/kg	2.0
n-Propylbenzene	2.0 U	ug/kg	2.0
Tetrachloroethene	2.0 U	ug/kg	2.0
Toluene	0.78J	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,1,1-Trichloroethane	2.0 U	ug/kg	2.0
Trichloroethene	2.0 U	ug/kg	2.0
1,2,4-Trimethylbenzene	2.0 U	ug/kg	2.0
1,3,5-Trimethylbenzene	2.0 U	ug/kg	2.0
Vinyl Chloride	2.0 U	ug/kg	2.0
1,2-Dichloroethane-d4 (S)	93.3	%	56 - 124
4-Bromofluorobenzene (S)	101	%	51 - 128
Dibromofluoromethane (S)	99.2	%	62 - 123
Toluene-d8 (S)	117	%	59 - 131

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

LABORATORY CONTROL SAMPLE: 2236893 DUPLICATE: 2236894

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Acetone	117	ug/kg	100	117	109	109	58 - 146	6.47	40
Benzene	99	ug/kg	20	19.8	18.9	94.6	75 - 132	4.55	40
2-Butanone	88.9	ug/kg	100	88.9	81.8	81.8	64 - 148	8.38	40
n-Butylbenzene	105	ug/kg	20	20.9	23.0	115	64 - 141	9.68	40
tert-Butylbenzene	117	ug/kg	20	23.5	23.4	117	71 - 133	.28	40
sec-Butylbenzene	112	ug/kg	20	22.4	23.7	119	72 - 136	5.71	40
Carbon Tetrachloride	106	ug/kg	20	21.3	22.3	112	64 - 136	4.92	40
Chlorobenzene	98.1	ug/kg	20	19.6	21.0	105	76 - 125	6.57	40
Chloroform	106	ug/kg	20	21.1	21.0	105	73 - 126	.57	40
1,2-Dichlorobenzene	94.1	ug/kg	20	18.8	21.8	109	75 - 126	14.7	40
1,3-Dichlorobenzene	109	ug/kg	20	21.8	22.4	112	72 - 127	2.8	40
1,4-Dichlorobenzene	102	ug/kg	20	20.5	21.8	109	72 - 126	6.36	40
1,1-Dichloroethane	104	ug/kg	20	20.8	21.1	105	74 - 131	1.22	40
1,2-Dichloroethane	103	ug/kg	20	20.6	20.3	102	69 - 132	1.49	40
1,1-Dichloroethene	104	ug/kg	20	20.7	18.8	94.1	59 - 139	9.78	40
cis-1,2-Dichloroethene	107	ug/kg	20	21.3	21.6	108	75 - 128	1.23	40
trans-1,2-Dichloroethene	101	ug/kg	20	20.3	19.6	97.8	66 - 133	3.56	40
1,4-Dioxane	115	ug/kg	500	574	543	109	9 - 267	5.49	40
Ethylbenzene	98.5	ug/kg	20	19.7	21.2	106	73 - 133	7.14	40
Methyl t-Butyl Ether	104	ug/kg	20	20.7	20.1	101	70 - 118	2.98	40
Methylene Chloride	113	ug/kg	20	22.5	19.5	97.5	68 - 133	14.3	40
n-Propylbenzene	122	ug/kg	20	24.4	26.0	130	68 - 134	6.1	40
Tetrachloroethene	103	ug/kg	20	20.7	23.9	120	58 - 137	14.5	40
Toluene	102	ug/kg	20	20.3	22.8	114	73 - 129	11.6	40
Total Xylenes	105	ug/kg	60	63.3	63.0	105	73 - 130	.4	40
1,1,1-Trichloroethane	102	ug/kg	20	20.4	18.9	94.7	68 - 131	7.22	40
Trichloroethene	107	ug/kg	20	21.5	22.0	110	72 - 129	2.59	40
1,2,4-Trimethylbenzene	111	ug/kg	20	22.3	22.4	112	70 - 131	.57	40
1,3,5-Trimethylbenzene	110	ug/kg	20	22.1	21.9	110	71 - 132	.6	40
Vinyl Chloride	116	ug/kg	20	23.2	20.9	104	53 - 141	10.5	40
1,2-Dichloroethane-d4 (S)	111	%			111		56 - 124		
4-Bromofluorobenzene (S)	106	%			106		51 - 128		
Dibromofluoromethane (S)	107	%			107		62 - 123		
Toluene-d8 (S)	110	%			110		59 - 131		

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: VOMS/37296 **Analysis Method:** SW846 8260C

QC Batch Method: SW846 5035

Associated Lab Samples: 2097173002, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2239295

Parameter	Blank Result	Units	Reporting Limit
Acetone	10.0 U	ug/kg	10.0
Benzene	2.0 U	ug/kg	2.0
2-Butanone	10.0 U	ug/kg	10.0
n-Butylbenzene	2.0 U	ug/kg	2.0
tert-Butylbenzene	2.0 U	ug/kg	2.0
sec-Butylbenzene	2.0 U	ug/kg	2.0
Carbon Tetrachloride	2.0 U	ug/kg	2.0
Chlorobenzene	2.0 U	ug/kg	2.0
Chloroform	2.0 U	ug/kg	2.0
1,2-Dichlorobenzene	2.0 U	ug/kg	2.0
1,3-Dichlorobenzene	2.0 U	ug/kg	2.0
1,4-Dichlorobenzene	2.0 U	ug/kg	2.0
1,1-Dichloroethane	2.0 U	ug/kg	2.0
1,2-Dichloroethane	2.0 U	ug/kg	2.0
1,1-Dichloroethene	2.0 U	ug/kg	2.0
cis-1,2-Dichloroethene	2.0 U	ug/kg	2.0
trans-1,2-Dichloroethene	2.0 U	ug/kg	2.0
1,4-Dioxane	75.0 U	ug/kg	75.0
Ethylbenzene	2.0 U	ug/kg	2.0
Methyl t-Butyl Ether	2.0 U	ug/kg	2.0
Methylene Chloride	1.0J	ug/kg	2.0
n-Propylbenzene	2.0 U	ug/kg	2.0
Tetrachloroethene	2.0 U	ug/kg	2.0
Toluene	2.0 U	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,1,1-Trichloroethane	2.0 U	ug/kg	2.0
Trichloroethene	2.0 U	ug/kg	2.0
1,2,4-Trimethylbenzene	2.0 U	ug/kg	2.0
1,3,5-Trimethylbenzene	2.0 U	ug/kg	2.0
Vinyl Chloride	2.0 U	ug/kg	2.0
1,2-Dichloroethane-d4 (S)	97.8	%	56 - 124
4-Bromofluorobenzene (S)	107	%	51 - 128
Dibromofluoromethane (S)	103	%	62 - 123
Toluene-d8 (S)	116	%	59 - 131

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

LABORATORY CONTROL SAMPLE: 2239296 DUPLICATE: 2239297

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Acetone	106	ug/kg	100	106	104	104	58 - 146	1.92	40
Benzene	99.7	ug/kg	20	19.9	20.5	102	75 - 132	2.77	40
2-Butanone	92.6	ug/kg	100	92.6	96.6	96.6	64 - 148	4.23	40
n-Butylbenzene	106	ug/kg	20	21.2	22.4	112	64 - 141	5.53	40
tert-Butylbenzene	111	ug/kg	20	22.2	22.9	115	71 - 133	3.26	40
sec-Butylbenzene	109	ug/kg	20	21.8	22.9	114	72 - 136	4.77	40
Carbon Tetrachloride	120	ug/kg	20	23.9	24.5	122	64 - 136	2.31	40
Chlorobenzene	101	ug/kg	20	20.2	20.2	101	76 - 125	.18	40
Chloroform	104	ug/kg	20	20.9	21.0	105	73 - 126	.41	40
1,2-Dichlorobenzene	100	ug/kg	20	20.0	21.3	106	75 - 126	6.18	40
1,3-Dichlorobenzene	102	ug/kg	20	20.5	21.6	108	72 - 127	5.38	40
1,4-Dichlorobenzene	99.2	ug/kg	20	19.8	21.1	105	72 - 126	6.1	40
1,1-Dichloroethane	98	ug/kg	20	19.6	20.3	101	74 - 131	3.41	40
1,2-Dichloroethane	101	ug/kg	20	20.2	20.8	104	69 - 132	2.97	40
1,1-Dichloroethene	91.3	ug/kg	20	18.3	18.1	90.3	59 - 139	1.07	40
cis-1,2-Dichloroethene	102	ug/kg	20	20.4	21.1	106	75 - 128	3.29	40
trans-1,2-Dichloroethene	93.7	ug/kg	20	18.7	19.3	96.4	66 - 133	2.9	40
1,4-Dioxane	114	ug/kg	500	570	579	116	9 - 267	1.66	40
Ethylbenzene	102	ug/kg	20	20.4	20.4	102	73 - 133	.17	40
Methyl t-Butyl Ether	95.4	ug/kg	20	19.1	19.1	95.3	70 - 118	.14	40
Methylene Chloride	128	ug/kg	20	25.6	23.3	117	68 - 133	9.17	40
n-Propylbenzene	105	ug/kg	20	21.0	22.3	112	68 - 134	6.08	40
Tetrachloroethene	107	ug/kg	20	21.3	21.6	108	58 - 137	1.33	40
Toluene	102	ug/kg	20	20.3	21.2	106	73 - 129	4.22	40
Total Xylenes	105	ug/kg	60	63.0	62.1	103	73 - 130	1.52	40
1,1,1-Trichloroethane	103	ug/kg	20	20.5	21.5	108	68 - 131	4.62	40
Trichloroethene	112	ug/kg	20	22.3	22.8	114	72 - 129	2.3	40
1,2,4-Trimethylbenzene	104	ug/kg	20	20.7	21.7	109	70 - 131	4.61	40
1,3,5-Trimethylbenzene	101	ug/kg	20	20.1	21.3	107	71 - 132	5.72	40
Vinyl Chloride	103	ug/kg	20	20.6	20.9	104	53 - 141	1.15	40
1,2-Dichloroethane-d4 (S)	105	%			105		56 - 124		
4-Bromofluorobenzene (S)	103	%			103		51 - 128		
Dibromofluoromethane (S)	106	%			106		62 - 123		
Toluene-d8 (S)	111	%			111		59 - 131		

MATRIX SPIKE SAMPLE: 2239653 ORIGINAL: 2098079010

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

Acetone	4.96237	ug/kg	101	78.7609	73.2	58 - 146
Benzene	0	ug/kg	20.2	18.8531	93.5	75 - 132
2-Butanone	0	ug/kg	101	96.8272	96.1	64 - 148
n-Butylbenzene	0	ug/kg	20.2	14.1078	70	64 - 141
tert-Butylbenzene	0	ug/kg	20.2	16.3685	81.2	71 - 133
sec-Butylbenzene	0	ug/kg	20.2	15.5025	76.9	72 - 136
Carbon Tetrachloride	0	ug/kg	20.2	21.1877	105	64 - 136
Chlorobenzene	0	ug/kg	20.2	17.2178	85.4	76 - 125
Chloroform	0	ug/kg	20.2	18.0105	89.3	73 - 126
1,2-Dichlorobenzene	0	ug/kg	20.2	12.7853	63.4*	75 - 126
1,3-Dichlorobenzene	0	ug/kg	20.2	15.2298	75.5	72 - 127
1,4-Dichlorobenzene	0	ug/kg	20.2	14.6993	72.9	72 - 126
1,1-Dichloroethane	0	ug/kg	20.2	18.8931	93.7	74 - 131
1,2-Dichloroethane	0	ug/kg	20.2	16.7652	83.2	69 - 132
1,1-Dichloroethene	0	ug/kg	20.2	15.9231	79	59 - 139
cis-1,2-Dichloroethene	0	ug/kg	20.2	18.7249	92.9	75 - 128
trans-1,2-Dichloroethene	0	ug/kg	20.2	15.215	75.5	66 - 133
1,4-Dioxane	0	ug/kg	504	406.531	80.7	9 - 267
Ethylbenzene	0	ug/kg	20.2	17.4146	86.4	73 - 133
Methyl t-Butyl Ether	0	ug/kg	20.2	14.7293	73.1	70 - 118
Methylene Chloride	10.6195	ug/kg	20.2	23.9768	66.3*	68 - 133
n-Propylbenzene	0	ug/kg	20.2	16.7352	83	68 - 134
Tetrachloroethene	0	ug/kg	20.2	19.547	97	58 - 137
Toluene	0	ug/kg	20.2	18.3163	90.8	73 - 129
Total Xylenes	0	ug/kg	60.5	51.7913	85.6	73 - 130
1,1,1-Trichloroethane	0	ug/kg	20.2	18.4779	91.7	68 - 131
Trichloroethene	0	ug/kg	20.2	20.1215	99.8	72 - 129
1,2,4-Trimethylbenzene	0	ug/kg	20.2	15.4118	76.4	70 - 131
1,3,5-Trimethylbenzene	0	ug/kg	20.2	15.3393	76.1	71 - 132
Vinyl Chloride	0	ug/kg	20.2	17.4507	86.6	53 - 141
1,2-Dichloroethane-d4 (S)	106	%				56 - 124
4-Bromofluorobenzene (S)	103	%				51 - 128
Dibromofluoromethane (S)	105	%				62 - 123
Toluene-d8 (S)	111	%				59 - 131

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: WCPR/33592 **Analysis Method:** SW846 9012B

QC Batch Method: SW846 9012B

Associated Lab Samples: 2097173002, 2097173004, 2097173006, 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021

METHOD BLANK: 2237554

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Total	0.25 U	mg/kg	0.25

LABORATORY CONTROL SAMPLE: 2237555

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Cyanide, Total	97.6	mg/kg	6.4	6.2	90 - 110

MATRIX SPIKE: 2237556 DUPLICATE: 2237557 ORIGINAL: 2097173002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Cyanide, Total	0	mg/kg	4.9	4.36893	4.13265	90	81	80 - 120	5.56	20

MATRIX SPIKE SAMPLE: 2237558 ORIGINAL: 2097173020

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Cyanide, Total	-.05	mg/kg	5.3	4.42105	85	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: WCPR/33605 **Analysis Method:** SW846 9012B

QC Batch Method: SW846 9012B

Associated Lab Samples: 2097173022, 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2238410

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Total	0.25 U	mg/kg	0.25

LABORATORY CONTROL SAMPLE: 2238411

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Cyanide, Total	103	mg/kg	6.3	6.5	90 - 110

MATRIX SPIKE: 2238412 DUPLICATE: 2238413 ORIGINAL: 2098066002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Cyanide, Total	0	mg/kg	5.2	5.3125	5.15	102	103	80 - 120	3.11	20

MATRIX SPIKE SAMPLE: 2238414 ORIGINAL: 2097173025

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Cyanide, Total	-.09615	mg/kg	4.9	4.12621	87	80 - 120

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: WCPR/33620 **Analysis Method:** SW846 7196A

QC Batch Method: SW846 3060A

Associated Lab Samples: 2097173002, 2097173004, 2097173006

METHOD BLANK: 2238945

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.0 U	mg/kg	2.0

LABORATORY CONTROL SAMPLE: 2238946

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	105	mg/kg	20.2	21.2	80 - 120

SAMPLE DUPLICATE: 2238947 ORIGINAL: 2097173006

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Hexavalent Chromium	0	mg/kg	0	NC	20

MATRIX SPIKE SAMPLE: 2238948 ORIGINAL: 2097173006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	40.3	.33065	.82*	75 - 125

MATRIX SPIKE SAMPLE: 2238949 ORIGINAL: 2097173006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	618	359.2200	58.1*	75 - 125

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

MATRIX SPIKE SAMPLE: 2238950 ORIGINAL: 2097173006

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	39.5	37.02767	93.7	85 - 115

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: WCPR/33661 **Analysis Method:** SW846 7196A

QC Batch Method: SW846 3060A

Associated Lab Samples: 2097173023, 2097173024, 2097173025, 2097173026

METHOD BLANK: 2240284

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.1 U	mg/kg	2.1

LABORATORY CONTROL SAMPLE: 2240285

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	101	mg/kg	20.1	20.2	80 - 120

SAMPLE DUPLICATE: 2240286 ORIGINAL: 2097173023

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Hexavalent Chromium	0	mg/kg	0	NC	20

MATRIX SPIKE SAMPLE: 2240287 ORIGINAL: 2097173023

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	40.3	0	0*	75 - 125

MATRIX SPIKE SAMPLE: 2240288 ORIGINAL: 2097173023

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	650	38.91057	5.98*	75 - 125

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

MATRIX SPIKE SAMPLE: 2240289 ORIGINAL: 2097173023

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	41.3	37.15702	89.9	85 - 115

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: WCPR/33713 **Analysis Method:** SW846 7196A

QC Batch Method: SW846 3060A

Associated Lab Samples: 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021, 2097173022

METHOD BLANK: 2242225

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.0 U	mg/kg	2.0

LABORATORY CONTROL SAMPLE: 2242226

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	100	mg/kg	20.2	20.3	80 - 120

SAMPLE DUPLICATE: 2242227 ORIGINAL: 2097686003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Hexavalent Chromium	0	mg/kg	0	NC	20

MATRIX SPIKE SAMPLE: 2242228 ORIGINAL: 2097686003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	39.4	18.72441	47.6*	75 - 125

MATRIX SPIKE SAMPLE: 2242229 ORIGINAL: 2097686003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	630	246.2204	39.1*	75 - 125

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QUALITY CONTROL DATA

Workorder: 2097173 23674.000

MATRIX SPIKE SAMPLE: 2242230 ORIGINAL: 2097686003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	39.4	33.85827	86	85 - 115

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

QC Batch: WETC/159991 **Analysis Method:** S2540G-11

QC Batch Method: S2540G-11

Associated Lab Samples: 2097173002, 2097173004, 2097173006, 2097173008, 2097173010, 2097173012, 2097173015, 2097173016, 2097173018, 2097173020, 2097173021, 2097173022, 2097173023, 2097173024, 2097173025, 2097173026

SAMPLE DUPLICATE: 2236883 ORIGINAL: 2097173002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	29.2929	%	29.1758	.4	10
Total Solids	70.707	%	70.8241	.17	5

SAMPLE DUPLICATE: 2236884 ORIGINAL: 2097173021

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	38.5556	%	37.7682	2.06	10
Total Solids	61.4443	%	62.2317	1.27	5

SAMPLE DUPLICATE: 2236885 ORIGINAL: 2097195001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	7.5204	%	7.1947	4.43	10
Total Solids	92.4795	%	92.8052	.35	5

SAMPLE DUPLICATE: 2236886 ORIGINAL: 2097202001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	13.1478	%	13.6226	3.55	10
Total Solids	86.8521	%	86.3773	.55	5

SAMPLE DUPLICATE: 2236887 ORIGINAL: 2097216001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	20.9105	%	22.4105	6.93	10
Total Solids	79.0894	%	77.5894	1.91	5

QUALITY CONTROL DATA

Workorder: 2097173 23674.000

SAMPLE DUPLICATE: 2236888 ORIGINAL: 2097231004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	12.7619	%	13.0958	2.58	10
Total Solids	87.238	%	86.9041	.38	5

SAMPLE DUPLICATE: 2236889 ORIGINAL: 2097231014

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	16.3048	%	17.0915	4.71	10
Total Solids	83.6951	%	82.9084	.94	5

SAMPLE DUPLICATE: 2236890 ORIGINAL: 2097240003

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	26.5247	%	27.2689	2.77	10
Total Solids	73.4752	%	72.731	1.02	5

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097173 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097173002	HB05-9	SW846 3546	EXTR/40834	SW846 8270D	SVMS/24262
2097173004	HB05-8	SW846 3546	EXTR/40834	SW846 8270D	SVMS/24262
2097173006	HB04-6	SW846 3546	EXTR/40834	SW846 8270D	SVMS/24262
2097173008	HB04-7	SW846 3546	EXTR/40834	SW846 8270D	SVMS/24262
2097173010	HB07-13	SW846 3546	EXTR/40834	SW846 8270D	SVMS/24262
2097173012	HB07-14	SW846 3546	EXTR/40834	SW846 8270D	SVMS/24262
2097173015	HB02-1	SW846 3546	EXTR/40834	SW846 8270D	SVMS/24262
2097173002	HB05-9			S2540G-11	WETC/159991
2097173004	HB05-8			S2540G-11	WETC/159991
2097173006	HB04-6			S2540G-11	WETC/159991
2097173008	HB04-7			S2540G-11	WETC/159991
2097173010	HB07-13			S2540G-11	WETC/159991
2097173012	HB07-14			S2540G-11	WETC/159991
2097173015	HB02-1			S2540G-11	WETC/159991
2097173016	HB02-2			S2540G-11	WETC/159991
2097173018	HB06-11			S2540G-11	WETC/159991
2097173020	HB06-12			S2540G-11	WETC/159991
2097173021	2014-19			S2540G-11	WETC/159991
2097173022	2013-28			S2540G-11	WETC/159991
2097173023	2012-9			S2540G-11	WETC/159991
2097173024	2071-12			S2540G-11	WETC/159991
2097173025	1438-23			S2540G-11	WETC/159991
2097173026	1363-24			S2540G-11	WETC/159991
2097173004	HB05-8	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173006	HB04-6	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173008	HB04-7	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173010	HB07-13	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173012	HB07-14	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173015	HB02-1	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173016	HB02-2	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097173 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097173018	HB06-11	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173020	HB06-12	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173021	2014-19	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173022	2013-28	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173023	2012-9	SW846 5035	VOMS/37256	SW846 8260C	VOMS/37257
2097173016	HB02-2	SW846 3546	EXTR/40843	SW846 8270D	SVMS/24269
2097173018	HB06-11	SW846 3546	EXTR/40843	SW846 8270D	SVMS/24269
2097173020	HB06-12	SW846 3546	EXTR/40843	SW846 8270D	SVMS/24269
2097173021	2014-19	SW846 3546	EXTR/40843	SW846 8270D	SVMS/24269
2097173022	2013-28	SW846 3546	EXTR/40843	SW846 8270D	SVMS/24269
2097173002	HB05-9	SW846 3546	EXTR/40845	SW846 8082A	SVGC/39562
2097173004	HB05-8	SW846 3546	EXTR/40845	SW846 8082A	SVGC/39562
2097173006	HB04-6	SW846 3546	EXTR/40845	SW846 8082A	SVGC/39562
2097173002	HB05-9	SW846 3546	EXTR/40846	SW846 8081B	SVGC/39581
2097173004	HB05-8	SW846 3546	EXTR/40846	SW846 8081B	SVGC/39581
2097173006	HB04-6	SW846 3546	EXTR/40846	SW846 8081B	SVGC/39581
2097173002	HB05-9	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173004	HB05-8	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173006	HB04-6	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173008	HB04-7	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173010	HB07-13	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173012	HB07-14	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173015	HB02-1	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173016	HB02-2	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173018	HB06-11	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173020	HB06-12	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092
2097173021	2014-19	SW846 9012B	WCPR/33592	SW846 9012B	WETC/160092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097173 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097173023	2012-9	SW846 3546	EXTR/40856	SW846 8270D	SVMS/24277
2097173024	2071-12	SW846 3546	EXTR/40856	SW846 8270D	SVMS/24277
2097173025	1438-23	SW846 3546	EXTR/40856	SW846 8270D	SVMS/24277
2097173026	1363-24	SW846 3546	EXTR/40856	SW846 8270D	SVMS/24277
2097173008	HB04-7	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173010	HB07-13	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173012	HB07-14	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173015	HB02-1	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173016	HB02-2	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173018	HB06-11	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173020	HB06-12	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173021	2014-19	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173022	2013-28	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173023	2012-9	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173024	2071-12	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173025	1438-23	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173026	1363-24	SW846 3546	EXTR/40858	SW846 8082A	SVGC/39573
2097173008	HB04-7	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173010	HB07-13	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173012	HB07-14	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173015	HB02-1	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173016	HB02-2	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173018	HB06-11	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173020	HB06-12	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173021	2014-19	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173022	2013-28	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173023	2012-9	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173024	2071-12	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173025	1438-23	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621
2097173026	1363-24	SW846 3546	EXTR/40859	SW846 8081B	SVGC/39621

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097173 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097173002	HB05-9	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173004	HB05-8	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173006	HB04-6	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173008	HB04-7	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173010	HB07-13	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173012	HB07-14	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173015	HB02-1	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173016	HB02-2	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173018	HB06-11	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173020	HB06-12	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173021	2014-19	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173025	1438-23	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173026	1363-24	SW846 8151A	EXTR/40862	SW846 8151A	SVGC/39584
2097173022	2013-28	SW846 9012B	WCPR/33605	SW846 9012B	WETC/160184
2097173023	2012-9	SW846 9012B	WCPR/33605	SW846 9012B	WETC/160184
2097173024	2071-12	SW846 9012B	WCPR/33605	SW846 9012B	WETC/160184
2097173025	1438-23	SW846 9012B	WCPR/33605	SW846 9012B	WETC/160184
2097173026	1363-24	SW846 9012B	WCPR/33605	SW846 9012B	WETC/160184
2097173002	HB05-9	SW846 3060A	WCPR/33620	SW846 7196A	WETC/160215
2097173004	HB05-8	SW846 3060A	WCPR/33620	SW846 7196A	WETC/160215
2097173006	HB04-6	SW846 3060A	WCPR/33620	SW846 7196A	WETC/160215
2097173002	HB05-9	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2097173024	2071-12	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2097173025	1438-23	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2097173026	1363-24	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2097173022	2013-28	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2097173023	2012-9	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2097173024	2071-12	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097173 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097173023	2012-9	SW846 3060A	WCPR/33661	SW846 7196A	WETC/160323
2097173024	2071-12	SW846 3060A	WCPR/33661	SW846 7196A	WETC/160323
2097173025	1438-23	SW846 3060A	WCPR/33661	SW846 7196A	WETC/160323
2097173026	1363-24	SW846 3060A	WCPR/33661	SW846 7196A	WETC/160323
2097173002	HB05-9	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173004	HB05-8	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173006	HB04-6	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173008	HB04-7	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173010	HB07-13	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173012	HB07-14	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173015	HB02-1	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173016	HB02-2	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173018	HB06-11	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173020	HB06-12	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173021	2014-19	SW846 3051	MDIG/53123	SW846 6020A	META/50101
2097173022	2013-28	SW846 3051	MDIG/53136	SW846 6020A	META/50119
2097173023	2012-9	SW846 3051	MDIG/53136	SW846 6020A	META/50119
2097173024	2071-12	SW846 3051	MDIG/53136	SW846 6020A	META/50119
2097173025	1438-23	SW846 3051	MDIG/53136	SW846 6020A	META/50119
2097173026	1363-24	SW846 3051	MDIG/53136	SW846 6020A	META/50119
2097173002	HB05-9	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173004	HB05-8	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173006	HB04-6	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173008	HB04-7	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173010	HB07-13	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173012	HB07-14	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173015	HB02-1	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173016	HB02-2	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173018	HB06-11	SW846 7471B	MDIG/53139	SW846 7471B	META/50124

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097173 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097173020	HB06-12	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173021	2014-19	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173022	2013-28	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173023	2012-9	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173024	2071-12	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173025	1438-23	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173026	1363-24	SW846 7471B	MDIG/53139	SW846 7471B	META/50124
2097173002	HB05-9			Calculation	WETC/160509
2097173004	HB05-8			Calculation	WETC/160509
2097173006	HB04-6			Calculation	WETC/160509
2097173008	HB04-7	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173010	HB07-13	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173012	HB07-14	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173015	HB02-1	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173016	HB02-2	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173018	HB06-11	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173020	HB06-12	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173021	2014-19	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173022	2013-28	SW846 3060A	WCPR/33713	SW846 7196A	WETC/160542
2097173008	HB04-7			Calculation	WETC/160626
2097173010	HB07-13			Calculation	WETC/160626
2097173012	HB07-14			Calculation	WETC/160626
2097173015	HB02-1			Calculation	WETC/160626
2097173016	HB02-2			Calculation	WETC/160626
2097173018	HB06-11			Calculation	WETC/160626
2097173020	HB06-12			Calculation	WETC/160626
2097173021	2014-19			Calculation	WETC/160626
2097173022	2013-28			Calculation	WETC/160626
2097173023	2012-9			Calculation	WETC/160626

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2097173 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2097173024	2071-12			Calculation	WETC/160626
2097173025	1438-23			Calculation	WETC/160626
2097173026	1363-24			Calculation	WETC/160626

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of ~~12~~ 4

Courier:

Tracking #:

2097173

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No:

***Container Type	2P	Gl																					
***Container Size	1gal.	1L																					
***																							
Preservative	Ice	None																					

ANALYSES/METHOD REQUESTED

(completed by Sample Receiving) Performed by: Rmk

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing															
							Enter Number of Containers Per Analysis																
1	HB05 - 9		9/21/15	0857			1																
2	HB05 - 9		9/21/15	1536				1															
3	HB05 - 8		9/21/15	0857			1																
4	HB05 - 8		9/21/15	1545				1															
5	HB04 - 6		9/21/15	1015			1																
6	HB04 - 6		9/21/15	1553				1															
7	HB04 - 7		9/21/15	1015			1																
8	HB04 - 7		9/21/15	1559				1															

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	Y	Y	Y	Y	
2	Y	Y	Y	Y	
3	Y	Y	Y	Y	
4	Y	Y	Y	Y	
5	Y	Y	Y	Y	
6	Y	Y	Y	Y	
7	Y	Y	Y	Y	
8	Y	Y	Y	Y	

	Custody seals Present?	(If present) Seals Intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?

SAMPLED BY (Please Print):

Project Comments: Rmk 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 CaBurrett Normandeau	9/22	1159	2 [signature]	9/22	1159
3 [signature]	9/22	1900	4 [signature]	9/22	1900
5 [signature]	9/22	2045	6 [signature] Rmk	9/22	2045
7			8		
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] new

SDWA Forms?: yes [ ]; yes [ ]; yes [ ]; yes [ ]

State Samples Collected In?: MD [ ]; NJ [ ]; NY [X]; PA [ ]; Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

1003

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5791
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.:

					***Container Type	PL	CG																
					***Container Size	gal	1L																
					***Preservative	Ice	None																
					ANALYSES/METHOD REQUESTED																		
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing																
						Enter Number of Containers Per Analysis																	
1 HB07 - 13		9/21/15	1046			1																	
2 HB07 - 13		9/21/15	1611				1																
3 HB07 - 14		9/21/15	1046			1																	
4 HB07 - 14		9/21/15	1616				1																
5 HB02 - 1		9/21/15	1115			1																	
6 HB02 - 2		9/21/15	1115			1																	
7 HB02 - 1		9/21/15	1625				1																
8 HB02 - 2		9/21/15	1631				1																

Receipt Information (completed by Sample Receiving)
Performed by: RMK
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y	Y	Y	Y	
Y	Y	Y	Y	Y
Y	Y	Y	Y	Y

Custody seals Present?	(If present) Seals Intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments: RMK 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1159	2	9/22	1159
3	9/22	1900	4	9/22	1900
5	9/22	2045	6 RMK	9/22	2045
7			8		
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐ Other

ALS FIELD SERVICES: ☐ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite **Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler Phone: (603) 472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? [X] -Y enestler@normandeau.com

Fax? [ ] -Y No.:

					***Container Type	PL	CG																
					***Container Size	Gal.	1L																
					***																		
					Preservative	Ice	None																
Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing																
						Enter Number of Containers Per Analysis																	
1 HB06 - 11		9/21/15	1145			1																	
2 HB06 - 11		9/21/15	1636				1																
3 HB06 - 12		9/21/15	1145			1																	
4 HB06 - 12		9/21/15	1640				1																
5 2014 - 19		9/21/15	1645				1																
6 2013 - 28		9/21/15	1651				1																
7 2012 - 9		9/21/15	1655				1																
8 2071 - 12		9/21/15	1659				1																

Receipt Information (completed by Sample Receipt)

Performed by: RMK

Cooler Temp: 1

Therm. ID: 309

No. of Coolers:

Notes:

Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
Y	Y	Y	Y	
Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments: RMK 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1155	2 [signature]	9/22	1155
3 [signature]	9/22	1900	4 [signature]	9/22	1900
5 [signature]	9/22	2045	6 [signature] RMK	9/22	2045
7			8		
9			10		

Data Deliverables: [X] Standard; [ ] CLP-like; [ ] NJ-Reduced; [ ] NJ-Full; [ ] new

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ] Other

EDDs Required? [X] If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup; [ ] Labor; [ ] Composite Sampling; [ ] Rental Equipment; [ ] Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

34 Dogwood Lane
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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK

Page 4 of ~~12~~ 4

Courier:

Tracking #:

9073

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing							
	***Container Type						PL	CG							
	***Container Size						Gal	1L							
	*** Preservative						ICE	None							
1	1438-23		9/21/15	1704				1							
2	1363-24		9/21/15	1708				1							
3	2014-19		9/21/15	1225			1								
4	2013-28		9/21/15	1236			1								
5	2012-9		9/21/15	1247			1								
6	2017-12		9/21/15	1250			1								
7	1438-23		9/21/15	1305			1								
8	1363-24		9/21/15	1316			1								

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiver)
Performed by: RML
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

	Y	Y	Y	Y	Y
Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.	
Y	Y	Y	Y	Y	
Custody seals Present?	(if present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?	

SAMPLED BY (Please Print):

Project Comments: RML 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Brett Normandeau	9/22	1159	2	9/22	1159
3	9/22	1900	4	9/22	1900
5	9/22	2045	6 RML	9/22	2045
7			8		
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ (other)

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? ⇨ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected in? MD ☐ NJ ☐ NY X PA ☐ Other

ALS FIELD SERVICES: X Pickup; ☐ Labor; ☐ Composite Sampling; ☐ Rental Equipment; ☐ Other:

* G=Grab; C=Composite

**Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; Oil=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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ALS Environmental

34 Dogwood Lane
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P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 4 (12 crossed out)
Courier:
Tracking #:

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110
Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. / Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? [X] Y enestler@normandeau.com
Fax? Y No.:

***Container Type: 2ip | Gl
**Container Size: 1gal. | 1L
Preservative: Ice | None

ANALYSES/METHOD REQUESTED: Clam Tissue | Sediment Testing

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	HB05 - 9		9/21/15	0857			1	
2	HB05 - 9		9/21/15	1536				1
3	HB05 - 8		9/21/15	0857			1	
4	HB05 - 8		9/21/15	1545				1
5	HB04 - 6		9/21/15	1015			1	
6	HB04 - 6		9/21/15	1553				1
7	HB04 - 7		9/21/15	1015			1	
8	HB04 - 7		9/21/15	1559				1

Enter Number of Containers Per Analysis

Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Correct containers? / Correct sample volume? / Correct preservation? / Headspace/Volatiles? — Circle appropriate Y-or-N
Custody seals Present? / (If present) Seals Intact? / Received on Ice? / COC/Labels complete/accurate? / Container in good condition?

SAMPLED BY (Please Print):
Project Comments: [signature] 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Burnett Normandeau	9/22	1159	2	[signature]	9/22	1159
3	[signature]	9/22	1900	4	[signature]	9/22	1900
5	[signature]	9/22	2045	6	[signature]	9/22	2045
7				8			
9				10			

Data Deliverables: [X] Standard / CLP-like / NJ-Reduced / NJ-Full / other
EDDs Required? [X] If yes, format type: In Excel
SDWA Forms? yes / yes / yes / yes / Other
State Samples Collected In? MD / NJ / NY [X] / PA
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup / Labor / Composite Sampling / Rental Equipment / Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY
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ALS

ALS Environmental
34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

173

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd
Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? [ ] Y No.:

***Container Type	PL	CG																					
***Container Size	gal	1L																					
***																							
Preservative	Ice	None																					

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing																
						Enter Number of Containers Per Analysis																	
1 HB07 - 13		9/21/15	1046			1																	
2 HB07 - 13		9/21/15	1611				1																
3 HB07 - 14		9/21/15	1046			1																	
4 HB07 - 14		9/21/15	1616				1																
5 HB02 - 1		9/21/15	1115			1																	
6 HB02 - 2		9/21/15	1115			1																	
7 HB02 - 1		9/21/15	1625				1																
8 HB02 - 2		9/21/15	1631				1																

Receipt Information (completed by Sample Receiving)
Performed by: RML
Cooler Temp:
Therm. ID: 309
No. of Coolers:
Notes:

Circle appropriate Y or N.	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Custody seals Present?	(If present) Seals intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
	N	N	N	N					
	Y	Y	Y	Y	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:
RML 9/23 0023

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Burnett Normandeau	9/22	1159	2	9/22	1159
3	9/22	1800	4	9/22	1800
5	9/22	2045	6 RML	9/22	2045
7			8		
9			10		

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ]
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]
Other

ALS FIELD SERVICES
[ ] Pickup
[ ] Labor
[ ] Composite Sampling
[ ] Rental Equipment
[ ] Other:

* G=Grab; C=Composite
**Matrix: Air=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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ALS Environmental

34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

1713

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? Y No.:

	Container Type	PL	CG
	Container Size	Gal.	1L
	Preservative	Ice	None

ANALYSES/METHOD REQUESTED

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sed; Meat Testing
1 HB06 - 11		9/21/15	1145			1	
2 HB06 - 11		9/21/15	1636				1
3 HB06 - 12		9/21/15	1145			1	
4 HB06 - 12		9/21/15	1640				1
5 2014 - 19		9/21/15	1645				1
6 2013 - 28		9/21/15	1651				1
7 2012 - 9		9/21/15	1655				1
8 2071 - 12		9/21/15	1659				1

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by: [illegible]
Cooler Temp: 1
Therm. ID: 309
No. of Coolers:
Notes:

Circle appropriate Y or N.
Correct containers? Y
Correct sample volume? N
Correct preservation? N
Headspace/Volatiles? N
Custody seals Present? Y N
(If present) Seals intact? N
Received on Ice? N
COC/Labels complete/accurate? N
Container in good condition? N

SAMPLED BY (Please Print):
Project Comments: [signature] 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Burnett Normandeau	9/22	1159	2	[signature]	9/22	1159
3	[signature]	9/22	1700	4	[signature]	9/22	1700
5	[signature]	9/22	2045	6	[signature]	9/22	2045
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]
EDDs Required? [X] If yes, format type: In Excel
DOD Criteria Required?

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other:
State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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ALS Environmental

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Middletown, PA 17057
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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 12 4

Courier:

Tracking #:

1773

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler — Phone: (603) 472-5191

Address: 25 Nashua Rd.
Bedford, NH 03110

Bill to (if different than Report to): — PO#:

Project Name/#: 23674.000 — ALS Quote #: 40-495330

TAT: [ ] Normal-Standard TAT is 10-12 business days. [ ] Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? [X] Y enestler@normandeau.com

Fax? Y No:

	Clam Tissue	Sediment Testing
***Container Type	PL	CG
***Container Size	Gal	1L
***Preservative	ICE	None

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	1438-23		9/21/15	1704				1
2	1363-24		9/21/15	1708				1
3	2014-19		9/21/15	1225			1	
4	2013-28		9/21/15	1236			1	
5	2012-9		9/21/15	1247			1	
6	2017-12		9/21/15	1250			1	
7	1438-23		9/21/15	1305			1	
8	1363-24		9/21/15	1316			1	

Receipt Information (completed by Sample Receiver)

Performed by: RmK

Cooler Temp:

Therm. ID: 309

No. of Coolers:

Notes:

Circle appropriate Y or N.

Correct containers?	Y
Correct sample volume?	Y
Correct preservation?	Y
Headspace/Volatiles?	
Custody seals Present?	
(If present) Seals intact?	
Received on Ice?	Y
COC/Labels complete/accurate?	Y
Container in good condition?	Y

SAMPLED BY (Please Print):

Project Comments: RmK 9/23 0023

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	C. Barrett Normandeau	9/22	1155	2	[signature]	9/22	1155
3	[signature]	9/22	1900	4	[signature]	9/22	1900
5	[signature]	9/22	2045	6	RmK	9/22	2045
7				8			
9				10			

Data Deliverables: [X] Standard [ ] CLP-like [ ] NJ-Reduced [ ] NJ-Full [ ]

EDDs Required? [X] If yes, format type: In Excel

SDWA Forms? yes [ ] yes [ ] yes [ ] yes [ ] Other

State Samples Collected In? MD [ ] NJ [ ] NY [X] PA [ ]

DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup [ ] Labor [ ] Composite Sampling [ ] Rental Equipment [ ] Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

Rev 01-2013

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

October 26, 2015

Mr. Eric Nestler
Normandeau Associates, Inc.- Bedford
25 Nashua Road
Bedford, NH 03110

Certificate of Analysis

Project Name:	**2015PC-Clam**	Workorder:	**2098079**
Purchase Order:		Workorder ID:	**23674.000**

Dear Mr. Nestler:

Enclosed are the analytical results for samples received by the laboratory on Friday, September 25, 2015.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Mrs. Vicki A. Forney (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Environmental.

ALS Spring City: 10 Riverside Drive, Spring City, PA 19475 610-948-4903

CC: Mr. Paul Geoghegan

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

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SAMPLE SUMMARY

Workorder: 2098079 23674.000

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collected By
2098079001	1364-6	Other	9/24/2015 12:45	9/25/2015 20:00	Collected by Client
2098079002	1364-6	Solid	9/24/2015 12:55	9/25/2015 20:00	Collected by Client
2098079003	1440-8	Solid	9/24/2015 13:04	9/25/2015 20:00	Collected by Client
2098079004	1440-8	Solid	9/24/2015 13:16	9/25/2015 20:00	Collected by Client
2098079005	1439-20	Other	9/24/2015 13:20	9/25/2015 20:00	Collected by Client
2098079006	1439-20	Solid	9/24/2015 13:31	9/25/2015 20:00	Collected by Client
2098079007	717-59	Other	9/24/2015 13:48	9/25/2015 20:00	Collected by Client
2098079008	717-59	Solid	9/24/2015 13:57	9/25/2015 20:00	Collected by Client
2098079009	714-40	Other	9/24/2015 14:04	9/25/2015 20:00	Collected by Client
2098079010	714-40	Solid	9/24/2015 14:14	9/25/2015 20:00	Collected by Client
2098079011	2146-25	Other	9/24/2015 14:20	9/25/2015 20:00	Collected by Client
2098079012	2146-25	Solid	9/24/2015 14:31	9/25/2015 20:00	Collected by Client
2098079013	1787-44	Other	9/24/2015 14:36	9/25/2015 20:00	Collected by Client
2098079014	1787-44	Solid	9/24/2015 14:47	9/25/2015 20:00	Collected by Client
2098079015	659-7	Other	9/24/2015 14:57	9/25/2015 20:00	Collected by Client
2098079016	659-7	Solid	9/24/2015 15:06	9/25/2015 20:00	Collected by Client
2098079017	654-9	Other	9/24/2015 15:12	9/25/2015 20:00	Collected by Client
2098079018	654-9	Solid	9/24/2015 15:23	9/25/2015 20:00	Collected by Client
2098079019	720-16	Other	9/24/2015 15:27	9/25/2015 20:00	Collected by Client
2098079020	720-16	Solid	9/24/2015 15:39	9/25/2015 20:00	Collected by Client
2098079021	1374-22	Other	9/24/2015 16:15	9/25/2015 20:00	Collected by Client
2098079022	1374-22	Solid	9/24/2015 16:26	9/25/2015 20:00	Collected by Client
2098079023	1217-42	Other	9/24/2015 16:35	9/25/2015 20:00	Collected by Client
2098079024	1217-42	Solid	9/24/2015 16:46	9/25/2015 20:00	Collected by Client
2098079025	986-26	Other	9/24/2015 16:52	9/25/2015 20:00	Collected by Client
2098079026	986-26	Solid	9/24/2015 17:04	9/25/2015 20:00	Collected by Client
2098079027	1129-20	Other	9/24/2015 17:10	9/25/2015 20:00	Collected by Client
2098079028	1129-20	Solid	9/24/2015 17:24	9/25/2015 20:00	Collected by Client

SAMPLE SUMMARY

Workorder: 2098079 23674.000

Notes

-- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
-- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
-- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
-- Unless otherwise noted, all quantitative results for soils are reported on a dry weight basis.
-- The Chain of Custody document is included as part of this report.
-- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
-- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
-- Method references listed on this report beginning with the prefix “S” followed by a method number (such as S2310B-97) refer to methods from “Standard Methods for the Examination of Water and Wastewater”.

Standard Acronyms/Flags

J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits

PROJECT SUMMARY

Workorder: 2098079 23674.000

Workorder Comments

Clam tissue testing was reported directly to the client from ALS-Kelso. VLF 10/26/15

Sample Comments

Lab ID: 2098079002 **Sample ID:** 1364-6 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079004 **Sample ID:** 1440-8 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079006 **Sample ID:** 1439-20 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079008 **Sample ID:** 717-59 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079010 **Sample ID:** 714-40 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079012 **Sample ID:** 2146-25 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079014 **Sample ID:** 1787-44 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079016 **Sample ID:** 659-7 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079018 **Sample ID:** 654-9 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079020 **Sample ID:** 720-16 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

PROJECT SUMMARY

Workorder: 2098079 23674.000

Lab ID: 2098079022 **Sample ID:** 1374-22 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079024 **Sample ID:** 1217-42 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079026 **Sample ID:** 986-26 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

Lab ID: 2098079028 **Sample ID:** 1129-20 **Sample Type:** SAMPLE

This sample was analyzed at a dilution in the 8081 Pesticide analysis due to sample matrix interference. Reporting limits were adjusted accordingly.

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079001** Date Collected: 9/24/2015 12:45 Matrix: Other
Sample ID: **1364-6** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:15	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079002** Date Collected: 9/24/2015 12:55 Matrix: Solid
Sample ID: **1364-6** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	13.5 U	U	ug/kg	13.5	6.2	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Benzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
2-Butanone	13.5 U	U	ug/kg	13.5	4.3	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
n-Butylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
tert-Butylbenzene	2.7 U	U	ug/kg	2.7	0.74	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
sec-Butylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Carbon Tetrachloride	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Chlorobenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Chloroform	2.7 U	U	ug/kg	2.7	0.71	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,2-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,3-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,4-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,1-Dichloroethane	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,2-Dichloroethane	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,1-Dichloroethene	2.7 U	U	ug/kg	2.7	0.70	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
cis-1,2-Dichloroethene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
trans-1,2-Dichloroethene	2.7 U	U	ug/kg	2.7	0.70	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,4-Dioxane	101 U	U	ug/kg	101	24.0	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Ethylbenzene	2.7 U	U	ug/kg	2.7	0.92	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Methyl t-Butyl Ether	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Methylene Chloride	15.3		ug/kg	2.7	1.1	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
n-Propylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Tetrachloroethene	2.7 U	U	ug/kg	2.7	0.81	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Toluene	2.7 U	U	ug/kg	2.7	0.90	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Total Xylenes	8.1 U	U	ug/kg	8.1	1.9	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,1,1-Trichloroethane	2.7 U	U	ug/kg	2.7	0.84	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Trichloroethene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,2,4-Trimethylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
1,3,5-Trimethylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Vinyl Chloride	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	111		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
4-Bromofluorobenzene (S)	116		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Dibromofluoromethane (S)	116		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2
Toluene-d8 (S)	113		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 16:36	DD	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079002** Date Collected: 9/24/2015 12:55 Matrix: Solid
Sample ID: **1364-6** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	134 U	U	ug/kg	134	20.1	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Acenaphthylene	134 U	U	ug/kg	134	14.8	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Anthracene	134 U	U	ug/kg	134	13.4	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Benzo(a)anthracene	134 U	U	ug/kg	134	20.1	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Benzo(a)pyrene	134 U	U	ug/kg	134	21.5	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Benzo(b)fluoranthene	134 U	U	ug/kg	134	32.2	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Benzo(g,h,i)perylene	134 U	U	ug/kg	134	28.2	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Benzo(k)fluoranthene	134 U	U	ug/kg	134	25.5	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Chrysene	134 U	U	ug/kg	134	17.4	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
mp-Cresol	362 U	U	ug/kg	362	20.1	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
o-Cresol	362 U	U	ug/kg	362	29.5	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Dibenzo(a,h)anthracene	134 U	U	ug/kg	134	16.1	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Dibenzofuran	134 U	U	ug/kg	134	14.8	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Fluoranthene	134 U	U	ug/kg	134	25.5	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Fluorene	134 U	U	ug/kg	134	26.8	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Hexachlorobenzene	134 U	U	ug/kg	134	25.5	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Indeno(1,2,3-cd)pyrene	134 U	U	ug/kg	134	24.2	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Naphthalene	134 U	U	ug/kg	134	32.2	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Pentachlorophenol	268 U	U	ug/kg	268	48.3	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Phenanthrene	134 U	U	ug/kg	134	18.8	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Phenol	362 U	U	ug/kg	362	20.1	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Pyrene	134 U	U	ug/kg	134	24.2	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	85.4		%	37 - 123	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
2-Fluorobiphenyl (S)	80.9		%	45 - 105	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
2-Fluorophenol (S)	84.4		%	35 - 104	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Nitrobenzene-d5 (S)	88.1		%	41 - 110	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Phenol-d5 (S)	91.5		%	40 - 100	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A
Terphenyl-d14 (S)	92.7		%	38 - 113	SW846 8270D	9/29/15	BS	9/29/15 21:42	CGS	A

PCBs

Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.042	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079002** Date Collected: 9/24/2015 12:55 Matrix: Solid
Sample ID: **1364-6** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	77.1		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
Tetrachloro-m-xylene (S)	77.8		%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 18:53	EGO	A
PESTICIDES											
Aldrin	10.8 U	U	ug/kg	10.8	3.5	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
alpha-BHC	10.8 U	U	ug/kg	10.8	0.96	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
beta-BHC	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
delta-BHC	10.8 U	U	ug/kg	10.8	0.83	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
gamma-BHC	10.8 U	U	ug/kg	10.8	0.89	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
alpha-Chlordane	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
4,4'-DDD	21.0 U	U	ug/kg	21.0	1.7	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
4,4'-DDE	21.0 U	U	ug/kg	21.0	2.9	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
4,4'-DDT	21.0 U	U	ug/kg	21.0	2.4	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Dieldrin	21.0 U	U	ug/kg	21.0	2.4	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Endosulfan I	10.8 U	U	ug/kg	10.8	1.3	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Endosulfan II	21.0 U	U	ug/kg	21.0	4.4	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Endosulfan Sulfate	21.0 U	U	ug/kg	21.0	1.4	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Endrin	21.0 U	U	ug/kg	21.0	1.5	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Heptachlor	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	87.1		%	30 - 135		SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
Tetrachloro-m-xylene (S)	59.5		%	30 - 111		SW846 8081B	9/28/15	LEH	9/30/15 17:30	RWS	A
HERBICIDES											
2,4,5-TP	87.0 U	U	ug/kg	87.0	40.3	SW846 8151A	9/30/15	RMP	10/1/15 21:42	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	58.9		%	30 - 153		SW846 8151A	9/30/15	RMP	10/1/15 21:42	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.35 U	U	mg/kg	0.35	0.13	SW846 9012B	9/30/15	SYB	10/1/15 07:00	LJF	A
Hexavalent Chromium	2.7 U	U	mg/kg	2.7	0.51	SW846 7196A	10/7/15	NJA	10/7/15 16:00	NJA	A
Moisture	25.5		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	74.5		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	8.8		mg/kg	2.7	2.7	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079002** Date Collected: 9/24/2015 12:55 Matrix: Solid
Sample ID: **1364-6** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.3		mg/kg	1.7	0.56	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Barium, Total	5.1		mg/kg	2.8	0.89	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Beryllium, Total	0.56 U	U	mg/kg	0.56	0.18	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Cadmium, Total	0.56 U	U	mg/kg	0.56	0.18	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Chromium, Total	8.8		mg/kg	1.1	0.37	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Copper, Total	8.8		mg/kg	2.8	0.89	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Lead, Total	11.5		mg/kg	1.1	0.37	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Manganese, Total	222		mg/kg	2.8	0.89	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Mercury, Total	0.048J	J	mg/kg	0.059	0.019	SW846 7471B	10/8/15	MNP	10/8/15 10:43	MNP	A1
Nickel, Total	5.6		mg/kg	2.8	0.89	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Selenium, Total	2.8 U	U	mg/kg	2.8	0.89	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Silver, Total	1.1 U	U	mg/kg	1.1	0.37	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2
Zinc, Total	38.6		mg/kg	2.8	0.89	SW846 6020A	10/7/15	TSS	10/8/15 05:54	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079003** Date Collected: 9/24/2015 13:04 Matrix: Solid
Sample ID: **1440-8** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:19	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079004** Date Collected: 9/24/2015 13:16 Matrix: Solid
Sample ID: **1440-8** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	13.7 U	U	ug/kg	13.7	6.3	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Benzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
2-Butanone	13.7 U	U	ug/kg	13.7	4.4	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
n-Butylbenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
tert-Butylbenzene	2.7 U	U	ug/kg	2.7	0.75	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
sec-Butylbenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Carbon Tetrachloride	2.7 U	U	ug/kg	2.7	0.70	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Chlorobenzene	2.7 U	U	ug/kg	2.7	0.70	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Chloroform	2.7 U	U	ug/kg	2.7	0.73	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,2-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,3-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,4-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,1-Dichloroethane	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,2-Dichloroethane	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,1-Dichloroethene	2.7 U	U	ug/kg	2.7	0.71	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
cis-1,2-Dichloroethene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
trans-1,2-Dichloroethene	2.7 U	U	ug/kg	2.7	0.71	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,4-Dioxane	103 U	U	ug/kg	103	24.4	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Ethylbenzene	2.7 U	U	ug/kg	2.7	0.93	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Methyl t-Butyl Ether	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Methylene Chloride	14.5		ug/kg	2.7	1.1	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
n-Propylbenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Tetrachloroethene	2.7 U	U	ug/kg	2.7	0.82	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Toluene	2.7 U	U	ug/kg	2.7	0.92	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Total Xylenes	8.2 U	U	ug/kg	8.2	1.9	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,1,1-Trichloroethane	2.7 U	U	ug/kg	2.7	0.85	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Trichloroethene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,2,4-Trimethylbenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
1,3,5-Trimethylbenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Vinyl Chloride	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	100		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
4-Bromofluorobenzene (S)	106		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Dibromofluoromethane (S)	105		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2
Toluene-d8 (S)	113		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 16:59	DD	A2

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079004** Date Collected: 9/24/2015 13:16 Matrix: Solid
Sample ID: **1440-8** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	132 U	U	ug/kg	132	19.9	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Acenaphthylene	132 U	U	ug/kg	132	14.6	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Anthracene	132 U	U	ug/kg	132	13.2	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Benzo(a)anthracene	132 U	U	ug/kg	132	19.9	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Benzo(a)pyrene	132 U	U	ug/kg	132	21.2	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Benzo(b)fluoranthene	132 U	U	ug/kg	132	31.8	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Benzo(g,h,i)perylene	132 U	U	ug/kg	132	27.8	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Benzo(k)fluoranthene	132 U	U	ug/kg	132	25.2	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Chrysene	132 U	U	ug/kg	132	17.2	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
mp-Cresol	358 U	U	ug/kg	358	19.9	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
o-Cresol	358 U	U	ug/kg	358	29.1	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Dibenzo(a,h)anthracene	132 U	U	ug/kg	132	15.9	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Dibenzofuran	132 U	U	ug/kg	132	14.6	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Fluoranthene	132 U	U	ug/kg	132	25.2	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Fluorene	132 U	U	ug/kg	132	26.5	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Hexachlorobenzene	132 U	U	ug/kg	132	25.2	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Indeno(1,2,3-cd)pyrene	132 U	U	ug/kg	132	23.8	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Naphthalene	132 U	U	ug/kg	132	31.8	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Pentachlorophenol	265 U	U	ug/kg	265	47.7	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Phenanthrene	132 U	U	ug/kg	132	18.5	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Phenol	358 U	U	ug/kg	358	19.9	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Pyrene	132 U	U	ug/kg	132	23.8	SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	78.1		%	37 - 123		SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
2-Fluorobiphenyl (S)	66.6		%	45 - 105		SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
2-Fluorophenol (S)	72.5		%	35 - 104		SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Nitrobenzene-d5 (S)	76.4		%	41 - 110		SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Phenol-d5 (S)	77.3		%	40 - 100		SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
Terphenyl-d14 (S)	84.2		%	38 - 113		SW846 8270D	9/29/15	BS	9/29/15 14:42	CGS	A
PCBs											
Total Polychlorinated Biphenyl	0.043 U	U	mg/kg	0.043	0.043	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Aroclor-1016	0.043 U	U	mg/kg	0.043	0.0077	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Aroclor-1221	0.043 U	U	mg/kg	0.043	0.0039	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Aroclor-1232	0.043 U	U	mg/kg	0.043	0.0077	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Aroclor-1242	0.043 U	U	mg/kg	0.043	0.012	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Aroclor-1248	0.043 U	U	mg/kg	0.043	0.0077	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Aroclor-1254	0.043 U	U	mg/kg	0.043	0.0077	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079004** Date Collected: 9/24/2015 13:16 Matrix: Solid
Sample ID: **1440-8** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.043 U	U	mg/kg	0.043	0.0077	SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	84.9		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
Tetrachloro-m-xylene (S)	85.3		%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 19:04	EGO	A
PESTICIDES											
Aldrin	11.0 U	U	ug/kg	11.0	3.5	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
alpha-BHC	11.0 U	U	ug/kg	11.0	0.97	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
beta-BHC	11.0 U	U	ug/kg	11.0	1.2	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
delta-BHC	11.0 U	U	ug/kg	11.0	0.84	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
gamma-BHC	11.0 U	U	ug/kg	11.0	0.90	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
alpha-Chlordane	11.0 U	U	ug/kg	11.0	1.2	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
4,4'-DDD	21.3 U	U	ug/kg	21.3	1.7	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
4,4'-DDE	21.3 U	U	ug/kg	21.3	2.9	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
4,4'-DDT	21.3 U	U	ug/kg	21.3	2.5	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Dieldrin	21.3 U	U	ug/kg	21.3	2.5	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Endosulfan I	11.0 U	U	ug/kg	11.0	1.4	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Endosulfan II	21.3 U	U	ug/kg	21.3	4.5	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Endosulfan Sulfate	21.3 U	U	ug/kg	21.3	1.4	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Endrin	21.3 U	U	ug/kg	21.3	1.5	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Heptachlor	11.0 U	U	ug/kg	11.0	1.1	SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	87.6		%	30 - 135		SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
Tetrachloro-m-xylene (S)	63.5		%	30 - 111		SW846 8081B	9/28/15	LEH	9/30/15 17:45	RWS	A
HERBICIDES											
2,4,5-TP	90.8 U	U	ug/kg	90.8	42.0	SW846 8151A	9/30/15	RMP	10/1/15 22:19	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	56.8		%	30 - 153		SW846 8151A	9/30/15	RMP	10/1/15 22:19	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.34 U	U	mg/kg	0.34	0.12	SW846 9012B	9/30/15	SYB	10/1/15 07:00	LJF	A
Hexavalent Chromium	2.7 U	U	mg/kg	2.7	0.53	SW846 7196A	10/7/15	NJA	10/7/15 16:00	NJA	A
Moisture	26.4		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	73.6		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	10.1		mg/kg	2.7	2.7	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079004** Date Collected: 9/24/2015 13:16 Matrix: Solid
Sample ID: **1440-8** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.0		mg/kg	2.0	0.67	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Barium, Total	5.4		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Beryllium, Total	0.67 U	U	mg/kg	0.67	0.22	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Cadmium, Total	0.67 U	U	mg/kg	0.67	0.22	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Chromium, Total	10.1		mg/kg	1.3	0.44	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Copper, Total	10.5		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Lead, Total	13.8		mg/kg	1.3	0.44	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Manganese, Total	215		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Mercury, Total	0.055J	J	mg/kg	0.060	0.019	SW846 7471B	10/8/15	MNP	10/8/15 10:46	MNP	A1
Nickel, Total	5.5		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Selenium, Total	3.3 U	U	mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Silver, Total	1.3 U	U	mg/kg	1.3	0.44	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2
Zinc, Total	41.8		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 05:58	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079005** Date Collected: 9/24/2015 13:20 Matrix: Other
Sample ID: **1439-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:20	VAF	A

Vicki Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079006** Date Collected: 9/24/2015 13:31 Matrix: Solid
Sample ID: **1439-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	7.0J	J	ug/kg	12.9	5.9	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Benzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
2-Butanone	12.9 U	U	ug/kg	12.9	4.1	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.71	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,4-Dioxane	97.0 U	U	ug/kg	97.0	23.0	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.88	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Methylene Chloride	9.7		ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.78	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Toluene	2.6 U	U	ug/kg	2.6	0.87	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Total Xylenes	7.8 U	U	ug/kg	7.8	1.8	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.80	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	98.9		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
4-Bromofluorobenzene (S)	94.7		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Dibromofluoromethane (S)	98.9		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2
Toluene-d8 (S)	118		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 17:22	DD	A2

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079006** Date Collected: 9/24/2015 13:31 Matrix: Solid
Sample ID: **1439-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	128 U	U	ug/kg	128	19.2	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Acenaphthylene	128 U	U	ug/kg	128	14.0	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Anthracene	128 U	U	ug/kg	128	12.8	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Benzo(a)anthracene	128 U	U	ug/kg	128	19.2	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Benzo(a)pyrene	128 U	U	ug/kg	128	20.4	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Benzo(b)fluoranthene	128 U	U	ug/kg	128	30.6	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Benzo(g,h,i)perylene	128 U	U	ug/kg	128	26.8	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Benzo(k)fluoranthene	128 U	U	ug/kg	128	24.3	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Chrysene	128 U	U	ug/kg	128	16.6	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
mp-Cresol	345 U	U	ug/kg	345	19.2	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
o-Cresol	345 U	U	ug/kg	345	28.1	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Dibenzo(a,h)anthracene	128 U	U	ug/kg	128	15.3	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Dibenzofuran	128 U	U	ug/kg	128	14.0	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Fluoranthene	128 U	U	ug/kg	128	24.3	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Fluorene	128 U	U	ug/kg	128	25.5	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Hexachlorobenzene	128 U	U	ug/kg	128	24.3	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Indeno(1,2,3-cd)pyrene	128 U	U	ug/kg	128	23.0	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Naphthalene	128 U	U	ug/kg	128	30.6	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Pentachlorophenol	255 U	U	ug/kg	255	46.0	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Phenanthrene	128 U	U	ug/kg	128	17.9	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Phenol	345 U	U	ug/kg	345	19.2	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Pyrene	128 U	U	ug/kg	128	23.0	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	84.4		%	37 - 123	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
2-Fluorobiphenyl (S)	76.4		%	45 - 105	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
2-Fluorophenol (S)	79.1		%	35 - 104	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Nitrobenzene-d5 (S)	84.7		%	41 - 110	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Phenol-d5 (S)	84.9		%	40 - 100	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A
Terphenyl-d14 (S)	90.5		%	38 - 113	SW846 8270D	9/29/15	BS	9/29/15 15:07	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.041 U	U	mg/kg	0.041	0.041	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Aroclor-1016	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Aroclor-1221	0.041 U	U	mg/kg	0.041	0.0037	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Aroclor-1232	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Aroclor-1242	0.041 U	U	mg/kg	0.041	0.011	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Aroclor-1248	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Aroclor-1254	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079006** Date Collected: 9/24/2015 13:31 Matrix: Solid
Sample ID: **1439-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	60.5		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
Tetrachloro-m-xylene (S)	51.7	1	%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 19:16	EGO	A
PESTICIDES											
Aldrin	10.5 U	U	ug/kg	10.5	3.4	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
alpha-BHC	10.5 U	U	ug/kg	10.5	0.93	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
beta-BHC	10.5 U	U	ug/kg	10.5	1.1	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
delta-BHC	10.5 U	U	ug/kg	10.5	0.80	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
gamma-BHC	10.5 U	U	ug/kg	10.5	0.87	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
alpha-Chlordane	10.5 U	U	ug/kg	10.5	1.1	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
4,4'-DDD	20.4 U	U	ug/kg	20.4	1.7	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
4,4'-DDE	20.4 U	U	ug/kg	20.4	2.8	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
4,4'-DDT	20.4 U	U	ug/kg	20.4	2.3	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Dieldrin	20.4 U	U	ug/kg	20.4	2.3	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Endosulfan I	10.5 U	U	ug/kg	10.5	1.3	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Endosulfan II	20.4 U	U	ug/kg	20.4	4.3	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Endosulfan Sulfate	20.4 U	U	ug/kg	20.4	1.4	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Endrin	20.4 U	U	ug/kg	20.4	1.5	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Heptachlor	10.5 U	U	ug/kg	10.5	1.1	SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	48.7		%	30 - 135		SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
Tetrachloro-m-xylene (S)	34		%	30 - 111		SW846 8081B	9/28/15	LEH	10/1/15 14:28	RWS	A
HERBICIDES											
2,4,5-TP	83.9 U	U	ug/kg	83.9	38.8	SW846 8151A	9/30/15	RMP	10/1/15 22:56	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.8		%	30 - 153		SW846 8151A	9/30/15	RMP	10/1/15 22:56	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.32 U	U	mg/kg	0.32	0.12	SW846 9012B	9/30/15	SYB	10/1/15 07:00	LJF	A
Hexavalent Chromium	2.5 U	U	mg/kg	2.5	0.49	SW846 7196A	10/8/15	NJA	10/8/15 19:00	NJA	A
Moisture	22.2		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	77.8		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	6.0		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079006** Date Collected: 9/24/2015 13:31 Matrix: Solid
Sample ID: **1439-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	1.5		mg/kg	1.3	0.43	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Barium, Total	2.8		mg/kg	2.2	0.69	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Beryllium, Total	0.43 U	U	mg/kg	0.43	0.14	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Cadmium, Total	0.43 U	U	mg/kg	0.43	0.14	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Chromium, Total	6.0		mg/kg	0.87	0.29	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Copper, Total	5.9		mg/kg	2.2	0.69	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Lead, Total	7.7		mg/kg	0.87	0.29	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Manganese, Total	66.1		mg/kg	2.2	0.69	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Mercury, Total	0.058		mg/kg	0.055	0.018	SW846 7471B	10/8/15	MNP	10/8/15 10:47	MNP	A1
Nickel, Total	3.2		mg/kg	2.2	0.69	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Selenium, Total	2.2 U	U	mg/kg	2.2	0.69	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Silver, Total	0.87 U	U	mg/kg	0.87	0.29	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2
Zinc, Total	23.6		mg/kg	2.2	0.69	SW846 6020A	10/7/15	TSS	10/8/15 06:02	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079007** Date Collected: 9/24/2015 13:48 Matrix: Other
Sample ID: **717-59** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:20	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079008** Date Collected: 9/24/2015 13:57 Matrix: Solid
Sample ID: **717-59** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	8.5J	J	ug/kg	12.9	5.9	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Benzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
2-Butanone	12.9 U	U	ug/kg	12.9	4.1	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.71	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.68	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,4-Dioxane	96.4 U	U	ug/kg	96.4	22.9	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.87	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Methylene Chloride	14.1		ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.77	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Toluene	2.6 U	U	ug/kg	2.6	0.86	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Total Xylenes	7.7 U	U	ug/kg	7.7	1.8	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.80	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.64	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	103		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
4-Bromofluorobenzene (S)	99.9		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Dibromofluoromethane (S)	103		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2
Toluene-d8 (S)	112		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 17:46	DD	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079008** Date Collected: 9/24/2015 13:57 Matrix: Solid
Sample ID: **717-59** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	121 U	U	ug/kg	121	18.1	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Acenaphthylene	121 U	U	ug/kg	121	13.3	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Anthracene	121 U	U	ug/kg	121	12.1	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Benzo(a)anthracene	121 U	U	ug/kg	121	18.1	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Benzo(a)pyrene	121 U	U	ug/kg	121	19.3	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Benzo(b)fluoranthene	121 U	U	ug/kg	121	29.0	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Benzo(g,h,i)perylene	121 U	U	ug/kg	121	25.4	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Benzo(k)fluoranthene	121 U	U	ug/kg	121	23.0	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Chrysene	121 U	U	ug/kg	121	15.7	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
mp-Cresol	326 U	U	ug/kg	326	18.1	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
o-Cresol	326 U	U	ug/kg	326	26.6	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Dibenzo(a,h)anthracene	121 U	U	ug/kg	121	14.5	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Dibenzofuran	121 U	U	ug/kg	121	13.3	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Fluoranthene	121 U	U	ug/kg	121	23.0	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Fluorene	121 U	U	ug/kg	121	24.2	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Hexachlorobenzene	121 U	U	ug/kg	121	23.0	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Indeno(1,2,3-cd)pyrene	121 U	U	ug/kg	121	21.8	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Naphthalene	121 U	U	ug/kg	121	29.0	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Pentachlorophenol	242 U	U	ug/kg	242	43.5	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Phenanthrene	121 U	U	ug/kg	121	16.9	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Phenol	326 U	U	ug/kg	326	18.1	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Pyrene	121 U	U	ug/kg	121	21.8	SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	86.7		%	37 - 123		SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
2-Fluorobiphenyl (S)	78.3		%	45 - 105		SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
2-Fluorophenol (S)	76.7		%	35 - 104		SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Nitrobenzene-d5 (S)	81		%	41 - 110		SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Phenol-d5 (S)	83.6		%	40 - 100		SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
Terphenyl-d14 (S)	95.1		%	38 - 113		SW846 8270D	9/29/15	BS	9/29/15 15:32	CGS	A
PCBs											
Total Polychlorinated Biphenyl	0.040 U	U	mg/kg	0.040	0.040	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Aroclor-1016	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Aroclor-1221	0.040 U	U	mg/kg	0.040	0.0036	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Aroclor-1232	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Aroclor-1242	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Aroclor-1248	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Aroclor-1254	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079008** Date Collected: 9/24/2015 13:57 Matrix: Solid
Sample ID: **717-59** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	78.8		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
Tetrachloro-m-xylene (S)	82.2		%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 19:27	EGO	A
PESTICIDES											
Aldrin	10.2 U	U	ug/kg	10.2	3.3	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
alpha-BHC	10.2 U	U	ug/kg	10.2	0.90	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
beta-BHC	10.2 U	U	ug/kg	10.2	1.1	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
delta-BHC	10.2 U	U	ug/kg	10.2	0.78	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
gamma-BHC	10.2 U	U	ug/kg	10.2	0.84	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
alpha-Chlordane	10.2 U	U	ug/kg	10.2	1.1	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
4,4'-DDD	19.8 U	U	ug/kg	19.8	1.6	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
4,4'-DDE	19.8 U	U	ug/kg	19.8	2.7	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
4,4'-DDT	19.8 U	U	ug/kg	19.8	2.3	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Dieldrin	19.8 U	U	ug/kg	19.8	2.3	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Endosulfan I	10.2 U	U	ug/kg	10.2	1.3	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Endosulfan II	19.8 U	U	ug/kg	19.8	4.1	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Endosulfan Sulfate	19.8 U	U	ug/kg	19.8	1.3	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Endrin	19.8 U	U	ug/kg	19.8	1.4	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Heptachlor	10.2 U	U	ug/kg	10.2	1.0	SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	75.4		%	30 - 135		SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
Tetrachloro-m-xylene (S)	58.7		%	30 - 111		SW846 8081B	9/28/15	LEH	10/1/15 14:44	RWS	A
HERBICIDES											
2,4,5-TP	82.8 U	U	ug/kg	82.8	38.3	SW846 8151A	9/30/15	RMP	10/1/15 23:33	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	55.6		%	30 - 153		SW846 8151A	9/30/15	RMP	10/1/15 23:33	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.31 U	U	mg/kg	0.31	0.11	SW846 9012B	9/30/15	SYB	10/1/15 07:00	LJF	A
Hexavalent Chromium	2.6 U	U	mg/kg	2.6	0.49	SW846 7196A	10/8/15	NJA	10/8/15 19:00	NJA	A
Moisture	21.4		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A1
Total Solids	78.6		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A1
METALS											
Trivalent Chromium	11.0		mg/kg	2.5	2.5	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079008** Date Collected: 9/24/2015 13:57 Matrix: Solid
Sample ID: **717-59** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.0		mg/kg	1.6	0.54	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Barium, Total	4.6		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Beryllium, Total	0.24J	J	mg/kg	0.54	0.18	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Cadmium, Total	0.54 U	U	mg/kg	0.54	0.18	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Chromium, Total	11.0		mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Copper, Total	15.8		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Lead, Total	7.1		mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Manganese, Total	80.8		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Mercury, Total	0.055 U	U	mg/kg	0.055	0.018	SW846 7471B	10/8/15	MNP	10/8/15 10:50	MNP	A1
Nickel, Total	7.7		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Selenium, Total	0.98J	J	mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Silver, Total	1.1 U	U	mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2
Zinc, Total	28.3		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:06	ZMC	A2

Vicki Forney
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Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079009** Date Collected: 9/24/2015 14:04 Matrix: Other
Sample ID: **714-40** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:20	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079010** Date Collected: 9/24/2015 14:14 Matrix: Solid
Sample ID: **714-40** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	6.2J	J	ug/kg	12.7	5.8	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Benzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
2-Butanone	12.7 U	U	ug/kg	12.7	4.1	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
n-Butylbenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
tert-Butylbenzene	2.5 U	U	ug/kg	2.5	0.70	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
sec-Butylbenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Carbon Tetrachloride	2.5 U	U	ug/kg	2.5	0.65	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Chlorobenzene	2.5 U	U	ug/kg	2.5	0.65	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Chloroform	2.5 U	U	ug/kg	2.5	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,2-Dichlorobenzene	2.5 U	U2	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,3-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,4-Dichlorobenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,1-Dichloroethane	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,2-Dichloroethane	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,1-Dichloroethene	2.5 U	U	ug/kg	2.5	0.66	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
cis-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
trans-1,2-Dichloroethene	2.5 U	U	ug/kg	2.5	0.66	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,4-Dioxane	95.3 U	U	ug/kg	95.3	22.6	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Ethylbenzene	2.5 U	U	ug/kg	2.5	0.86	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Methyl t-Butyl Ether	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Methylene Chloride	13.3	1	ug/kg	2.5	0.99	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
n-Propylbenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Tetrachloroethene	2.5 U	U	ug/kg	2.5	0.76	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Toluene	2.5 U	U	ug/kg	2.5	0.85	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Total Xylenes	7.6 U	U	ug/kg	7.6	1.8	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,1,1-Trichloroethane	2.5 U	U	ug/kg	2.5	0.79	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Trichloroethene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,2,4-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
1,3,5-Trimethylbenzene	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Vinyl Chloride	2.5 U	U	ug/kg	2.5	0.64	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	106		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
4-Bromofluorobenzene (S)	105		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Dibromofluoromethane (S)	108		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2
Toluene-d8 (S)	107		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 18:09	DD	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079010** Date Collected: 9/24/2015 14:14 Matrix: Solid
Sample ID: **714-40** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	120 U	U	ug/kg	120	18.0	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Acenaphthylene	120 U	U	ug/kg	120	13.2	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Anthracene	120 U	U	ug/kg	120	12.0	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Benzo(a)anthracene	120 U	U	ug/kg	120	18.0	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Benzo(a)pyrene	120 U	U	ug/kg	120	19.2	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Benzo(b)fluoranthene	120 U	U	ug/kg	120	28.7	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Benzo(g,h,i)perylene	120 U	U	ug/kg	120	25.1	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Benzo(k)fluoranthene	120 U	U	ug/kg	120	22.7	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Chrysene	120 U	U	ug/kg	120	15.6	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
mp-Cresol	323 U	U	ug/kg	323	18.0	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
o-Cresol	323 U	U	ug/kg	323	26.3	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Dibenzo(a,h)anthracene	120 U	U	ug/kg	120	14.4	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Dibenzofuran	120 U	U	ug/kg	120	13.2	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Fluoranthene	120 U	U	ug/kg	120	22.7	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Fluorene	120 U	U	ug/kg	120	23.9	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Hexachlorobenzene	120 U	U	ug/kg	120	22.7	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Indeno(1,2,3-cd)pyrene	120 U	U	ug/kg	120	21.6	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Naphthalene	120 U	U	ug/kg	120	28.7	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Pentachlorophenol	239 U	U	ug/kg	239	43.1	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Phenanthrene	120 U	U	ug/kg	120	16.8	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Phenol	323 U	U	ug/kg	323	18.0	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Pyrene	120 U	U	ug/kg	120	21.6	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	70.3		%	37 - 123	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
2-Fluorobiphenyl (S)	68.4		%	45 - 105	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
2-Fluorophenol (S)	70.6		%	35 - 104	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Nitrobenzene-d5 (S)	73.3		%	41 - 110	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Phenol-d5 (S)	76.5		%	40 - 100	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A
Terphenyl-d14 (S)	78.3		%	38 - 113	SW846 8270D	9/29/15	BS	9/29/15 22:07	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.47		mg/kg	0.040	0.040	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Aroclor-1016	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Aroclor-1221	0.040 U	U	mg/kg	0.040	0.0036	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Aroclor-1232	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Aroclor-1242	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Aroclor-1248	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Aroclor-1254	0.47		mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079010** Date Collected: 9/24/2015 14:14 Matrix: Solid
Sample ID: **714-40** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.040 U	U	mg/kg	0.040	0.0072	SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	94.6		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
Tetrachloro-m-xylene (S)	93.6		%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 19:50	EGO	A
PESTICIDES											
Aldrin	10.2 U	U	ug/kg	10.2	3.3	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
alpha-BHC	10.2 U	U	ug/kg	10.2	0.90	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
beta-BHC	10.2 U	U	ug/kg	10.2	1.1	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
delta-BHC	10.2 U	U	ug/kg	10.2	0.78	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
gamma-BHC	10.2 U	U	ug/kg	10.2	0.84	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
alpha-Chlordane	10.2 U	U	ug/kg	10.2	1.1	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
4,4'-DDD	19.8 U	U	ug/kg	19.8	1.6	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
4,4'-DDE	19.8 U	U	ug/kg	19.8	2.7	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
4,4'-DDT	19.8 U	U	ug/kg	19.8	2.3	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Dieldrin	19.8 U	U	ug/kg	19.8	2.3	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Endosulfan I	10.2 U	U	ug/kg	10.2	1.3	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Endosulfan II	19.8 U	U	ug/kg	19.8	4.1	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Endosulfan Sulfate	19.8 U	U	ug/kg	19.8	1.3	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Endrin	19.8 U	U	ug/kg	19.8	1.4	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Heptachlor	10.2 U	U	ug/kg	10.2	1.0	SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	70		%	30 - 135		SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
Tetrachloro-m-xylene (S)	64.7		%	30 - 111		SW846 8081B	9/28/15	LEH	10/1/15 15:15	RWS	A
HERBICIDES											
2,4,5-TP	82.0 U	U	ug/kg	82.0	38.0	SW846 8151A	9/30/15	RMP	10/2/15 00:10	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.7		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 00:10	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.31 U	U	mg/kg	0.31	0.11	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.4 U	U	mg/kg	2.4	0.47	SW846 7196A	10/8/15	NJA	10/8/15 19:00	NJA	A
Moisture	20.2		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	79.8		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	9.8		mg/kg	2.5	2.5	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079010** Date Collected: 9/24/2015 14:14 Matrix: Solid
Sample ID: **714-40** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	1.9		mg/kg	1.4	0.47	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Barium, Total	8.1		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Beryllium, Total	0.20J	J	mg/kg	0.47	0.16	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Cadmium, Total	0.47 U	U	mg/kg	0.47	0.16	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Chromium, Total	9.8		mg/kg	0.95	0.31	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Copper, Total	9.4		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Lead, Total	7.6		mg/kg	0.95	0.31	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Manganese, Total	78.3		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Mercury, Total	0.022J	J	mg/kg	0.053	0.017	SW846 7471B	10/8/15	MNP	10/8/15 10:54	MNP	A1
Nickel, Total	8.8		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Selenium, Total	0.97J	J	mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Silver, Total	0.95 U	U	mg/kg	0.95	0.31	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2
Zinc, Total	27.2		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 06:36	ZMC	A2

Vicki Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079011** Date Collected: 9/24/2015 14:20 Matrix: Other
Sample ID: **2146-25** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:21	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079012** Date Collected: 9/24/2015 14:31 Matrix: Solid
Sample ID: **2146-25** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	13.5 U	U	ug/kg	13.5	6.2	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Benzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
2-Butanone	13.5 U	U	ug/kg	13.5	4.3	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
n-Butylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
tert-Butylbenzene	2.7 U	U	ug/kg	2.7	0.74	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
sec-Butylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Carbon Tetrachloride	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Chlorobenzene	2.7 U	U	ug/kg	2.7	0.69	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Chloroform	2.7 U	U	ug/kg	2.7	0.71	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,2-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,3-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,4-Dichlorobenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,1-Dichloroethane	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,2-Dichloroethane	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,1-Dichloroethene	2.7 U	U	ug/kg	2.7	0.70	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
cis-1,2-Dichloroethene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
trans-1,2-Dichloroethene	2.7 U	U	ug/kg	2.7	0.70	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,4-Dioxane	101 U	U	ug/kg	101	24.0	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Ethylbenzene	2.7 U	U	ug/kg	2.7	0.92	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Methyl t-Butyl Ether	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Methylene Chloride	12.3		ug/kg	2.7	1.1	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
n-Propylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Tetrachloroethene	2.7 U	U	ug/kg	2.7	0.81	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Toluene	2.7 U	U	ug/kg	2.7	0.90	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Total Xylenes	8.1 U	U	ug/kg	8.1	1.9	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,1,1-Trichloroethane	2.7 U	U	ug/kg	2.7	0.84	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Trichloroethene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,2,4-Trimethylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
1,3,5-Trimethylbenzene	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Vinyl Chloride	2.7 U	U	ug/kg	2.7	0.67	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	103		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
4-Bromofluorobenzene (S)	109		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Dibromofluoromethane (S)	112		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2
Toluene-d8 (S)	111		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 18:32	DD	A2

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079012** Date Collected: 9/24/2015 14:31 Matrix: Solid
Sample ID: **2146-25** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	133 U	U	ug/kg	133	20.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Acenaphthylene	133 U	U	ug/kg	133	14.7	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Anthracene	133 U	U	ug/kg	133	13.3	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Benzo(a)anthracene	133 U	U	ug/kg	133	20.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Benzo(a)pyrene	133 U	U	ug/kg	133	21.3	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Benzo(b)fluoranthene	133 U	U	ug/kg	133	32.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Benzo(g,h,i)perylene	133 U	U	ug/kg	133	28.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Benzo(k)fluoranthene	133 U	U	ug/kg	133	25.3	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Chrysene	133 U	U	ug/kg	133	17.3	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
mp-Cresol	360 U	U	ug/kg	360	20.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
o-Cresol	360 U	U	ug/kg	360	29.3	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Dibenzo(a,h)anthracene	133 U	U	ug/kg	133	16.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Dibenzofuran	133 U	U	ug/kg	133	14.7	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Fluoranthene	133 U	U	ug/kg	133	25.3	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Fluorene	133 U	U	ug/kg	133	26.7	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Hexachlorobenzene	133 U	U	ug/kg	133	25.3	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Indeno(1,2,3-cd)pyrene	133 U	U	ug/kg	133	24.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Naphthalene	133 U	U	ug/kg	133	32.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Pentachlorophenol	267 U	U	ug/kg	267	48.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Phenanthrene	133 U	U	ug/kg	133	18.7	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Phenol	360 U	U	ug/kg	360	20.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Pyrene	133 U	U	ug/kg	133	24.0	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	68.6		%	37 - 123	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
2-Fluorobiphenyl (S)	60		%	45 - 105	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
2-Fluorophenol (S)	65.7		%	35 - 104	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Nitrobenzene-d5 (S)	69.2		%	41 - 110	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Phenol-d5 (S)	71.1		%	40 - 100	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A
Terphenyl-d14 (S)	68.5		%	38 - 113	SW846 8270D	9/29/15	BS	9/29/15 15:56	CGS	A

PCBs

Total Polychlorinated Biphenyl	0.043 U	U	mg/kg	0.043	0.043	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Aroclor-1016	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Aroclor-1221	0.043 U	U	mg/kg	0.043	0.0039	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Aroclor-1232	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Aroclor-1242	0.043 U	U	mg/kg	0.043	0.012	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Aroclor-1248	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Aroclor-1254	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079012** Date Collected: 9/24/2015 14:31 Matrix: Solid
Sample ID: **2146-25** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	69.6		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
Tetrachloro-m-xylene (S)	67.5		%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 20:02	EGO	A
PESTICIDES											
Aldrin	11.0 U	U	ug/kg	11.0	3.6	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
alpha-BHC	11.0 U	U	ug/kg	11.0	0.97	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
beta-BHC	11.0 U	U	ug/kg	11.0	1.2	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
delta-BHC	11.0 U	U	ug/kg	11.0	0.84	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
gamma-BHC	11.0 U	U	ug/kg	11.0	0.91	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
alpha-Chlordane	11.0 U	U	ug/kg	11.0	1.2	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
4,4'-DDD	21.4 U	U	ug/kg	21.4	1.8	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
4,4'-DDE	21.4 U	U	ug/kg	21.4	2.9	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
4,4'-DDT	21.4 U	U	ug/kg	21.4	2.5	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Dieldrin	21.4 U	U	ug/kg	21.4	2.5	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Endosulfan I	11.0 U	U	ug/kg	11.0	1.4	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Endosulfan II	21.4 U	U	ug/kg	21.4	4.5	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Endosulfan Sulfate	21.4 U	U	ug/kg	21.4	1.4	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Endrin	21.4 U	U	ug/kg	21.4	1.6	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Heptachlor	11.0 U	U	ug/kg	11.0	1.1	SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	65		%	30 - 135		SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
Tetrachloro-m-xylene (S)	60.3		%	30 - 111		SW846 8081B	9/28/15	LEH	10/1/15 15:30	RWS	A
HERBICIDES											
2,4,5-TP	87.5 U	U	ug/kg	87.5	40.5	SW846 8151A	9/30/15	RMP	10/2/15 01:24	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	60		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 01:24	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.34 U	U	mg/kg	0.34	0.12	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.7 U	U1	mg/kg	2.7	0.51	SW846 7196A	10/8/15	NJA	10/8/15 19:00	NJA	A
Moisture	25.0		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	75.0		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	11.2		mg/kg	2.7	2.7	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079012** Date Collected: 9/24/2015 14:31 Matrix: Solid
Sample ID: **2146-25** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.3		mg/kg	1.8	0.61	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Barium, Total	5.1		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Beryllium, Total	0.28J	J	mg/kg	0.61	0.20	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Cadmium, Total	0.61 U	U	mg/kg	0.61	0.20	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Chromium, Total	11.2		mg/kg	1.2	0.40	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Copper, Total	11.3		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Lead, Total	8.8		mg/kg	1.2	0.40	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Manganese, Total	130		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Mercury, Total	0.027J	J	mg/kg	0.067	0.021	SW846 7471B	10/8/15	MNP	10/8/15 10:55	MNP	A1
Nickel, Total	9.7		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Selenium, Total	1.1J	J	mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Silver, Total	1.2 U	U	mg/kg	1.2	0.40	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2
Zinc, Total	37.1		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:40	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID:	**2098079013**	Date Collected:	9/24/2015 14:36	Matrix:	Other
Sample ID:	**1787-44**	Date Received:	9/25/2015 20:00		

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:21	VAF	A

Vicki Forney

Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079014** Date Collected: 9/24/2015 14:47 Matrix: Solid
Sample ID: **1787-44** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	8.9J	J	ug/kg	14.4	6.6	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Benzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
2-Butanone	14.4 U	U	ug/kg	14.4	4.6	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
n-Butylbenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
tert-Butylbenzene	2.9 U	U	ug/kg	2.9	0.79	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
sec-Butylbenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Carbon Tetrachloride	2.9 U	U	ug/kg	2.9	0.73	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Chlorobenzene	2.9 U	U	ug/kg	2.9	0.73	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Chloroform	2.9 U	U	ug/kg	2.9	0.76	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,2-Dichlorobenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,3-Dichlorobenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,4-Dichlorobenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,1-Dichloroethane	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,2-Dichloroethane	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,1-Dichloroethene	2.9 U	U	ug/kg	2.9	0.75	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
cis-1,2-Dichloroethene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
trans-1,2-Dichloroethene	2.9 U	U	ug/kg	2.9	0.75	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,4-Dioxane	108 U	U	ug/kg	108	25.6	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Ethylbenzene	2.9 U	U	ug/kg	2.9	0.98	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Methyl t-Butyl Ether	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Methylene Chloride	14.6	234	ug/kg	2.9	1.1	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
n-Propylbenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Tetrachloroethene	2.9 U	U	ug/kg	2.9	0.86	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Toluene	2.9 U	U	ug/kg	2.9	0.96	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Total Xylenes	8.6 U	U	ug/kg	8.6	2.0	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,1,1-Trichloroethane	2.9 U	U	ug/kg	2.9	0.89	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Trichloroethene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,2,4-Trimethylbenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
1,3,5-Trimethylbenzene	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Vinyl Chloride	2.9 U	U	ug/kg	2.9	0.72	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	101		%	56 - 124	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
4-Bromofluorobenzene (S)	105		%	51 - 128	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Dibromofluoromethane (S)	103		%	62 - 123	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3
Toluene-d8 (S)	111		%	59 - 131	SW846 8260C	9/26/15	TMP	10/1/15 16:39	TMP	A3

SEMIVOLATILES

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079014** Date Collected: 9/24/2015 14:47 Matrix: Solid
Sample ID: **1787-44** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	140 U	U	ug/kg	140	21.0	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Acenaphthylene	140 U	U	ug/kg	140	15.4	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Anthracene	140 U	U	ug/kg	140	14.0	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Benzo(a)anthracene	140 U	U	ug/kg	140	21.0	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Benzo(a)pyrene	140 U	U	ug/kg	140	22.4	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Benzo(b)fluoranthene	140 U	U	ug/kg	140	33.6	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Benzo(g,h,i)perylene	140 U	U	ug/kg	140	29.4	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Benzo(k)fluoranthene	140 U	U	ug/kg	140	26.6	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Chrysene	140 U	U	ug/kg	140	18.2	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
mp-Cresol	378 U	U	ug/kg	378	21.0	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
o-Cresol	378 U	U	ug/kg	378	30.8	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Dibenzo(a,h)anthracene	140 U	U	ug/kg	140	16.8	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Dibenzofuran	140 U	U	ug/kg	140	15.4	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Fluoranthene	53.4J	J	ug/kg	140	26.6	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Fluorene	140 U	U	ug/kg	140	28.0	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Hexachlorobenzene	140 U	U	ug/kg	140	26.6	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Indeno(1,2,3-cd)pyrene	140 U	U	ug/kg	140	25.2	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Naphthalene	140 U	U	ug/kg	140	33.6	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Pentachlorophenol	280 U	U	ug/kg	280	50.4	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Phenanthrene	140 U	U	ug/kg	140	19.6	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Phenol	378 U	U	ug/kg	378	21.0	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Pyrene	54.3J	J	ug/kg	140	25.2	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	84.6		%	37 - 123	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
2-Fluorobiphenyl (S)	73.7		%	45 - 105	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
2-Fluorophenol (S)	75.4		%	35 - 104	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Nitrobenzene-d5 (S)	80.4		%	41 - 110	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Phenol-d5 (S)	81.7		%	40 - 100	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A
Terphenyl-d14 (S)	89.9		%	38 - 113	SW846 8270D	9/29/15	BS	9/29/15 16:21	CGS	A

PCBs

Total Polychlorinated Biphenyl	0.045 U	U	mg/kg	0.045	0.045	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Aroclor-1016	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Aroclor-1221	0.045 U	U	mg/kg	0.045	0.0041	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Aroclor-1232	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Aroclor-1242	0.045 U	U	mg/kg	0.045	0.012	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Aroclor-1248	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Aroclor-1254	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079014** Date Collected: 9/24/2015 14:47 Matrix: Solid
Sample ID: **1787-44** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.045 U	U	mg/kg	0.045	0.0082	SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	75.9		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
Tetrachloro-m-xylene (S)	73.6		%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 20:25	EGO	A
PESTICIDES											
Aldrin	11.7 U	U	ug/kg	11.7	3.8	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
alpha-BHC	11.7 U	U	ug/kg	11.7	1.0	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
beta-BHC	11.7 U	U	ug/kg	11.7	1.2	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
delta-BHC	11.7 U	U	ug/kg	11.7	0.89	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
gamma-BHC	11.7 U	U	ug/kg	11.7	0.96	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
alpha-Chlordane	11.7 U	U	ug/kg	11.7	1.2	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
4,4'-DDD	22.7 U	U	ug/kg	22.7	1.9	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
4,4'-DDE	22.7 U	U	ug/kg	22.7	3.1	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
4,4'-DDT	22.7 U	U	ug/kg	22.7	2.6	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Dieldrin	22.7 U	U	ug/kg	22.7	2.6	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Endosulfan I	11.7 U	U	ug/kg	11.7	1.4	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Endosulfan II	22.7 U	U	ug/kg	22.7	4.7	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Endosulfan Sulfate	22.7 U	U	ug/kg	22.7	1.5	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Endrin	22.7 U	U	ug/kg	22.7	1.6	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Heptachlor	11.7 U	U	ug/kg	11.7	1.2	SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	72		%	30 - 135		SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
Tetrachloro-m-xylene (S)	67.2		%	30 - 111		SW846 8081B	9/28/15	LEH	10/1/15 15:46	RWS	A
HERBICIDES											
2,4,5-TP	94.8 U	U	ug/kg	94.8	43.8	SW846 8151A	9/30/15	RMP	10/2/15 02:01	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	58.2		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 02:01	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.35 U	U	mg/kg	0.35	0.13	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.8 U	U	mg/kg	2.8	0.55	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	30.0		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	70.0		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	9.5		mg/kg	2.9	2.9	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079014** Date Collected: 9/24/2015 14:47 Matrix: Solid
Sample ID: **1787-44** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.2		mg/kg	2.0	0.66	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Barium, Total	6.4		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Beryllium, Total	0.66 U	U	mg/kg	0.66	0.22	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Cadmium, Total	0.66 U	U	mg/kg	0.66	0.22	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Chromium, Total	9.5		mg/kg	1.3	0.44	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Copper, Total	8.9		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Lead, Total	12.7		mg/kg	1.3	0.44	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Manganese, Total	125		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Mercury, Total	0.056J	J	mg/kg	0.071	0.023	SW846 7471B	10/8/15	MNP	10/8/15 10:56	MNP	A1
Nickel, Total	5.6		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Selenium, Total	3.3 U	U	mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Silver, Total	1.3 U	U	mg/kg	1.3	0.44	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2
Zinc, Total	39.1		mg/kg	3.3	1.1	SW846 6020A	10/7/15	TSS	10/8/15 06:43	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079015** Date Collected: 9/24/2015 14:57 Matrix: Other
Sample ID: **659-7** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:23	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079016** Date Collected: 9/24/2015 15:06 Matrix: Solid
Sample ID: **659-7** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	7.6J	J	ug/kg	13.1	6.0	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Benzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
2-Butanone	13.1 U	U	ug/kg	13.1	4.2	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.72	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.68	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.68	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,4-Dioxane	97.9 U	U	ug/kg	97.9	23.2	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.89	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Methylene Chloride	13.4		ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.78	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Toluene	2.6 U	U	ug/kg	2.6	0.87	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Total Xylenes	7.8 U	U	ug/kg	7.8	1.8	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.81	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	103		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
4-Bromofluorobenzene (S)	104		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Dibromofluoromethane (S)	104		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2
Toluene-d8 (S)	104		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 19:19	DD	A2

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079016** Date Collected: 9/24/2015 15:06 Matrix: Solid
Sample ID: **659-7** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	128 U	U	ug/kg	128	19.1	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Acenaphthylene	128 U	U	ug/kg	128	14.0	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Anthracene	128 U	U	ug/kg	128	12.8	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Benzo(a)anthracene	128 U	U	ug/kg	128	19.1	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Benzo(a)pyrene	128 U	U	ug/kg	128	20.4	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Benzo(b)fluoranthene	128 U	U	ug/kg	128	30.6	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Benzo(g,h,i)perylene	128 U	U	ug/kg	128	26.8	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Benzo(k)fluoranthene	128 U	U	ug/kg	128	24.3	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Chrysene	128 U	U	ug/kg	128	16.6	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
mp-Cresol	345 U	U	ug/kg	345	19.1	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
o-Cresol	345 U	U	ug/kg	345	28.1	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Dibenzo(a,h)anthracene	128 U	U	ug/kg	128	15.3	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Dibenzofuran	128 U	U	ug/kg	128	14.0	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Fluoranthene	128 U	U	ug/kg	128	24.3	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Fluorene	128 U	U	ug/kg	128	25.5	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Hexachlorobenzene	128 U	U	ug/kg	128	24.3	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Indeno(1,2,3-cd)pyrene	128 U	U	ug/kg	128	23.0	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Naphthalene	128 U	U	ug/kg	128	30.6	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Pentachlorophenol	255 U	U	ug/kg	255	46.0	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Phenanthrene	128 U	U	ug/kg	128	17.9	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Phenol	345 U	U	ug/kg	345	19.1	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Pyrene	128 U	U	ug/kg	128	23.0	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	92.6		%	37 - 123	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
2-Fluorobiphenyl (S)	83.6		%	45 - 105	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
2-Fluorophenol (S)	84.8		%	35 - 104	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Nitrobenzene-d5 (S)	90.6		%	41 - 110	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Phenol-d5 (S)	90.7		%	40 - 100	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A
Terphenyl-d14 (S)	92		%	38 - 113	SW846 8270D	9/30/15	BS	9/30/15 17:11	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.042	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079016** Date Collected: 9/24/2015 15:06 Matrix: Solid
Sample ID: **659-7** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	70		%	46 - 120		SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
Tetrachloro-m-xylene (S)	56.9		%	52 - 115		SW846 8082A	9/28/15	LEH	9/28/15 20:36	EGO	A
PESTICIDES											
Aldrin	10.8 U	U	ug/kg	10.8	3.5	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
alpha-BHC	10.8 U	U	ug/kg	10.8	0.95	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
beta-BHC	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
delta-BHC	10.8 U	U	ug/kg	10.8	0.82	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
gamma-BHC	10.8 U	U	ug/kg	10.8	0.89	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
alpha-Chlordane	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
4,4'-DDD	20.9 U	U	ug/kg	20.9	1.7	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
4,4'-DDE	20.9 U	U	ug/kg	20.9	2.9	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
4,4'-DDT	20.9 U	U	ug/kg	20.9	2.4	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Dieldrin	20.9 U	U	ug/kg	20.9	2.4	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Endosulfan I	10.8 U	U	ug/kg	10.8	1.3	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Endosulfan II	20.9 U	U	ug/kg	20.9	4.4	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Endosulfan Sulfate	20.9 U	U	ug/kg	20.9	1.4	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Endrin	20.9 U	U	ug/kg	20.9	1.5	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Heptachlor	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	64.9		%	30 - 135		SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
Tetrachloro-m-xylene (S)	91.8		%	30 - 111		SW846 8081B	9/28/15	LEH	10/1/15 16:01	RWS	A
HERBICIDES											
2,4,5-TP	84.7 U	U	ug/kg	84.7	39.2	SW846 8151A	9/30/15	RMP	10/2/15 02:38	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	52.5		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 02:38	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.31 U	U1	mg/kg	0.31	0.11	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.5 U	U	mg/kg	2.5	0.49	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	22.2		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	77.8		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	11.8		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079016** Date Collected: 9/24/2015 15:06 Matrix: Solid
Sample ID: **659-7** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	3.5		mg/kg	1.7	0.56	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Barium, Total	9.0		mg/kg	2.8	0.90	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Beryllium, Total	0.34J	J	mg/kg	0.56	0.19	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Cadmium, Total	0.56 U	U	mg/kg	0.56	0.19	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Chromium, Total	11.8		mg/kg	1.1	0.37	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Copper, Total	12.9		mg/kg	2.8	0.90	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Lead, Total	11.5		mg/kg	1.1	0.37	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Manganese, Total	131		mg/kg	2.8	0.90	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Mercury, Total	0.028J	J	mg/kg	0.062	0.020	SW846 7471B	10/8/15	MNP	10/8/15 10:57	MNP	A1
Nickel, Total	8.9		mg/kg	2.8	0.90	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Selenium, Total	1.1J	J	mg/kg	2.8	0.90	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Silver, Total	1.1 U	U	mg/kg	1.1	0.37	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2
Zinc, Total	40.8		mg/kg	2.8	0.90	SW846 6020A	10/7/15	TSS	10/8/15 06:47	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079017** Date Collected: 9/24/2015 15:12 Matrix: Other
Sample ID: **654-9** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:24	VAF	A

Vicki Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079018** Date Collected: 9/24/2015 15:23 Matrix: Solid
Sample ID: **654-9** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	12.9 U	U	ug/kg	12.9	5.9	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Benzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
2-Butanone	12.9 U	U	ug/kg	12.9	4.1	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.71	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Chloroform	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,4-Dioxane	97.0 U	U	ug/kg	97.0	23.0	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.88	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Methylene Chloride	10.9	345	ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.78	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Toluene	2.6 U	U	ug/kg	2.6	0.87	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Total Xylenes	7.8 U	U	ug/kg	7.8	1.8	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.80	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Trichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	102		%	56 - 124	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
4-Bromofluorobenzene (S)	111		%	51 - 128	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Dibromofluoromethane (S)	107		%	62 - 123	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3
Toluene-d8 (S)	112		%	59 - 131	SW846 8260C	9/26/15	TMP	10/1/15 17:02	TMP	A3

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079018** Date Collected: 9/24/2015 15:23 Matrix: Solid
Sample ID: **654-9** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	124 U	U	ug/kg	124	18.6	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Acenaphthylene	124 U	U	ug/kg	124	13.7	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Anthracene	124 U	U	ug/kg	124	12.4	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Benzo(a)anthracene	124 U	U	ug/kg	124	18.6	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Benzo(a)pyrene	124 U	U	ug/kg	124	19.9	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Benzo(b)fluoranthene	124 U	U	ug/kg	124	29.8	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Benzo(g,h,i)perylene	124 U	U	ug/kg	124	26.1	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Benzo(k)fluoranthene	124 U	U	ug/kg	124	23.6	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Chrysene	124 U	U	ug/kg	124	16.2	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
mp-Cresol	336 U	U	ug/kg	336	18.6	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
o-Cresol	336 U	U	ug/kg	336	27.3	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Dibenzo(a,h)anthracene	124 U	U	ug/kg	124	14.9	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Dibenzofuran	124 U	U	ug/kg	124	13.7	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Fluoranthene	124 U	U	ug/kg	124	23.6	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Fluorene	124 U	U	ug/kg	124	24.9	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Hexachlorobenzene	124 U	U	ug/kg	124	23.6	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Indeno(1,2,3-cd)pyrene	124 U	U	ug/kg	124	22.4	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Naphthalene	124 U	U	ug/kg	124	29.8	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Pentachlorophenol	249 U	U	ug/kg	249	44.7	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Phenanthrene	124 U	U	ug/kg	124	17.4	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Phenol	336 U	U	ug/kg	336	18.6	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Pyrene	124 U	U	ug/kg	124	22.4	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	88.7		%	37 - 123	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
2-Fluorobiphenyl (S)	77.9		%	45 - 105	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
2-Fluorophenol (S)	80.5		%	35 - 104	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Nitrobenzene-d5 (S)	86.1		%	41 - 110	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Phenol-d5 (S)	86.6		%	40 - 100	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A
Terphenyl-d14 (S)	88		%	38 - 113	SW846 8270D	9/30/15	BS	9/30/15 17:36	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.043 U	U	mg/kg	0.043	0.043	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Aroclor-1016	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Aroclor-1221	0.043 U	U	mg/kg	0.043	0.0039	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Aroclor-1232	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Aroclor-1242	0.043 U	U	mg/kg	0.043	0.012	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Aroclor-1248	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Aroclor-1254	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079018** Date Collected: 9/24/2015 15:23 Matrix: Solid
Sample ID: **654-9** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.043 U	U	mg/kg	0.043	0.0078	SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	88.8		%	46 - 120		SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
Tetrachloro-m-xylene (S)	88.2		%	52 - 115		SW846 8082A	9/30/15	KAC	9/30/15 15:25	EGO	A
PESTICIDES											
Aldrin	11.0 U	U	ug/kg	11.0	3.6	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
alpha-BHC	11.0 U	U	ug/kg	11.0	0.97	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
beta-BHC	11.0 U	U	ug/kg	11.0	1.2	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
delta-BHC	11.0 U	U	ug/kg	11.0	0.84	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
gamma-BHC	11.0 U	U	ug/kg	11.0	0.90	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
alpha-Chlordane	11.0 U	U	ug/kg	11.0	1.2	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
4,4'-DDD	21.3 U	U	ug/kg	21.3	1.7	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
4,4'-DDE	21.3 U	U	ug/kg	21.3	2.9	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
4,4'-DDT	21.3 U	U	ug/kg	21.3	2.5	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Dieldrin	21.3 U	U	ug/kg	21.3	2.5	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Endosulfan I	11.0 U	U	ug/kg	11.0	1.4	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Endosulfan II	21.3 U	U	ug/kg	21.3	4.5	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Endosulfan Sulfate	21.3 U	U	ug/kg	21.3	1.4	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Endrin	21.3 U	U	ug/kg	21.3	1.6	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Heptachlor	11.0 U	U	ug/kg	11.0	1.1	SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	77.3		%	30 - 135		SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
Tetrachloro-m-xylene (S)	105		%	30 - 111		SW846 8081B	9/30/15	KAC	10/2/15 00:34	RWS	A
HERBICIDES											
2,4,5-TP	83.8 U	U	ug/kg	83.8	38.8	SW846 8151A	9/30/15	RMP	10/2/15 03:15	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	55.4		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 03:15	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.31 U	U	mg/kg	0.31	0.11	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.6 U	U	mg/kg	2.6	0.50	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	22.6		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	77.4		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	9.6		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079018** Date Collected: 9/24/2015 15:23 Matrix: Solid
Sample ID: **654-9** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.8		mg/kg	1.6	0.55	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Barium, Total	9.5		mg/kg	2.7	0.88	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Beryllium, Total	0.24J	J	mg/kg	0.55	0.18	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Cadmium, Total	0.55 U	U	mg/kg	0.55	0.18	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Chromium, Total	9.6		mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Copper, Total	9.8		mg/kg	2.7	0.88	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Lead, Total	10.7		mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Manganese, Total	124		mg/kg	2.7	0.88	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Mercury, Total	0.037J	J	mg/kg	0.062	0.020	SW846 7471B	10/8/15	MNP	10/8/15 10:58	MNP	A1
Nickel, Total	7.5		mg/kg	2.7	0.88	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Selenium, Total	2.7 U	U	mg/kg	2.7	0.88	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Silver, Total	1.1 U	U	mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2
Zinc, Total	38.5		mg/kg	2.7	0.88	SW846 6020A	10/7/15	TSS	10/8/15 06:51	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079019** Date Collected: 9/24/2015 15:27 Matrix: Other
Sample ID: **720-16** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:24	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079020** Date Collected: 9/24/2015 15:39 Matrix: Solid
Sample ID: **720-16** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	6.6J	J	ug/kg	13.2	6.1	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Benzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
2-Butanone	13.2 U	U	ug/kg	13.2	4.2	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.73	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.70	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,4-Dioxane	98.9 U	U	ug/kg	98.9	23.5	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.90	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Methylene Chloride	10.7		ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.79	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Toluene	2.6 U	U	ug/kg	2.6	0.88	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Total Xylenes	7.9 U	U	ug/kg	7.9	1.8	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.82	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	105		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
4-Bromofluorobenzene (S)	101		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Dibromofluoromethane (S)	103		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2
Toluene-d8 (S)	107		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 20:05	DD	A2

SEMIVOLATILES

ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079020** Date Collected: 9/24/2015 15:39 Matrix: Solid
Sample ID: **720-16** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	128 U	U	ug/kg	128	19.2	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Acenaphthylene	128 U	U	ug/kg	128	14.1	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Anthracene	128 U	U	ug/kg	128	12.8	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Benzo(a)anthracene	128 U	U	ug/kg	128	19.2	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Benzo(a)pyrene	128 U	U	ug/kg	128	20.5	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Benzo(b)fluoranthene	128 U	U	ug/kg	128	30.8	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Benzo(g,h,i)perylene	128 U	U	ug/kg	128	26.9	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Benzo(k)fluoranthene	128 U	U	ug/kg	128	24.4	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Chrysene	128 U	U	ug/kg	128	16.7	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
mp-Cresol	346 U	U	ug/kg	346	19.2	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
o-Cresol	346 U	U	ug/kg	346	28.2	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Dibenzo(a,h)anthracene	128 U	U	ug/kg	128	15.4	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Dibenzofuran	128 U	U	ug/kg	128	14.1	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Fluoranthene	128 U	U	ug/kg	128	24.4	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Fluorene	128 U	U	ug/kg	128	25.6	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Hexachlorobenzene	128 U	U	ug/kg	128	24.4	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Indeno(1,2,3-cd)pyrene	128 U	U	ug/kg	128	23.1	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Naphthalene	128 U	U	ug/kg	128	30.8	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Pentachlorophenol	256 U	U	ug/kg	256	46.2	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Phenanthrene	128 U	U	ug/kg	128	18.0	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Phenol	346 U	U	ug/kg	346	19.2	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Pyrene	128 U	U	ug/kg	128	23.1	SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	87.5		%	37 - 123		SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
2-Fluorobiphenyl (S)	79.6		%	45 - 105		SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
2-Fluorophenol (S)	82.3		%	35 - 104		SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Nitrobenzene-d5 (S)	86.2		%	41 - 110		SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Phenol-d5 (S)	89.3		%	40 - 100		SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
Terphenyl-d14 (S)	89.2		%	38 - 113		SW846 8270D	9/30/15	BS	9/30/15 18:00	CGS	A
PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.042	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0075	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0075	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0075	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0075	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079020** Date Collected: 9/24/2015 15:39 Matrix: Solid
Sample ID: **720-16** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0075	SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	90.6		%	46 - 120		SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
Tetrachloro-m-xylene (S)	84.9		%	52 - 115		SW846 8082A	9/30/15	KAC	9/30/15 15:37	EGO	A
PESTICIDES											
Aldrin	10.7 U	U	ug/kg	10.7	3.5	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
alpha-BHC	10.7 U	U	ug/kg	10.7	0.94	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
beta-BHC	10.7 U	U	ug/kg	10.7	1.1	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
delta-BHC	10.7 U	U	ug/kg	10.7	0.82	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
gamma-BHC	10.7 U	U	ug/kg	10.7	0.88	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
alpha-Chlordane	10.7 U	U	ug/kg	10.7	1.1	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
4,4'-DDD	20.8 U	U	ug/kg	20.8	1.7	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
4,4'-DDE	20.8 U	U	ug/kg	20.8	2.8	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
4,4'-DDT	20.8 U	U	ug/kg	20.8	2.4	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Dieldrin	20.8 U	U	ug/kg	20.8	2.4	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Endosulfan I	10.7 U	U	ug/kg	10.7	1.3	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Endosulfan II	20.8 U	U	ug/kg	20.8	4.3	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Endosulfan Sulfate	20.8 U	U	ug/kg	20.8	1.4	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Endrin	20.8 U	U	ug/kg	20.8	1.5	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Heptachlor	10.7 U	U	ug/kg	10.7	1.1	SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	68.6		%	30 - 135		SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
Tetrachloro-m-xylene (S)	54.2		%	30 - 111		SW846 8081B	9/30/15	KAC	10/2/15 01:05	RWS	A
HERBICIDES											
2,4,5-TP	87.6 U	U	ug/kg	87.6	40.6	SW846 8151A	9/30/15	RMP	10/2/15 03:52	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	58.7		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 03:52	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.34 U	U	mg/kg	0.34	0.12	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.6 U	U	mg/kg	2.6	0.51	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	23.6		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	76.4		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	7.5		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079020** Date Collected: 9/24/2015 15:39 Matrix: Solid
Sample ID: **720-16** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	1.9		mg/kg	1.8	0.61	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Barium, Total	5.8		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Beryllium, Total	0.61 U	U	mg/kg	0.61	0.20	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Cadmium, Total	0.61 U	U	mg/kg	0.61	0.20	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Chromium, Total	7.5		mg/kg	1.2	0.40	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Copper, Total	7.3		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Lead, Total	8.2		mg/kg	1.2	0.40	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Manganese, Total	84.3		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Mercury, Total	0.028J	J	mg/kg	0.064	0.021	SW846 7471B	10/8/15	MNP	10/8/15 10:59	MNP	A1
Nickel, Total	5.9		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Selenium, Total	3.0 U	U	mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Silver, Total	1.2 U	U	mg/kg	1.2	0.40	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2
Zinc, Total	29.7		mg/kg	3.0	0.97	SW846 6020A	10/7/15	TSS	10/8/15 06:55	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079021** Date Collected: 9/24/2015 16:15 Matrix: Other
Sample ID: **1374-22** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:25	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079022** Date Collected: 9/24/2015 16:26 Matrix: Solid
Sample ID: **1374-22** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	13.0 U	U	ug/kg	13.0	6.0	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Benzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
2-Butanone	13.0 U	U	ug/kg	13.0	4.1	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.71	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,4-Dioxane	97.1 U	U	ug/kg	97.1	23.1	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.88	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Methylene Chloride	9.4		ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.78	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Toluene	2.6 U	U	ug/kg	2.6	0.87	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Total Xylenes	7.8 U	U	ug/kg	7.8	1.8	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.80	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	106		%	56 - 124	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
4-Bromofluorobenzene (S)	104		%	51 - 128	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Dibromofluoromethane (S)	106		%	62 - 123	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2
Toluene-d8 (S)	113		%	59 - 131	SW846 8260C	9/26/15	TMP	9/29/15 20:28	DD	A2

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079022** Date Collected: 9/24/2015 16:26 Matrix: Solid
Sample ID: **1374-22** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	123 U	U	ug/kg	123	18.4	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Acenaphthylene	123 U	U	ug/kg	123	13.5	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Anthracene	62.7J	J	ug/kg	123	12.3	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Benzo(a)anthracene	103J	J	ug/kg	123	18.4	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Benzo(a)pyrene	81.6J	J	ug/kg	123	19.6	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Benzo(b)fluoranthene	97.6J	J	ug/kg	123	29.4	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Benzo(g,h,i)perylene	51.0J	J	ug/kg	123	25.8	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Benzo(k)fluoranthene	123 U	U	ug/kg	123	23.3	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Chrysene	79.9J	J	ug/kg	123	16.0	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
mp-Cresol	331 U	U	ug/kg	331	18.4	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
o-Cresol	331 U	U	ug/kg	331	27.0	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Dibenzo(a,h)anthracene	123 U	U	ug/kg	123	14.7	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Dibenzofuran	123 U	U	ug/kg	123	13.5	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Fluoranthene	245		ug/kg	123	23.3	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Fluorene	123 U	U	ug/kg	123	24.5	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Hexachlorobenzene	123 U	U	ug/kg	123	23.3	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Indeno(1,2,3-cd)pyrene	53.3J	J	ug/kg	123	22.1	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Naphthalene	123 U	U	ug/kg	123	29.4	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Pentachlorophenol	245 U	U	ug/kg	245	44.2	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Phenanthrene	235		ug/kg	123	17.2	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Phenol	331 U	U	ug/kg	331	18.4	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Pyrene	198		ug/kg	123	22.1	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	88.4		%	37 - 123	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
2-Fluorobiphenyl (S)	87.6		%	45 - 105	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
2-Fluorophenol (S)	85.3		%	35 - 104	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Nitrobenzene-d5 (S)	90.9		%	41 - 110	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Phenol-d5 (S)	91.9		%	40 - 100	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A
Terphenyl-d14 (S)	94.3		%	38 - 113	SW846 8270D	9/30/15	BS	9/30/15 18:25	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.040 U	U	mg/kg	0.040	0.040	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Aroclor-1016	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Aroclor-1221	0.040 U	U	mg/kg	0.040	0.0036	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Aroclor-1232	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Aroclor-1242	0.040 U	U	mg/kg	0.040	0.011	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Aroclor-1248	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Aroclor-1254	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079022** Date Collected: 9/24/2015 16:26 Matrix: Solid
Sample ID: **1374-22** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.040 U	U	mg/kg	0.040	0.0073	SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	106		%	46 - 120		SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
Tetrachloro-m-xylene (S)	93.3		%	52 - 115		SW846 8082A	9/30/15	KAC	9/30/15 15:48	EGO	A
PESTICIDES											
Aldrin	10.3 U	U	ug/kg	10.3	3.3	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
alpha-BHC	10.3 U	U	ug/kg	10.3	0.91	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
beta-BHC	10.3 U	U	ug/kg	10.3	1.1	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
delta-BHC	10.3 U	U	ug/kg	10.3	0.79	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
gamma-BHC	10.3 U	U	ug/kg	10.3	0.85	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
alpha-Chlordane	10.3 U	U	ug/kg	10.3	1.1	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
4,4'-DDD	20.0 U	U	ug/kg	20.0	1.6	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
4,4'-DDE	20.0 U	U	ug/kg	20.0	2.7	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
4,4'-DDT	20.0 U	U	ug/kg	20.0	2.3	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Dieldrin	20.0 U	U	ug/kg	20.0	2.3	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Endosulfan I	10.3 U	U	ug/kg	10.3	1.3	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Endosulfan II	20.0 U	U	ug/kg	20.0	4.2	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Endosulfan Sulfate	20.0 U	U	ug/kg	20.0	1.3	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Endrin	20.0 U	U	ug/kg	20.0	1.5	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Heptachlor	10.3 U	U	ug/kg	10.3	1.0	SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	85.7		%	30 - 135		SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
Tetrachloro-m-xylene (S)	61.3		%	30 - 111		SW846 8081B	9/30/15	KAC	10/2/15 00:18	RWS	A
HERBICIDES											
2,4,5-TP	85.5 U	U	ug/kg	85.5	39.5	SW846 8151A	9/30/15	RMP	10/2/15 04:29	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	59.2		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 04:29	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.33 U	U	mg/kg	0.33	0.12	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.6 U	U	mg/kg	2.6	0.50	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	22.6		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	77.4		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	4.4		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079022** Date Collected: 9/24/2015 16:26 Matrix: Solid
Sample ID: **1374-22** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	1.6J	J	mg/kg	1.6	0.54	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Barium, Total	2.6J	J	mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Beryllium, Total	0.54 U	U	mg/kg	0.54	0.18	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Cadmium, Total	0.54 U	U	mg/kg	0.54	0.18	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Chromium, Total	4.4		mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Copper, Total	5.0		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Lead, Total	4.0		mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Manganese, Total	45.4		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Mercury, Total	0.065 U	U	mg/kg	0.065	0.021	SW846 7471B	10/8/15	MNP	10/8/15 11:00	MNP	A1
Nickel, Total	3.7		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Selenium, Total	2.7 U	U	mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Silver, Total	1.1 U	U	mg/kg	1.1	0.36	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2
Zinc, Total	16.4		mg/kg	2.7	0.86	SW846 6020A	10/7/15	TSS	10/8/15 06:58	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079023** Date Collected: 9/24/2015 16:35 Matrix: Other
Sample ID: **1217-42** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:25	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079024** Date Collected: 9/24/2015 16:46 Matrix: Solid
Sample ID: **1217-42** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	8.1J	J	ug/kg	13.2	6.1	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Benzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
2-Butanone	13.2 U	U	ug/kg	13.2	4.2	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.73	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.70	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,4-Dioxane	99.0 U	U	ug/kg	99.0	23.5	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.90	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Methylene Chloride	7.9	123	ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.79	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Toluene	2.6 U	U	ug/kg	2.6	0.88	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Total Xylenes	7.9 U	U	ug/kg	7.9	1.8	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.82	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	99.6		%	56 - 124	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
4-Bromofluorobenzene (S)	106		%	51 - 128	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Dibromofluoromethane (S)	108		%	62 - 123	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2
Toluene-d8 (S)	114		%	59 - 131	SW846 8260C	9/26/15	TMP	10/1/15 17:26	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079024** Date Collected: 9/24/2015 16:46 Matrix: Solid
Sample ID: **1217-42** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	126 U	U	ug/kg	126	18.9	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Acenaphthylene	126 U	U	ug/kg	126	13.8	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Anthracene	126 U	U	ug/kg	126	12.6	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Benzo(a)anthracene	126 U	U	ug/kg	126	18.9	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Benzo(a)pyrene	126 U	U	ug/kg	126	20.1	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Benzo(b)fluoranthene	43.5J	J	ug/kg	126	30.2	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Benzo(g,h,i)perylene	126 U	U	ug/kg	126	26.4	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Benzo(k)fluoranthene	126 U	U	ug/kg	126	23.9	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Chrysene	126 U	U	ug/kg	126	16.3	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
mp-Cresol	339 U	U	ug/kg	339	18.9	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
o-Cresol	339 U	U	ug/kg	339	27.6	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Dibenzo(a,h)anthracene	126 U	U	ug/kg	126	15.1	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Dibenzofuran	126 U	U	ug/kg	126	13.8	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Fluoranthene	47.9J	J	ug/kg	126	23.9	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Fluorene	126 U	U	ug/kg	126	25.1	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Hexachlorobenzene	126 U	U	ug/kg	126	23.9	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Indeno(1,2,3-cd)pyrene	126 U	U	ug/kg	126	22.6	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Naphthalene	126 U	U	ug/kg	126	30.2	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Pentachlorophenol	251 U	U	ug/kg	251	45.2	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Phenanthrene	126 U	U	ug/kg	126	17.6	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Phenol	339 U	U	ug/kg	339	18.9	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Pyrene	126 U	U	ug/kg	126	22.6	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	81.5		%	37 - 123	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
2-Fluorobiphenyl (S)	67.2		%	45 - 105	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
2-Fluorophenol (S)	77.5		%	35 - 104	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Nitrobenzene-d5 (S)	79.4		%	41 - 110	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Phenol-d5 (S)	82.6		%	40 - 100	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A
Terphenyl-d14 (S)	73.8		%	38 - 113	SW846 8270D	9/30/15	BS	9/30/15 18:50	CGS	A

PCBs

Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.042	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079024** Date Collected: 9/24/2015 16:46 Matrix: Solid
Sample ID: **1217-42** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	99.5		%	46 - 120		SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
Tetrachloro-m-xylene (S)	85.6		%	52 - 115		SW846 8082A	9/30/15	KAC	9/30/15 16:00	EGO	A
PESTICIDES											
Aldrin	10.8 U	U	ug/kg	10.8	3.5	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
alpha-BHC	10.8 U	U	ug/kg	10.8	0.95	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
beta-BHC	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
delta-BHC	10.8 U	U	ug/kg	10.8	0.83	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
gamma-BHC	10.8 U	U	ug/kg	10.8	0.89	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
alpha-Chlordane	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
4,4'-DDD	21.0 U	U	ug/kg	21.0	1.7	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
4,4'-DDE	21.0 U	U	ug/kg	21.0	2.9	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
4,4'-DDT	21.0 U	U	ug/kg	21.0	2.4	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Dieldrin	21.0 U	U	ug/kg	21.0	2.4	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Endosulfan I	10.8 U	U	ug/kg	10.8	1.3	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Endosulfan II	21.0 U	U	ug/kg	21.0	4.4	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Endosulfan Sulfate	21.0 U	U	ug/kg	21.0	1.4	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Endrin	21.0 U	U	ug/kg	21.0	1.5	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Heptachlor	10.8 U	U	ug/kg	10.8	1.1	SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	76		%	30 - 135		SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
Tetrachloro-m-xylene (S)	98.8		%	30 - 111		SW846 8081B	9/30/15	KAC	10/1/15 23:32	RWS	A
HERBICIDES											
2,4,5-TP	87.0 U	U	ug/kg	87.0	40.2	SW846 8151A	9/30/15	RMP	10/2/15 05:05	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	58		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 05:05	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.33 U	U	mg/kg	0.33	0.12	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.6 U	U	mg/kg	2.6	0.50	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	23.5		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	76.5		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	8.9		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079024** Date Collected: 9/24/2015 16:46 Matrix: Solid
Sample ID: **1217-42** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.6		mg/kg	1.8	0.59	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Barium, Total	6.3		mg/kg	3.0	0.95	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Beryllium, Total	0.59 U	U	mg/kg	0.59	0.20	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Cadmium, Total	0.59 U	U	mg/kg	0.59	0.20	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Chromium, Total	8.9		mg/kg	1.2	0.39	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Copper, Total	10.0		mg/kg	3.0	0.95	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Lead, Total	13.3		mg/kg	1.2	0.39	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Manganese, Total	96.6		mg/kg	3.0	0.95	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Mercury, Total	0.050J	J	mg/kg	0.063	0.020	SW846 7471B	10/8/15	MNP	10/8/15 11:03	MNP	A1
Nickel, Total	5.5		mg/kg	3.0	0.95	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Selenium, Total	3.0 U	U	mg/kg	3.0	0.95	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Silver, Total	1.2 U	U	mg/kg	1.2	0.39	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2
Zinc, Total	40.2		mg/kg	3.0	0.95	SW846 6020A	10/7/15	TSS	10/8/15 07:17	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079025** Date Collected: 9/24/2015 16:52 Matrix: Other
Sample ID: **986-26** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:25	VAF	A

Vicki Forney
Mrs. Vicki A. Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079026** Date Collected: 9/24/2015 17:04 Matrix: Solid
Sample ID: **986-26** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	8.8J	J	ug/kg	13.0	6.0	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Benzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
2-Butanone	13.0 U	U	ug/kg	13.0	4.2	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.71	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.68	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.68	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,4-Dioxane	97.5 U	U	ug/kg	97.5	23.1	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.88	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Methylene Chloride	10.9	234	ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.78	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Toluene	2.6 U	U	ug/kg	2.6	0.87	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Total Xylenes	7.8 U	U	ug/kg	7.8	1.8	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.81	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.65	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	101		%	56 - 124	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
4-Bromofluorobenzene (S)	109		%	51 - 128	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Dibromofluoromethane (S)	106		%	62 - 123	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2
Toluene-d8 (S)	115		%	59 - 131	SW846 8260C	9/26/15	TMP	10/1/15 17:49	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079026** Date Collected: 9/24/2015 17:04 Matrix: Solid
Sample ID: **986-26** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	127 U	U	ug/kg	127	19.0	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Acenaphthylene	127 U	U	ug/kg	127	13.9	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Anthracene	127 U	U	ug/kg	127	12.7	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Benzo(a)anthracene	127 U	U	ug/kg	127	19.0	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Benzo(a)pyrene	34.5J	J	ug/kg	127	20.3	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Benzo(b)fluoranthene	49.1J	J	ug/kg	127	30.4	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Benzo(g,h,i)perylene	127 U	U	ug/kg	127	26.6	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Benzo(k)fluoranthene	127 U	U	ug/kg	127	24.1	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Chrysene	127 U	U	ug/kg	127	16.5	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
mp-Cresol	342 U	U	ug/kg	342	19.0	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
o-Cresol	342 U	U	ug/kg	342	27.9	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Dibenzo(a,h)anthracene	127 U	U	ug/kg	127	15.2	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Dibenzofuran	127 U	U	ug/kg	127	13.9	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Fluoranthene	52.0J	J	ug/kg	127	24.1	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Fluorene	127 U	U	ug/kg	127	25.3	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Hexachlorobenzene	127 U	U	ug/kg	127	24.1	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Indeno(1,2,3-cd)pyrene	127 U	U	ug/kg	127	22.8	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Naphthalene	127 U	U	ug/kg	127	30.4	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Pentachlorophenol	253 U	U	ug/kg	253	45.6	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Phenanthrene	127 U	U	ug/kg	127	17.7	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Phenol	342 U	U	ug/kg	342	19.0	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Pyrene	48.4J	J	ug/kg	127	22.8	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	78		%	37 - 123	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
2-Fluorobiphenyl (S)	71.9		%	45 - 105	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
2-Fluorophenol (S)	75.8		%	35 - 104	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Nitrobenzene-d5 (S)	80.1		%	41 - 110	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Phenol-d5 (S)	81.6		%	40 - 100	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A
Terphenyl-d14 (S)	80.6		%	38 - 113	SW846 8270D	9/30/15	BS	9/30/15 19:14	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.042 U	U	mg/kg	0.042	0.042	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Aroclor-1016	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Aroclor-1221	0.042 U	U	mg/kg	0.042	0.0038	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Aroclor-1232	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Aroclor-1242	0.042 U	U	mg/kg	0.042	0.011	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Aroclor-1248	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Aroclor-1254	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079026** Date Collected: 9/24/2015 17:04 Matrix: Solid
Sample ID: **986-26** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.042 U	U	mg/kg	0.042	0.0076	SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	108		%	46 - 120		SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
Tetrachloro-m-xylene (S)	88.4		%	52 - 115		SW846 8082A	9/30/15	KAC	9/30/15 16:11	EGO	A
PESTICIDES											
Aldrin	10.7 U	U	ug/kg	10.7	3.5	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
alpha-BHC	10.7 U	U	ug/kg	10.7	0.94	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
beta-BHC	10.7 U	U	ug/kg	10.7	1.1	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
delta-BHC	10.7 U	U	ug/kg	10.7	0.82	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
gamma-BHC	10.7 U	U	ug/kg	10.7	0.88	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
alpha-Chlordane	10.7 U	U	ug/kg	10.7	1.1	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
4,4'-DDD	20.8 U	U	ug/kg	20.8	1.7	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
4,4'-DDE	20.8 U	U	ug/kg	20.8	2.8	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
4,4'-DDT	20.8 U	U	ug/kg	20.8	2.4	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Dieldrin	20.8 U	U	ug/kg	20.8	2.4	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Endosulfan I	10.7 U	U	ug/kg	10.7	1.3	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Endosulfan II	20.8 U	U	ug/kg	20.8	4.3	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Endosulfan Sulfate	20.8 U	U	ug/kg	20.8	1.4	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Endrin	20.8 U	U	ug/kg	20.8	1.5	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Heptachlor	10.7 U	U	ug/kg	10.7	1.1	SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	84.1		%	30 - 135		SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
Tetrachloro-m-xylene (S)	120	1	%	30 - 111		SW846 8081B	9/30/15	KAC	10/1/15 23:47	RWS	A
HERBICIDES											
2,4,5-TP	85.2 U	U	ug/kg	85.2	39.4	SW846 8151A	9/30/15	RMP	10/2/15 05:42	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	59.5		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 05:42	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.32 U	U	mg/kg	0.32	0.11	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.6 U	U	mg/kg	2.6	0.50	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	22.1		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	77.9		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	12.7		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079026** Date Collected: 9/24/2015 17:04 Matrix: Solid
Sample ID: **986-26** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	4.0		mg/kg	1.3	0.42	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Barium, Total	11.3		mg/kg	2.1	0.68	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Beryllium, Total	0.23J	J	mg/kg	0.42	0.14	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Cadmium, Total	0.20J	J	mg/kg	0.42	0.14	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Chromium, Total	12.7		mg/kg	0.84	0.28	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Copper, Total	12.9		mg/kg	2.1	0.68	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Lead, Total	18.6		mg/kg	0.84	0.28	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Manganese, Total	164		mg/kg	2.1	0.68	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Mercury, Total	0.054J	J	mg/kg	0.062	0.020	SW846 7471B	10/8/15	MNP	10/8/15 11:04	MNP	A1
Nickel, Total	7.5		mg/kg	2.1	0.68	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Selenium, Total	0.84J	J	mg/kg	2.1	0.68	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Silver, Total	0.84 U	U	mg/kg	0.84	0.28	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2
Zinc, Total	52.9		mg/kg	2.1	0.68	SW846 6020A	10/7/15	TSS	10/8/15 07:21	ZMC	A2

Vicki Forney
Mrs. Vicki A. Forney
Project Coordinator

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079027** Date Collected: 9/24/2015 17:10 Matrix: Other
Sample ID: **1129-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared By	Analyzed	By	*Cntr*
SUBCONTRACTED ANALYSIS										
Subcontracted Analysis	Reported directly from Kelso					Subcontract		10/26/15 08:26	VAF	A

Vicki Forney
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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079028** Date Collected: 9/24/2015 17:24 Matrix: Solid
Sample ID: **1129-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
VOLATILE ORGANICS											
Acetone	13.2 U	U	ug/kg	13.2	6.1	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Benzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
2-Butanone	13.2 U	U	ug/kg	13.2	4.2	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
n-Butylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
tert-Butylbenzene	2.6 U	U	ug/kg	2.6	0.73	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
sec-Butylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Carbon Tetrachloride	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Chlorobenzene	2.6 U	U	ug/kg	2.6	0.67	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Chloroform	2.6 U	U	ug/kg	2.6	0.70	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,2-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,3-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,4-Dichlorobenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,1-Dichloroethane	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,2-Dichloroethane	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,1-Dichloroethene	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
cis-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
trans-1,2-Dichloroethene	2.6 U	U	ug/kg	2.6	0.69	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,4-Dioxane	99.1 U	U	ug/kg	99.1	23.5	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Ethylbenzene	2.6 U	U	ug/kg	2.6	0.90	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Methyl t-Butyl Ether	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Methylene Chloride	12.4	123	ug/kg	2.6	1.0	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
n-Propylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Tetrachloroethene	2.6 U	U	ug/kg	2.6	0.79	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Toluene	2.6 U	U	ug/kg	2.6	0.89	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Total Xylenes	7.9 U	U	ug/kg	7.9	1.8	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,1,1-Trichloroethane	2.6 U	U	ug/kg	2.6	0.82	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Trichloroethene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,2,4-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
1,3,5-Trimethylbenzene	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Vinyl Chloride	2.6 U	U	ug/kg	2.6	0.66	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
1,2-Dichloroethane-d4 (S)	107		%	56 - 124	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
4-Bromofluorobenzene (S)	108		%	51 - 128	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Dibromofluoromethane (S)	108		%	62 - 123	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2
Toluene-d8 (S)	109		%	59 - 131	SW846 8260C	9/26/15	TMP	10/1/15 18:12	TMP	A2

SEMIVOLATILES

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079028** Date Collected: 9/24/2015 17:24 Matrix: Solid
Sample ID: **1129-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Acenaphthene	123 U	U	ug/kg	123	18.4	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Acenaphthylene	123 U	U	ug/kg	123	13.5	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Anthracene	123 U	U	ug/kg	123	12.3	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Benzo(a)anthracene	123 U	U	ug/kg	123	18.4	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Benzo(a)pyrene	123 U	U	ug/kg	123	19.6	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Benzo(b)fluoranthene	42.1J	J	ug/kg	123	29.4	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Benzo(g,h,i)perylene	123 U	U	ug/kg	123	25.7	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Benzo(k)fluoranthene	123 U	U	ug/kg	123	23.3	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Chrysene	123 U	U	ug/kg	123	15.9	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
mp-Cresol	331 U	U	ug/kg	331	18.4	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
o-Cresol	331 U	U	ug/kg	331	27.0	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Dibenzo(a,h)anthracene	123 U	U	ug/kg	123	14.7	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Dibenzofuran	123 U	U	ug/kg	123	13.5	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Fluoranthene	46.7J	J	ug/kg	123	23.3	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Fluorene	123 U	U	ug/kg	123	24.5	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Hexachlorobenzene	123 U	U	ug/kg	123	23.3	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Indeno(1,2,3-cd)pyrene	123 U	U	ug/kg	123	22.1	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Naphthalene	123 U	U	ug/kg	123	29.4	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Pentachlorophenol	245 U	U	ug/kg	245	44.1	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Phenanthrene	123 U	U	ug/kg	123	17.2	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Phenol	331 U	U	ug/kg	331	18.4	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Pyrene	123 U	U	ug/kg	123	22.1	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A

Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*	*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4,6-Tribromophenol (S)	81.9		%	37 - 123	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
2-Fluorobiphenyl (S)	83.6		%	45 - 105	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
2-Fluorophenol (S)	79.3		%	35 - 104	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Nitrobenzene-d5 (S)	86.5		%	41 - 110	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Phenol-d5 (S)	84.1		%	40 - 100	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A
Terphenyl-d14 (S)	85.4		%	38 - 113	SW846 8270D	9/30/15	BS	9/30/15 19:39	CGS	A

PCBs											
Total Polychlorinated Biphenyl	0.041 U	U	mg/kg	0.041	0.041	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Aroclor-1016	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Aroclor-1221	0.041 U	U	mg/kg	0.041	0.0037	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Aroclor-1232	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Aroclor-1242	0.041 U	U	mg/kg	0.041	0.011	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Aroclor-1248	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Aroclor-1254	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079028** Date Collected: 9/24/2015 17:24 Matrix: Solid
Sample ID: **1129-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	Cntr
Aroclor-1260	0.041 U	U	mg/kg	0.041	0.0074	SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	67.3		%	46 - 120		SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
Tetrachloro-m-xylene (S)	73		%	52 - 115		SW846 8082A	9/30/15	KAC	9/30/15 16:33	EGO	A
PESTICIDES											
Aldrin	10.6 U	U	ug/kg	10.6	3.4	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
alpha-BHC	10.6 U	U	ug/kg	10.6	0.93	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
beta-BHC	10.6 U	U	ug/kg	10.6	1.1	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
delta-BHC	10.6 U	U	ug/kg	10.6	0.81	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
gamma-BHC	10.6 U	U	ug/kg	10.6	0.87	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
alpha-Chlordane	10.6 U	U	ug/kg	10.6	1.1	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
4,4'-DDD	20.5 U	U	ug/kg	20.5	1.7	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
4,4'-DDE	20.5 U	U	ug/kg	20.5	2.8	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
4,4'-DDT	20.5 U	U	ug/kg	20.5	2.4	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Dieldrin	20.5 U	U	ug/kg	20.5	2.4	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Endosulfan I	10.6 U	U	ug/kg	10.6	1.3	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Endosulfan II	20.5 U	U	ug/kg	20.5	4.3	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Endosulfan Sulfate	20.5 U	U	ug/kg	20.5	1.4	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Endrin	20.5 U	U	ug/kg	20.5	1.5	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Heptachlor	10.6 U	U	ug/kg	10.6	1.1	SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
Decachlorobiphenyls (S)	57.3		%	30 - 135		SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
Tetrachloro-m-xylene (S)	50.4		%	30 - 111		SW846 8081B	9/30/15	KAC	10/2/15 00:03	RWS	A
HERBICIDES											
2,4,5-TP	85.9 U	U	ug/kg	85.9	39.7	SW846 8151A	9/30/15	RMP	10/2/15 06:19	KJH	A
Surrogate Recoveries	*Results*	*Flag*	*Units*	*Limits*		*Method*	*Prepared*	*By*	*Analyzed*	*By*	*Cntr*
2,4-Dichlorophenylacetic acid (S)	57.9		%	30 - 153		SW846 8151A	9/30/15	RMP	10/2/15 06:19	KJH	A
WET CHEMISTRY											
Cyanide, Total	0.34 U	U	mg/kg	0.34	0.12	SW846 9012B	10/1/15	SYB	10/3/15 10:44	LJF	A
Hexavalent Chromium	2.5 U	U	mg/kg	2.5	0.49	SW846 7196A	10/9/15	NJA	10/9/15 20:00	NJA	A
Moisture	23.5		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
Total Solids	76.5		%	0.1	0.01	S2540G-11			9/28/15 07:00	EMW	A
METALS											
Trivalent Chromium	6.3		mg/kg	2.6	2.6	Calculation			10/9/15 21:14	NJA	A

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ANALYTICAL RESULTS

Workorder: 2098079 23674.000

Lab ID: **2098079028** Date Collected: 9/24/2015 17:24 Matrix: Solid
Sample ID: **1129-20** Date Received: 9/25/2015 20:00

Parameters	Results	Flag	Units	RDL	MDL	Method	Prepared	By	Analyzed	By	*Cntr*
Arsenic, Total	2.3		mg/kg	1.4	0.47	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Barium, Total	2.6		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Beryllium, Total	0.47 U	U	mg/kg	0.47	0.16	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Cadmium, Total	0.47 U	U	mg/kg	0.47	0.16	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Chromium, Total	6.3		mg/kg	0.95	0.31	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Copper, Total	8.5		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Lead, Total	11.4		mg/kg	0.95	0.31	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Manganese, Total	43.1		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Mercury, Total	0.064		mg/kg	0.062	0.020	SW846 7471B	10/8/15	MNP	10/8/15 11:06	MNP	A1
Nickel, Total	3.4		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Selenium, Total	2.4 U	U	mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Silver, Total	0.95 U	U	mg/kg	0.95	0.31	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2
Zinc, Total	30.2		mg/kg	2.4	0.76	SW846 6020A	10/7/15	TSS	10/8/15 07:25	ZMC	A2

Vicki Forney
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Project Coordinator

PARAMETER QUALIFIERS

Lab ID	#	Sample ID	Analytical Method	Analyte
2098079006	1	1439-20	SW846 8082A	Tetrachloro-m-xylene
The surrogate Tetrachloro-m-xylene for method SW846 8082A was outside of control limits. The % Recovery was reported as 51.7 and the control limits were 52 to 115. This result was reported at a dilution of 1.				
2098079010	1	714-40	SW846 8260C	Methylene Chloride
The QC sample type MS for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 66.3 and the control limits were 68 to 133.				
2098079010	2	714-40	SW846 8260C	1,2-Dichlorobenzene
The QC sample type MS for method SW846 8260C was outside the control limits for the analyte 1,2-Dichlorobenzene. The % Recovery was reported as 63.4 and the control limits were 75 to 126.				
2098079012	1	2146-25	SW846 7196A	Hexavalent Chromium
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2098079014	2	1787-44	SW846 8260C	Methylene Chloride
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Methylene Chloride.				
2098079014	3	1787-44	SW846 8260C	Methylene Chloride
The QC sample type LCS for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 138 and the control limits were 68 to 133.				
2098079014	4	1787-44	SW846 8260C	Methylene Chloride
The QC sample type LCSD for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 146 and the control limits were 68 to 133.				
2098079016	1	659-7	SW846 9012B	Cyanide, Total
The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits.				
2098079018	3	654-9	SW846 8260C	Methylene Chloride
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Methylene Chloride.				
2098079018	4	654-9	SW846 8260C	Methylene Chloride
The QC sample type LCS for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 138 and the control limits were 68 to 133.				
2098079018	5	654-9	SW846 8260C	Methylene Chloride
The QC sample type LCSD for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 146 and the control limits were 68 to 133.				
2098079024	1	1217-42	SW846 8260C	Methylene Chloride
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Methylene Chloride.				
2098079024	2	1217-42	SW846 8260C	Methylene Chloride
The QC sample type LCS for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 138 and the control limits were 68 to 133.				
2098079024	3	1217-42	SW846 8260C	Methylene Chloride
The QC sample type LCSD for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 146 and the control limits were 68 to 133.				
2098079026	1	986-26	SW846 8081B	Tetrachloro-m-xylene
The surrogate Tetrachloro-m-xylene for method SW846 8081B was outside of control limits. The % Recovery was reported as 120 and the control limits were 30 to 111. This result was reported at a dilution of 5.				
2098079026	2	986-26	SW846 8260C	Methylene Chloride
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Methylene Chloride.				
2098079026	3	986-26	SW846 8260C	Methylene Chloride
The QC sample type LCS for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 138 and the control limits were 68 to 133.				
2098079026	4	986-26	SW846 8260C	Methylene Chloride
The QC sample type LCSD for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 146 and the control limits were 68 to 133.				

ANALYTICAL RESULTS

Workorder: 2098079 23674.000

2098079028	1	1129-20	SW846 8260C	Methylene Chloride

The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Methylene Chloride.

2098079028	2	1129-20	SW846 8260C	Methylene Chloride

The QC sample type LCS for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 138 and the control limits were 68 to 133.

2098079028	3	1129-20	SW846 8260C	Methylene Chloride

The QC sample type LCSD for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 146 and the control limits were 68 to 133.

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: EXTR/40874 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014, 2098079016

METHOD BLANK: 2238602

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	0.033 U	mg/kg	0.033
Aroclor-1221	0.033 U	mg/kg	0.033
Aroclor-1232	0.033 U	mg/kg	0.033
Aroclor-1242	0.033 U	mg/kg	0.033
Aroclor-1248	0.033 U	mg/kg	0.033
Aroclor-1254	0.033 U	mg/kg	0.033
Aroclor-1260	0.033 U	mg/kg	0.033
Decachlorobiphenyls (S)	106	%	46 - 120
Tetrachloro-m-xylene (S)	92.3	%	52 - 115

LABORATORY CONTROL SAMPLE: 2238603

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	76.6	mg/kg	.33	0.26	43 - 132
Aroclor-1221		mg/kg		0.033 U	
Aroclor-1232		mg/kg		0.033 U	
Aroclor-1242		mg/kg		0.033 U	
Aroclor-1248		mg/kg		0.033 U	
Aroclor-1254		mg/kg		0.033 U	
Aroclor-1260	87.1	mg/kg	.33	0.29	53 - 134
Decachlorobiphenyls (S)	101	%			46 - 120
Tetrachloro-m-xylene (S)	89.4	%			52 - 115

MATRIX SPIKE SAMPLE: 2238604 ORIGINAL: 2098066001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aroclor-1016	0	mg/kg	.32	.22466	71	43 - 132
Aroclor-1260	.02634	mg/kg	.32	.24382	68.7	53 - 134
Decachlorobiphenyls (S)	93.1	%				46 - 120
Tetrachloro-m-xylene (S)	70.8	%				52 - 115

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

SAMPLE DUPLICATE: 2238605 ORIGINAL: 2098079008

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aroclor-1016	0	mg/kg	0	NC	40
Aroclor-1221	0	mg/kg	0	NC	40
Aroclor-1232	0	mg/kg	0	NC	40
Aroclor-1242	0	mg/kg	0	NC	40
Aroclor-1248	0	mg/kg	0	NC	40
Aroclor-1254	0	mg/kg	0	NC	40
Aroclor-1260	0	mg/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: EXTR/40875 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3546

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014, 2098079016

METHOD BLANK: 2238606

Parameter	Blank Result	Units	Reporting Limit
Aldrin	1.7 U	ug/kg	1.7
alpha-BHC	1.7 U	ug/kg	1.7
beta-BHC	1.7 U	ug/kg	1.7
delta-BHC	1.7 U	ug/kg	1.7
gamma-BHC	1.7 U	ug/kg	1.7
alpha-Chlordane	1.7 U	ug/kg	1.7
4,4'-DDD	3.3 U	ug/kg	3.3
4,4'-DDE	3.3 U	ug/kg	3.3
4,4'-DDT	3.3 U	ug/kg	3.3
Dieldrin	3.3 U	ug/kg	3.3
Endosulfan I	1.7 U	ug/kg	1.7
Endosulfan II	3.3 U	ug/kg	3.3
Endosulfan Sulfate	3.3 U	ug/kg	3.3
Endrin	3.3 U	ug/kg	3.3
Heptachlor	1.7 U	ug/kg	1.7
Decachlorobiphenyls (S)	91.2	%	30 - 135
Tetrachloro-m-xylene (S)	72.4	%	30 - 111

LABORATORY CONTROL SAMPLE: 2238607

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	89.5	ug/kg	33.3	29.8	58 - 103
alpha-BHC	92	ug/kg	33.3	30.7	57 - 105
beta-BHC	84.2	ug/kg	33.3	28.1	53 - 106
delta-BHC	93.7	ug/kg	33.3	31.2	60 - 103
gamma-BHC	91.2	ug/kg	33.3	30.4	59 - 102
alpha-Chlordane	89.8	ug/kg	33.3	29.9	62 - 98
4,4'-DDD	91.7	ug/kg	33.3	30.6	57 - 111
4,4'-DDE	95.1	ug/kg	33.3	31.7	63 - 112
4,4'-DDT	107	ug/kg	33.3	35.7	60 - 122
Dieldrin	92.2	ug/kg	33.3	30.7	62 - 109
Endosulfan I	85.5	ug/kg	33.3	28.5	57 - 98
Endosulfan II	93.2	ug/kg	33.3	31.1	59 - 112
Endosulfan Sulfate	17.4*	ug/kg	33.3	5.8	27 - 96
Endrin	99.9	ug/kg	33.3	33.3	63 - 108

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Heptachlor	87.2	ug/kg	33.3	29.1	51 - 105
Decachlorobiphenyls (S)	83.4	%			30 - 135
Tetrachloro-m-xylene (S)	63.2	%			30 - 111

MATRIX SPIKE SAMPLE: 2238610 ORIGINAL: 2098060001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aldrin	0	ug/kg	32.9	30.7952	93.6	58 - 103
alpha-BHC	0	ug/kg	32.9	22.5813	68.6	57 - 105
beta-BHC	0	ug/kg	32.9	20.0654	61	53 - 106
delta-BHC	0	ug/kg	32.9	22.1671	67.4	60 - 103
gamma-BHC	0	ug/kg	32.9	22.5059	68.4	59 - 102
4,4'-DDD	0	ug/kg	32.9	24.2106	73.6	57 - 111
4,4'-DDE	0	ug/kg	32.9	23.1262	70.3	63 - 112
4,4'-DDT	10.6916	ug/kg	32.9	35.0165	73.9	60 - 122
Dieldrin	0	ug/kg	32.9	23.7551	72.2	62 - 109
Endosulfan I	0	ug/kg	32.9	23.5255	71.5	57 - 98
Endosulfan II	0	ug/kg	32.9	25.7908	78.4	59 - 112
Endosulfan Sulfate	0	ug/kg	32.9	9.0607	27.5	27 - 96
Endrin	0	ug/kg	32.9	30.4624	92.6	63 - 108
Heptachlor	0	ug/kg	32.9	22.4824	68.3	51 - 105
Decachlorobiphenyls (S)	71.4	%				30 - 135
Tetrachloro-m-xylene (S)	49.7	%				30 - 111

SAMPLE DUPLICATE: 2238611 ORIGINAL: 2098079008

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aldrin	0	ug/kg	0	NC	40
alpha-BHC	0	ug/kg	0	NC	40
beta-BHC	0	ug/kg	0	NC	40
delta-BHC	0	ug/kg	0	NC	40
gamma-BHC	0	ug/kg	0	NC	40
alpha-Chlordane	0	ug/kg	0	NC	40
4,4'-DDD	0	ug/kg	0	NC	40
4,4'-DDE	0	ug/kg	0	NC	40
4,4'-DDT	0	ug/kg	0	NC	40
Dieldrin	0	ug/kg	0	NC	40
Endosulfan I	0	ug/kg	0	NC	40
Endosulfan II	0	ug/kg	0	NC	40
Endosulfan Sulfate	0	ug/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Endrin	0	ug/kg	0	NC	40
Heptachlor	0	ug/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: EXTR/40886 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014

METHOD BLANK: 2239149

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	100 U	ug/kg	100
Acenaphthylene	100 U	ug/kg	100
Anthracene	100 U	ug/kg	100
Benzo(a)anthracene	100 U	ug/kg	100
Benzo(a)pyrene	100 U	ug/kg	100
Benzo(b)fluoranthene	100 U	ug/kg	100
Benzo(g,h,i)perylene	100 U	ug/kg	100
Benzo(k)fluoranthene	100 U	ug/kg	100
Chrysene	100 U	ug/kg	100
mp-Cresol	270 U	ug/kg	270
o-Cresol	270 U	ug/kg	270
Dibenzo(a,h)anthracene	100 U	ug/kg	100
Dibenzofuran	100 U	ug/kg	100
Fluoranthene	100 U	ug/kg	100
Fluorene	100 U	ug/kg	100
Hexachlorobenzene	100 U	ug/kg	100
Indeno(1,2,3-cd)pyrene	100 U	ug/kg	100
Naphthalene	100 U	ug/kg	100
Pentachlorophenol	200 U	ug/kg	200
Phenanthrene	100 U	ug/kg	100
Phenol	270 U	ug/kg	270
Pyrene	100 U	ug/kg	100
2,4,6-Tribromophenol (S)	90.1	%	37 - 123
2-Fluorobiphenyl (S)	90.5	%	45 - 105
2-Fluorophenol (S)	86.4	%	35 - 104
Nitrobenzene-d5 (S)	92.2	%	41 - 110
Phenol-d5 (S)	93.4	%	40 - 100
Terphenyl-d14 (S)	100	%	38 - 113

LABORATORY CONTROL SAMPLE: 2239150

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	90.9	ug/kg	3330	3030	63 - 113
Acenaphthylene	91.4	ug/kg	3330	3050	66 - 114
Anthracene	94.4	ug/kg	3330	3150	67 - 114

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Benzo(a)anthracene	95.6	ug/kg	3330	3190	66 - 117
Benzo(a)pyrene	98	ug/kg	3330	3270	64 - 118
Benzo(b)fluoranthene	99.2	ug/kg	3330	3310	64 - 120
Benzo(g,h,i)perylene	94.9	ug/kg	3330	3160	65 - 119
Benzo(k)fluoranthene	101	ug/kg	3330	3360	65 - 119
Chrysene	94.2	ug/kg	3330	3140	67 - 120
mp-Cresol	83.8	ug/kg	6670	5580	50 - 111
o-Cresol	84.4	ug/kg	6670	5630	56 - 109
Dibenzo(a,h)anthracene	95.2	ug/kg	3330	3170	60 - 124
Dibenzofuran	86.8	ug/kg	3330	2890	65 - 113
Fluoranthene	92.6	ug/kg	3330	3090	67 - 116
Fluorene	89.8	ug/kg	3330	2990	64 - 117
Hexachlorobenzene	95.3	ug/kg	3330	3180	59 - 123
Indeno(1,2,3-cd)pyrene	92.3	ug/kg	3330	3080	66 - 120
Naphthalene	86	ug/kg	3330	2870	68 - 117
Pentachlorophenol	103	ug/kg	6670	6880	61 - 136
Phenanthrene	89.7	ug/kg	3330	2990	68 - 117
Phenol	87.3	ug/kg	6670	5820	36 - 119
Pyrene	101	ug/kg	3330	3360	60 - 121
2,4,6-Tribromophenol (S)	87.8	%			37 - 123
2-Fluorobiphenyl (S)	82.7	%			45 - 105
2-Fluorophenol (S)	77.6	%			35 - 104
Nitrobenzene-d5 (S)	83	%			41 - 110
Phenol-d5 (S)	83.9	%			40 - 100
Terphenyl-d14 (S)	92.5	%			38 - 113

MATRIX SPIKE SAMPLE: 2239151 ORIGINAL: 2098060001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	205.16	ug/kg	3210	3231.36	94.4	63 - 113
Acenaphthylene	208.454	ug/kg	3210	3306.6	96.7	66 - 114
Anthracene	847.254	ug/kg	3210	3643.01	87.2	67 - 114
Benzo(a)anthracene	2238.99	ug/kg	3210	4845.53	81.3	66 - 117
Benzo(a)pyrene	2272.59	ug/kg	3210	4893.76	81.8	64 - 118
Benzo(b)fluoranthene	2789.8	ug/kg	3210	5218.93	75.8	64 - 120
Benzo(g,h,i)perylene	1250.79	ug/kg	3210	4031.52	86.8	65 - 119
Benzo(k)fluoranthene	1136.28	ug/kg	3210	3995.72	89.2	65 - 119
Chrysene	2124.28	ug/kg	3210	4769.35	82.5	67 - 120
mp-Cresol	0	ug/kg	6410	5758.02	89.8	50 - 111
o-Cresol	0	ug/kg	6410	5859.82	91.4	56 - 109
Dibenzo(a,h)anthracene	336.558	ug/kg	3210	3359.27	94.3	60 - 124
Dibenzofuran	105.56	ug/kg	3210	3017.88	90.9	65 - 113
Fluoranthene	5017.18	ug/kg	3210	6304.84	40.2*	67 - 116

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Fluorene	277.973	ug/kg	3210	3142.67	89.4	64 - 117
Hexachlorobenzene	0	ug/kg	3210	3152.43	98.4	59 - 123
Indeno(1,2,3-cd)pyrene	1453.66	ug/kg	3210	4126.35	83.4	66 - 120
Naphthalene	51.736	ug/kg	3210	2965.22	90.9	68 - 117
Pentachlorophenol	0	ug/kg	6410	5312.57	82.9	61 - 136
Phenanthrene	2956.12	ug/kg	3210	4676.41	53.7*	68 - 117
Phenol	0	ug/kg	6410	5927.86	92.5	36 - 119
Pyrene	4408.11	ug/kg	3210	6396.83	62	60 - 121
2,4,6-Tribromophenol (S)	90.4	%				37 - 123
2-Fluorobiphenyl (S)	89.2	%				45 - 105
2-Fluorophenol (S)	81.8	%				35 - 104
Nitrobenzene-d5 (S)	88.7	%				41 - 110
Phenol-d5 (S)	89.3	%				40 - 100
Terphenyl-d14 (S)	92.9	%				38 - 113

SAMPLE DUPLICATE: 2239152 ORIGINAL: 2097782001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Acenaphthene	0	ug/kg	0	NC	17
Acenaphthylene	0	ug/kg	0	NC	17
Anthracene	72.8089	ug/kg	94.2299	25.6*	20
Benzo(a)anthracene	54.5601	ug/kg	179.191	107*	22
Benzo(a)pyrene	0	ug/kg	176.087	NC	24
Benzo(b)fluoranthene	74.383	ug/kg	213.937	96.8*	28
Benzo(g,h,i)perylene	0	ug/kg	87.5248	NC	30
Benzo(k)fluoranthene	25.4408	ug/kg	80.9547	104*	22
Chrysene	40.2133	ug/kg	153.122	117*	20
Dibenzo(a,h)anthracene	0	ug/kg	0	NC	28
Fluoranthene	0	ug/kg	323.799	NC	21
Fluorene	0	ug/kg	0	NC	16
Hexachlorobenzene	0	ug/kg	0	NC	21
Indeno(1,2,3-cd)pyrene	0	ug/kg	93.8086	NC	30
Naphthalene	0	ug/kg	0	NC	21
Pentachlorophenol	0	ug/kg	0	NC	25
Phenanthrene	109.694	ug/kg	165.05	40.3*	20
Phenol	640.254	ug/kg	544.864	16.1	23
Pyrene	0	ug/kg	325.931	NC	20

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: EXTR/40902 **Analysis Method:** SW846 8082A

QC Batch Method: SW846 3546

Associated Lab Samples: 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2239730

Parameter	Blank Result	Units	Reporting Limit
Aroclor-1016	0.033 U	mg/kg	0.033
Aroclor-1221	0.033 U	mg/kg	0.033
Aroclor-1232	0.033 U	mg/kg	0.033
Aroclor-1242	0.033 U	mg/kg	0.033
Aroclor-1248	0.033 U	mg/kg	0.033
Aroclor-1254	0.033 U	mg/kg	0.033
Aroclor-1260	0.033 U	mg/kg	0.033
Decachlorobiphenyls (S)	106	%	46 - 120
Tetrachloro-m-xylene (S)	89.4	%	52 - 115

LABORATORY CONTROL SAMPLE: 2239731

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aroclor-1016	92.2	mg/kg	.33	0.31	43 - 132
Aroclor-1221		mg/kg		0.033 U	
Aroclor-1232		mg/kg		0.033 U	
Aroclor-1242		mg/kg		0.033 U	
Aroclor-1248		mg/kg		0.033 U	
Aroclor-1254		mg/kg		0.033 U	
Aroclor-1260	100	mg/kg	.33	0.33	53 - 134
Decachlorobiphenyls (S)	120	%			46 - 120
Tetrachloro-m-xylene (S)	98.2	%			52 - 115

MATRIX SPIKE SAMPLE: 2239732 ORIGINAL: 2098536001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Aroclor-1016	0	mg/kg	.33	.24875	75.6	43 - 132
Aroclor-1260	.09337	mg/kg	.33	.31255	66.6	53 - 134
Decachlorobiphenyls (S)	91.5	%				46 - 120
Tetrachloro-m-xylene (S)	74.6	%				52 - 115

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

SAMPLE DUPLICATE: 2239733 ORIGINAL: 2098558001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aroclor-1016	0	mg/kg	0	NC	40
Aroclor-1221	0	mg/kg	0	NC	40
Aroclor-1232	0	mg/kg	0	NC	40
Aroclor-1242	0	mg/kg	0	NC	40
Aroclor-1248	0	mg/kg	0	NC	40
Aroclor-1254	.01471	mg/kg	0	NC	40
Aroclor-1260	0	mg/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: EXTR/40903 **Analysis Method:** SW846 8081B

QC Batch Method: SW846 3546

Associated Lab Samples: 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2239734

Parameter	Blank Result	Units	Reporting Limit
Aldrin	1.7 U	ug/kg	1.7
alpha-BHC	1.7 U	ug/kg	1.7
beta-BHC	1.7 U	ug/kg	1.7
delta-BHC	1.7 U	ug/kg	1.7
gamma-BHC	1.7 U	ug/kg	1.7
alpha-Chlordane	1.7 U	ug/kg	1.7
4,4'-DDD	3.3 U	ug/kg	3.3
4,4'-DDE	3.3 U	ug/kg	3.3
4,4'-DDT	3.3 U	ug/kg	3.3
Dieldrin	3.3 U	ug/kg	3.3
Endosulfan I	1.7 U	ug/kg	1.7
Endosulfan II	3.3 U	ug/kg	3.3
Endosulfan Sulfate	3.3 U	ug/kg	3.3
Endrin	3.3 U	ug/kg	3.3
Heptachlor	1.7 U	ug/kg	1.7
Decachlorobiphenyls (S)	87.3	%	30 - 135
Tetrachloro-m-xylene (S)	62.4	%	30 - 111

LABORATORY CONTROL SAMPLE: 2239735

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Aldrin	97.6	ug/kg	33.3	32.5	58 - 103
alpha-BHC	96.9	ug/kg	33.3	32.3	57 - 105
beta-BHC	81.7	ug/kg	33.3	27.2	53 - 106
delta-BHC	96.5	ug/kg	33.3	32.2	60 - 103
gamma-BHC	97.2	ug/kg	33.3	32.4	59 - 102
alpha-Chlordane	95.7	ug/kg	33.3	31.9	62 - 98
4,4'-DDD	92.4	ug/kg	33.3	30.8	57 - 111
4,4'-DDE	97.3	ug/kg	33.3	32.4	63 - 112
4,4'-DDT	108	ug/kg	33.3	36.1	60 - 122
Dieldrin	100	ug/kg	33.3	33.3	62 - 109
Endosulfan I	88.8	ug/kg	33.3	29.6	57 - 98
Endosulfan II	94.5	ug/kg	33.3	31.5	59 - 112
Endosulfan Sulfate	85.5	ug/kg	33.3	28.5	27 - 96
Endrin	88.6	ug/kg	33.3	29.5	63 - 108

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Heptachlor	93.9	ug/kg	33.3	31.3	51 - 105
Decachlorobiphenyls (S)	91	%			30 - 135
Tetrachloro-m-xylene (S)	63.2	%			30 - 111

SAMPLE DUPLICATE: 2239736 ORIGINAL: 2098558001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Aldrin	0	ug/kg	0	NC	40
alpha-BHC	0	ug/kg	0	NC	40
beta-BHC	0	ug/kg	0	NC	40
delta-BHC	0	ug/kg	0	NC	40
gamma-BHC	0	ug/kg	0	NC	40
4,4'-DDD	0	ug/kg	0	NC	40
4,4'-DDE	0	ug/kg	0	NC	40
4,4'-DDT	0	ug/kg	0	NC	40
Dieldrin	0	ug/kg	0	NC	40
Endosulfan I	0	ug/kg	0	NC	40
Endosulfan II	0	ug/kg	0	NC	40
Endosulfan Sulfate	0	ug/kg	0	NC	40
Endrin	0	ug/kg	0	NC	40
Heptachlor	0	ug/kg	0	NC	40

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: EXTR/40904 **Analysis Method:** SW846 8270D

QC Batch Method: SW846 3546

Associated Lab Samples: 2098079016, 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2239826

Parameter	Blank Result	Units	Reporting Limit
Acenaphthene	100 U	ug/kg	100
Acenaphthylene	100 U	ug/kg	100
Anthracene	100 U	ug/kg	100
Benzo(a)anthracene	100 U	ug/kg	100
Benzo(a)pyrene	100 U	ug/kg	100
Benzo(b)fluoranthene	100 U	ug/kg	100
Benzo(g,h,i)perylene	100 U	ug/kg	100
Benzo(k)fluoranthene	100 U	ug/kg	100
Chrysene	100 U	ug/kg	100
mp-Cresol	270 U	ug/kg	270
o-Cresol	270 U	ug/kg	270
Dibenzo(a,h)anthracene	100 U	ug/kg	100
Dibenzofuran	100 U	ug/kg	100
Fluoranthene	100 U	ug/kg	100
Fluorene	100 U	ug/kg	100
Hexachlorobenzene	100 U	ug/kg	100
Indeno(1,2,3-cd)pyrene	100 U	ug/kg	100
Naphthalene	100 U	ug/kg	100
Pentachlorophenol	200 U	ug/kg	200
Phenanthrene	100 U	ug/kg	100
Phenol	270 U	ug/kg	270
Pyrene	100 U	ug/kg	100
2,4,6-Tribromophenol (S)	85.7	%	37 - 123
2-Fluorobiphenyl (S)	88.2	%	45 - 105
2-Fluorophenol (S)	82	%	35 - 104
Nitrobenzene-d5 (S)	87.6	%	41 - 110
Phenol-d5 (S)	88	%	40 - 100
Terphenyl-d14 (S)	93.7	%	38 - 113

LABORATORY CONTROL SAMPLE: 2239827

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Acenaphthene	100	ug/kg	3330	3340	63 - 113
Acenaphthylene	101	ug/kg	3330	3360	66 - 114
Anthracene	99.9	ug/kg	3330	3330	67 - 114

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Benzo(a)anthracene	102	ug/kg	3330	3410	66 - 117
Benzo(a)pyrene	104	ug/kg	3330	3450	64 - 118
Benzo(b)fluoranthene	103	ug/kg	3330	3430	64 - 120
Benzo(g,h,i)perylene	104	ug/kg	3330	3480	65 - 119
Benzo(k)fluoranthene	103	ug/kg	3330	3440	65 - 119
Chrysene	101	ug/kg	3330	3370	67 - 120
mp-Cresol	92.5	ug/kg	6670	6160	50 - 111
o-Cresol	93.1	ug/kg	6670	6210	56 - 109
Dibenzo(a,h)anthracene	104	ug/kg	3330	3470	60 - 124
Dibenzofuran	95.4	ug/kg	3330	3180	65 - 113
Fluoranthene	103	ug/kg	3330	3430	67 - 116
Fluorene	98.7	ug/kg	3330	3290	64 - 117
Hexachlorobenzene	98.6	ug/kg	3330	3290	59 - 123
Indeno(1,2,3-cd)pyrene	104	ug/kg	3330	3460	66 - 120
Naphthalene	94.3	ug/kg	3330	3140	68 - 117
Pentachlorophenol	107	ug/kg	6670	7110	61 - 136
Phenanthrene	96.5	ug/kg	3330	3220	68 - 117
Phenol	96.5	ug/kg	6670	6440	36 - 119
Pyrene	100	ug/kg	3330	3330	60 - 121
2,4,6-Tribromophenol (S)	89.4	%			37 - 123
2-Fluorobiphenyl (S)	87.4	%			45 - 105
2-Fluorophenol (S)	83.7	%			35 - 104
Nitrobenzene-d5 (S)	91	%			41 - 110
Phenol-d5 (S)	92.1	%			40 - 100
Terphenyl-d14 (S)	90.4	%			38 - 113

MATRIX SPIKE SAMPLE: 2239828 ORIGINAL: 2098520001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Acenaphthene	0	ug/kg	3270	2591.47	79.3	63 - 113
Acenaphthylene	0	ug/kg	3270	2581.38	79	66 - 114
Anthracene	0	ug/kg	3270	2553.75	78.1	67 - 114
Benzo(a)anthracene	76.299	ug/kg	3270	2630.3	78.2	66 - 117
Benzo(a)pyrene	0	ug/kg	3270	2647.18	81	64 - 118
Benzo(b)fluoranthene	0	ug/kg	3270	2687.99	82.3	64 - 120
Benzo(g,h,i)perylene	176.931	ug/kg	3270	2679.95	76.6	65 - 119
Benzo(k)fluoranthene	0	ug/kg	3270	2552.3	78.1	65 - 119
Chrysene	82.1155	ug/kg	3270	2582.04	76.5	67 - 120
mp-Cresol	0	ug/kg	6540	4316.5	66	50 - 111
o-Cresol	0	ug/kg	6540	4305.65	65.9	56 - 109
Dibenzo(a,h)anthracene	0	ug/kg	3270	2556.87	78.2	60 - 124
Dibenzofuran	191.333	ug/kg	3270	2462.02	69.5	65 - 113
Fluoranthene	141.285	ug/kg	3270	2654.2	76.9	67 - 116

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Fluorene	0	ug/kg	3270	2838.9	86.9	64 - 117
Hexachlorobenzene	0	ug/kg	3270	0	0*	59 - 123
Indeno(1,2,3-cd)pyrene	0	ug/kg	3270	2603.81	79.7	66 - 120
Naphthalene	94.187	ug/kg	3270	2456.79	72.3	68 - 117
Pentachlorophenol	0	ug/kg	6540	4765.49	72.9	61 - 136
Phenanthrene	0	ug/kg	3270	2713.1	83	68 - 117
Phenol	0	ug/kg	6540	4201.94	64.3	36 - 119
Pyrene	1322.98	ug/kg	3270	3864.09	77.8	60 - 121
2,4,6-Tribromophenol (S)	68.1	%				37 - 123
2-Fluorobiphenyl (S)	67.8	%				45 - 105
2-Fluorophenol (S)	49.9	%				35 - 104
Nitrobenzene-d5 (S)	64.7	%				41 - 110
Phenol-d5 (S)	60.9	%				40 - 100
Terphenyl-d14 (S)	74.5	%				38 - 113

SAMPLE DUPLICATE: 2239829 ORIGINAL: 2098558001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Acenaphthene	425.476	ug/kg	722.013	51.7*	17
Acenaphthylene	108.423	ug/kg	345.766	105*	17
Anthracene	972.398	ug/kg	1885.73	63.9*	20
Benzo(a)anthracene	1857.47	ug/kg	3316.7	56.4*	22
Benzo(a)pyrene	1839.32	ug/kg	3183.62	53.5*	24
Benzo(b)fluoranthene	0	ug/kg	3973.57	NC	28
Benzo(g,h,i)perylene	1116.03	ug/kg	1863.7	50.2*	30
Benzo(k)fluoranthene	0	ug/kg	1650.16	NC	22
Chrysene	1796.66	ug/kg	3263.32	58*	20
mp-Cresol	0	ug/kg	0	NC	20
o-Cresol	0	ug/kg	0	NC	21
Dibenzo(a,h)anthracene	0	ug/kg	500.283	NC	28
Dibenzofuran	321.608	ug/kg	483.874	40.3*	18
Fluoranthene	4554.89	ug/kg	8706.15	62.6*	21
Fluorene	547.017	ug/kg	991.504	57.8*	16
Hexachlorobenzene	0	ug/kg	0	NC	21
Indeno(1,2,3-cd)pyrene	1271.99	ug/kg	2174.99	52.4*	30
Naphthalene	108.899	ug/kg	139.182	24.4*	21
Pentachlorophenol	0	ug/kg	0	NC	25
Phenanthrene	3299.05	ug/kg	6145.33	60.3*	20
Phenol	0	ug/kg	0	NC	23
Pyrene	3688.48	ug/kg	6452.75	54.5*	20

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: EXTR/40907 **Analysis Method:** SW846 8151A

QC Batch Method: SW846 8151A

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014, 2098079016, 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2239863

Parameter	Blank Result	Units	Reporting Limit
2,4,5-TP	67.0 U	ug/kg	67.0
2,4-Dichlorophenylacetic acid (S)	57.5	%	30 - 153

LABORATORY CONTROL SAMPLE: 2239864

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
2,4,5-TP	67.5	ug/kg	333	225	30 - 150
2,4-Dichlorophenylacetic acid (S)	66.5	%			30 - 153

MATRIX SPIKE: 2239865 DUPLICATE: 2239866 ORIGINAL: 2098558001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
2,4,5-TP	0	ug/kg	330	205.307	186.147	62.2	57.1	30 - 150	9.79	20
2,4-Dichlorophenylacetic acid (S)	62	%				62	55.7	30 - 153		

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: MDIG/53171 **Analysis Method:** SW846 7471B

QC Batch Method: SW846 7471B

Associated Lab Samples: 2098079002

METHOD BLANK: 2242647

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.050 U	mg/kg	0.050

LABORATORY CONTROL SAMPLE: 2242648

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	105	mg/kg	.4	0.42	80 - 120

MATRIX SPIKE: 2242649 DUPLICATE: 2242650 ORIGINAL: 2098099001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	72.54902	mg/kg	1	21	27.4	NC	NC	80 - 120	26.4	20

MATRIX SPIKE: 2242651 DUPLICATE: 2242652 ORIGINAL: 2099264005

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.0222	mg/kg	.98	0	.97451	-2.26*	97.1	80 - 120	NC	20

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: MDIG/53172 **Analysis Method:** SW846 7471B

QC Batch Method: SW846 7471B

Associated Lab Samples: 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014, 2098079016, 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2242653

Parameter	Blank Result	Units	Reporting Limit
Mercury, Total	0.050 U	mg/kg	0.050

LABORATORY CONTROL SAMPLE: 2242654

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Mercury, Total	102	mg/kg	.4	0.41	80 - 120

MATRIX SPIKE: 2242655 DUPLICATE: 2242656 ORIGINAL: 2098079008

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.01172	mg/kg	.85	.83898	.79661	97.6	92.6	80 - 120	5.18	20

MATRIX SPIKE: 2242657 DUPLICATE: 2242658 ORIGINAL: 2099349002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Mercury, Total	.38814	mg/kg	.89	1.2875	1.08966	101	81.4	80 - 120	16.6	20

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: MDIG/53180 **Analysis Method:** SW846 6020A

QC Batch Method: SW846 3051

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014, 2098079016, 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2242952

Parameter	Blank Result	Units	Reporting Limit
Arsenic, Total	1.5 U	mg/kg	1.5
Barium, Total	2.5 U	mg/kg	2.5
Beryllium, Total	0.50 U	mg/kg	0.50
Cadmium, Total	0.50 U	mg/kg	0.50
Chromium, Total	1.0 U	mg/kg	1.0
Copper, Total	2.5 U	mg/kg	2.5
Lead, Total	1.0 U	mg/kg	1.0
Manganese, Total	2.5 U	mg/kg	2.5
Nickel, Total	2.5 U	mg/kg	2.5
Selenium, Total	2.5 U	mg/kg	2.5
Silver, Total	1.0 U	mg/kg	1.0
Zinc, Total	2.5 U	mg/kg	2.5

LABORATORY CONTROL SAMPLE: 2242953

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Arsenic, Total	96	mg/kg	20	19.2	80 - 120
Barium, Total	104	mg/kg	200	209	80 - 120
Beryllium, Total	90.8	mg/kg	20	18.2	80 - 120
Cadmium, Total	91.2	mg/kg	20	18.2	80 - 120
Chromium, Total	106	mg/kg	20	21.3	80 - 120
Copper, Total	98.7	mg/kg	20	19.7	80 - 120
Lead, Total	96.9	mg/kg	20	19.4	80 - 120
Manganese, Total	107	mg/kg	20	21.3	80 - 120
Nickel, Total	97.2	mg/kg	20	19.4	80 - 120
Selenium, Total	90.9	mg/kg	20	18.2	80 - 120
Silver, Total	96.8	mg/kg	10	9.7	80 - 120
Zinc, Total	101	mg/kg	200	202	80 - 120

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

MATRIX SPIKE: 2242954 DUPLICATE: 2242955 ORIGINAL: 2098865002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Lead, Total	29.30085	mg/kg	18.2	59.56227	52.82629	166*	136*	75 - 125	12	20

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: VOMS/37296 **Analysis Method:** SW846 8260C

QC Batch Method: SW846 5035

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014, 2098079016, 2098079018, 2098079020, 2098079022

METHOD BLANK: 2239295

Parameter	Blank Result	Units	Reporting Limit
Acetone	10.0 U	ug/kg	10.0
Benzene	2.0 U	ug/kg	2.0
2-Butanone	10.0 U	ug/kg	10.0
n-Butylbenzene	2.0 U	ug/kg	2.0
tert-Butylbenzene	2.0 U	ug/kg	2.0
sec-Butylbenzene	2.0 U	ug/kg	2.0
Carbon Tetrachloride	2.0 U	ug/kg	2.0
Chlorobenzene	2.0 U	ug/kg	2.0
Chloroform	2.0 U	ug/kg	2.0
1,2-Dichlorobenzene	2.0 U	ug/kg	2.0
1,3-Dichlorobenzene	2.0 U	ug/kg	2.0
1,4-Dichlorobenzene	2.0 U	ug/kg	2.0
1,1-Dichloroethane	2.0 U	ug/kg	2.0
1,2-Dichloroethane	2.0 U	ug/kg	2.0
1,1-Dichloroethene	2.0 U	ug/kg	2.0
cis-1,2-Dichloroethene	2.0 U	ug/kg	2.0
trans-1,2-Dichloroethene	2.0 U	ug/kg	2.0
1,4-Dioxane	75.0 U	ug/kg	75.0
Ethylbenzene	2.0 U	ug/kg	2.0
Methyl t-Butyl Ether	2.0 U	ug/kg	2.0
Methylene Chloride	1.0J	ug/kg	2.0
n-Propylbenzene	2.0 U	ug/kg	2.0
Tetrachloroethene	2.0 U	ug/kg	2.0
Toluene	2.0 U	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,1,1-Trichloroethane	2.0 U	ug/kg	2.0
Trichloroethene	2.0 U	ug/kg	2.0
1,2,4-Trimethylbenzene	2.0 U	ug/kg	2.0
1,3,5-Trimethylbenzene	2.0 U	ug/kg	2.0
Vinyl Chloride	2.0 U	ug/kg	2.0
1,2-Dichloroethane-d4 (S)	97.8	%	56 - 124
4-Bromofluorobenzene (S)	107	%	51 - 128
Dibromofluoromethane (S)	103	%	62 - 123
Toluene-d8 (S)	116	%	59 - 131

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

LABORATORY CONTROL SAMPLE: 2239296 DUPLICATE: 2239297

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Acetone	106	ug/kg	100	106	104	104	58 - 146	1.92	40
Benzene	99.7	ug/kg	20	19.9	20.5	102	75 - 132	2.77	40
2-Butanone	92.6	ug/kg	100	92.6	96.6	96.6	64 - 148	4.23	40
n-Butylbenzene	106	ug/kg	20	21.2	22.4	112	64 - 141	5.53	40
tert-Butylbenzene	111	ug/kg	20	22.2	22.9	115	71 - 133	3.26	40
sec-Butylbenzene	109	ug/kg	20	21.8	22.9	114	72 - 136	4.77	40
Carbon Tetrachloride	120	ug/kg	20	23.9	24.5	122	64 - 136	2.31	40
Chlorobenzene	101	ug/kg	20	20.2	20.2	101	76 - 125	.18	40
Chloroform	104	ug/kg	20	20.9	21.0	105	73 - 126	.41	40
1,2-Dichlorobenzene	100	ug/kg	20	20.0	21.3	106	75 - 126	6.18	40
1,3-Dichlorobenzene	102	ug/kg	20	20.5	21.6	108	72 - 127	5.38	40
1,4-Dichlorobenzene	99.2	ug/kg	20	19.8	21.1	105	72 - 126	6.1	40
1,1-Dichloroethane	98	ug/kg	20	19.6	20.3	101	74 - 131	3.41	40
1,2-Dichloroethane	101	ug/kg	20	20.2	20.8	104	69 - 132	2.97	40
1,1-Dichloroethene	91.3	ug/kg	20	18.3	18.1	90.3	59 - 139	1.07	40
cis-1,2-Dichloroethene	102	ug/kg	20	20.4	21.1	106	75 - 128	3.29	40
trans-1,2-Dichloroethene	93.7	ug/kg	20	18.7	19.3	96.4	66 - 133	2.9	40
1,4-Dioxane	114	ug/kg	500	570	579	116	9 - 267	1.66	40
Ethylbenzene	102	ug/kg	20	20.4	20.4	102	73 - 133	.17	40
Methyl t-Butyl Ether	95.4	ug/kg	20	19.1	19.1	95.3	70 - 118	.14	40
Methylene Chloride	128	ug/kg	20	25.6	23.3	117	68 - 133	9.17	40
n-Propylbenzene	105	ug/kg	20	21.0	22.3	112	68 - 134	6.08	40
Tetrachloroethene	107	ug/kg	20	21.3	21.6	108	58 - 137	1.33	40
Toluene	102	ug/kg	20	20.3	21.2	106	73 - 129	4.22	40
Total Xylenes	105	ug/kg	60	63.0	62.1	103	73 - 130	1.52	40
1,1,1-Trichloroethane	103	ug/kg	20	20.5	21.5	108	68 - 131	4.62	40
Trichloroethene	112	ug/kg	20	22.3	22.8	114	72 - 129	2.3	40
1,2,4-Trimethylbenzene	104	ug/kg	20	20.7	21.7	109	70 - 131	4.61	40
1,3,5-Trimethylbenzene	101	ug/kg	20	20.1	21.3	107	71 - 132	5.72	40
Vinyl Chloride	103	ug/kg	20	20.6	20.9	104	53 - 141	1.15	40
1,2-Dichloroethane-d4 (S)	105	%			105		56 - 124		
4-Bromofluorobenzene (S)	103	%			103		51 - 128		
Dibromofluoromethane (S)	106	%			106		62 - 123		
Toluene-d8 (S)	111	%			111		59 - 131		

MATRIX SPIKE SAMPLE: 2239653 ORIGINAL: 2098079010

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Acetone	4.96237	ug/kg	101	78.7609	73.2	58 - 146
Benzene	0	ug/kg	20.2	18.8531	93.5	75 - 132
2-Butanone	0	ug/kg	101	96.8272	96.1	64 - 148
n-Butylbenzene	0	ug/kg	20.2	14.1078	70	64 - 141
tert-Butylbenzene	0	ug/kg	20.2	16.3685	81.2	71 - 133
sec-Butylbenzene	0	ug/kg	20.2	15.5025	76.9	72 - 136
Carbon Tetrachloride	0	ug/kg	20.2	21.1877	105	64 - 136
Chlorobenzene	0	ug/kg	20.2	17.2178	85.4	76 - 125
Chloroform	0	ug/kg	20.2	18.0105	89.3	73 - 126
1,2-Dichlorobenzene	0	ug/kg	20.2	12.7853	63.4*	75 - 126
1,3-Dichlorobenzene	0	ug/kg	20.2	15.2298	75.5	72 - 127
1,4-Dichlorobenzene	0	ug/kg	20.2	14.6993	72.9	72 - 126
1,1-Dichloroethane	0	ug/kg	20.2	18.8931	93.7	74 - 131
1,2-Dichloroethane	0	ug/kg	20.2	16.7652	83.2	69 - 132
1,1-Dichloroethene	0	ug/kg	20.2	15.9231	79	59 - 139
cis-1,2-Dichloroethene	0	ug/kg	20.2	18.7249	92.9	75 - 128
trans-1,2-Dichloroethene	0	ug/kg	20.2	15.215	75.5	66 - 133
1,4-Dioxane	0	ug/kg	504	406.531	80.7	9 - 267
Ethylbenzene	0	ug/kg	20.2	17.4146	86.4	73 - 133
Methyl t-Butyl Ether	0	ug/kg	20.2	14.7293	73.1	70 - 118
Methylene Chloride	10.6195	ug/kg	20.2	23.9768	66.3*	68 - 133
n-Propylbenzene	0	ug/kg	20.2	16.7352	83	68 - 134
Tetrachloroethene	0	ug/kg	20.2	19.547	97	58 - 137
Toluene	0	ug/kg	20.2	18.3163	90.8	73 - 129
Total Xylenes	0	ug/kg	60.5	51.7913	85.6	73 - 130
1,1,1-Trichloroethane	0	ug/kg	20.2	18.4779	91.7	68 - 131
Trichloroethene	0	ug/kg	20.2	20.1215	99.8	72 - 129
1,2,4-Trimethylbenzene	0	ug/kg	20.2	15.4118	76.4	70 - 131
1,3,5-Trimethylbenzene	0	ug/kg	20.2	15.3393	76.1	71 - 132
Vinyl Chloride	0	ug/kg	20.2	17.4507	86.6	53 - 141
1,2-Dichloroethane-d4 (S)	106	%				56 - 124
4-Bromofluorobenzene (S)	103	%				51 - 128
Dibromofluoromethane (S)	105	%				62 - 123
Toluene-d8 (S)	111	%				59 - 131

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: VOMS/37329 **Analysis Method:** SW846 8260C

QC Batch Method: SW846 5035

Associated Lab Samples: 2098079014, 2098079018, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2240628

Parameter	Blank Result	Units	Reporting Limit
Acetone	10.0 U	ug/kg	10.0
Benzene	2.0 U	ug/kg	2.0
2-Butanone	10.0 U	ug/kg	10.0
n-Butylbenzene	2.0 U	ug/kg	2.0
tert-Butylbenzene	2.0 U	ug/kg	2.0
sec-Butylbenzene	2.0 U	ug/kg	2.0
Carbon Tetrachloride	2.0 U	ug/kg	2.0
Chlorobenzene	2.0 U	ug/kg	2.0
Chloroform	2.0 U	ug/kg	2.0
1,2-Dichlorobenzene	2.0 U	ug/kg	2.0
1,3-Dichlorobenzene	2.0 U	ug/kg	2.0
1,4-Dichlorobenzene	2.0 U	ug/kg	2.0
1,1-Dichloroethane	2.0 U	ug/kg	2.0
1,2-Dichloroethane	2.0 U	ug/kg	2.0
1,1-Dichloroethene	2.0 U	ug/kg	2.0
cis-1,2-Dichloroethene	2.0 U	ug/kg	2.0
trans-1,2-Dichloroethene	2.0 U	ug/kg	2.0
1,4-Dioxane	75.0 U	ug/kg	75.0
Ethylbenzene	2.0 U	ug/kg	2.0
Methyl t-Butyl Ether	2.0 U	ug/kg	2.0
Methylene Chloride	2.4	ug/kg	2.0
n-Propylbenzene	2.0 U	ug/kg	2.0
Tetrachloroethene	2.0 U	ug/kg	2.0
Toluene	2.0 U	ug/kg	2.0
Total Xylenes	6.0 U	ug/kg	6.0
1,1,1-Trichloroethane	2.0 U	ug/kg	2.0
Trichloroethene	2.0 U	ug/kg	2.0
1,2,4-Trimethylbenzene	2.0 U	ug/kg	2.0
1,3,5-Trimethylbenzene	2.0 U	ug/kg	2.0
Vinyl Chloride	2.0 U	ug/kg	2.0
1,2-Dichloroethane-d4 (S)	92.7	%	56 - 124
4-Bromofluorobenzene (S)	102	%	51 - 128
Dibromofluoromethane (S)	96.5	%	62 - 123
Toluene-d8 (S)	115	%	59 - 131

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

LABORATORY CONTROL SAMPLE: 2240629 DUPLICATE: 2240630

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	LCSD Result	LCSD % Rec	% Rec Limit	RPD	Max
Acetone	107	ug/kg	100	107	115	115	58 - 146	7.74	40
Benzene	106	ug/kg	20	21.2	25.1	126	75 - 132	16.7	40
2-Butanone	114	ug/kg	100	114	121	121	64 - 148	5.73	40
n-Butylbenzene	109	ug/kg	20	21.8	27.2	136	64 - 141	21.8	40
tert-Butylbenzene	110	ug/kg	20	21.9	27.3	136*	71 - 133	21.8	40
sec-Butylbenzene	110	ug/kg	20	21.9	27.6	138*	72 - 136	23	40
Carbon Tetrachloride	118	ug/kg	20	23.5	28.2	141*	64 - 136	18.1	40
Chlorobenzene	98.4	ug/kg	20	19.7	24.5	123	76 - 125	21.8	40
Chloroform	104	ug/kg	20	20.7	25.0	125	73 - 126	18.5	40
1,2-Dichlorobenzene	98.1	ug/kg	20	19.6	25.0	125	75 - 126	24.1	40
1,3-Dichlorobenzene	103	ug/kg	20	20.6	25.8	129*	72 - 127	22.6	40
1,4-Dichlorobenzene	101	ug/kg	20	20.2	25.0	125	72 - 126	21.3	40
1,1-Dichloroethane	104	ug/kg	20	20.8	25.2	126	74 - 131	19.2	40
1,2-Dichloroethane	99.9	ug/kg	20	20.0	22.9	114	69 - 132	13.6	40
1,1-Dichloroethene	90.6	ug/kg	20	18.1	23.8	119	59 - 139	26.9	40
cis-1,2-Dichloroethene	107	ug/kg	20	21.4	26.2	131*	75 - 128	20.1	40
trans-1,2-Dichloroethene	97.3	ug/kg	20	19.5	23.1	116	66 - 133	17.2	40
1,4-Dioxane	97.2	ug/kg	500	486	530	106	9 - 267	8.55	40
Ethylbenzene	98.6	ug/kg	20	19.7	24.4	122	73 - 133	21.1	40
Methyl t-Butyl Ether	94.9	ug/kg	20	19.0	21.5	108	70 - 118	12.5	40
Methylene Chloride	138*	ug/kg	20	27.6	29.2	146*	68 - 133	5.47	40
n-Propylbenzene	106	ug/kg	20	21.2	27.2	136*	68 - 134	25	40
Tetrachloroethene	94.8	ug/kg	20	19.0	26.7	133	58 - 137	33.8	40
Toluene	91.1	ug/kg	20	18.2	25.7	129	73 - 129	34.2	40
Total Xylenes	101	ug/kg	60	60.7	74.6	124	73 - 130	20.6	40
1,1,1-Trichloroethane	99.8	ug/kg	20	20.0	23.9	120	68 - 131	18	40
Trichloroethene	116	ug/kg	20	23.1	27.9	140*	72 - 129	18.9	40
1,2,4-Trimethylbenzene	103	ug/kg	20	20.6	25.9	129	70 - 131	22.7	40
1,3,5-Trimethylbenzene	102	ug/kg	20	20.4	25.4	127	71 - 132	21.9	40
Vinyl Chloride	92.3	ug/kg	20	18.5	22.8	114	53 - 141	20.9	40
1,2-Dichloroethane-d4 (S)	103	%			103		56 - 124		
4-Bromofluorobenzene (S)	103	%			103		51 - 128		
Dibromofluoromethane (S)	104	%			104		62 - 123		
Toluene-d8 (S)	99.8	%			99.8		59 - 131		

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: WCPR/33647 **Analysis Method:** SW846 9012B

QC Batch Method: SW846 9012B

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008

METHOD BLANK: 2240038

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Total	0.24 U	mg/kg	0.24

LABORATORY CONTROL SAMPLE: 2240039

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Cyanide, Total	106	mg/kg	6.2	6.5	90 - 110

MATRIX SPIKE: 2240040 DUPLICATE: 2240041 ORIGINAL: 2098341003

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Cyanide, Total	-.10417	mg/kg	5	5.6	5.60606	114	113	80 - 120	.11	20

MATRIX SPIKE SAMPLE: 2240042 ORIGINAL: 2098079002

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Cyanide, Total	-.15625	mg/kg	4.9	5.29412	111	80 - 120

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: WCPR/33680 **Analysis Method:** SW846 9012B

QC Batch Method: SW846 9012B

Associated Lab Samples: 2098079010, 2098079012, 2098079014, 2098079016, 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2240892

Parameter	Blank Result	Units	Reporting Limit
Cyanide, Total	0.25 U	mg/kg	0.25

LABORATORY CONTROL SAMPLE: 2240893

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Cyanide, Total	103	mg/kg	6.1	6.3	90 - 110

MATRIX SPIKE: 2240894 DUPLICATE: 2240895 ORIGINAL: 2098079016

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD
Cyanide, Total	0	mg/kg	5.2	5	4.54082	96	89	80 - 120	9.63	20

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: WCPR/33736 **Analysis Method:** SW846 7196A

QC Batch Method: SW846 3060A

Associated Lab Samples: 2098079002, 2098079004

METHOD BLANK: 2243238

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.0 U	mg/kg	2.0

LABORATORY CONTROL SAMPLE: 2243239

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	95.6	mg/kg	20.2	19.3	80 - 120

METHOD BLANK: 2243244

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.0 U	mg/kg	2.0

SAMPLE DUPLICATE: 2243240 ORIGINAL: 2098079004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Hexavalent Chromium	0	mg/kg	0	NC	20

MATRIX SPIKE SAMPLE: 2243241 ORIGINAL: 2098079004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	39.1	12.75781	32.7*	75 - 125

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

MATRIX SPIKE SAMPLE: 2243242 ORIGINAL: 2098079004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	615	510.2307	82.9	75 - 125

MATRIX SPIKE SAMPLE: 2243243 ORIGINAL: 2098079004

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	40.2	34.88353	86.9	85 - 115

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: WCPR/33750 **Analysis Method:** SW846 7196A

QC Batch Method: SW846 3060A

Associated Lab Samples: 2098079006, 2098079008, 2098079010, 2098079012

METHOD BLANK: 2243797

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	1.9 U	mg/kg	1.9

LABORATORY CONTROL SAMPLE: 2243798

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	91.1	mg/kg	20.4	18.6	80 - 120

METHOD BLANK: 2243799

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.0 U	mg/kg	2.0

SAMPLE DUPLICATE: 2243804 ORIGINAL: 2098079012

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Hexavalent Chromium	0	mg/kg	0	NC	20

MATRIX SPIKE SAMPLE: 2243805 ORIGINAL: 2098079012

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	39.2	13.75686	35.1*	75 - 125

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QUALITY CONTROL DATA

Workorder: 2098079 23674.000

MATRIX SPIKE SAMPLE: 2243806 ORIGINAL: 2098079012

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	630	310.7086	49.3*	75 - 125

MATRIX SPIKE SAMPLE: 2243807 ORIGINAL: 2098079012

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	0	mg/kg	39.8	32.38247	81.3*	85 - 115

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NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293
State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: WCPR/33758 **Analysis Method:** SW846 7196A

QC Batch Method: SW846 3060A

Associated Lab Samples: 2098079014, 2098079016, 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

METHOD BLANK: 2244306

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.0 U	mg/kg	2.0

LABORATORY CONTROL SAMPLE: 2244307

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	85.7	mg/kg	19.7	16.9	80 - 120

METHOD BLANK: 2244308

Parameter	Blank Result	Units	Reporting Limit
Hexavalent Chromium	2.0 U	mg/kg	2.0

LABORATORY CONTROL SAMPLE: 2244309

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	85	mg/kg	20.3	17.3	80 - 120

LABORATORY CONTROL SAMPLE: 2244310

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	87.8	mg/kg	20	17.6	80 - 120

LABORATORY CONTROL SAMPLE: 2244311

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

Hexavalent Chromium	93.9	mg/kg	20	18.8	80 - 120

LABORATORY CONTROL SAMPLE: 2244312

Parameter	LCS % Rec	Units	Spike Conc.	LCS Result	% Rec Limit
Hexavalent Chromium	89.8	mg/kg	20.1	18.0	80 - 120

SAMPLE DUPLICATE: 2244313 ORIGINAL: 2098242001

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Hexavalent Chromium	.136	mg/kg	0	NC	20

MATRIX SPIKE SAMPLE: 2244314 ORIGINAL: 2098242001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	.136	mg/kg	40.3	24.41129	60.2*	75 - 125

MATRIX SPIKE SAMPLE: 2244315 ORIGINAL: 2098242001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	.136	mg/kg	632	303.8339	48*	75 - 125

MATRIX SPIKE SAMPLE: 2244316 ORIGINAL: 2098242001

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Parameter	Original Result	Units	Spike Conc.	MS Result	MS % Rec	% Rec Limit
Hexavalent Chromium	.136	mg/kg	40.3	37.44355	92.5	85 - 115

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State Certifications: DE ID 11 , MA PA0102 , MD 128 , VA 460157 , WV 343

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

QC Batch: WETC/160175 **Analysis Method:** S2540G-11

QC Batch Method: S2540G-11

Associated Lab Samples: 2098079002, 2098079004, 2098079006, 2098079008, 2098079010, 2098079012, 2098079014, 2098079016, 2098079018, 2098079020, 2098079022, 2098079024, 2098079026, 2098079028

SAMPLE DUPLICATE: 2238636 ORIGINAL: 2097977004

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	23.4042	%	23.8341	1.82	10
Total Solids	76.5957	%	76.1658	.56	5

SAMPLE DUPLICATE: 2238637 ORIGINAL: 2098062002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	23.4997	%	22.1928	5.72	10
Total Solids	76.5002	%	77.8071	1.69	5

SAMPLE DUPLICATE: 2238638 ORIGINAL: 2098066005

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	7.5686	%	9.3158	20.7*	10
Total Solids	92.4313	%	90.6841	1.91	5

SAMPLE DUPLICATE: 2238639 ORIGINAL: 2098079002

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	25.4975	%	24.3725	4.51	10
Total Solids	74.5024	%	75.6274	1.5	5

SAMPLE DUPLICATE: 2238640 ORIGINAL: 2098079022

Parameter	Original Result	Units	DUP Result	RPD	Max RPD
Moisture	22.6285	%	22.1464	2.15	10
Total Solids	77.3714	%	77.8535	.62	5

QUALITY CONTROL DATA

Workorder: 2098079 23674.000

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QUALITY CONTROL DATA QUALIFIERS

Workorder: 2098079 23674.000

QUALITY CONTROL PARAMETER QUALIFIERS

Lab ID	#	Sample Type	Analytical Method	Analyte
2240628	1	Method Blank	SW846 8260C	Methylene Chloride
The Method Blank for method SW846 8260C reported a value greater than the reporting level for the analyte Methylene Chloride.				
2240629	2	Lab Control Standard	SW846 8260C	Methylene Chloride
The QC sample type LCS for method SW846 8260C was outside the control limits for the analyte Methylene Chloride. The % Recovery was reported as 138 and the control limits were 68 to 133.				
2242649	3	Matrix Spike	SW846 7471B	Mercury, Total
The concentration of this analyte was greater than 4 times the concentration of the spike added to the matrix spike. According to protocol, the calculation for percent recovery of the matrix spike is not valid.				

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2098079 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2098079002	1364-6	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079004	1440-8	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079006	1439-20	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079008	717-59	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079010	714-40	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079012	2146-25	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079014	1787-44	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079016	659-7	SW846 3546	EXTR/40874	SW846 8082A	SVGC/39595
2098079002	1364-6	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079004	1440-8	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079006	1439-20	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079008	717-59	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079010	714-40	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079012	2146-25	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079014	1787-44	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079016	659-7	SW846 3546	EXTR/40875	SW846 8081B	SVGC/39620
2098079002	1364-6			S2540G-11	WETC/160175
2098079004	1440-8			S2540G-11	WETC/160175
2098079006	1439-20			S2540G-11	WETC/160175
2098079008	717-59			S2540G-11	WETC/160175
2098079010	714-40			S2540G-11	WETC/160175
2098079012	2146-25			S2540G-11	WETC/160175
2098079014	1787-44			S2540G-11	WETC/160175
2098079016	659-7			S2540G-11	WETC/160175
2098079018	654-9			S2540G-11	WETC/160175
2098079020	720-16			S2540G-11	WETC/160175
2098079022	1374-22			S2540G-11	WETC/160175
2098079024	1217-42			S2540G-11	WETC/160175
2098079026	986-26			S2540G-11	WETC/160175
2098079028	1129-20			S2540G-11	WETC/160175

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2098079 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2098079002	1364-6	SW846 3546	EXTR/40886	SW846 8270D	SVMS/24296
2098079004	1440-8	SW846 3546	EXTR/40886	SW846 8270D	SVMS/24296
2098079006	1439-20	SW846 3546	EXTR/40886	SW846 8270D	SVMS/24296
2098079008	717-59	SW846 3546	EXTR/40886	SW846 8270D	SVMS/24296
2098079010	714-40	SW846 3546	EXTR/40886	SW846 8270D	SVMS/24296
2098079012	2146-25	SW846 3546	EXTR/40886	SW846 8270D	SVMS/24296
2098079014	1787-44	SW846 3546	EXTR/40886	SW846 8270D	SVMS/24296
2098079002	1364-6	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079004	1440-8	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079006	1439-20	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079008	717-59	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079010	714-40	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079012	2146-25	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079016	659-7	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079020	720-16	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079022	1374-22	SW846 5035	VOMS/37296	SW846 8260C	VOMS/37297
2098079018	654-9	SW846 3546	EXTR/40902	SW846 8082A	SVGC/39615
2098079020	720-16	SW846 3546	EXTR/40902	SW846 8082A	SVGC/39615
2098079022	1374-22	SW846 3546	EXTR/40902	SW846 8082A	SVGC/39615
2098079024	1217-42	SW846 3546	EXTR/40902	SW846 8082A	SVGC/39615
2098079026	986-26	SW846 3546	EXTR/40902	SW846 8082A	SVGC/39615
2098079028	1129-20	SW846 3546	EXTR/40902	SW846 8082A	SVGC/39615
2098079018	654-9	SW846 3546	EXTR/40903	SW846 8081B	SVGC/39624
2098079020	720-16	SW846 3546	EXTR/40903	SW846 8081B	SVGC/39624
2098079022	1374-22	SW846 3546	EXTR/40903	SW846 8081B	SVGC/39624
2098079024	1217-42	SW846 3546	EXTR/40903	SW846 8081B	SVGC/39624
2098079026	986-26	SW846 3546	EXTR/40903	SW846 8081B	SVGC/39624
2098079028	1129-20	SW846 3546	EXTR/40903	SW846 8081B	SVGC/39624

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2098079 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2098079016	659-7	SW846 3546	EXTR/40904	SW846 8270D	SVMS/24310
2098079018	654-9	SW846 3546	EXTR/40904	SW846 8270D	SVMS/24310
2098079020	720-16	SW846 3546	EXTR/40904	SW846 8270D	SVMS/24310
2098079022	1374-22	SW846 3546	EXTR/40904	SW846 8270D	SVMS/24310
2098079024	1217-42	SW846 3546	EXTR/40904	SW846 8270D	SVMS/24310
2098079026	986-26	SW846 3546	EXTR/40904	SW846 8270D	SVMS/24310
2098079028	1129-20	SW846 3546	EXTR/40904	SW846 8270D	SVMS/24310
2098079002	1364-6	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079004	1440-8	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079006	1439-20	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079008	717-59	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079010	714-40	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079012	2146-25	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079014	1787-44	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079016	659-7	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079018	654-9	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079020	720-16	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079022	1374-22	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079024	1217-42	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079026	986-26	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079028	1129-20	SW846 8151A	EXTR/40907	SW846 8151A	SVGC/39629
2098079002	1364-6	SW846 9012B	WCPR/33647	SW846 9012B	WETC/160348
2098079004	1440-8	SW846 9012B	WCPR/33647	SW846 9012B	WETC/160348
2098079006	1439-20	SW846 9012B	WCPR/33647	SW846 9012B	WETC/160348
2098079008	717-59	SW846 9012B	WCPR/33647	SW846 9012B	WETC/160348
2098079014	1787-44	SW846 5035	VOMS/37329	SW846 8260C	VOMS/37330
2098079018	654-9	SW846 5035	VOMS/37329	SW846 8260C	VOMS/37330
2098079024	1217-42	SW846 5035	VOMS/37329	SW846 8260C	VOMS/37330
2098079026	986-26	SW846 5035	VOMS/37329	SW846 8260C	VOMS/37330

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2098079 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2098079028	1129-20	SW846 5035	VOMS/37329	SW846 8260C	VOMS/37330
2098079010	714-40	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079012	2146-25	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079014	1787-44	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079016	659-7	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079018	654-9	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079020	720-16	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079022	1374-22	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079024	1217-42	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079026	986-26	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079028	1129-20	SW846 9012B	WCPR/33680	SW846 9012B	WETC/160460
2098079002	1364-6	SW846 7471B	MDIG/53171	SW846 7471B	META/50154
2098079004	1440-8	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079006	1439-20	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079008	717-59	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079010	714-40	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079012	2146-25	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079014	1787-44	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079016	659-7	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079018	654-9	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079020	720-16	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079022	1374-22	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079024	1217-42	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079026	986-26	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079028	1129-20	SW846 7471B	MDIG/53172	SW846 7471B	META/50154
2098079002	1364-6	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079004	1440-8	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079006	1439-20	SW846 3051	MDIG/53180	SW846 6020A	META/50147

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2098079 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2098079008	717-59	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079010	714-40	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079012	2146-25	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079014	1787-44	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079016	659-7	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079018	654-9	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079020	720-16	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079022	1374-22	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079024	1217-42	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079026	986-26	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079028	1129-20	SW846 3051	MDIG/53180	SW846 6020A	META/50147
2098079002	1364-6	SW846 3060A	WCPR/33736	SW846 7196A	WETC/160615
2098079004	1440-8	SW846 3060A	WCPR/33736	SW846 7196A	WETC/160615
2098079006	1439-20	SW846 3060A	WCPR/33750	SW846 7196A	WETC/160682
2098079008	717-59	SW846 3060A	WCPR/33750	SW846 7196A	WETC/160682
2098079010	714-40	SW846 3060A	WCPR/33750	SW846 7196A	WETC/160682
2098079012	2146-25	SW846 3060A	WCPR/33750	SW846 7196A	WETC/160682
2098079014	1787-44	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079016	659-7	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079018	654-9	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079020	720-16	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079022	1374-22	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079024	1217-42	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079026	986-26	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079028	1129-20	SW846 3060A	WCPR/33758	SW846 7196A	WETC/160733
2098079002	1364-6			Calculation	WETC/160734
2098079004	1440-8			Calculation	WETC/160734
2098079006	1439-20			Calculation	WETC/160734

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 2098079 23674.000

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
2098079008	717-59			Calculation	WETC/160734
2098079010	714-40			Calculation	WETC/160734
2098079012	2146-25			Calculation	WETC/160734
2098079014	1787-44			Calculation	WETC/160734
2098079016	659-7			Calculation	WETC/160734
2098079018	654-9			Calculation	WETC/160734
2098079020	720-16			Calculation	WETC/160734
2098079022	1374-22			Calculation	WETC/160734
2098079024	1217-42			Calculation	WETC/160734
2098079026	986-26			Calculation	WETC/160734
2098079028	1129-20			Calculation	WETC/160734

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 4
Courier:
Tracking #:

* 2 0 9 8 0 7 9 *

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:

Project Name/#: 23674.000
ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:

Email? [X] Y enestler@normandeau.com
Fax? Y No.:

	PL	CG
***Container Type	PL	CG
***Container Size	1gal.	32oz.
***Preservative	None	None

ANALYSES/METHOD REQUESTED: Clam Tissue; Sediment Testing

Enter Number of Containers Per Analysis

#	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	1364-6		9/24/15	1245			1	
2	1364-6			1255				1
3	1440-8			1304			1	
4	1440-8			1316				1
5	1439-20			1320			1	
6	1439-20			1331				1
7	717-59			1348			1	
8	717-59	9.25.15 2259	9/24/15	1357				1

Receipt Information (completed by Sample Receiving)
Performed by:
Cooler Temp:
Therm. ID: 1738
No. of Coolers:
Notes:

Circle appropriate Y or N.		
Correct containers?	Y	N
Correct sample volume?	Y	N
Correct preservation?	Y	N
Headspace/Volatiles?	Y	N
Custody seals Present?	Y	N
(If present) Seals Intact?	Y	N
Received on ice?	Y	N
COC/Labels complete/accurate?	Y	N
Container in good condition?	Y	N

SAMPLED BY (Please Print):
Project Comments:

	Relinquished By / Company Name	Date	Time		Received By / Company Name	Date	Time
1	Cody Tompkins Normandeau	9/25/15	0900	2	[signature]	9/25	0900
3	[signature]	9/25	1800	4	[signature]	9/25	1800
5	[signature]	9/25	2000	6	[signature]	9.25.15	2000
7				8			
9				10			

Data Deliverables: [X] Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐
EDDs Required? [X] If yes, format type: In Excel
SDWA Forms? yes ☐ yes ☐ yes ☐ yes ☐ Other
State Samples Collected In? MD ☐ NJ ☐ NY [X] PA ☐
DOD Criteria Required?

ALS FIELD SERVICES: [X] Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite
**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass; PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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Courier:
Tracking #:

2098879

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y enestler@normandeau.com
Fax? -Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing								
							***Container Type	PL	CG							
							***Container Size	1gal	32oz							
							***Preservative	None	None							
1	714-40		9/24/15	1404			1									
2	714-40			1404				1								
3	2146-25			1420			1									
4	2146-25			1431				1								
5	1787-44			1436			1									
6	1787-44			1447				1								
7	659-7	9-25-15 1259		1457			1									
8	659-7		9/24/15	1506				1								

ANALYSES/METHOD REQUESTED — Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiver): Performed by: Initial Date
Cooler Temp:
Therm. ID: 1150
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N / Y	N / Y	N / Y	N / Y	
1	Y	Y	Y	Y	
2	N	N	N	N	N
3	Y	Y	Y	Y	Y
4					
5					
6					
7					
8					

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
1					
2					
3					
4					
5					
6					
7					
8					

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomplins Normandeau	9/25/15	0900	2	9/25	900
3	9/25	1800	4	9/25	1800
5 JM	9/25	2000	6	9/25	2000
7			8		
9			10		

Data Deliverables: X Standard; ☐ CLP-like; ☐ NJ-Reduced; ☐ NJ-Full; ☐ level

SDWA Forms? ⇒ yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY X PA ☐ Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; ☐ Labor; ☐ Composite Sampling; ☐ Rental Equipment; ☐ Other:

* G=Grab; C=Composite **Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic, Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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34 Dogwood Lane
Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #: 2098879

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X Y enestler@normandeau.com
Fax? Y No.:

	***Container Type	PL	CG
	***Container Size	1gal	32oz
	Preservative	None	None
	*G or C		
	**Matrix		
	ANALYSES/METHOD REQUESTED	Clam Tissue	Sediment Testing

Receipt Information (completed by Sample Receiving)
Performed by: INITIAL HERE
Cooler Temp.:
Therm. ID: 14309
No. of Coolers:
Notes:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	654-9		9/24/15	1512			1	
2	654-9			1523				1
3	720-16			1527			1	
4	720-16			1529				1
5	1374-22			1615			1	
6	1374-22			1626				1
7	1217-42	9/25-15 2259		1635			1	
8	1217-42		9/24/15	1646				1

Enter Number of Containers Per Analysis

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	Y	Y	Y	Y	
2	Y	Y	Y	Y	Y
3	Y	Y	Y	Y	Y
4					
5					
6					
7					
8					

	Custody seals Present?	(If present) Seals Intact?	Received on Ice?	COC/Labels complete/accurate?	Container in good condition?
1	Y	Y	Y	Y	Y
2					
3					
4					
5					
6					
7					
8					

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Tom Normandeau	9/25/15	0900	2	9/25	900
3	9/25	1800	4	9/25	1800
5	9/25	2000	6	9/25	2000
7			8		
9			10		

Data Deliverables: ☒ Standard ☐ CLP-like ☐ NJ-Reduced ☐ NJ-Full ☐ other

EDDs Required? ☒ If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? yes ☐ yes ☐ yes ☐ yes ☐

State Samples Collected In? MD ☐ NJ ☐ NY ☒ PA ☐ Other

ALS FIELD SERVICES: ☒ Pickup ☐ Labor ☐ Composite Sampling ☐ Rental Equipment ☐ Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #: 2098019

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler Phone: (603)472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to): PO#:

Project Name/#: 23674.000 ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges. Date Required: Approved By:

Email? X -Y enestler@normandeau.com
Fax? -Y No.:

	Container Type	PL	CG
	Container Size	1gal.	32oz
	Preservative	None	None
	*G or C		
	**Matrix		
	ANALYSES/METHOD REQUESTED	Clam Tissue	Sediment Testing

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1	986-26		9/24/15	1652			1	
2	986-26			1704				1
3	1129-20			1710			1	
4	1129-20		9/24/15	1724				1
5								
6								
7		9-25-15 2259						
8								

Enter Number of Containers Per Analysis

Receipt Information (completed by Sample Receiving)
Performed by: Initial KC
Cooler Temp:
Therm. ID: 19519
No. of Cooles:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
	N	N	N	N	
	Y	Y	Y	Y	
	N	N	N	N	N
	Y	Y	Y	Y	Y

	Custody seals Present?	(If present) Seals Intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/25/15	0900	2 [illegible]	9/25	906
3 [illegible]	9/25	1800	4 [illegible]	9/25	1800
5 [illegible]	9/25	2000	6 [illegible]	9-25-15	2000
7			8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; new

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? yes; yes; yes; yes

State Samples Collected In? MD; NJ; NY X; PA; Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite **Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY ***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

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F. 717-944-1430

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CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 1 of 4

Courier:

Tracking #:

Co. Name: Normandeau Associates, Inc.

Contact (Report to): Eric Nestler

Phone: (603)472-5191

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-495330

TAT: ☐ Normal-Standard TAT is 10-12 business days. ☐ Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No:

	***Container Type	PL	CG
	***Container Size	1gal.	32oz
	*** Preservative	None	None
	*G or C		
	**Matrix		
	ANALYSES/METHOD REQUESTED	Clam Tissue	Sediment Testing

only subbed out clams to KELSO

Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing
1 1364-6		9/24/15	1245			1	
2 1364-6			1255				1
3 1440-8			1304			1	
4 1440-8			1316				1
5 1439-20			1320			1	
6 1439-20			1331				1
7 717-59			1348			1	
8 717-59	9-25-15 1259	9/24/15	1357				1

Enter Number of Containers Per Analysis

SSL 9/28/15

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N
	Y	Y	Y	Y	
	Y	Y	Y	Y	
	Y	Y	Y	Y	

	Custody seals Present?	(If present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

Contacted by Sample Receiving Performed by: NEW HIRE

Cooler Temp: 1

Therm. ID: 1F30

No. of Coolers:

Notes:

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Cathy Tomlinson Normandeau	9/25/15	0900	2	9/25	0900
3	9/25	1800	4	9/25	1800
5	9/25	2000	6	9-25-15	2000
7	9/28	1715	8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Forms? yes yes yes yes

State Samples Collected In? MD NJ NY X PA Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

2098079

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Address: 25 Nashua Rd. Bedford, NH 03110
Phone: (603) 472-5191

Bill to (If different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-415330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Date Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing																	
1	714-40		9/24/15	1404			1																		
2	714-40			1404				1																	
3	2146-25			1420			1																		
4	2146-25			1431				1																	
5	1787-44			1436			1																		
6	1787-44			1447				1																	
7	659-7	9-24-15 1259		1457			1																		
8	659-7		9/24/15	1506				1																	

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

only submit out clams SSL 9/25/15

**Container Type	PL	CG	
**Container Size	1gal	32oz	
Preservative	None	None	

Receipt Information (completed by Sample Receiving)
Performed by: PRIVATE
Cooler Temp:
Therm. ID: 1150
No. of Coolers:
Notes:

	Y	N	N	N	Circle appropriate Y or N.
Correct containers?	Y	N	N	N	
Correct sample volume?		N	N	N	
Correct preservation?					
Headspace/Volatiles?					
Custody seals Present?	Y				
(If present) Seals Intact?	Y				
Received on Ice?					
COC/Labels complete/accurate?					
Container in good condition?					

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/25/15	0900	2 [illegible]	9/25	900
3 [illegible]	9/25	1800	4 [illegible] UPS	9/25	1800
5 [illegible]	9/25	2000	6 [illegible]	9/25-15	2000
7 [illegible]	9/25	1715	8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; ____ year
SDWA Forms? yes / yes / yes / yes
State Samples Collected In? MD / NJ / NY X / PA
Other
EDDs (required?): X If yes, format type: In Excel
DOD Criteria Required?

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
** Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
*** Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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Middletown, PA 17057
P. 717-944-5541
F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Courier:
Tracking #:

2098079

Co. Name: Normandeau Associates, Inc.
Contact (Report to): Eric Nestler
Phone: (603) 472-5191
Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):
PO#:
Project Name/#: 23674.000
ALS Quote #: 40-495330
TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.
Data Required:
Approved By:
Email? X Y enestler@normandeau.com
Fax? Y No.:

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing										
	***Container Type						PL	CG										
	***Container Size						1gal	32oz										
	Preservative						None	None										
1	654-9		9/24/15	1512			1											
2	654-9			1523				1										
3	720-16			1527			1											
4	720-16			1539				1										
5	1374-22			1615			1											
6	1374-22			1626				1										
7	1217-42	9/25/15 2259		1635			1											
8	1217-42		9/24/15	1646				1										

ANALYSES/METHOD REQUESTED

Enter Number of Containers Per Analysis

only subbed out clams to Kelso

Receipt Information (completed by Sample Receiver)
Received by: Initial & date
Cooler Temp:
Therm. ID: IR 307
No. of Coolers:
Notes:

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N
	Y	Y	Y	Y	
	Custody seals Present?	(if present) Seals intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
	Y	Y	Y	Y	Y

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 Normandeau	9/25/15	0900	2	9/25	900
3	9/25	1800	4	9/25	1800
5	9/25	2000	6	9/25 K	2000
7	9/28	1715	8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; Other
EDDs Required? X If yes, format type: In Excel
DOD Criteria Required?
SDWA Forms? yes / yes / yes / yes
State Samples Collected In? MD / NJ / NY X / PA / Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite
**Matrix: Al=Air; DW=Drinking Water; GW=Groundwater; Ol=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater
***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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F. 717-944-1430

CHAIN OF CUSTODY/ REQUEST FOR ANALYSIS

ALL SHADED AREAS MUST BE COMPLETED BY THE CLIENT / SAMPLER. INSTRUCTIONS ON THE BACK.

Page 4 of 4

Courier:

Tracking #:

2098079

Co. Name: Normandeau Associates Inc.

Contact (Report to): Eric Nestler

Phone: (603)472-5791

Address: 25 Nashua Rd. Bedford, NH 03110

Bill to (if different than Report to):

PO#:

Project Name/#: 23674.000

ALS Quote #: 40-485330

TAT: Normal-Standard TAT is 10-12 business days. Rush-Subject to ALS approval and surcharges.

Date Required:

Approved By:

Email? X Y enestler@normandeau.com

Fax? Y No.:

***Container Type	PL	CG																					
***Container Size	1gal.	32oz																					
Preservative	None	None																					

ANALYSES/METHOD REQUESTED

	Sample Description/Location (as it will appear on the lab report)	COC Comments	Sample Date	Military Time	*G or C	**Matrix	Clam Tissue	Sediment Testing															
1	986-26		9/24/15	1652			1																
2	986-26		"	1704				1															
3	1129-20		"	1710			1																
4	1129-20		9/24/15	1724				1															
5																							
6																							
7																							
8																							

Enter Number of Containers Per Analysis

only subbed out clams to Kelso

9-25-15 2259

	Correct containers?	Correct sample volume?	Correct preservation?	Headspace/Volatiles?	Circle appropriate Y or N.
1	Y	Y	Y	Y	
2	Y	Y	Y	Y	
3	Y	Y	Y	Y	
4	Y	Y	Y	Y	

	Custody seals Present?	(if present) Seals Intact?	Received on ice?	COC/Labels complete/accurate?	Container in good condition?
1	Y	Y	Y	Y	
2	Y	Y	Y	Y	
3	Y	Y	Y	Y	
4	Y	Y	Y	Y	

Receipt Information (completed by Sample Receiver)

Performed by: Initial Hold:

Cooler Temp:

Therm. ID: 7 175015

No. of Coolers:

Notes:

SAMPLED BY (Please Print):

Project Comments:

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
1 C. Tomlinson Normandeau	9/25/15	0900	2	9/25	900
3	9/25	1800	4	9/25	1800
5	9/25	2400	6	9-25-15	2400
7	9/28	1715	8		
9			10		

Data Deliverables: X Standard; CLP-like; NJ-Reduced; NJ-Full; Other

EDDs Required? X If yes, format type: In Excel

DOD Criteria Required?

SDWA Formed? yes / yes / yes / yes

State Samples Collected In? MD / NJ / NY X / PA / Other

ALS FIELD SERVICES: X Pickup; Labor; Composite Sampling; Rental Equipment; Other:

* G=Grab; C=Composite

**Matrix: AI=Air; DW=Drinking Water; GW=Groundwater; OI=Oil; OL=Other Liquid; SL=Sludge; SO=Soil; WP=Wipe; WW=Wastewater

***Container Type: AG-Amber Glass; CG-Clear Glass, PL-Plastic. Container Size: 250ml, 500ml, 1L, 8oz., etc. Preservative: HCl, HNO3, NaOH, etc.

Copies: WHITE - ORIGINAL CANARY - CUSTOMER COPY

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FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Dena Jurhs	Steve Smith
ALS-KELSO	
1317 South 13th Avenue	34 DOGWOOD LANE
KELSO, WA	MIDDLETOWN, PA
98626	17057
US	US
3605777222	7179445541

Shipment Information:
Tracking no.: 774614176825
Ship date: 09/28/2015
Estimated shipping charges: 772.42

Package Information
Pricing option: FedEx Standard Rate
Service type: Priority Overnight
Package type: Your Packaging
Number of packages: 5
Total weight: 345 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: Use an already scheduled pickup at my location

Billing Information:
Bill transportation to: Master Account-686
Your reference: ALSI
P.O. no.:
Invoice no.:
Department no.: ADMIN

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Assessment of Existing Condition of Benthic and Fish Communities for the Living Breakwaters and Tottenville Dune Projects: July and September 2015 Benthic Survey Results

Prepared by:
Normandeau Associates, Inc.
25 Nashua Road
Bedford, NH 03110

March 2016

www.normandeau.com

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1.0 Introduction

1.1 Background

The New York State Governor's Office of Storm Recovery (GOSR) proposes to build the "Living Breakwaters and Tottenville Dune Projects" (Breakwaters Project), which includes construction of a breakwater in the shallow waters of Raritan Bay, along the south shore of Staten Island, NY. The GOSR, acting under authority of the U.S. Department of Housing and Urban Development, and in cooperation with other involved and interested agencies, is preparing an Environmental Impact Statement (EIS) to analyze potential impacts of this project. Environmental review for the proposed actions will require additional data to characterize existing benthic and fish communities in the project area.

Normandeau Associates, Inc. (Normandeau), as a subcontractor to AKRF, Inc. (AKRF), was contracted to collect ecological data to satisfy requirements for the Breakwaters Project EIS. Work on this project includes ecological surveys to support a "Fish Study" and a "Benthic Macroinvertebrate Study" in Raritan Bay. These studies were designed to assess both the spatial distribution of fish and invertebrate communities within the project area and the temporal variation in those communities during summer and fall.

The Fish Study was designed to include collection of fish and epibenthic invertebrates using beach seines, fish traps, beam and otter trawls. The Benthic Macroinvertebrate Study includes surveys of water quality, sediment conditions, soft-bottom macroinvertebrate communities, and hard clams (*Mercenaria mercenaria*). The hard clam studies comprise an assessment of chemical contaminants in clam tissues, and in the sediments where clams are collected, along with characterization of clam distributions in the project area. After isolated areas of hard substrate were identified on the seafloor in the project area, sampling by SCUBA divers was added to the overall study plan to characterize hard-bottom benthic communities.

Sampling for these studies was conducted during the summer and early fall of 2015. Surveys for the Fish Study were conducted during June, July and September; and for the Benthic Macroinvertebrate Study, during June and September only. Sampling to characterize hard-bottom communities was conducted in July and September. Results for each of these seasonal surveys have been reported separately as laboratory results and quality-checked data became available.

This report presents results for surveys conducted during July and September 2015. Results are reported herein for both sampling events for the Hard-Bottom Study and for the September surveys supporting the Benthic Macroinvertebrate Study. During these surveys, samples were collected at locations identified by AKRF based on a stratified random sampling design. The list of sampling locations included alternate locations that were used if sampling could not be conducted at the primary locations (i.e., due to depth, obstructions, etc.). Station information including sampling coordinates, bottom depth, and the date and collection time for each sample, are provided in Appendices A (Hard-Bottom Study) and B (Benthic Macroinvertebrate Study). Copies of the Chain of Custody forms for samples collected during these surveys are provided in Appendix C, and photographs of each hard-bottom quadrat and each soft-bottom macroinvertebrate grab sample, are provided in Appendix D.

An overview of the survey activities covered in this report, including the sampling dates and locations, is presented in Sections 1.2 to 1.4. Field and data handling methods are described in Section 2.0. Survey results are provided in Sections 3.0 (Hard-Bottom Study) and 4.0 (Benthic Macroinvertebrate Study). Section 5.0 provides a brief summary of these survey results. The contents of this report provide the raw data, data summaries, and other supporting materials and information that were delineated in the project work scope. These results provide the basis for analyses of the survey data as part of an in-depth environmental review for the Breakwaters Project EIS.

1.2 July 2015 Hard-Bottom Survey

Normandeau SCUBA divers conducted surveys of hard-bottom benthic communities at five locations in Raritan Bay on 20 July (Figure 1-1, Appendix A-1). Surveys included destructive sampling and the collection of photographic still images and underwater video at only four of the five locations. Divers were not able to locate any hard bottom at HB01. The transect at HB01 ran across a row of old submerged pilings and a few associated timbers from what appears to have been a pier at one time.

Poor visibility (approximately 1-2 feet) and strong currents impacted the diver's ability to obtain clear images at the 1.0 square meter scale. Due to these conditions, the decision was made to use a frame measuring 0.5 x 0.5 meters for the digital still images. Four photos were taken at each random location to provide a total area of one square meter for laboratory analysis. Extra photographs were also taken at some locations to ensure that the images collected would be sufficient to characterize the benthos. From these photographs, 23 composite images were generated for the randomly sampled locations along four transects: HB02, HB03, HB04, and HB05 (Appendix D-1). Images were not taken at transect HB01 since hard substrate could not be located along this transect.

The destructive samples were collected by divers and processed shipboard (sieved and preserved in formalin). A total of only 13 were collected since no hard bottom substrate was found at station HB01. Copies of the Chain of Custody (COC) forms are provided in Appendix C-1 for the destructive samples transferred to Normandeau's Bedford, NH biological laboratory for processing.

Despite the poor visibility, video was collected using a GoPro camera. This video footage, along with diver observations, provided some additional information to characterize the hard-bottom sites. Large schools of Atlantic silversides were observed at HB02, HB03 and HB04. Divers also reported seeing some other (larger) fish species at both HB04 and HB05, but those fish could not be identified due to the poor visibility.

In addition to the surveys of hard-bottom benthic communities, AKRF requested that Normandeau SCUBA divers investigate the site of a potential ship wreck. A marker was dropped at the location of the suspected wreck using coordinates provided by AKRF on 15 July, 2015. A line was used to swim a circular search pattern in the vicinity of the target coordinates. Divers were not able to locate any kind of structure. The surveyed area had a sand and gravel bottom. A puffer fish and a skate were observed during the search effort.

1.3 September 2015 Hard-Bottom Survey

Normandeau SCUBA divers conducted surveys of hard-bottom benthic communities at five locations in Raritan Bay on 21 September (Figure 1-2, Appendix A-2). Surveys at four of these locations included destructive sampling and the collection of photographic still images. Divers were not able to locate hard substrate at Station HB06. Bottom substrate at HB06 was described by the divers as silt and clay. Since hard-bottom samples could not be collected at HB06, additional samples were collected at HB02.

Strong currents combined with high turbidity resulted in very poor underwater visibility at all sampling locations (less than one foot). Due to these conditions, underwater video footage was not collected along any of the transects, and divers were able to make only minimal observations. The hard substrate at HB07 was reported to be rip rap from the channel marker at that location. No fish were observed during the September survey.

Divers used a quadrat frame measuring 0.5 x 0.5 meters for the digital still images. Four photos were taken at each random location to provide a total area of one square meter for laboratory analysis. Extra photographs were also taken at some locations to ensure that the images collected would be sufficient to characterize the benthos. From these photographs, a total of 26 composite images were generated for the randomly sampled locations along four transects: HB02, HB04, HB05, and HB07 (Appendix D-2).

A total of 15 destructive samples were collected by divers at four sampling locations (HB02, HB04, HB05, and HB07) and processed shipboard (sieved and preserved in formalin). The destructive samples were transferred to Normandeau's Bedford, NH biological laboratory for processing. Copies of the Chain of Custody (COC) forms for these samples are provided in Appendix C-2.

In addition to the surveys of hard-bottom benthic communities, Normandeau SCUBA divers collected hard clam for tissue burden analyses during the September survey. Divers searched in the soft-sediment depositional areas (generally near the start or end locations for each hard-bottom transect) where they could feel for clams (1 to 2 inches below the surface) by running their fingers through the sediments. Clams were collected at 16 locations; two locations near each hard-bottom site and at six other benthic stations that were visited specifically for clam collections.

1.4 September 2015 Surveys for the Benthic Macroinvertebrate Study

September surveys for the Benthic Macroinvertebrate Study included the collection of water quality data, water samples, sediment characterization samples, soft-bottom macroinvertebrate samples, hard clams for tissue burden analyses, and sediment chemistry samples.

Benthic sampling for sediment characterization (total organic carbon and grain size) and macroinvertebrates was conducted from 22 to 24 September, at 60 locations in Raritan Bay (Figure 1-3, Appendix B-1). One macroinvertebrate grab sample, and one set of samples for sediment characterization, was collected at each location. Water quality data and samples for total nitrogen and fecal coliform analyses were collected at the same 60 benthic stations on 22 September (Figure 1-3, Appendix B-2). Fecal coliform samples for 30 of those stations were re-collected on 24 September due to laboratory holding time exceedances on the original samples.

Sampling for hard clam was conducted from 21 to 24 September. Clams were collected by SCUBA divers (see Section 1.3) and by using a clam rake or van Veen grab. Clams were collected at each of 30 locations selected by the field crew as the most likely locations to support hard clam populations (Figure 1-3, Appendix B-3). Sufficient numbers of clams for tissue chemistry analyses (which require at least 70 grams of clam tissue) were collected at all 30 locations. Sediment chemistry samples were also collected at each of the 30 locations where hard clam were collected (Figure 1-3, Appendix B-3). All samples for the September benthic surveys were collected as planned.

Copies of the Chain of Custody (COC) forms for all laboratory samples that were collected for the Benthic Macroinvertebrate Study during September are provided in Appendix C. Macroinvertebrate grab samples were transferred to Normandeau's Bedford, NH biological laboratory for processing (Appendix C-3). Laboratory couriers met Normandeau field sampling crews at the dock in Laurence Harbor, New Jersey, to pick up samples for water (Appendix C-4), sediment characteristics (Appendix C-5), and for hard clam and sediment chemistry (Appendix C-6). Photographs of each macroinvertebrate grab sample, before and after shipboard sieving, are provided in Appendix D-3.

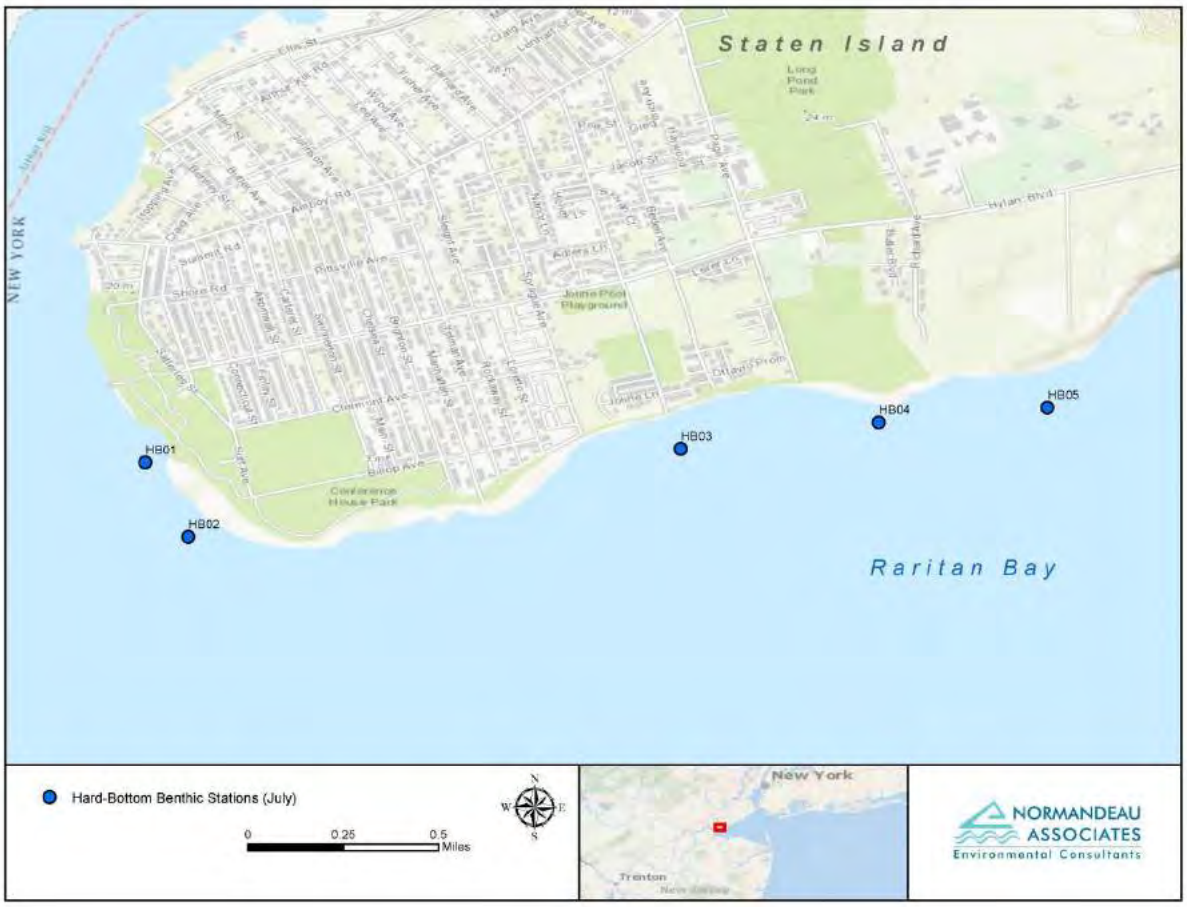

Figure 1-1. Location of hard-bottom sampling stations in Raritan Bay; July 2015 Hard-Bottom Study.

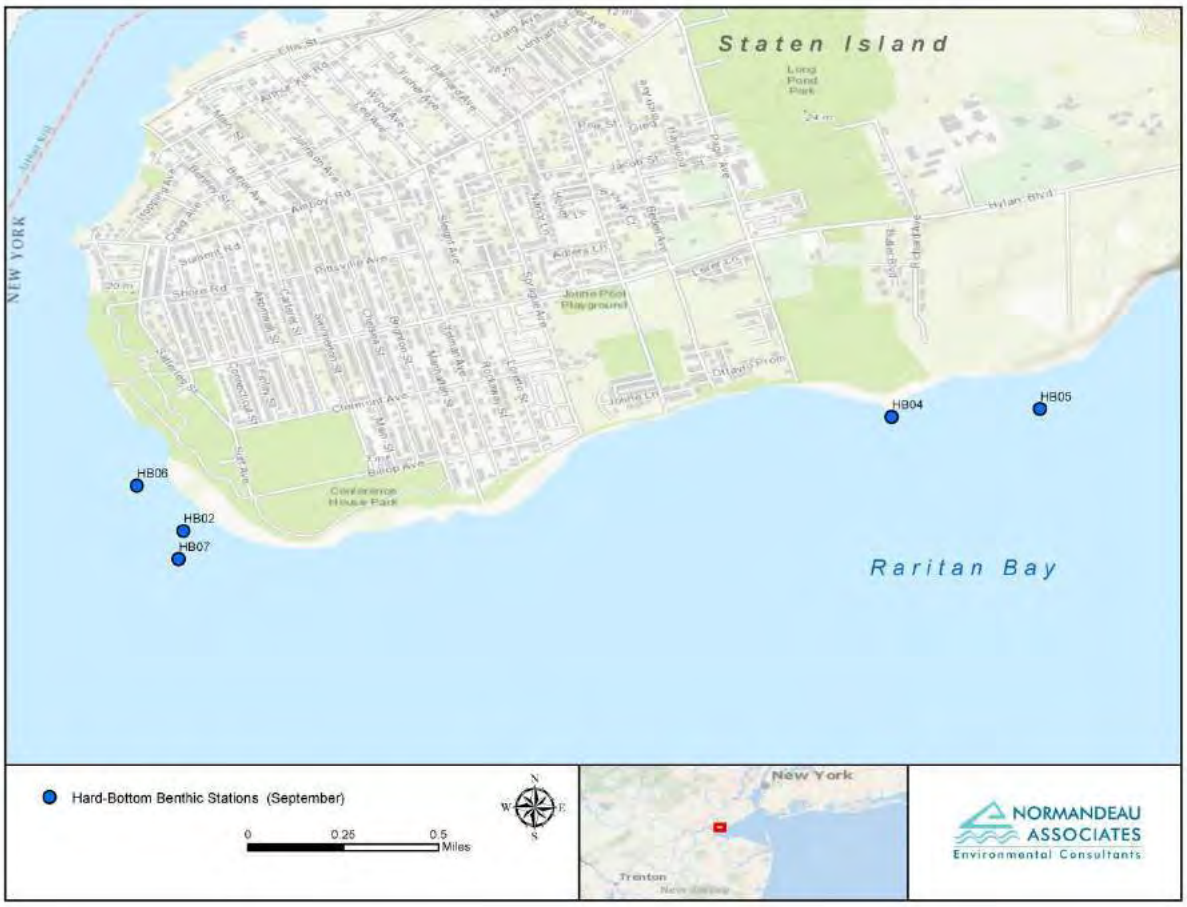

Figure 1-2. Location of hard-bottom sampling stations in Raritan Bay; September 2015 Hard-Bottom Study.

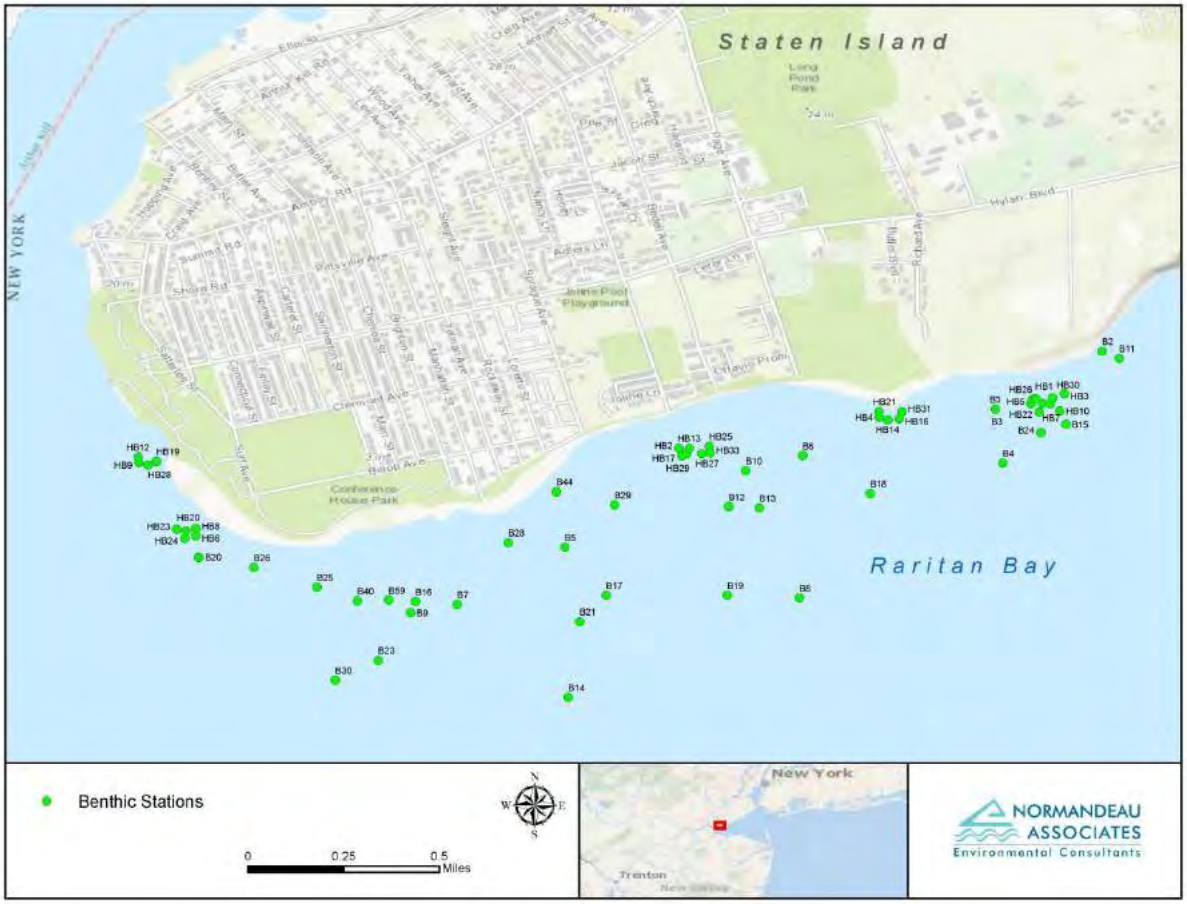

Figure 1-3. Location of benthic sampling stations in Raritan Bay; September 2015 Benthic Macroinvertebrate Study.

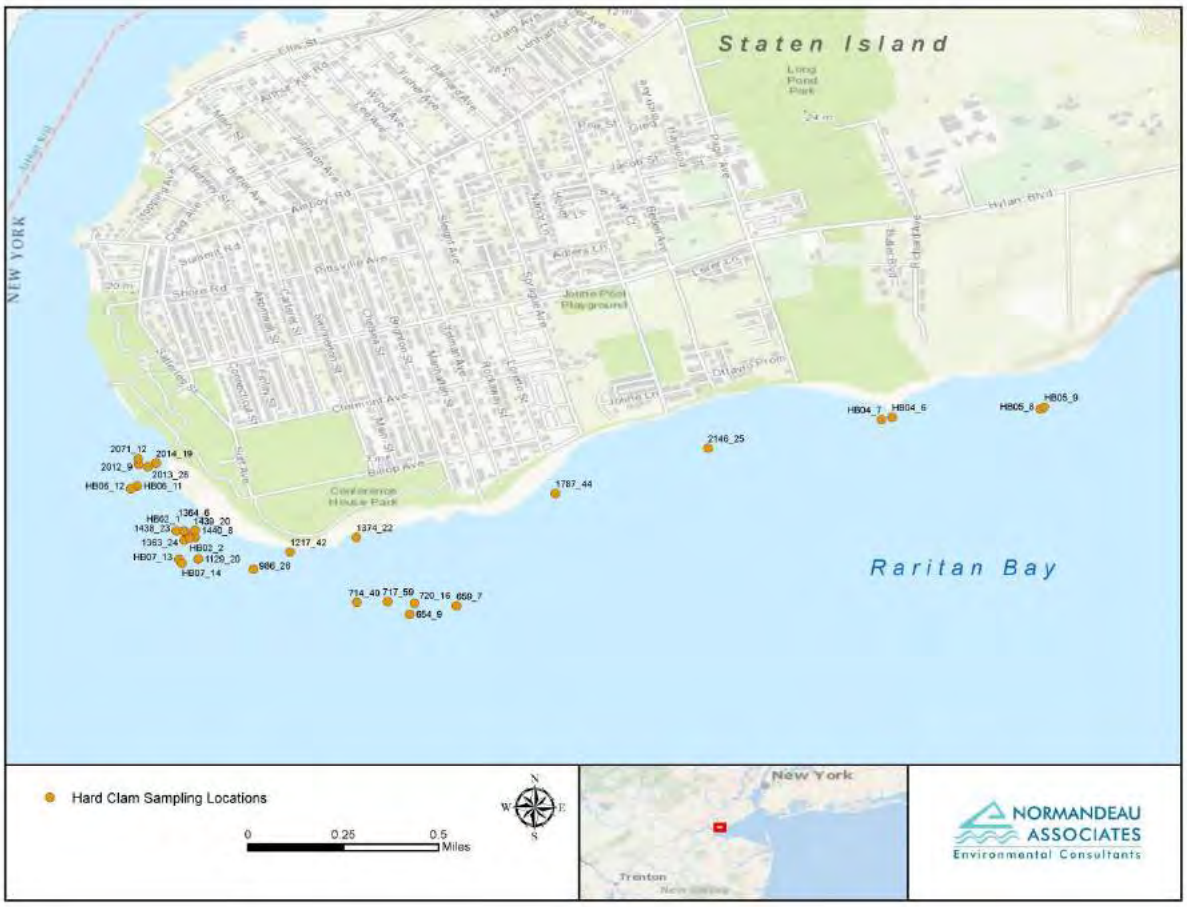

Figure 1-4. Location of hard clam sampling stations in Raritan Bay; September 2015 Benthic Macroinvertebrate Study.

2.0 Methods

2.1 Field Methods

Hard-Bottom Study

Hard-bottom surveys were conducted by SCUBA divers during July and September, 2015. Benthic communities were characterized using destructive sampling and photographic still images. Destructive sampling was used to provide quantitative data, at the species level, for algal biomass and invertebrate population densities. This sampling method is referred to as "destructive", since algal and faunal specimens are removed from the seafloor for identification and enumeration in the laboratory. Still images of bottom quadrats were collected to provide estimates of percent occurrence for both macroalgae and epibenthic macroinvertebrates. Depending on visibility, underwater video footage was also collected to provide qualitative information to assist with characterization of the hard-bottom benthic communities.

Normandeau field crews visited five target locations during each survey. Crews located each hard-bottom sampling site using shipboard GPS and coordinates provided by AKRF. At each sampling location, divers set a 100-foot line transect (marked at 1 meter intervals) directly on the seafloor, centered on the hard-bottom feature, and parallel to its longest dimension (i.e., to cover as much hard-bottom habitat as possible). If water visibility was sufficient, the divers recorded video footage along the transect.

Destructive samples and photographic quadrat images were collected at randomly selected points along each transect. The number of samples collected at each site was allocated based on the size of the hard-bottom area at that site, with at least two destructive samples and two still images collected at each site. During each survey, divers visited five target locations and attempted to collect 15 destructive samples and photographic still images for 25 one-meter quadrats. Destructive collections of macroflora and macrofauna were removed from the substrate by scraping from each randomly selected location in a 1/16 m^2 quadrat (0.0625 m^2 area on rock surfaces). Subtidal collections were drawn through a diver-operated airlift into a 0.79 mm mesh bag, placed in a labeled plastic bag, and brought to the survey vessel for preservation with 6% buffered formalin. Photographic still images covering one square meter of seafloor were collected for each bottom quadrat. Four separate images of quadrats measuring 0.5 by 0.5 meters were used to capture usable images under conditions of poor visibility. Images were taken perpendicular to the bottom, at a uniform distance from the surface across all samples.

Quality assurance and quality control procedures that were followed for the Hard-Bottom Study, are consistent with those used in the Benthic Macroinvertebrate Study, and are described in the project Field SOP ("Field Standard Operating Procedures for an Ecological Survey in Raritan Bay to Assess Existing Condition of Benthic and Fish Communities for the Living Breakwaters and Tottenville Dune Projects"; Appendix E).

Benthic Macroinvertebrate Study

Field sampling methods for the Benthic Macroinvertebrate Study, including quality assurance and quality control procedures, are described in the project Field SOP (Appendix E). Field methods used during the September surveys followed the project Field SOP except for the collection of hard clams, which is described below.

Laboratory analyses of contaminants in clam tissue required at least 70 grams of tissue from each sampling location. During June, hard clams were surveyed using a clam dredge as described in the Field SOP; insufficient clams were collected to conduct the laboratory analyses on clam tissue. To ensure that sufficient numbers of clams (a total of at least 6 clams, measuring at least 6 cm each) were collected from each site during the September surveys, a combination of collection methods were used. Clams were collected by SCUBA divers (by hand), van Veen grab, and by using a clam rake.

The first clams collected during the September survey were gathered by SCUBA divers during the hard-bottom survey. Once all samples and data had been collected at each site, divers searched for clams in the soft-bottom areas near the hard-bottom structures. Clams were collected by divers at additional locations as time allowed. Clams were collected by hand, placed in mesh collection bags, then processed shipboard.

During the sediment survey (for grain size, TOC, and macrofauna) additional clams were collected using the van Veen grab. Any hard clam collected (greater that one centimeter length) was removed from the sample and retained. Clams that were collected by divers or in grabs were measured to the nearest millimeter, then packed for delivery to the laboratory with labels to identify the sampling location and date. Clam collection data was recorded on the field logs.

Once the diver and sediment surveys were completed, the field crew determined the best locations for additional sampling to obtain hard clams from a total of 30 locations. These locations were determined based on sites where clams had already been collected in highest densities (i.e., during the September or June surveys). Once the 30 locations were selected, the field crew decided based on site-specific conditions, which sampling gear (e.g., van Veen grab, clam rake, or clam dredge) to use for collecting remaining clams. Most of the remaining clams were collected using a clam rake.

After enough clams had been collected at a sampling location, sediment chemistry samples were then collected at that station. Any clams found in the van Veen grabs for sediment chemistry were also saved for tissue analyses.

2.2 Laboratory Methods for the Hard-Bottom Study

Photograph Analysis Methods

Photographic still images were processed by Normandeau's biological laboratory. The relative abundance of macroalgae and macrofauna in each image was determined by identifying organisms and quantifying the percent present in each image.

Due to poor visibility (approximately 1-2 feet or less) a quadrat frame measuring 0.5 x 0.5 meter was used to take the still photographs. Four photographs were taken at each random location along a transect to cover a total area of 1.0 x 1.0 meters. The four photographs taken at each location were combined in Adobe Photoshop Elements 12 (Adobe Systems Inc. 2013) to generate a single composite image. The relative abundance of macroalgae and macrofauna in each image was determined by identifying organisms to the lowest practical taxon and using percent present per image. Percent present per image was determined by placing a grid template consisting of 64 squares over each image and counting the number of squares in which a species occurred for all species observed. In instances where the complete grid squares did not contain bottom habitat these squares were subtracted from the total number of grid squares

and only those grid squares containing bottom habitat were used to determine percent present. Percent present for the complete transect was determined by averaging the percent present per image at all locations photographed along the transect. Relative abundance was defined as: Not Observed = 0%, Present = 0.1-10% of the images, Abundant = 11-50% of the images, and Very Abundant = 51-100% of the images. The general substrate characterization including vertical relief and drape were also recorded. Vertical relief, the difference in elevation between two surfaces, was characterized as low, moderate, and high. Low relief means that the difference in bottom elevation was less than 0.5 meters (19.5 inches), moderate relief means that the difference in bottom elevation was 0.5 to 2 meters (19.5 inches to 6.5 feet), and high relief means that the difference in bottom elevation was greater than 2 meters (6.5 feet). Drape is the visible layer of detrital material on the top of rock surfaces composed of fine-grain sediment, phytodetritus, zooplankton fecal pellets, tubes, and mucus. Drape was characterized as: Absent = hard surface or encrusting or fouling organisms are clearly visible, Low = that a film of sediments covers less than 50% of the hard substrate or fouling organisms, Moderate = more than half of the hard substrate or organisms are covered or obliterated, and Heavy = most of the hard substrate or encrusting/fouling organisms are covered and indistinguishable.

Hard-Bottom Macroinvertebrate Abundance

Hard-bottom destructive samples were processed by Normandeau's Bedford, NH laboratory following standard processing protocols. Upon arrival at the laboratory, all samples were rinsed with fresh water through a 1.0 mm mesh screen to remove formalin from the sample. Large pieces of macroalgae were then removed from each sample before sorting the smaller materials. To facilitate sorting, samples were elutriated to separate heavy and light materials and those with heterogeneously sized debris or organisms were washed through a series of graduated sieves down to a 1.0 mm mesh. Macroinvertebrates and macroalgae were sorted from the debris into major taxonomic groups using a dissecting microscope. Macroinvertebrate organisms removed from each sample were placed in vials with 70% ethanol for preservation. All organisms were identified to the lowest practical taxon (usually species) and enumerated, with the following exceptions: oligochaete annelids were identified to class, and meiofauna (e.g., nematodes, benthic copepods, ostracods) were not enumerated. Colonial macroinvertebrates were identified and recorded as present in a sample.

Quality control protocols were followed for both sorting and identification. At least the first three samples undertaken by each new macroinvertebrate sample sorter were re-checked by the Quality Control Supervisor. The first sample sorted by each experienced sorter was also re-checked by the Quality Control Supervisor. Regardless of experience level, a minimum of 10% of each sorter's subsequent samples in a batch was resorted. Any work found to be of insufficient quality resulted in re-checking that sorter's samples (from that batch) and retraining the sorter. In addition, 10% of the taxonomists' samples were re-identified. Any work found to be of insufficient quality resulted in re-checking that batch and retraining of the taxonomist.

Hard-Bottom Macroalgal Biomass

Processing of hard-bottom destructive samples for macroalgae followed the same sorting procedure that was described for macroinvertebrates. After rinsing samples with fresh water, large pieces of macroalgae were removed and frozen for later identification by specialists. Remaining materials were then elutriated and washed through a series of graduated sieves to facilitate sorting. Macroinvertebrates and macroalgae were sorted from the debris into major

taxonomic groups using a dissecting microscope. Macroalgal specimens that were removed from each sample were either frozen (larger specimens) or placed in vials with 70% ethanol (smaller specimens) for preservation. All algal specimens were then identified to the lowest practical taxon and biomassed.

Dry Weight (DW) biomass was measured for each algal taxon on a per sample basis. All weights were measured in grams using a Mettler analytical balance (to 0.01 g). The tare weight of each tray was determined first by weighing the tray. Sample material for each algal taxon was then added to a tray and dried in a gravity oven. Sample material was dried through a repetitive process of drying the material in a gravity oven at 105°C for 1.0 hour, then weighing the sample (at least twice) until the difference between the first and second weights was less than 0.001 g or less than 5% of the sample weight. The dry weight of sample material was then measured after the material was completely dried. DW was calculated as the dry weight of sample material minus the tare weight of the aluminum tray in which the material was weighed.

All biomass equipment was thoroughly cleaned between uses. Aluminum trays and pans were handled with tweezers or forceps, and were marked with unique identifiers for tracking samples. Quality control protocols for biomass determination included the processing of laboratory blanks and re-processing 10% of samples with the requirement that weight of the blank not differ from tare by more than 0.0009 g.

2.3 Laboratory Methods for the Benthic Macroinvertebrate Study

Water, Sediment, and Clam Tissue

Laboratory processing of water, sediment, and clam tissue samples was conducted by ALS Environmental (ALS). Three ALS laboratories, located in Middletown, PA (ALS Middletown), Kelso, WA (ALS Kelso), and, Houston, TX, (ALS Houston), participated in sample processing. Table 2-1 shows the distribution of sample processing effort among ALS laboratories, and provides the analytical method used for each parameter and sample matrix for water, sediment, and clam tissue samples. All laboratories processed samples according to standard methodologies (e.g., EPA methods) for each parameter and sample matrix (Table 2-1).

Water samples for fecal coliform analyses were processed immediately upon receipt by the laboratory to ensure processing within the 8-hr holding time. In order to meet an 8-hour holding time requirement for fecal coliform samples, ALS subcontracted with Garden State Labs, Inc. (Hillside, NJ) to analyze some of the coliform samples (Table 2-1). Sediment chemistry analyses were conducted following EPA standard methods for sediments (EPA Method SW-846) along with specific methods for each parameter listed in Table 2-1. Clean room processing of hard clam for tissue contaminant burden analyses was conducted by ALS Kelso. Whole clams were shucked and clam tissues were homogenized in preparation for laboratory analyses. Once clam tissues were homogenized, a subsample was shipped (frozen) to ALS Houston for analysis of dioxins and furans. All other clam tissue contaminant parameters were analyzed by ALS Kelso (Table 2-1).

All laboratory analyses were monitored under the ALS Environmental Quality Assurance/Quality Control (QA/QC) program. This program includes: instrument calibration, the analysis of spiked samples, quality control samples, laboratory blanks, replicate analyses,

and comparison of QA/QC data with accepted limits. ALS provided Normandeau with quality checked analytical results in electronic data deliverables (EDDs) in PDF and Excel formats.

Soft-Bottom Macroinvertebrate Abundance

Soft-bottom macroinvertebrate samples were processed by Normandeau's Bedford, NH laboratory following standard processing protocols. Upon arrival at the laboratory, all samples were rinsed with fresh water through a 0.5 mm mesh screen. Macroinvertebrates were sorted from the debris into major taxonomic groups using a dissecting microscope. Organisms removed from each sample were placed in vials with 70% ethanol for preservation. To facilitate sorting, samples were elutriated to separate heavy and light materials and those with heterogeneously sized debris or organisms were washed through a series of graduated sieves down to a 0.5 mm mesh. All organisms were identified to the lowest practical taxon (usually species) and enumerated, with the following exceptions: oligochaete annelids were identified to class, and meiofauna (e.g., nematodes, benthic copepods, ostracods) were not enumerated.

Quality control protocols were followed for both sorting and identification. At least the first three samples undertaken by each new macroinvertebrate sample sorter were re-checked by the Quality Control Supervisor. The first sample sorted by each experienced sorter was also re-checked by the Quality Control Supervisor. Regardless of experience level, a minimum of 10% of each sorter's subsequent samples in a batch was resorted. Any work found to be of insufficient quality resulted in re-checking that sorter's samples (from that batch) and retraining the sorter. In addition, 10% of the taxonomists' samples were re-identified. Any work found to be of insufficient quality resulted in re-checking that batch and retraining of the taxonomist.

Soft-Bottom Macroinvertebrate Biomass

Dry Weight (DW) and Ash Free Dry Mass (AFDM) were calculated on a per sample basis. Mollusc shells were included in the biomass weights with shells of large specimens being opened to facilitate complete drying. All weights were measured in grams using a Sartorius analytical balance (to 0.0001 g). DW was measured as the dried weight of a sample (including shells and other inorganic material). AFDM provides a sample weight without the inorganic material.

DW was measured as the dried weight of a sample in grams. It included the organic components (organisms and detritus) and the inorganic components (sand, silt, shells and other inorganic material that may be found in or on specimens). DW was calculated as the pre-ignition dry weight of sample material minus the tare weight of the aluminum tray in which the material was weighed. The tare weight of each tray was determined first by weighing the tray after it had been ignited in a pre-heated muffle furnace for 0.5 hour at 500°C. The pre-ignition dry weight of sample material was then measured after the material was completely dried. Sample material was dried through a repetitive process of drying the material in an oven at 105°C for 1.0 hour, then weighing the sample (at least twice) until the difference between the first and second weights was less than 0.001 g or less than 5% of the sample weight.

After DW was determined, AFDM was then measured. AFDM was measured as the weight of a sample (in grams) without the inorganic component (sand, silt, shells, exuviae and inorganic compounds). AFDM was measured by placing sample trays with dried material into a pre-heated muffle furnace and igniting the sample at 500°C for 1.0 hour. Sample material was then re-hydrated and then dried through a repetitive process of drying the ash material in an oven at

105°C for 1.0 hour, then weighing the sample (at least twice) until the difference between the first and second weights was less than 0.001 g or less than 5% of the sample weight. Ash weight was calculated as the post-ignition dry weight minus tare weight. Once ash weight was determined, the AFDM was calculated as the dry weight minus the ash weight.

All biomass equipment was thoroughly cleaned between uses. Aluminum trays and pans were handled with tweezers or forceps, and were etched with unique identifiers for tracking samples (ink and marker are consumed during the ignition process). Quality control protocols for biomass determination included the processing of laboratory blanks and re-processing 10% of samples. Weight of the blank must not differ from tare by more than 0.0009 g.

2.4 Data Handling and Reduction Methods

Data handling methods that were used for both the Hard-Bottom and the Benthic Macroinvertebrate Studies, including data entry and quality control procedures, are described in the project Field SOP (Appendix E). Specific data handling and reduction methods that were not described in the Field SOP are discussed herein.

Data preparation, reduction, and univariate analyses including summary statistics were run in SAS system software (version 9.3). Total algal biomass and summary statistics for algal biomass were computed using data included at half the measurement limit for results below that limit (i.e., "<0.01g" was replaced with "0.005g" for total biomass calculations). Summary statistics for total nitrogen and fecal coliform were prepared using data for undetected results included at half the detection limit (i.e., 0.5 mg/L for total nitrogen, and 5 organisms/100 mL for fecal coliform results reported as "<10"). Sediment grain size data were summarized in texture classes (clay; silt; fine, medium and coarse sand; and gravel). Macroinvertebrate community structure parameters (for both hard-bottom and soft-bottom) were calculated based on the biotic data for each station. Abundance values were computed based on the total counts from both species and higher taxonomic groups in each sample, while diversity measures were based on the species-level identifications only. Colonial organisms collected in hard-bottom samples were recorded as present in sample, but were not included in the analysis of community parameters. Summary statistics for the macroinvertebrate community included: total abundance, number of species, Shannon diversity index (H' per sample, log base e), Pielou's evenness index (J' per sample), and Log-series Alpha (Magurran 1988). Diversity indices were calculated using PRIMER v6 (Plymouth Routines in Multivariate Ecological Research) software (Clarke and Warwick 2001).

Table 2-1. Processing laboratory and analytical method used for each parameter and sample matrix for water, sediment, and clam tissue samples.

Parameter	Laboratory	Matrix	Method
Metals/Metalloids: As, Ba, Be, Cd, Cu, Pb, Mn, Ni, Se, Ag, Zn, Cr	ALS Middletown	Sediment	6020A
Metals: Mercury	ALS Middletown	Sediment	7471B
Cyanide	ALS Middletown	Sediment	9012B
Hexavalent Chromium, Trivalent Chromium (calc.)	ALS Middletown	Sediment	Calculation/ 7196A
2,4,5-TP (Silvex)	ALS Middletown	Sediment	8151A
Pesticides/ PCBs	ALS Middletown	Sediment	8081B/8082A/ 8151A/8270D
SVOCs	ALS Middletown	Sediment	8270D
VOCs NY Low-level	ALS Middletown	Sediment	8260C/8270D
Total Organic Carbon	ALS Middletown	Sediment	9060A
Total Nitrogen (includes Nitrate/Nitrite and TKN):	ALS Middletown	Surface water	Calculation
Nitrate/Nitrite	ALS Middletown	Surface water	353.2
Total Kjeldahl Nitrogen	ALS Middletown	Surface water	S4500NH3G-11
Fecal Coliform	ALS Middletown; Garden State	Surface water	S9222D-97
Grain Size/Sediment (% Sand, Silt, Clay)	ALS Kelso	Sediment	ASTM D422
Prep/Homogenization/Clam Tissue (ALS Kelso will send sample to ALS Houston after prep.)	ALS Kelso	Clam Tissue	ALS-SOP
SVOCs	ALS Kelso	Clam Tissue	8270D SIM
PCBs	ALS Kelso	Clam Tissue	8082A
Pesticides	ALS Kelso	Clam Tissue	8081B
Lipids	ALS Kelso	Clam Tissue	NOAA LIPID
Metals/Metalloids: Al, Sb, As, Ba, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Ag, Na, Sr, Sn, Ti, V, Zn & Se	ALS Kelso	Clam Tissue	6010C/6020A/ 7471B
Dioxins/Furans	ALS Houston	Clam Tissue	8290A

3.0 Results for the Hard-Bottom Study

Hard-bottom benthic communities in Raritan Bay were surveyed during July and September, 2015. Surveys included destructive sampling and the collection of photographic still images. Data summaries for these hard-bottom surveys, including data by sample for each survey, are provided in Appendix F.

3.1 Hard-bottom Photograph Survey in July

Hard-bottom macroalgae and epibenthic fauna were quantified (as percent present) from a total of 23 composite images taken at transects HB02, HB03, HB04, and HB05 on July 20, 2015 (Appendix D-1). The hard substrate observed at these transects consisted of large rocks, although some sand, gravel, and cobble occurred at HB02. The vertical relief of the rocks in these areas appeared to be moderate and below 2 meters. The surfaces had no drape although suspended material was high and resulted in poor visibility. A total of 32 algal and faunal taxa were identified in the images from the four transects (Table 3-1 and Appendix F-1). The dominant taxa observed at Transect HB02 were two algae species *Agardhiella* spp., a red branching algae, and *Ulva lactuca*. The hard substrate at transects HB03 and HB04 was predominately covered by the remains of a large barnacle set, followed by *Ulva* spp. Red filamentous algae were the dominant taxa observed at Transect HB05 followed by Unidentifiable A, a green filamentous structure that might be comprised by an indistinguishable mixture of green algae and bryozoans. The relative abundance of bryozoans and hydroids ranged from present to abundant and was most likely underestimated due to the small sizes of the organisms, prevalence of algae which may have obscured them, and image resolution. Four species of gastropods (*Littorina littorea*, *Urosalpinx cinerea*, *Ilyanassa obsolete*, and *Eupleura caudate*), two species of sponges (*Microciona prolifera* and *Halichondria bowerbanki*), a species of anemone (*Diadumene leucolena*), and tunicate (*Molgula manhattensis*) were also identified in the transects (Table 3-1 and Appendix F-1).

3.2 Hard-bottom Destructive Survey in July

Macroinvertebrates

A total of nearly 21,000 macroinvertebrate organisms were counted from the 13 samples collected at hard-bottom stations during July. Counts by taxon for each sample are provided in Appendix F-2. Organisms were classified into 81 discrete taxa from 10 different phyla and 53 families (Appendix F-3).

Macroinvertebrate abundance averaged 1,613 individuals per each 1/16 m^2 sample (0.0625 m^2 quadrat on rock surfaces; Table 3-2). The lowest abundance (236 individuals) was in Sample HB04_1 and the highest abundance (5,627 individuals) was in Sample HB04_3 (Appendix F-4). The numbers of species per sample were lowest (18 species) in Sample HB03_1 and highest (36 species) in Sample HB04_4 (Appendix F-4). The mean number of species per sample was 27 (Table 3-2). Measures of species diversity were lowest in Samples HB03_1 (H′ = 1.21, Log series alpha = 2.85) and HB03_2 (H′ = 0.77, Log series alpha = 3.31), and highest in Samples HB04_1 (H′ = 2.75, Log series alpha = 8.73) and HB02_2 (H′ = 2.56, Log series alpha = 8.80; Appendix F-4). The sample with the lowest abundance (HB04_1) also had the highest evenness (J′ = 0.82) whereas the lowest evenness occurred in sample HB03_2 (J′=0.25; Appendix F-4).

Five dominant taxa accounted for at least 75% of the total abundance at the hard-bottom sampling locations (Table 3-3). Averaging across all samples, the barnacle *Amphibalanus improvisus* was the most abundant organism. The polychaete *Sabellaria vulgaris* was the next most abundant, followed by the amphipods *Caprella penantis*, *Apocorophium acutum*, and *Monocorophium insidiosum* (Table 3-3).

Comparisons of abundance and numbers of species by phyla indicated overall dominance of the hard-bottom macroinvertebrate community by arthropods (Tables 3-4 and 3-5, Appendices F-5 and F-6). Arthropods accounted for over 75% of total macroinvertebrate abundance across all destructive samples at the hard-bottom locations (Table 3-4). The Phylum Mollusca accounted for the next highest number of individuals, followed by Annelida, and all other phyla combined (Table 3-4). Arthropods also made up the greatest proportion of species, accounting for 44% of all taxa identified to the species level. Molluscs were next in terms of diversity, followed by annelid worms, and all other phyla combined (Table 3-5).

Macroalgae

Nineteen macroalgal taxa were reported from the 13 destructive samples collected during July (Table 3-6). Twelve of those were species-level identifications. Macroalgae were classified into two phyla, three classes, and six orders (Table 3-6).

Dry Weight biomass was measured for each algal taxon in each hard-bottom destructive sample (Appendix F-7). Total biomass ranged from 0.02 to 2.69 g, with a mean of 1.10 g across all 13 samples (Table 3-7). Sample HB03_1 had the lowest total biomass and HB02_2 had the highest (Table 3-7). The numbers of algal taxa per sample averaged 7.2 and ranged from three (Samples HB03_1 and HB03_2) to 10 (Sample HB03_4; Table 3-7).

3.3 Hard-bottom Photograph Survey in September

Hard-bottom macroalgae and epibenthic fauna were quantified (as percent present) from a total of 26 composite images taken at transects HB02, HB04, HB05, and HB07 on September 21, 2015 (Appendix D-2). The hard substrate observed at these transects was large rocks, although some sand and gravel with shell debris was observed at HB02. The vertical relief of the rocks in these areas appeared to be moderate, less than two meters. The surfaces at transect HB04 had a low amount of drape while surfaces at transects HB02, HB05, and HB07 had no drape. Suspended material was high and resulted in poor visibility at all transects sampled. A total of 26 algal and faunal taxa were identified in the images from the four transects (Table 3-8 and Appendix F-8). The dominant taxa observed at transect HB02 were unidentifiable red algae, *Agardhiella* spp. (a red branching algae) and the remains of a large barnacle set. The hard substrate at transect HB04 was predominately covered by *Ulva* spp., followed by *Agardhiella* spp., and red filamentous algae. Transect HB05 was predominately covered by bryozoans, encrusting sponge, and hydroids. Bryozoans were the dominant taxa observed at Transect HB07 followed by red beard sponge (*Microciona prolifera*) and encrusting sponges. The relative abundance of bryozoans and hydroids ranged from not observed to very abundant and was most likely underestimated due to the small sizes of the organisms, prevalence of algae which may have obscured them, and image resolution. Three species of gastropods (*Urosalpinx cinerea*, *Eupleura caudate*, and *Crepidula* spp.), a species of bivalve (the hard clam, *Mercenaria mercenaria*), an anemone (*Metridium senile*), and tube worms (Serpulidae) were also identified in the transects (Table 3-8 and Appendix F-8).

3.4 Hard-bottom Destructive Survey in September

Macroinvertebrates

A total of nearly 5,000 macroinvertebrate organisms were counted from the 15 destructive samples collected at hard-bottom stations during September. Counts by taxon for each sample are provided in Appendix F-9. Organisms were classified into 10 different phyla, 63 families, and 91 discrete taxa (Appendix F-10).

Macroinvertebrate abundance averaged 327 individuals per each 1/16 m^2 sample (0.0625 m^2 quadrat on rock surfaces; Table 3-9). The lowest abundance (115 individuals) was in Sample HB02_4 and the highest abundance (801 individuals) was in Sample HB07_2 (Appendix F-11). Sample HB07_2 also contained the highest number of species (34 species), while the lowest number of species (16 species) was in Sample HB05_4; the mean number of species per sample was 25 (Table 3-9; Appendix F-11). Measures of species diversity were highest in Sample HB02_1 (H' = 2.75, Log series alpha = 9.23; Appendix F-11). Shannon-Wiener diversity was lowest in Sample HB04_2 (H' = 1.36) and Log series alpha was lowest in Sample HB05_2 (Log series alpha = 4.00; Appendix F-11). The highest evenness (J' = 0.82) was in Sample HB05_4 and the lowest evenness occurred in Sample HB04_2 (J'=0.41; Appendix F-11).

Ten dominant taxa accounted for at least 75% of the total abundance at the hard-bottom sampling locations (Table 3-10). The corophiid amphipod *Apocorophium acutum* was the most abundant organism across all samples, followed by the polychaete *Sabellaria vulgaris*. Two caprellid amphipods were the next most abundant (*Caprella penantis* and *Paracaprella tenuis*) and other dominant taxa included chordates, gastropods, polychaetes and amphipods (Table 3-10).

Comparisons of abundance and numbers of species by phyla indicated overall dominance of the hard-bottom macroinvertebrate community by arthropods (Table 3-11 and 3-12, Appendices F-12 and F-13). Arthropods accounted for 58% of total macroinvertebrate abundance across all destructive samples at the hard-bottom locations (Table 3-11). The Phylum Annelida accounted for the next highest number of individuals, followed by Mollusca, and all other phyla combined (Table 3-11). Arthropods also made up the greatest proportion of species, accounting for 45% of all taxa identified to the species level. Annelid worms and molluscs were next in terms of diversity, followed by all other phyla combined (Table 3-12).

Macroalgae

Sixteen macroalgal taxa were reported from the 15 destructive samples collected during September (Table 3-13). Eleven of those were species-level identifications. Macroalgae were classified into two phyla, two classes, and eight orders (Table 3-13).

Dry Weight biomass for each algal taxon in each hard-bottom destructive sample is provided in Appendix F-14. Sample HB05_2 contained no macroalgae (Table 3-14). Total biomass averaged 1.80 g, with a maximum of 8.75 g (Sample HB04_3), across all 15 samples (Table 3-14). The highest number of algal taxa per sample was 12 (Sample HB02_4) and the mean was 8.1 (Table 3-14). No macroalgae was present at one of the replicates at HB05.

Table 3-1. Relative abundance of macroalgae and macrofauna photographed on hard-bottom transects during July.

	Transect							
	HB02		HB03		HB04		HB05	
Substrate	sand, gravel, and rocks		large rocks		large rocks		large rocks	
Drape	absent		absent		absent		absent	
Relief	low-moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	Relative abundance	Range of Percent Present	Relative Abundance	Range of Percent Present	Relative Abundance	Range of Percent Present	Relative Abundance	Range of Percent Present
Algae								
Red Filamentous Algae (all species)	Present	2-9%	Present	0-45%	Abundant	0-25%	Very Abundant	55-81%
Red Branching Algae (*Agardhiella* spp.)	Very Abundant	64-88%	Present	0-6%	Present	0-13%	Abundant	0-19%
Laver (*Porphyra* spp.)	Present	5-13%	Not Observed		Present	0-5%	Present	0-19%
Grinnell's Pink Leaf (*Grinnellia americana*)	Not Observed		Not Observed		Not Observed		Present	0-2%
Red Algae Species 1 (Gigartinales Species 1)	Present	0-6%	Not Observed		Present	0-8%	Present	0-11%
Unidentifiable Dark Red Algae	Present	0-2%	Abundant	16-64%	Present	0-22%	Present	0-3%
Polly (*Polysiphonia lanosa*)	Not Observed		Not Observed		Not Observed		Present	0-3%
Gut Weed (*Ulva intestinalis*)	Not Observed		Not Observed		Abundant	0-41%	Present	0-3%
Sea Lettuce (*Ulva lactuca*)	Very Abundant	69-75%	Present	0-33%	Abundant	0-89%	Abundant	0-45%
Sea Lettuce (*Ulva* spp.)	Not Observed		Abundant	0-80%	Very Abundant	25-78%	Present	0-17%
Cnidaria								
General Hydroids (all species)	Abundant	9-11%	Present	0-11%	Present	0-17%	Abundant	5-20%
Ghost Anemone (*Diadumene leucolena*)	Not Observed		Not Observed		Present	0-5%	Present	0-13%
Bryozoan								
Broazoans (all species)	Present	0-9%	Present	0-31%	Present	0-6%	Abundant	5-41%
Lacy Crusts (*Membranipora* and related genera)	Abundant	20-22%	Not Observed		Present	0-3%	Not Observed	

(continued)

Table 3-1. (Continued)

	HB02		HB03		HB04		HB05	
Biota	Relative abundance	Range of Percent Present	Relative Abundance	Range of Percent Present	Relative Abundance	Range of Percent Present	Relative Abundance	Range of Percent Present
Sponges								
Red beard sponge (*Microciona prolifera*)	Abundant	3-22%	Present	0-8%	Present	0-23%	Abundant	8-22%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	Not Observed		Not Observed		Present	0-14%	Abundant	0-28%
Encrusting Sponges (all species)	Not Observed		Present	0-8%	Not Observed		Abundant	0-27%
Mollusks								
Common Periwinkle (*Littorina littorea*)	Not Observed		Not Observed		Not Observed		Present	0-2%
Oyster Drill (*Urosalpinx cinerea*)	Present	3%	Not Observed		Present	0-9%	Abundant	8-22%
Oyster Drill egg cases	Not Observed		Not Observed		Present	0-5%	Present	0-9%
Mud dog whelk (*Ilyanassa obsoleta*)	Not Observed		Not Observed		Present	0-6%	Present	0-2%
Murex snail (*Eupleura caudata*)	Not Observed		Not Observed		Present	0-3%	Present	0-3%
Unidentifiable Gastropod (Gastropoda)	Present	0-3%	Abundant	5-27%	Abundant	5-19%	Present	0-13%
Blue Mussel (*Mytilus edulis*)	Not Observed		Not Observed		Not Observed		Present	0-2%
Unidentifiable Bivalve (Bivalvia)	Not Observed		Not Observed		Present	0-3%	Not Observed	
Arthropoda								
Barnacles (*Balanus* spp.)	Not Observed		Present	0-8%	Not Observed		Not Observed	
Dead Barnacles (*Balanus* spp.)	Abundant	13-20%	Very Abundant	20-81%	Very Abundant	44-70%	Abundant	17-52%
Hermit Crab (*Pagurus* spp.)	Not Observed		Not Observed		Present	0-2%	Not Observed	
Unidentifiable Crab (Brachyura)	Not Observed		Not Observed		Present	0-2%	Present	0-2%
Tunicates								
Sea Grapes (*Molgula manhattensis*)	Not Observed		Not Observed		Present	0-8%	Present	0-17%
General Tunicate	Not Observed		Not Observed		Present	0-2%	Not Observed	
Others								
Unidentifiable A	Not Observed		Not Observed		Present	0-30%	Abundant	8-86%

Table 3-2. Summary statistics for hard-bottom macroinvertebrate community parameters by location for destructive samples collected during July.

Community Parameters	Summary Statistics			
	N	Min	Mean	Max
Total Abundance	13	236	1612.8	5627
Number of Species	13	18	27.4	36
Shannon-Wiener Diversity (H')	13	0.77	1.77	2.75
Log-series alpha	13	2.85	5.34	8.80
Pielou's Evenness (J')	13	0.25	0.53	0.82

Table 3-3. Mean abundance per sample of dominant taxa in hard-bottom destructive samples collected during July. Dominant taxa were identified as those composing 75% of total abundance for each location.

Phylum	Higher Taxon	Family	Species	Mean Abundance
Arthropoda	Cirripedia	Balanidae	*Amphibalanus improvisus*	856.9
Annelida	Polychaeta	Sabellariidae	*Sabellaria vulgaris*	113.4
Arthropoda	Amphipoda	Caprellidae	*Caprella penantis*	104.7
Arthropoda	Amphipoda	Corophiidae	*Apocorophium acutum*	74.6
Arthropoda	Amphipoda	Corophiidae	*Monocorophium insidiosum*	69.4

Table 3-4. Contribution to abundance by sample for each numerically-dominant phylum and all other phyla combined for macroinvertebrates collected in hard-bottom destructive samples during July.

Phylum	Summary Statistics			
	N	Min	Mean	Max
Annelida	13	5	141.0	713
Arthropoda	13	69	1242.1	4274
Mollusca	13	9	203.9	727
Other phyla	13	0	25.8	85
Total Abundance	**13**	**236**	**1612.8**	**5627**

Table 3-5. Contribution to species richness by sample for each numerically-dominant phylum and all other phyla combined for macroinvertebrates collected in hard-bottom destructive samples during July.

Phylum	Summary Statistics			
	N	Min	Mean	Max
Annelida	13	2	5.4	7
Arthropoda	13	7	12.1	17
Mollusca	13	3	7.5	10
Other phyla	13	0	2.5	6
Total Number of Species	**13**	**18**	**27.4**	**36**

Table 3-6. Algal taxa collected in destructive samples during the July 2015 hard-bottom survey.

Phylum	Class	Order	Species/Taxon
Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*
		Cladophorales	*Chaetomorpha linum*
			Chaetomorpha melagonium
			Chaetomorpha picquotiana
			Chaetomorpha sp.
			Cladophora sericea
		Ulvales	*Ulva intestinalis*
			Ulva lactuca
			Ulva sp.
			Ulvales
Rhodophyta	Bangiophyceae	Bangiales	*Porphyra* sp.
	Florideophyceae	Ceramiales	*Aglaothamnion* sp.
			Ceramium sp.
			Ceramium virgatum
			Grinnellia americana
			Polysiphonia denudata
			Scagelia pylaisaei
		Gigartinales	*Agardhiella subulata*
			Gigartinales

Table 3-7. Total algal biomass and number of taxa by sample for each destructive sample collected during the July 2015 Hard-bottom Study.

Sample ID	Total Biomass (g)	Number of Taxa
HB02_1	2.34	9
HB02_2	2.69	6
HB03_1	0.02	3
HB03_2	0.03	3
HB03_3	1.89	7
HB03_4	0.90	10
HB04_1	1.79	6
HB04_2	1.33	8
HB04_3	0.79	8
HB04_4	1.90	8
HB05_1	0.13	8
HB05_2	0.29	9
HB05_3	0.26	9
N	**13**	**13**
Min	**0.02**	**3**
Mean	**1.10**	**7.2**
Max	**2.69**	**10**

Table 3-8. Relative abundance of macroalgae and macrofauna photographed on hard-bottom transects during September.

	Transect							
	HB02		HB04		HB05		HB07	
Substrate	**Rocks with sand, gravel, shell debris, and cobble**		**large rocks**		**large rocks**		**large rocks**	
Drape	**absent**		**low**		**absent**		**absent**	
Relief	**low-moderate**		**low-moderate**		**moderate**		**moderate**	
Suspended matter	**high, poor visiblity**		**high, poor visiblity**		**high, poor visiblity**		**high, poor visiblity**	
Biota	Relative abundance	Range of percent present	Relative abundance	Range of percent present	Relative abundance	Range of percent present	Relative abundance	Range of percent present
Algae								
Red Filamentous Algae (all species)	Not Observed		Abundant	0-58%	Present	0-17%	Present	0-25%
Red Branching Algae (*Agardhiella* spp.)	Abundant	0-52%	Abundant	8-36%	Present	0-9%	Present	0-3%
Laver (*Porphyra* spp.)	Present	0-6%	Present	0-3%	Present	0-31%	Present	0-8%
Grinnell's Pink Leaf (*Grinnellia americana*)	Not Observed		Not Observed		Present	0-2%	Not Observed	
Red Algae Species 1 (Gigartinales Species 1)	Not Observed		Present	0-28%	Present	0-3%	Not Observed	
Unidentifiable Dark Red Algae	Present	0-16%	Present	0-9%	Not Observed		Not Observed	
Sea Lettuce (*Ulva lactuca*)	Not Observed		Abundant	0-66%	Not Observed		Not Observed	
Sea Lettuce (*Ulva* spp.)	Abundant	3-34%	Abundant	0-88%	Not Observed		Present	0-2%
Whipweed (*Chordaria flagelliformis*)	Not Observed		Present	0-23%	Not Observed		Not Observed	
Unidentifiable Red Algae	Abundant	0-78%	Abundant	0-52%	Not Observed		Not Observed	
Cnidaria								
Tubularian Hydroids (*Tubularia* spp.)	Not Observed		Not Observed		Present	0-3%	Not Observed	
General Hydroids (all species)	Not Observed		Not Observed		Abundant	5-37%	Present	0-19%
Frilled Anemone (*Metridium senile*)	Not Observed		Not Observed		Present	0-5%	Not Observed	
Bryozoan								
Broazoans (all species)	Not Observed		Present	0-3%	Very Abundant	50-95%	Very Abundant	45-73%

(continued)

Table 3-8. (Continued)

	HB02		HB04		HB05		HB07	
Biota	Relative abundance	Range of percent present	Relative abundance	Range of percent present	Relative abundance	Range of percent present	Relative abundance	Range of percent present
Lacy Crusts (*Membranipora* and related genera)	Not Observed		Present	0-3%	Not Observed		Not Observed	
Polychaetes								
Tube Worms (Serpulidae)	Not Observed		Present	0-13%	Present	0-3%	Present	0-6%
Sponges								
Red Beard Sponge (*Microciona prolifera*)	Present	0-6%	Abundant	7-36%	Abundant	8-30%	Abundant	12-42%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	Not Observed		Present	0-8%	Not Observed		Not Observed	
Encrusting Sponges (all species)	Not Observed		Present	0-8%	Abundant	20-53%	Abundant	23-34%
Mollusks								
Oyster Drill (*Urosalpinx cinerea*)	Present	0-8%	Present	0-5%	Present	0-2%	Not Observed	
Thick-lipped Oyster Drill (*Eupleura caudata*)	Not Observed		Not Observed		Present	0-2%	Not Observed	
Slipper Shell (*Crepidula* spp.)	Present	0-14%	Not Observed		Not Observed		Not Observed	
Unidentifiable Gastropod (Gastropoda)	Present	0-5%	Present	0-16%	Present	0-6%	Present	0-5%
Quahog (*Mercenaria mercenaria*)	Present	0-2%	Not Observed		Not Observed		Not Observed	
Arthropoda								
Barnacles (*Balanus* spp.)	Not Observed		Present	0-2%	Not Observed		Not Observed	
Dead Barnacles (*Balanus* spp.)	Abundant	0-25%	Present	0-22%	Abundant	8-27%	Present	0-5%

Table 3-9. Summary statistics for hard-bottom macroinvertebrate community parameters by location for destructive samples collected during September.

Community Parameters	Summary Statistics			
	N	Min	Mean	Max
Total Abundance	15	115	326.8	801
Number of Species	15	16	25.4	34
Shannon-Wiener Diversity (H')	15	1.36	2.12	2.75
Log-series alpha	15	4.00	6.86	9.23
Pielou's Evenness (J')	15	0.41	0.66	0.82

Table 3-10. Mean abundance per sample of dominant taxa in hard-bottom destructive samples collected during September. Dominant taxa were identified as those composing 75% of total abundance for each location.

Phylum	Higher Taxon	Family	Species	Mean Abundance
Arthropoda	Amphipoda	Corophiidae	*Apocorophium acutum*	87.2
Annelida	Polychaeta	Sabellariidae	*Sabellaria vulgaris*	35.7
Arthropoda	Amphipoda	Caprellidae	*Caprella penantis*	25.3
Arthropoda	Amphipoda	Caprellidae	*Paracaprella tenuis*	23.1
Chordata	Urochordata	Molgulidae	*Molgula manhattensis*	18.0
Annelida	Polychaeta	Sabellidae	*Parasabella microphthalma*	14.7
Arthropoda	Amphipoda	Aoridae	*Microdeutopus gryllotalpa*	13.7
Arthropoda	Amphipoda	Maeridae	*Elasmopus levis*	13.3
Mollusca	Gastropoda	Pyramidellidae	*Boonea bisuturalis*	13.3
Annelida	Polychaeta	Nereididae	*Alitta succinea*	9.8

Table 3-11. Contribution to abundance by sample for each numerically-dominant phylum and all other phyla combined for macroinvertebrates collected in hard-bottom destructive samples during September.

Phylum	Summary Statistics			
	N	Min	Mean	Max
Annelida	15	4	69.8	522
Arthropoda	15	23	188.8	412
Mollusca	15	5	41.6	134
Other phyla	15	0	26.6	291
Total Abundance	**15**	**115**	**326.8**	**801**

Table 3-12. Contribution to species richness by sample for each numerically-dominant phylum and all other phyla combined for macroinvertebrates collected in hard-bottom destructive samples during September.

Phylum	Summary Statistics			
	N	Min	Mean	Max
Annelida	15	2	5.7	10
Arthropoda	15	8	11.5	14
Mollusca	15	2	5.5	10
Other phyla	15	0	2.7	8
Total Number of Species	**15**	**16**	**25.4**	**34**

Table 3-13. Algal taxa collected in destructive samples during the September 2015 hard-bottom survey.

Phylum	Class	Order	Species/Taxon
Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*
		Cladophorales	*Chaetomorpha picquotiana*
			Chaetomorpha sp.
			Cladophora sericea
		Ulvales	*Ulva intestinalis*
			Ulva lactuca
			Ulva sp.
Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.
			Grinnellia americana
			Polysiphonia denudata
			Polysiphonia sp.
		Corallinales	*Corallina officinalis*
		Gelidiales	*Gelidium crinale*
		Gigartinales	*Agardhiella subulata*
			Phyllophora/Coccotylus
		Gracilariales	*Gracilaria tikvahiae*

Table 3-14. Total algal biomass and number of taxa by sample for each destructive sample collected during the September 2015 Hard-bottom Study.

Sample ID	Total Biomass (g)	Number of Taxa
HB02_1	3.13	11
HB02_2	2.75	10
HB02_3	3.41	10
HB02_4	2.09	12
HB04_1	1.62	11
HB04_2	1.55	10
HB04_3	8.75	8
HB04_4	1.99	11
HB04_5	1.50	10
HB05_1	0.03	5
HB05_2	0	0
HB05_3	0.03	5
HB05_4	0.04	6
HB07_1	0.10	9
HB07_2	0.03	4
N	**15**	**15**
Min	**0**	**0**
Mean	**1.80**	**8.1**
Max	**8.75**	**12**

4.0 Results for the Benthic Macroinvertebrate Study

Water quality, sediment characteristics, soft-bottom macroinvertebrate, hard clam, and sediment chemistry samples were collected during the September surveys for the Benthic Macroinvertebrate Study. Water, sediment, and macroinvertebrate samples were collected from 60 sites in Raritan Bay, located either in "open water" or "near hard-bottom." Thirty locations, with "HB" in the sample name, were sites in close proximity to hard-bottom features on the seafloor. The other 30 locations, with only "B" in the sample name, were in open water areas away from hard-bottom features. Hard clams and associated sediment chemistry samples were also collected from 30 locations in the Bay. Data summaries for the benthic surveys, including data by sample for each component of the study, are provided in Appendix G.

4.1 Water Quality

Water quality parameters measured from the locations in Raritan Bay that were sampled during September included secchi depth, pH, total nitrogen, fecal coliform, temperature, dissolved oxygen, and salinity. Summary statistics for these parameters are presented in Table 4-1, and data by sample are provided in Appendix G-1. Laboratory reports for fecal coliform and total nitrogen data are provided in Appendix H.

Secchi depth ranged from 3.5 to 6.2 feet, and pH ranged from 7.4 to 8.0 at the 60 sampling locations (Table 4-1, Appendix G-1). Fecal coliform counts were highest in Samples HB2 and B40 (26 and 22 organisms/100mL, respectively), and most samples had counts less than 10 organisms/100mL (Appendix G-1). Mean total nitrogen in the water samples was 1.6 mg/L, and the highest value (3.8 mg/L) was reported from Sample B30 (Table 4-1, Appendix G-1). Temperature, dissolved oxygen (DO), and salinity were measured in both the surface and bottom waters at each sampling location. Waters were generally mixed, with a similar range of temperatures at the surface (from 21.0 to 22.5 °C) and at the bottom (from 21.2 to 22.4 °C; Table 4-1, Appendix G-1). DO and salinity were also generally similar at surface and bottom. Salinity values, averaging 22.3 (both surface and bottom) would be classified as polyhaline (18- 30 PSU). Surface and bottom dissolved oxygen averaged 6.2 mg/L; the minimum values exceed the acute (3.0 mg/L) and chronic (daily average of 4.8 mg/L) criteria for SA waters established by the New York State Department of Environmental Conservation (6 NYCRR part 701).

4.2 Sediment Characteristics

Total Organic Carbon (TOC) and sediment grain size were analyzed from samples collected at each of the benthic sampling locations in Raritan Bay during September. Summary statistics for these parameters are presented in Table 4-2, and data by sample are provided in Appendix G-2. Laboratory reports for TOC and grain size are provided in Appendices I and J.

TOC concentrations exceeded 3% in Samples HB7 and HB12 (3.7% in both; Appendix G-2). Only four other stations (B15, HB9, HB11 and HB28) had TOC concentrations higher than 1% (Appendix G-2). Predominantly sandy sediments were found at most of the 60 sampling locations (Appendix G-2). Fine, medium and coarse sand together comprised over half of the sediments at all but two sampling locations (HB9 and HB12). Sediments with over 35% gravel were reported for two sampling locations (B17 and HB8). Three sampling locations had "muddy" sediments with over 45% fine materials (silt and clay) and over 40% fine sand (HB9, HB12 and HB28; Appendix G-2).

Table 4-1. Summary statistics for water quality parameters; September 2015 Benthic Macroinvertebrate Study.

Water Quality Parameters	N	Min	Mean	Max
Secchi Depth (ft)	60	3.5	4.6	6.2
pH	60	7.4	7.8	8.0
Total Nitrogen (mg/L)	60	1.0	1.6	3.8
Fecal Coliform (organisms/100mL)	60	1.0	5.6	26.0
Surface Temperature (°C)	60	21.0	21.8	22.5
Bottom Temperature (°C)	60	21.2	21.8	22.4
Surface Dissolved Oxygen (mg/L)	60	5.7	6.2	7.4
Bottom Dissolved Oxygen (mg/L)	60	5.3	6.2	7.2
Surface Salinity (PSU)	60	22.0	22.3	22.7
Bottom Salinity (PSU)	60	22.0	22.3	22.6

Table 4-2. Summary statistics for Total Organic Carbon (TOC) and sediment grain size; September 2015 Benthic Macroinvertebrate Study.

Sediment Parameters	N	Min	Mean	Max
TOC (%)	60	0.1	0.5	3.7
Clay (%)	60	0.0	4.2	15.6
Silt (%)	60	0.0	4.6	58.2
Sand, Fine (%)	60	5.3	26.1	73.1
Sand, Medium (%)	60	1.1	26.8	51.4
Sand, Coarse (%)	60	1.7	27.3	64.5
Gravel (%)	60	0.1	12.9	37.6

4.3 Soft-bottom Macroinvertebrates

A total of over 85,000 macroinvertebrate organisms were counted from the 60 grab samples collected during September in the project area. Counts by taxon for each sample are provided in Appendix G-3. Organisms were classified into 130 discrete taxa from 6 different phyla and 67 families; 107 of those taxa were species-level identifications (Appendix G-4).

Macroinvertebrate abundance averaged 1,467 individuals per 0.04 m^2 grab (36,675 per square meter) at the open water locations, and 1,393 per grab (34,825 per square meter) at the locations near hard-bottom (Table 4-3). The lowest abundance (68 individuals) was in Sample HB30 and the highest abundance (4,305 individuals) was in Sample HB33 (Appendix G-5). The numbers of species per sample were lowest (16 species) in Sample HB26 and highest (49 species) in Samples HB7 and HB8 (Appendix G-5). Mean numbers of species per sample were slightly higher at the open water locations (38 species) than near hard-bottom (34 species; Table 4-3). Shannon-Wiener diversity was lowest (1.22) in Sample B10 and highest (2.76) in Sample B11, while Log

series alpha, another measure of species diversity, was was lowest (4.34) in Sample HB28 and highest (10.84) in Sample B11 (Appendix G-5). The sample with the lowest Shannon-Wiener diversity (B10) also had the lowest evenness (J' = 0.33) whereas the highest eveness occurred in sample HB30 (J'=0.86; Appendix G-5).

Five dominant taxa accounted for at least 75% of the total abundance at the sampling locations in "open water" or "near hard-bottom" (Table 4-4). The capitellid polychaete, *Mediomastus ambiseta* was the most abundant organism across all samples, followed by oligochaete worms and the spionid polychaete, *Streblospio benedicti*. The other two numerical dominants were the amphipod *Grandidierella japonica* and the bivalve *Gemma gemma* (Table 4-4). Similar numbers of these numerical dominants were found at the locations in open water areas compared to those near hard-bottom.

Comparisons of abundance and numbers of species by phyla indicated overall dominance of the soft-bottom macroinvertebrate community by annelid worms (Tables 4-5 and 4-6, Appendices G-6 and G-7). Annelid worms were numerically dominant accounting for over 80% of total macroinvertebrate abundance across all samples at locations in open water and near hard-bottom (Table 4-5). The Phylum Arthropoda accounted for the next highest number of individuals, followed by Mollusca, and all other phyla combined (Table 4-5). Annelid worms also made up the greatest proportion of species, accounting for half of all taxa identified to the species level. Arthropods were next in terms of diversity, followed by molluscs, and all other phyla combined (Table 4-6). Patterns of abundance and numbers of species across phyla were comparable at locations in open water compared to those near hard-bottom.

Biomass

Dry Weight (DW) and Ash Free Dry Mass (AFDM) were calculated on a per sample basis for each macroinvertebrate grab sample (Appendix G-8). DW and AFDM have typically been used as a measure of biomass or standing crop in biological samples. The difference between dry weight before and after ignition (AFDM) is generally considered the organic component of the sample, which is assumed to be the biomass of all organisms. Total sample biomass can be strongly influenced by small numbers of large individual specimens in a sample. The only large specimen (hard-bodied organism greater than 1 cm in diameter) that was collected in September macroinvertebrate grab samples was a single hard clam (*Mercenaria mercenaria*). This specimen, which measured 70 mm in length, was removed from Sample B59 prior to measuring biomass, to be used for tissue contaminant analyses.

Total AFDM in September samples ranged from 0.11 g to 3.20 g, with a mean of 0.67 g across all 60 samples (Table 4-7). Sample HB30 had the lowest AFDM (Appendix G-8), and also had the lowest in abundance (Appendix G-5). AFDM was highest in Sample B19 (Appendix G-8).

Table 4-3. Summary statistics for soft-bottom macroinvertebrate community parameters by location; September 2015 Benthic Macroinvertebrate Study.

Location, Community Parameters		Summary Statistics			
		N	Min	Mean	Max
Open water	Total Abundance	30	165	1467.0	3149
	Number of Species	30	22	37.6	48
	Shannon-Wiener Diversity (H')	30	1.22	1.93	2.76
	Log-series alpha	30	4.94	7.40	10.84
	Pielou's Evenness (J')	30	0.33	0.54	0.71
Near hard-bottom	Total Abundance	30	68	1393.1	4305
	Number of Species	30	16	33.8	49
	Shannon-Wiener Diversity (H')	30	1.43	1.98	2.47
	Log-series alpha	30	4.34	6.88	9.96
	Pielou's Evenness (J')	30	0.42	0.58	0.86

Table 4-4. Mean abundance per sample of dominant taxa for each location and for both locations combined; September 2015 Benthic Macroinvertebrate Study. Dominant taxa were identified as those composing 75% of total abundance for each location.

Phylum	Higher Taxon	Family	Species	Open Water	Near Hard-Bottom	Both Locations
Annelida	Polychaeta	Capitellidae	*Mediomastus ambiseta*	629.5	530.4	580.0
Annelida	Oligochaeta		Oligochaeta	267.7	211.5	239.6
Annelida	Polychaeta	Spionidae	*Streblospio benedicti*	138.4	262.9	200.6
Arthropoda	Amphipoda	Aoridae	*Grandidierella japonica*	61.1	64.4	62.7
Mollusca	Bivalvia	Veneridae	*Gemma gemma*	29.0	8.4	18.7

Table 4-5. Summary statistics for the contribution to macroinvertebrate abundance by sample for each numerically-dominant phylum and all other phyla combined; September 2015 Benthic Macroinvertebrate Study.

Location, Phylum		Summary Statistics			
		N	Min	Mean	Max
Open water	Annelida	30	135	1232.1	2948
	Arthropoda	30	6	173.9	495
	Mollusca	30	7	57.9	763
	Other phyla	30	0	3.1	13
	Total Abundance	**30**	**165**	**1467.0**	**3149**
Near hard-bottom	Annelida	30	40	1156.1	4042
	Arthropoda	30	8	169.0	601
	Mollusca	30	5	63.9	234
	Other phyla	30	0	4.2	23
	Total Abundance	**30**	**68**	**1393.1**	**4305**

Table 4-6. Summary statistics for the contribution to species richness by sample for each numerically-dominant phylum and all other phyla combined; September 2015 Benthic Macroinvertebrate Study.

Location, Phylum		Summary Statistics			
		N	Min	Mean	Max
Open water	Annelida	30	11	18.8	24
	Arthropoda	30	4	10.5	15
	Mollusca	30	2	6.6	12
	Other phyla	30	0	1.7	4
	Total Number of Species	**30**	**22**	**37.6**	**48**
Near hard-bottom	Annelida	30	6	17.0	25
	Arthropoda	30	3	8.7	14
	Mollusca	30	3	6.5	10
	Other phyla	30	0	1.6	5
	Total Number of Species	**30**	**16**	**33.8**	**49**

Table 4-7. Summary statistics for macroinvertebrate biomass by sample; September 2015 Benthic Macroinvertebrate Study.

Measurement type	Summary Statistics			
	N	Min	Mean	Max
Dry Weight (g)	60	0.38	6.42	28.78
Ash Free Dry Mass (g)	60	0.11	0.67	3.20

4.4 Hard Clam and Sediment Chemistry

4.4.1 Hard Clams

Hard clam (*Mercenaria mercenaria*) were collected for tissue contaminant analyses at 30 sampling locations in the project area of Raritan Bay. Six to twelve clams were collected at each of the sampling locations, providing sufficient tissue (at least 70 grams) for contaminant analyses at all locations (Appendix G-9). A total of 231 clams were collected using three different collection methods (Table 4-8). SCUBA divers collected 139 clams at 16 sampling locations (Table 4-8, Appendix G-9). A clam rake was used to collect 89 clams at 14 sampling locations, and three additional clams were collected in the van Veen grab (Table 4-8, Appendix G-9). Overall, the clams collected for contaminant analyses ranged in size from 44 to 95 mm, with a mean length of 73.0 mm (Table 4-8).

Contaminant analyses were conducted on clam tissue samples for each of the 30 sampling locations. Clam tissues were analyzed for metals and organics. Results for these analyses are provided in Appendix G-10 and the laboratory reports for clam tissue analyses are provided in Appendix K.

Hard clam occur near the sediment and water interface and specimens were collected in the macroinvertebrate grab samples. Counts from the grab samples provided quantitative data for assessing the distribution and density of clams in the project area. Hard clam were found in 26 out of the 60 macroinvertebrate grab samples collected during the September survey, with a total of 63 hard clam collected in grab samples (Table 4-9). Only one large clam (greater than 1 cm in diameter) was collected in the September macroinvertebrate grab samples. This specimen, which measured 70 mm in length, was removed from Sample B59 to be used for tissue contaminant analyses. Samples containing clams were collected throughout the project area, with the numbers of clams per grab ranging from one to seven (Figure 4-1, Table 4-9). Based on data from macroinvertebrate grab samples, hard clam abundance averaged 1.05 individuals per 0.04 m^2 grab (26.3 per square meter) throughout the project area.

Table 4-8. Summary statistics for hard clam length by collection method; September 2015 Benthic Macroinvertebrate Study.

Collection method	Clam length (mm)			
	N	Min	Mean	Max
SCUBA diver	139	60	74.0	95
van Veen grab[a]	3	44	61.3	70
Clam rake	89	51	71.9	94
Total, all methods	231	44	73.0	95

[a]Only clams larger than 1 cm, which were retained for tissue contaminant analyses, are included in these results.

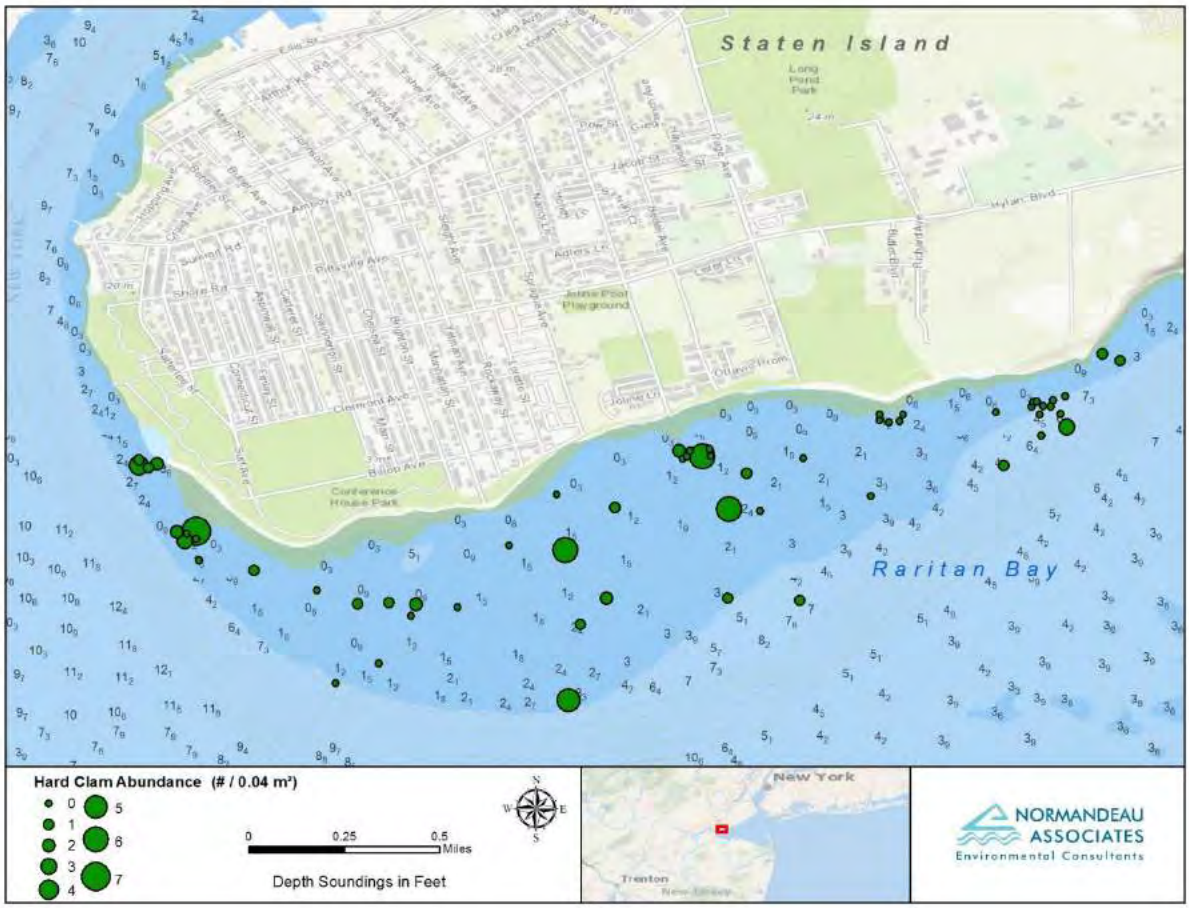

Figure 4-1. Hard clam abundance per sample in macroinvertebrate grab samples; September 2015 Macroinvertebrate Study.

Table 4-9. Hard clam collected in macroinvertebrate grab samples; September 2015 Benthic Macroinvertebrate Study.

Sample	Clam Abundance
B10	1
B11	1
B12	6
B14	5
B15	3
B16	2
B17	2
B19	1
B2	1
B21	1
B26	1
B29	1
B4	1
B40	1
B5	6
B59	1
B8	1
HB12	1
HB19	2
HB2	2
HB23	2
HB24	3
HB27	6
HB28	1
HB8	7
HB9	4
Total Count:	**63**

4.4.2 Sediment Chemistry

Sediment chemistry samples were collected at each of the 30 sampling locations where hard clam were collected for tissue contaminant analyses during the September 2015 survey. This was done to ensure paired data for clam tissue contaminants and sediment contaminants at a particular location. Sediment chemistry samples were analyzed for metals and organics including all contaminants specified in NYSDEC 6 NYCRR Part 375-6.8(b). Results for these analyses are provided in Appendix G-11 and the laboratory reports for sediment chemistry analyses are provided in Appendix L.

5.0 Summary

Normandeau SCUBA divers conducted surveys of benthic communities at hard-bottom locations in Raritan Bay during July and September, 2015. The September ecological surveys also included sampling of water quality, sediments, soft-bottom macroinvertebrate communities, and hard clams to support the Benthic Macroinvertebrate Study. Together, these surveys provided complementary sources of data to characterize the habitats and fauna occurring in the vicinity of the project area.

Hard-bottom benthic surveys in July and September included destructive sampling (removal of algae and fauna for laboratory identification) and the collection of photographic still images. A total of 32 algal and faunal taxa were identified in the still images from four transects sampled during July. Still images from September contained 26 identifiable algal and faunal taxa. Dominant algal taxa observed in transect images during July and September included a red branching species, *Agardhiella* spp., and the green algae *Ulva lactuca*. Fauna reported from the images included attached organisms such as barnacles, bryozoans, and sponges, as well as mobile species including gastropods (*Urosalpinx cinerea*, *Littorina littorea*, *Ilyanassa obsolete*, and *Eupleura caudate*) and hermit crabs (*Pagurus* spp.).

A total of nearly 21,000 macroinvertebrate organisms were counted from the 13 destructive samples collected at hard-bottom stations during July. Those organisms were classified into 81 taxa from 53 families and 10 different phyla. In September, less than 5,000 macroinvertebrates were counted from the 15 destructive samples. Macroinvertebrates in September were classified into 91 taxa from 63 families and 10 different phyla. The barnacle *Amphibalanus improvisus* was the most abundant organism in July samples. This barnacle was much less abundant in September when the corophiid amphipod *Apocorophium acutum* was the most abundant organism across all samples. Nineteen macroalgal taxa were reported from the destructive samples in July, when mean macroalgal biomass was 1.10 g per sample across all 13 samples. In September samples, 16 macroalgal taxa were reported with mean macroalgal biomass of 1.80 g per sample.

Water temperatures, DO and salinity measured in September all indicated that waters were generally mixed, with similar conditions at the surface and bottom. Across all depths and locations, temperatures ranged from 21.0 to 22.5 °C, DO values ranged from 5.3 to 7.4 mg/L, and salinity ranged from 22.0 to 22.7 PSU. Sediments were predominantly sandy at the 60 benthic sampling locations, and TOC concentrations exceeded 3% in only two samples.

A total of over 85,000 macroinvertebrate organisms were counted from the 60 benthic grab samples collected during September in the project area. Faunal assemblages in the grab samples were highly dominated by polychaete worms. In addition to these annelids, arthropods and molluscs were consistently among the numerically dominant taxonomic groups. The overall faunal composition across all samples included 130 discrete taxa from 6 different phyla and 67 families, with an average abundance of 1,467 individuals per 0.04 m^2 grab (36,675 per square meter) at the open water locations, and 1,393 per grab (34,825 per square meter) at the locations near hard-bottom.

Hard clam (*Mercenaria mercenaria*) were widely distributed in the project area with mean densities of 26.3 per square meter, based on clams collected in the macroinvertebrate grab

samples. Small specimens, less than 1 cm in length, were collected in higher numbers (62 clams) than large specimens (1 clam) in those samples.

Hard clam were also collected for tissue contaminant analyses (metals and organics) during September. Six to twelve larger clams (44 to 95 mm) were collected at each of 30 sampling locations, providing sufficient tissue (at least 70 grams) for contaminant analyses at all locations. Clams for contaminant analyses were collected using three different collection methods (SCUBA divers, clam rake, and van Veen grab). Sediment chemistry samples were also collected at each of the 30 sampling locations where hard clam were collected for contaminant analyses. Sediment chemistry samples were analyzed for metals and organics including all contaminants specified in NYSDEC 6 NYCRR Part 375-6.8(b).

Results for the July and September surveys reported herein, have documented hard-bottom benthic communities, water quality conditions, sediment characteristics, macroinvertebrate infaunal communities, hard clam distributions, hard clam tissue contaminant levels, and sediment contaminant levels throughout the project area of Raritan Bay during summer and early fall. These data provide a valuable resource to support an in-depth evaluation of the potential ecological impacts of the Living Breakwaters and Tottenville Dune Projects, as required by an Environmental Impact Statement.

6.0 References

Clarke, K. R. and R. M. Warwick (2001). Change in marine communities: an approach to statistical analysis and interpretation. Plymouth: Plymouth Marine Laboratory; 144 pp.

Magurran, AE. 1988. Ecological Diversity and Its Measurement. Princeton University Press. Princeton, NJ. 179 pp.

Appendices

Appendix A

Sampling Coordinates and Other Station Information for the Hard-Bottom Benthic Surveys.

Appendix Table A-1. Station information for hard-bottom samples collected during the July 2015 Survey.

Site ID	Sample ID	Station	Sample	Date	Time	Start Latitude (Degrees N)	Start Longitude (Degrees W)	End Latitude (Degrees N)	End Longitude (Degrees W)
HB05	HB05	HB05	HB05	7/20/2015	10:30	40.5014	74.2188	40.5017	74.2189
HB04	HB04	HB04	HB04	7/20/2015	11:00	40.5009	74.2252	40.5010	74.2248
HB03	HB03	HB03	HB03	7/20/2015	12:00	40.4999	74.2327	40.4998	74.2323
HB01	HB01	HB01	HB01	7/20/2015	12:45	40.4993	74.2530	40.4995	74.2527
HB02	HB02	HB02	HB02	7/20/2015	13:00	40.4965	74.2513	40.4968	74.2515

Appendix Table A-2. Station information for hard-bottom samples collected during the September 2015 Survey.

Site ID	Sample ID	Station	Sample	Date	Time	Start Latitude (Degrees N)	Start Longitude (Degrees W)	End Latitude (Degrees N)	End Longitude (Degrees W)
HB05	HB05	HB05	HB05	9/21/2015	8:49	40.5014	74.2190	40.5016	74.2190
HB04	HB04	HB04	HB04	9/21/2015	9:44	40.5011	74.2247	40.5010	74.2251
HB07	HB07	HB07	HB07	9/21/2015	10:39	40.4957	74.2517	40.4955	74.2516
HB06	HB06	HB06	HB06	9/21/2015	11:30	40.4985	74.2533	40.4984	74.2535
HB02	HB02	HB02	HB02	9/21/2015	12:01	40.4967	74.2515	40.4965	74.2513

Appendix B

Sampling Coordinates and Other Station Information for the September 2015 Benthic Macroinvertebrate Study

Appendix Table B-1. Station information for benthic samples collected during the September 2015 Benthic Macroinvertebrate Study.

Site ID	Sample #	Station	Sample ID	Depth (ft)	Date	Time	Latitude (Degrees N)	Longitude (Degrees W)
2637	11	B11	2637_11	13.4	9/22/2015	14:56	40.5032	74.2161
2648	2	B2	2648_2	10.5	9/22/2015	15:24	40.5035	74.2168
2344	15	B15	2344_15	34.0	9/22/2015	15:39	40.5007	74.2182
2441	10	HB10	2441_10	23.3	9/22/2015	15:54	40.5012	74.2184
2530	3	HB3	2530_3	14.2	9/22/2015	16:10	40.5019	74.2182
2529	30	HB30	2529_30	10.7	9/22/2015	16:21	40.5017	74.2187
2487	7	HB7	2487_7	19.3	9/22/2015	16:33	40.5015	74.2187
2439	22	HB22	2439_22	19.4	9/22/2015	16:44	40.5012	74.2192
2486	11	HB11	2486_11	11.5	9/22/2015	16:56	40.5015	74.2191
2528	1	HB1	2528_1	9.4	9/22/2015	17:07	40.5017	74.2193
2527	26	HB26	2527_26	9.3	9/22/2015	17:18	40.5017	74.2194
2485	5	HB5	2485_5	9.4	9/22/2015	17:29	40.5015	74.2195
2288	24	B24	2288_24	20.5	9/23/2015	7:50	40.5004	74.2191
2482	3	B3	2482_3	7.1	9/23/2015	8:02	40.5013	74.2208
2064	4	B4	2064_4	18.3	9/23/2015	8:12	40.4993	74.2205
1821	18	B18	1821_18	12.7	9/23/2015	8:31	40.4981	74.2256
2376	16	HB16	2376_16	6.5	9/23/2015	8:43	40.5009	74.2245
2375	14	HB14	2375_14	5.5	9/23/2015	8:53	40.5009	74.2249
2374	4	HB4	2374_4	4.2	9/23/2015	9:03	40.5010	74.2252
2422	21	HB21	2422_21	3.6	9/23/2015	9:12	40.5012	74.2252
2424	31	HB31	2424_31	4.8	9/23/2015	9:22	40.5012	74.2244
2100	6	B6	2100_6	7.0	9/23/2015	9:33	40.4995	74.2281
1981	10	B10	1981_10	6.4	9/23/2015	9:44	40.4990	74.2303
1689	13	B13	1689_13	8.3	9/23/2015	9:58	40.4976	74.2298
1687	12	B12	1687_12	8.5	9/23/2015	10:12	40.4976	74.2309
2090	33	HB33	2090_33	5.5	9/23/2015	10:25	40.4996	74.2316
2146	25	HB25	2146_25	5.5	9/23/2015	10:41	40.4999	74.2317
2089	27	HB27	2089_27	5.5	9/23/2015	10:51	40.4996	74.2319
2088	29	HB29	2088_29	5.0	9/23/2015	11:06	40.4996	74.2325
2087	17	HB17	2087_17	5.4	9/23/2015	11:17	40.4995	74.2327
2144	13	HB13	2144_13	6.0	9/23/2015	11:39	40.4998	74.2324
2143	2	HB2	2143_2	6.0	9/23/2015	11:49	40.4998	74.2328
630	8	B8	630_8	22.0	9/23/2015	12:03	40.4942	74.2282
686	19	B19	686_19	13.9	9/23/2015	12:14	40.4943	74.2310
809	17	B17	809_17	9.3	9/23/2015	12:27	40.4943	74.2356

(continued)

Appendix Table B-1. (Continued)

Site ID	Sample #	Station	Sample ID	Depth (ft)	Date	Time	Latitude (Degrees N)	Longitude (Degrees W)
543	21	B21	543_21	9.7	9/23/2015	12:45	40.4933	74.2366
55	14	B14	55_14	13.0	9/23/2015	12:58	40.4904	74.2370
1547	29	B29	1547_29	7.8	9/23/2015	13:11	40.4977	74.2352
1787	44	B44	1787_44	5.7	9/23/2015	13:21	40.4982	74.2374
1321	5	B5	1321_5	8.6	9/23/2015	13:30	40.4961	74.2371
1390	28	B28	1390_28	7.8	9/23/2015	13:38	40.4962	74.2393
659	7	B7	659_7	8.8	9/23/2015	13:48	40.4939	74.2412
654	9	B9	654_9	8.7	9/23/2015	13:58	40.4936	74.2430
720	16	B16	720_16	8.6	9/23/2015	14:09	40.4940	74.2428
717	59	B59	717_59	7.8	9/23/2015	14:24	40.4941	74.2438
714	40	B40	714_40	7.9	9/23/2015	14:35	40.4940	74.2450
849	25	B25	849_25	6.9	9/23/2015	14:46	40.4946	74.2465
240	23	B23	240_23	9.1	9/23/2015	14:57	40.4918	74.2442
99	30	B30	99_30	23.2	9/23/2015	15:08	40.4910	74.2458
986	26	B26	986_26	7.4	9/23/2015	15:20	40.4953	74.2489
1129	20	B20	1129_20	8.9	9/23/2015	15:29	40.4957	74.2510
1364	6	HB6	1364_6	6.6	9/23/2015	15:39	40.4965	74.2511
1440	8	HB8	1440_8	6.8	9/23/2015	15:52	40.4968	74.2511
1439	20	HB20	1439_20	6.7	9/23/2015	16:05	40.4967	74.2515
1438	23	HB23	1438_23	7.9	9/23/2015	16:17	40.4968	74.2518
1363	24	HB24	1363_24	8.3	9/23/2015	16:28	40.4964	74.2515
2071	12	HB12	2071_12	9.7	9/24/2015	7:42	40.4995	74.2533
2012	9	HB9	2012_9	9.9	9/24/2015	8:02	40.4993	74.2532
2013	28	HB28	2013_28	8.3	9/24/2015	8:16	40.4992	74.2529
2014	19	HB19	2014_19	5.5	9/24/2015	8:29	40.4993	74.2526

Appendix Table B-2. Station information for water samples collected during the September 2015 Benthic Macroinvertebrate Study.

Site ID	Sample #	Station	Sample ID	Depth (ft)	Date	Time	Latitude (Degrees N)	Longitude (Degrees W)
2637	11	B11	2637_11	10.8	9/22/2015	7:49	40.5031	74.2162
2648	2	B2	2648_2	6.6	9/22/2015	7:54	40.5034	74.2170
2344	15	B15	2344_15	29.0	9/22/2015	8:05	40.5009	74.2181
2441	10	HB10	2441_10	20.7	9/22/2015	8:15	40.5012	74.2183
2530	3	HB3	2530_3	10.5	9/22/2015	8:18	40.5018	74.2184
2529	30	HB30	2529_30	8.0	9/22/2015	8:21	40.5018	74.2188
2487	7	HB7	2487_7	16.0	9/22/2015	8:25	40.5015	74.2187
2439	22	HB22	2439_22	15.4	9/22/2015	8:29	40.5012	74.2190
2486	11	HB11	2486_11	8.9	9/22/2015	8:32	40.5015	74.2191
2528	1	HB1	2528_1	6.5	9/22/2015	8:36	40.5018	74.2192
2527	26	HB26	2527_26	6.2	9/22/2015	8:39	40.5017	74.2195
2485	5	HB5	2485_5	7.3	9/22/2015	8:43	40.5014	74.2194
2288	24	B24	2288_24	20.4	9/22/2015	8:46	40.5003	74.2191
2482	3	B3	2482_3	6.6	9/22/2015	8:50	40.5014	74.2205
2064	4	B4	2064_4	17.3	9/22/2015	8:53	40.4993	74.2205
1821	18	B18	1821_18	13.7	9/22/2015	8:58	40.4983	74.2248
2376	16	HB16	2376_16	5.8	9/22/2015	9:03	40.5009	74.2245
2375	14	HB14	2375_14	5.4	9/22/2015	9:06	40.5009	74.2249
2374	4	HB4	2374_4	5.4	9/22/2015	9:09	40.5009	74.2252
2422	21	HB21	2422_21	4.4	9/22/2015	9:12	40.5011	74.2253
2424	31	HB31	2424_31	4.3	9/22/2015	9:16	40.5012	74.2244
2100	6	B6	2100_6	7.5	9/22/2015	9:21	40.4996	74.2282
1981	10	B10	1981_10	6.8	9/22/2015	9:24	40.4989	74.2303
1689	13	B13	1689_13	8.6	9/22/2015	9:28	40.4976	74.2301
1687	12	B12	1687_12	8.8	9/22/2015	9:32	40.4976	74.2310
2090	33	HB33	2090_33	6.0	9/22/2015	9:37	40.4995	74.2316
2146	25	HB25	2146_25	6.3	9/22/2015	9:39	40.4998	74.2317
2089	27	HB27	2089_27	6.3	9/22/2015	9:42	40.4995	74.2320
2088	29	HB29	2088_29	5.5	9/22/2015	9:44	40.4995	74.2324
2087	17	HB17	2087_17	5.1	9/22/2015	9:47	40.4996	74.2327
2144	13	HB13	2144_13	4.8	9/22/2015	9:50	40.4998	74.2325
2143	2	HB2	2143_2	5.4	9/22/2015	9:52	40.4998	74.2328
630	8	B8	630_8	24.5	9/22/2015	9:57	40.4934	74.2280
686	19	B19	686_19	14.6	9/22/2015	10:00	40.4941	74.2310
809	17	B17	809_17	8.7	9/22/2015	10:04	40.4945	74.2351
543	21	B21	543_21	8.4	9/22/2015	10:06	40.4937	74.2365

(continued)

Appendix Table B-2. (Continued)

Site ID	Sample #	Station	Sample ID	Depth (ft)	Date	Time	Latitude (Degrees N)	Longitude (Degrees W)
55	14	B14	55_14	12.0	9/22/2015	10:09	40.4908	74.2372
1547	29	B29	1547_29	6.9	9/22/2015	10:12	40.4970	74.2352
1787	44	B44	1787_44	4.4	9/22/2015	10:16	40.4980	74.2368
1321	5	B5	1321_5	7.0	9/22/2015	10:19	40.4963	74.2373
1390	28	B28	1390_28	6.0	9/22/2015	10:21	40.4962	74.2387
659	7	B7	659_7	6.4	9/22/2015	10:24	40.4940	74.2410
654	9	B9	654_9	6.3	9/22/2015	10:26	40.4939	74.2427
720	16	B16	720_16	6.6	9/22/2015	10:28	40.4940	74.2428
717	59	B59	717_59	6.0	9/22/2015	10:32	40.4938	74.2439
240	23	B23	240_23	6.5	9/22/2015	10:35	40.4915	74.2442
99	30	B30	99_30	21.4	9/22/2015	10:38	40.4913	74.2461
849	25	B25	849_25	4.5	9/22/2015	10:41	40.4946	74.2464
986	26	B26	986_26	4.4	9/22/2015	10:44	40.4949	74.2484
1129	20	B20	1129_20	6.5	9/22/2015	10:46	40.4955	74.2509
1364	6	HB6	1364_6	4.5	9/22/2015	10:50	40.4966	74.2511
1440	8	HB8	1440_8	4.1	9/22/2015	10:52	40.4967	74.2511
1439	20	HB20	1439_20	4.4	9/22/2015	10:55	40.4968	74.2515
1438	23	HB23	1438_23	5.1	9/22/2015	10:58	40.4967	74.2518
1363	24	HB24	1363_24	5.2	9/22/2015	11:00	40.4965	74.2516
2071	12	HB12	2071_12	9.4	9/22/2015	11:04	40.4995	74.2533
2012	9	HB9	2012_9	9.8	9/22/2015	11:07	40.4992	74.2533
2013	28	HB28	2013_28	8.8	9/22/2015	11:09	40.4992	74.2529
2014	19	HB19	2014_19	7.3	9/22/2015	11:12	40.4992	74.2526
714	40	B40	714_40	5.1	9/22/2015	11:17	40.4942	74.2448

(continued)

Appendix Table B-3. Station information for hard clam and sediment chemistry samples collected during the September 2015 Benthic Macroinvertebrate Study.

Site ID	Sample #	Station	Sample ID	Date	Time	Latitude (Degrees N)	Longitude (Degrees W)
HB05	8	HB05_8	HB05_8	9/21/2015	8:57	40.5014	74.2190
HB05	9	HB05_9	HB05_9	9/21/2015	8:57	40.5014	74.2189
HB04	6	HB04_6	HB04_6	9/21/2015	10:15	40.5011	74.2247
HB04	7	HB04_7	HB04_7	9/21/2015	10:15	40.5010	74.2251
HB07	13	HB07_13	HB07_13	9/21/2015	10:46	40.4957	74.2517
HB07	14	HB07_14	HB07_14	9/21/2015	10:46	40.4955	74.2516
HB02	1	HB02_1	HB02_1	9/21/2015	11:15	40.4967	74.2515
HB02	2	HB02_2	HB02_2	9/21/2015	11:15	40.4965	74.2513
HB06	11	HB06_11	HB06_11	9/21/2015	11:45	40.4985	74.2533
HB06	12	HB06_12	HB06_12	9/21/2015	11:45	40.4984	74.2535
2014	19	2014_19	2014_19	9/21/2015	12:25	40.4993	74.2526
2013	28	2013_28	2013_28	9/21/2015	12:36	40.4992	74.2529
2012	9	2012_9	2012_9	9/21/2015	12:47	40.4993	74.2532
2071	12	2071_12	2071_12	9/21/2015	12:50	40.4995	74.2533
1438	23	1438_23	1438_23	9/21/2015	13:05	40.4968	74.2518
1363	24	1363_24	1363_24	9/21/2015	13:16	40.4964	74.2515
717	59	717_59	717_59	9/23/2015	14:24	40.4941	74.2438
714	40	714_40	714_40	9/23/2015	14:35	40.4940	74.2450
1364	6	1364_6	1364_6	9/24/2015	12:45	40.4965	74.2511
1440	8	1440_8	1440_8	9/24/2015	13:04	40.4968	74.2511
1439	20	1439_20	1439_20	9/24/2015	13:20	40.4967	74.2515
2146	25	2146_25	2146_25	9/24/2015	14:20	40.4999	74.2317
1787	44	1787_44	1787_44	9/24/2015	14:36	40.4982	74.2374
659	7	659_7	659_7	9/24/2015	14:57	40.4939	74.2412
654	9	654_9	654_9	9/24/2015	15:12	40.4936	74.2430
720	16	720_16	720_16	9/24/2015	15:27	40.4940	74.2428
1374	22	1374_22	1374_22	9/24/2015	16:15	40.4965	74.2450
1217	42	1217_42	1217_42	9/24/2015	16:46	40.4959	74.2475
986	26	986_26	986_26	9/24/2015	16:52	40.4953	74.2489
1129	20	1129_20	1129_20	9/24/2015	17:10	40.4957	74.2510

Appendix C

Chain of Custody Forms

Appendix C-1: Chain of Custody Forms for Hard-Bottom Benthic Samples Delivered to Normandeau's Biological Laboratory during July.

(Provided as a separate document.)

Appendix C-2: Chain of Custody Forms for Hard-Bottom Benthic Samples Delivered to Normandeau's Biological Laboratory during September.

(Provided as a separate document.)

Appendix C-3: Chain of Custody Forms for Soft-Bottom Benthic Samples Delivered to Normandeau's Biological Laboratory during September.

(Provided as a separate document.)

Appendix C-4: Chain of Custody Forms for Water Samples Delivered to ALS Environmental during September.

(Provided as a separate document.)

Appendix C-5: Chain of Custody Forms for Sediment Characteristics Samples Delivered to ALS Environmental during September.

(Provided as a separate document.)

Appendix C-6: Chain of Custody Forms for Sediment Chemistry and Clam Tissue Samples Delivered to ALS Environmental during September.

(Provided as a separate document.)

Appendix D

Photographs of Benthic Samples and Quadrats

Appendix D-1: Photographs of each Hard-Bottom Quadrat during July.

(Provided as a separate document.)

Appendix D-2: Photographs of each Hard-Bottom Quadrat during September.

(Provided as a separate document.)

Appendix D-3: Photographs of each Soft-Bottom Grab Sample during September.

(Provided as a separate document.)

Appendix E

Field Standard Operating Procedures; Fish and Benthic Macroinvertebrate Studies.

(Provided as a separate document.)

Appendix F

Data summaries for the hard-bottom benthic surveys; July and September 2015.

Appendix Table F-1. Data by Taxon for each Photographic Quadrat Analyzed for the July 2015 Hard-bottom Study.

Station: HB02	**Complete Transect**		**Site 1**		**Site 2**	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**	
Comments: Total number of squares is 64 per image.			Only two quadrats (32 squares)			
Substrate	sand, gravel, and rocks		sand and rocks		sand, gravel, cobble, rock	
Drape	absent		absent		absent	
Relief	low-moderate		low-moderate		low-moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Percent Present**	**Relative Abundance**	**Number of Squares**	**%**	**Number of Squares**	**%**
Algae						
Red Filamentous Algae (includes all red filamentous species)	5.5%	Present	3	9%	1	2%
Red Branching Algae (*Agardhiella* spp.)	75.8%	Very Abundant	28	88%	41	64%
Laver (*Porphyra* spp.)	8.6%	Present	4	13%	3	5%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.0%	Not Observed		0%		0%
Red Algae Species 1 (Gigartinales Species 1)	3.1%	Present		0%	4	6%
Unidentifiable Dark Red Algae	0.8%	Present		0%	1	2%
Polly (*Polysiphonia lanosa*) on *Ulva*	0.0%	Not Observed		0%		0%
Gut Weed (*Ulva intestinalis*)	0.0%	Not Observed		0%		0%
Sea Lettuce (*Ulva lactuca*)	71.9%	Very Abundant	22	69%	48	75%
Sea Lettuce (*Ulva* spp.)	0.0%	Not Observed		0%		0%
Whipweed (*Chordaria flagelliformis*)	0.0%	Not Observed		0%		0%
Cnidaria						
Ghost Anemone (*Diadumene leucolena*)	0.0%	Not Observed		0%		0%
Frilled Anemone (*Metridium senile*)	0.0%	Not Observed		0%		0%
Tubularian Hydroids (*Tubularia* spp.)	0.0%	Not Observed		0%		0%
General Hydroids (includes all hydroid species)	10.2%	Abundant	3	9%	7	11%
Bryozoan						
Broazoan (includes all broazoan species)	4.7%	Present	3	9%		0%
Lacy Crusts (*Membranipora*and related genera)	21.1%	Abundant	7	22%	13	20%
Polychaete						
Tube Worms (Serpulidae; tubes only no tentacles)	0.0%	Not Observed		0%		0%

(continued)

Appendix Table F-1. (Continued)

Station: HB02	Complete Transect		Site 1		Site 2	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**	
Sponges						
Red Beard Sponge (*Microciona prolifera*)	12.5%	Abundant	7	22%	2	3%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	0.0%	Not Observed		0%		0%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	0.0%	Not Observed		0%		0%
Mollusks						
Common Periwinkle (*Littorina littorea*)	0.0%	Not Observed		0%		0%
Oyster Drill (*Urosalpinx cinerea*)	3.1%	Present	1	3%	2	3%
Oyster Drill egg cases	0.0%	Not Observed		0%		0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	0.0%	Not Observed		0%		0%
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.0%	Not Observed		0%		0%
Slipper Shell (*Crepidula* spp.)	0.0%	Not Observed		0%		0%
Unidentifiable Gastropod (Gastropoda)	1.6%	Present		0%	2	3%
Blue Mussel (*Mytilus edulis*)	0.0%	Not Observed		0%		0%
Quahog (*Mercenaria mercenaria*)	0.0%	Not Observed		0%		0%
Unidentifiable Bivalve (Bivalvia)	0.0%	Not Observed		0%		0%
Arthropoda						
Barnacles (*Balanus spp.*)	0.0%	Not Observed		0%		0%
Dead Barnacles (*Balanus* spp.)	16.4%	Abundant	4	13%	13	20%
Hermit Crab (*Pagurus* spp.)	0.0%	Not Observed		0%		0%
Unidentifiable Crab (Brachyura)	0.0%	Not Observed		0%		0%
Tunicates						
Sea Grapes (*Molgula manhattensis*)	0.0%	Not Observed		0%		0%
General Tunicate	0.0%	Not Observed		0%		0%
Others						
Unidentifiable A	0.0%	Not Observed		0%		0%

(continued)

Appendix Table F-1. (Continued)

Station: HB03	Complete Transect		Site 1			Site 2			Site 3	
Date	7/20/2015		7/20/2015			7/20/2015			7/20/2015	
Comments: Total number of squares is 64 per image.										
Substrate	large rocks		large rocks			large rocks			large rocks	
Drape	absent		absent			absent			absent	
Relief	moderate		moderate			moderate			moderate	
Suspended matter	high, poor visiblity		high, poor visiblity			high, poor visiblity			high, poor visiblity	
Biota	**Percent Present**	**Relative Abundance**	**Number of Squares**	**%**		**Number of Squares**	**%**		**Number of Squares**	**%**
Algae										
Red Filamentous Algae (includes all red filamentous species)	7.6%	Present		0%		4	6%			0%
Red Branching Algae (*Agardhiella* spp.)	0.9%	Present		0%			0%			0%
Laver (*Porphyra* spp.)	0.0%	Not Observed		0%			0%			0%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.0%	Not Observed		0%			0%			0%
Red Algae Species 1 (Gigartinales Species 1)	0.0%	Not Observed		0%			0%			0%
Unidentifiable Dark Red Algae	31.0%	Abundant	12	19%		19	30%		11	17%
Polly (*Polysiphonia lanosa*) on *Ulva*	0.0%	Not Observed		0%			0%			0%
Gut Weed (*Ulva intestinalis*)	0.0%	Not Observed		0%			0%			0%
Sea Lettuce (*Ulva lactuca*)	6.7%	Present		0%			0%		9	14%
Sea Lettuce (*Ulva* spp.)	34.8%	Abundant	15	23%		25	39%			0%
Whipweed (*Chordaria flagelliformis*)	0.0%	Not Observed		0%			0%			0%
Cnidaria										
Ghost Anemone (*Diadumene leucolena*)	0.0%	Not Observed		0%			0%			0%
Frilled Anemone (*Metridium senile*)	0.0%	Not Observed		0%			0%			0%
Tubularian Hydroids (*Tubularia spp.*)	0.0%	Not Observed		0%			0%			0%
General Hydroids (includes all hydroid species)	3.1%	Present		0%			0%			0%
Bryozoan										
Broazoan (includes all broazoan species)	7.6%	Present		0%			0%			0%
Lacy Crusts (*Membraniporaand* related genera)	0.0%	Not Observed		0%			0%			0%
Polychaete										
Tube Worms (Serpulidae; tubes only no tentacles)	0.0%	Not Observed		0%			0%			0%

(continued)

Appendix Table F-1. (Continued)

Station: HB03	Complete Transect		Site 1			Site 2			Site 3	
Date	**7/20/2015**		**7/20/2015**			**7/20/2015**			**7/20/2015**	
Sponges										
Red Beard Sponge (*Microciona prolifera*)	1.1%	Present		0%			0%			0%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	0.0%	Not Observed		0%			0%			0%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	1.1%	Present		0%			0%			0%
Mollusks										
Common Periwinkle (*Littorina littorea*)	0.0%	Not Observed		0%			0%			0%
Oyster Drill (*Urosalpinx cinerea*)	0.0%	Not Observed		0%			0%			0%
Oyster Drill egg cases	0.0%	Not Observed		0%			0%			0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	0.0%	Not Observed		0%			0%			0%
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.0%	Not Observed		0%			0%			0%
Slipper Shell (*Crepidula* spp.)	0.0%	Not Observed		0%			0%			0%
Unidentifiable Gastropod (Gastropoda)	11.8%	Abundant	4	6%		12	19%		4	6%
Blue Mussel (*Mytilus edulis*)	0.0%	Not Observed		0%			0%			0%
Quahog (*Mercenaria mercenaria*)	0.0%	Not Observed		0%			0%			0%
Unidentifiable Bivalve (Bivalvia)	0.0%	Not Observed		0%			0%			0%
Arthropoda										
Barnacles (*Balanus spp.*)	1.1%	Present		0%			0%		5	8%
Dead Barnacles (*Balanus* spp.)	58.3%	Very Abundant	35	55%		32	50%		52	81%
Hermit Crab (*Pagurus* spp.)	0.0%	Not Observed		0%			0%			0%
Unidentifiable Crab (Brachyura)	0.0%	Not Observed		0%			0%			0%
Tunicates										
Sea Grapes (*Molgula manhattensis*)	0.0%	Not Observed		0%			0%			0%
General Tunicate	0.0%	Not Observed		0%			0%			0%
Others										
Unidentifiable A	0.0%	Not Observed		0%			0%			0%

(continued)

Appendix Table F-1. (Continued)

Station: HB03	Site 4		Site 5		Site 6		Site 7	
Date	7/20/2015		7/20/2015		7/20/2015		7/20/2015	
Comments: Total number of squares is 64 per image.								
Substrate	large rocks		large rocks		large rocks		large rocks	
Drape	absent		absent		absent		absent	
Relief	moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**
Algae								
Red Filamentous Algae (includes all red filamentous species)		0%	29	45%	1	2%		0%
Red Branching Algae (*Agardhiella* spp.)		0%	4	6%		0%		0%
Laver (*Porphyra* spp.)		0%		0%		0%		0%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)		0%		0%		0%		0%
Red Algae Species 1 (Gigartinales Species 1)		0%		0%		0%		0%
Unidentifiable Dark Red Algae	27	42%	10	16%	19	30%	41	64%
Polly (*Polysiphonia lanosa*) on *Ulva*		0%		0%		0%		0%
Gut Weed (*Ulva intestinalis*)		0%		0%		0%		0%
Sea Lettuce (*Ulva lactuca*)		0%	21	33%		0%		0%
Sea Lettuce (*Ulva* spp.)	2	3%	33	52%	51	80%	30	47%
Whipweed (*Chordaria flagelliformis*)		0%		0%		0%		0%
Cnidaria								
Ghost Anemone (*Diadumene leucolena*)		0%		0%		0%		0%
Frilled Anemone (*Metridium senile*)		0%		0%		0%		0%
Tubularian Hydroids (*Tubularia* spp.)		0%		0%		0%		0%
General Hydroids (includes all hydroid species)		0%	7	11%	7	11%		0%
Bryozoan								
Broazoan (includes all broazoan species)	2	3%	20	31%	10	16%	2	3%
Lacy Crusts (*Membranipora*and related genera)		0%		0%		0%		0%
Polychaete								
Tube Worms (Serpulidae; tubes only no tentacles)		0%		0%		0%		0%

(continued)

Appendix Table F-1. (Continued)

Station: HB03	Site 4		Site 5		Site 6		Site 7	
Sponges								
Red Beard Sponge (*Microciona prolifera*)		0%	5	8%		0%		0%
Bowerbank's Halichondria (*Halichondria bowerbanki*)		0%		0%		0%		0%
Encrusting Sponge (includes all encrusting unidentifiable sponges)		0%	5	8%		0%		0%
Mollusks								
Common Periwinkle (*Littorina littorea*)		0%		0%		0%		0%
Oyster Drill (*Urosalpinx cinerea*)		0%		0%		0%		0%
Oyster Drill egg cases		0%		0%		0%		0%
Mud Dog Whelk (*Ilyanassa obsoleta*)		0%		0%		0%		0%
Thick-lipped Oyster Drill (*Eupleura caudata*)		0%		0%		0%		0%
Slipper Shell (*Crepidula* spp.)		0%		0%		0%		0%
Unidentifiable Gastropod (Gastropoda)	3	5%	17	27%	7	11%	6	9%
Blue Mussel (*Mytilus edulis*)		0%		0%		0%		0%
Quahog (*Mercenaria mercenaria*)		0%		0%		0%		0%
Unidentifiable Bivalve (Bivalvia)		0%		0%		0%		0%
Arthropoda								
Barnacles (*Balanus* spp.)		0%		0%		0%		0%
Dead Barnacles (*Balanus* spp.)	51	80%	13	20%	28	44%	50	78%
Hermit Crab (*Pagurus* spp.)		0%		0%		0%		0%
Unidentifiable Crab (Brachyura)		0%		0%		0%		0%
Tunicates								
Sea Grapes (*Molgula manhattensis*)		0%		0%		0%		0%
General Tunicate		0%		0%		0%		0%
Others								
Unidentifiable A		0%		0%		0%		0%

(continued)

Appendix Table F-1. (Continued)

Station: HB04	Complete Transect		Site 1		Site 2		Site 3	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**		**7/20/2015**	
Comments: Total number of squares is 64 per image.								
Substrate	large rocks		large rocks		large rocks		large rocks	
Drape	absent		absent		absent		absent	
Relief	moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Percent Present**	**Relative Abundance**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**
Algae								
Red Filamentous Algae (includes all red filamentous species)	11.5%	Abundant		0%	13	20%	3	5%
Red Branching Algae (*Agardhiella* spp.)	4.3%	Present		0%	3	5%	7	11%
Laver (*Porphyra* spp.)	0.8%	Present		0%		0%	1	2%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.0%	Not Observed		0%		0%		0%
Red Algae Species 1 (Gigartinales Species 1)	1.6%	Present		0%		0%		0%
Unidentifiable Dark Red Algae	4.3%	Present	14	22%	4	6%		0%
Polly (*Polysiphonia lanosa*) on *Ulva*	0.0%	Not Observed		0%		0%		0%
Gut Weed (*Ulva intestinalis*)	14.6%	Abundant	11	17%	26	41%	3	5%
Sea Lettuce (*Ulva lactuca*)	34.0%	Abundant		0%	17	27%	57	89%
Sea Lettuce (*Ulva* spp.)	50.8%	Very Abundant	45	70%	32	50%	19	30%
Whipweed (*Chordaria flagelliformis*)	0.0%	Not Observed		0%		0%		0%
Bryozoan								
Broazoan (includes all broazoan species)	2.1%	Present	1	2%	1	2%	2	3%
Lacy Crusts (*Membranipora* and related genera)	0.4%	Present		0%		0%	2	3%
Cnidaria								
Ghost Anemone (*Diadumene leucolena*)	0.8%	Present	3	5%		0%		0%
Frilled Anemone (*Metridium senile*)	0.0%	Not Observed		0%		0%		0%
Tubularian Hydroids (*Tubularia* spp.)	0.0%	Not Observed		0%		0%		0%
General Hydroids (includes all hydroid species)	7.2%	Present	5	8%	3	5%	11	17%

(continued)

Appendix Table F-1. (Continued)

Station: HB04	Complete Transect		Site 1		Site 2		Site 3	
Date	7/20/2015		7/20/2015		7/20/2015		7/20/2015	
Polychaete								
Tube Worms (Serpulidae; tubes only no tentacles)	0.0%	Not Observed		0%		0%		0%
Sponges								
Red Beard Sponge (*Microciona prolifera*)	8.0%	Present		0%		0%	8	13%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	2.3%	Present		0%		0%	1	2%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	0.0%	Not Observed		0%		0%		0%
Mollusks								
Common Periwinkle (*Littorina littorea*)	0.0%	Not Observed		0%		0%		0%
Oyster Drill (*Urosalpinx cinerea*)	2.7%	Present		0%	6	9%		0%
Oyster Drill egg cases	1.4%	Present		0%	3	5%		0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	1.8%	Present		0%	2	3%	2	3%
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.4%	Present		0%		0%	2	3%
Slipper Shell (*Crepidula* spp.)	0.0%	Not Observed		0%		0%		0%
Unidentifiable Gastropod (Gastropoda)	11.9%	Abundant	4	6%	10	16%	11	17%
Blue Mussel (*Mytilus edulis*)	0.0%	Not Observed		0%		0%		0%
Quahog (*Mercenaria mercenaria*)	0.0%	Not Observed		0%		0%		0%
Unidentifiable Bivalve (Bivalvia)	0.4%	Present		0%		0%		0%
Arthropoda								
Barnacles (*Balanus* spp.)	0.0%	Not Observed		0%		0%		0%
Dead Barnacles (*Balanus* spp.)	56.4%	Very Abundant	28	44%	45	70%	29	45%
Hermit Crab (*Pagurus* spp.)	0.2%	Present		0%	1	2%		0%
Unidentifiable Crab (Brachyura)	0.2%	Present		0%	1	2%		0%
Tunicates								
Sea Grapes (*Molgula manhattensis*)	1.8%	Present		0%	5	8%		0%
General Tunicate	0.2%	Present	1	2%		0%		0%
Others								
Unidentifiable A	7.8%	Present		0%		0%	12	19%

Appendix Table F-1. (Continued)

Station: HB04	**Site 4**		**Site 5**		**Site 6**		**Site 7**		**Site 8**	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**		**7/20/2015**		**7/20/2015**	
Comments: Total number of squares is 64 per image.										
Substrate	large rocks		large rocks		large rocks		large rocks		large rocks	
Drape	absent		absent		absent		absent		absent	
Relief	moderate		moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**
Algae										
Red Filamentous Algae (includes all red filamentous species)		0%	12	19%	3	5%	12	19%	16	25%
Red Branching Algae (*Agardhiella* spp.)	1	2%		0%		0%	3	5%	8	13%
Laver (*Porphyra* spp.)		0%	3	5%		0%		0%		0%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)		0%		0%		0%		0%		0%
Red Algae Species 1 (Gigartinales Species 1)		0%		0%		0%	5	8%	3	5%
Unidentifiable Dark Red Algae	3	5%		0%		0%		0%	1	2%
Polly (*Polysiphonia lanosa*) on *Ulva*		0%		0%		0%		0%		0%
Gut Weed (*Ulva intestinalis*)	10	16%	20	31%	2	3%	3	5%		0%
Sea Lettuce (*Ulva lactuca*)		0%	11	17%	34	53%	29	45%	26	41%
Sea Lettuce (*Ulva* spp.)	40	63%	50	78%	31	48%	27	42%	16	25%
Whipweed (*Chordaria flagelliformis*)		0%		0%		0%		0%		0%
Cnidaria										
Ghost Anemone (*Diadumene leucolena*)		0%		0%		0%		0%	1	2%
Frilled Anemone (*Metridium senile*)		0%		0%		0%		0%		0%
Tubularian Hydroids (*Tubularia* spp.)		0%		0%		0%		0%		0%
General Hydroids (includes all hydroid species)		0%	4	6%	5	8%	4	6%	5	8%
Bryozoan										
Broazoan (includes all broazoan species)		0%	1	2%	4	6%		0%	2	3%
Lacy Crusts (*Membranipora*and related genera)		0%		0%		0%		0%		0%

(continued)

Appendix Table F-1. (Continued)

Station: HB04	Site 4		Site 5		Site 6		Site 7		Site 8	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**		**7/20/2015**		**7/20/2015**	
Polychaete										
Tube Worms (Serpulidae; tubes only no tentacles)		0%		0%		0%		0%		0%
Whipweed (*Chordaria flagelliformis*)										
Sponges										
Red Beard Sponge (*Microciona prolifera*)		0%	3	5%	5	8%	10	16%	15	23%
Bowerbank's Halichondria (*Halichondria bowerbanki*)		0%		0%	2	3%		0%	9	14%
Encrusting Sponge (includes all encrusting unidentifiable sponges)		0%		0%		0%		0%		0%
Mollusks										
Common Periwinkle (*Littorina littorea*)		0%		0%		0%		0%		0%
Oyster Drill (*Urosalpinx cinerea*)	1	2%	3	5%	2	3%		0%	2	3%
Oyster Drill egg cases		0%	3	5%	1	2%		0%		0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	1	2%	4	6%		0%		0%		0%
Thick-lipped Oyster Drill (*Eupleura caudata*)		0%		0%		0%		0%		0%
Slipper Shell (*Crepidula* spp.)		0%		0%		0%		0%		0%
Unidentifiable Gastropod (Gastropoda)	3	5%	12	19%	6	9%	11	17%	4	6%
Blue Mussel (*Mytilus edulis*)		0%		0%		0%		0%		0%
Quahog (*Mercenaria mercenaria*)		0%		0%		0%		0%		0%
Unidentifiable Bivalve (Bivalvia)		0%		0%		0%	2	3%		0%
Arthropoda										
Barnacles (*Balanus* spp.)		0%		0%		0%		0%		0%
Dead Barnacles (*Balanus* spp.)	41	64%	42	66%	33	52%	39	61%	32	50%
Hermit Crab (*Pagurus* spp.)		0%		0%		0%		0%		0%
Unidentifiable Crab (Brachyura)		0%		0%		0%		0%		0%
Tunicates										
Sea Grapes (*Molgula manhattensis*)		0%		0%		0%		0%	4	6%
General Tunicate		0%		0%		0%		0%		0%
Others										
Unidentifiable A	2	3%	3	5%		0%	4	6%	19	30%

(continued)

Appendix Table F-1. (Continued)

Station: HB05	Complete Transect		Site 1		Site 2		Site 3	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**		**7/20/2015**	
Comments: Total number of squares is 64 per image.								
Substrate	large rocks		large rocks		large rocks		large rocks	
Drape	absent		absent		absent		absent	
Relief	moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Percent Present**	**Relative Abundance**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**
Algae								
Red Filamentous Algae (includes all red filamentous species)	70.6%	Very Abundant	46	72%	49	77%	35	55%
Red Branching Algae (*Agardhiella* spp.)	11.5%	Abundant	11	17%	4	6%		0%
Laver (*Porphyra* spp.)	8.1%	Present	10	16%		0%	4	6%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.3%	Present		0%		0%		0%
Red Algae Species 1 (Gigartinales Species 1)	3.6%	Present		0%	7	11%	4	6%
Unidentifiable Dark Red Algae	0.5%	Present		0%		0%		0%
Polly (*Polysiphonia lanosa*) on *Ulva*	0.5%	Present		0%		0%		0%
Gut Weed (*Ulva intestinalis*)	1.0%	Present		0%	2	3%		0%
Sea Lettuce (*Ulva lactuca*)	16.7%	Abundant		0%	26	41%		0%
Sea Lettuce (*Ulva* spp.)	5.5%	Present	11	17%		0%	6	9%
Whipweed (*Chordaria flagelliformis*)	0.0%	Not Observed		0%		0%		0%
Cnidaria								
Ghost Anemone (*Diadumene leucolena*)	3.4%	Present		0%	1	2%	8	13%
Frilled Anemone (*Metridium senile*)	0.0%	Not Observed		0%		0%		0%
Tubularian Hydroids (*Tubularia* spp.)	0.0%	Not Observed		0%		0%		0%
General Hydroids (includes all hydroid species)	10.7%	Abundant	7	11%	3	5%	6	9%
Bryozoan								
Broazoan (includes all broazoan species)	19.8%	Abundant	23	36%	8	13%	26	41%
Lacy Crusts (*Membranipora*and related genera)	0.0%	Not Observed		0%		0%		0%

(continued)

Appendix Table F-1. (Continued)

Station: HB05	Complete Transect		Site 1		Site 2		Site 3	
Date	7/20/2015		7/20/2015		7/20/2015		7/20/2015	
Polychaete								
Tube Worms (Serpulidae; tubes only no tentacles)	0.0%	Not Observed		0%		0%		0%
Sponges								
Red Beard Sponge (*Microciona prolifera*)	15.9%	Abundant	10	16%	10	16%	14	22%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	13.5%	Abundant	8	13%		0%	18	28%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	15.1%	Abundant	9	14%	12	19%	13	20%
Mollusks								
Common Periwinkle (*Littorina littorea*)	0.5%	Present	1	2%	1	2%		0%
Oyster Drill (*Urosalpinx cinerea*)	14.6%	Abundant	12	19%	5	8%	5	8%
Oyster Drill egg cases	2.3%	Present		0%		0%		0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	0.5%	Present	1	2%		0%		0%
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.5%	Present		0%		0%		0%
Slipper Shell (*Crepidula* spp.)	0.0%	Not Observed		0%		0%		0%
Unidentifiable Gastropod (Gastropoda)	3.1%	Present		0%	1	2%		0%
Blue Mussel (*Mytilus edulis*)	0.3%	Present		0%		0%		0%
Quahog (*Mercenaria mercenaria*)	0.0%	Not Observed		0%		0%		0%
Unidentifiable Bivalve (Bivalvia)	0.0%	Not Observed		0%		0%		0%
Arthropoda								
Barnacles (*Balanus* spp.)	0.0%	Not Observed		0%		0%		0%
Dead Barnacles (*Balanus* spp.)	34.4%	Abundant	29	45%	18	28%	11	17%
Hermit Crab (*Pagurus* spp.)	0.0%	Not Observed		0%		0%		0%
Unidentifiable Crab (Brachyura)	0.3%	Present	1	2%		0%		0%
Tunicates								
Sea Grapes (*Molgula manhattensis*)	6.8%	Present		0%		0%	6	9%
General Tunicate	0.0%	Not Observed		0%		0%		0%
Others								
Unidentifiable A	41.7%	Abundant	14	22%	40	63%	5	8%

(continued)

Appendix Table F-1. (Continued)

Station: HB05	**Site 4**		**Site 5**		**Site 6**	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**	
Comments: Total number of squares is 64 per image.						
Substrate	large rocks		large rocks		large rocks	
Drape	absent		absent		absent	
Relief	moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**
Algae						
Red Filamentous Algae (includes all red filamentous species)	52	81%	48	75%	41	64%
Red Branching Algae (*Agardhiella* spp.)	8	13%	12	19%	9	14%
Laver (*Porphyra* spp.)	5	8%	12	19%		0%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	1	2%		0%		0%
Red Algae Species 1 (Gigartinales Species 1)	2	3%	1	2%		0%
Unidentifiable Dark Red Algae		0%		0%	2	3%
Polly (*Polysiphonia lanosa*) on *Ulva*		0%		0%	2	3%
Gut Weed (*Ulva intestinalis*)		0%		0%	2	3%
Sea Lettuce (*Ulva lactuca*)	9	14%		0%	29	45%
Sea Lettuce (*Ulva* spp.)		0%	4	6%		0%
Whipweed (*Chordaria flagelliformis*)		0%		0%		0%
Cnidaria						
Ghost Anemone (*Diadumene leucolena*)	2	3%	2	3%		0%
Frilled Anemone (*Metridium senile*)		0%		0%		0%
Tubularian Hydroids (*Tubularia spp.*)		0%		0%		0%
General Hydroids (includes all hydroid species)	6	9%	13	20%	6	9%
Bryozoan						
Broazoan (includes all broazoan species)	3	5%	12	19%	4	6%
Lacy Crusts (*Membranipora*and related genera)		0%		0%		0%
Polychaete						
Tube Worms (Serpulidae; tubes only no tentacles)		0%		0%		0%

(continued)

Appendix Table F-1. (Continued)

Station: HB05	Site 4		Site 5		Site 6	
Date	**7/20/2015**		**7/20/2015**		**7/20/2015**	
Sponges						
Red Beard Sponge (*Microciona prolifera*)	12	19%	5	8%	10	16%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	13	20%	9	14%	4	6%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	7	11%	17	27%		0%
Mollusks						
Common Periwinkle (*Littorina littorea*)		0%		0%		0%
Oyster Drill (*Urosalpinx cinerea*)	14	22%	13	20%	7	11%
Oyster Drill egg cases	3	5%	6	9%		0%
Mud Dog Whelk (*Ilyanassa obsoleta*)		0%	1	2%		0%
Thick-lipped Oyster Drill (*Eupleura caudata*)	2	3%		0%		0%
Slipper Shell (*Crepidula* spp.)		0%		0%		0%
Unidentifiable Gastropod (Gastropoda)	8	13%	3	5%		0%
Blue Mussel (*Mytilus edulis*)		0%	1	2%		0%
Quahog (*Mercenaria mercenaria*)		0%		0%		0%
Unidentifiable Bivalve (Bivalvia)		0%		0%		0%
Arthropoda						
Barnacles (*Balanus* spp.)		0%		0%		0%
Dead Barnacles (*Balanus* spp.)	14	22%	27	42%	33	52%
Hermit Crab (*Pagurus* spp.)		0%		0%		0%
Unidentifiable Crab (Brachyura)		0%		0%		0%
Tunicates						
Sea Grapes (*Molgula manhattensis*)	4	6%	11	17%	5	8%
General Tunicate		0%		0%		0%
Others						
Unidentifiable A	25	39%	21	33%	55	86%

Appendix Table F-2. Macroinvertebrate Taxon Counts for each Destructive Sample Collected during the July 2015 Hard-bottom Study.

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB02_1	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB02_1	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB02_1	Bryozoa	Electridae	*Conopeum seurati*	P
HB02_1	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB02_1	Arthropoda	Balanidae	*Amphibalanus improvisus*	432
HB02_1	Mollusca	Calyptraeidae	*Crepidula fornicata*	35
HB02_1	Annelida	Sabellariidae	*Sabellaria vulgaris*	32
HB02_1	Mollusca	Nassariidae	*Ilyanassa obsoleta*	31
HB02_1	Arthropoda	Amphilochidae	*Ampithoe valida*	28
HB02_1	Mollusca	Veneridae	*Petricolaria pholadiformis*	7
HB02_1	Arthropoda	Caprellidae	*Caprella penantis*	7
HB02_1	Mollusca	Myidae	*Mya arenaria*	6
HB02_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	4
HB02_1	Annelida	Sabellidae	*Parasabella microphthalma*	4
HB02_1	Arthropoda	Corophiidae	*Apocorophium acutum*	4
HB02_1	Chordata	Molgulidae	*Molgula manhattensis*	4
HB02_1	Annelida	Nereididae	*Alitta succinea*	3
HB02_1	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB02_1	Platyhelminthes		Turbellaria sp. 7 nai	3
HB02_1	Arthropoda	Corophiidae	*Monocorophium insidiosum*	2
HB02_1	Annelida	Nereididae	Nereididae	2
HB02_1	Annelida	Polynoidae	*Lepidonotus squamatus*	1
HB02_1	Annelida	Spionidae	*Streblospio benedicti*	1
HB02_1	Arthropoda	Idoteidae	*Edotia triloba*	1
HB02_1	Annelida	Polynoidae	*Lepidonotus sublevis*	1
HB02_1	Arthropoda	Corophiidae	*Monocorophium tuberculatum*	1
HB02_1	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
HB02_1	Arthropoda	Limulidae	*Limulus polyphemus*	1
HB02_1	Arthropoda	Paguridae	*Pagurus longicarpus*	1
HB02_1	Annelida	Capitellidae	*Mediomastus ambiseta*	1
HB02_2	Cnidaria	Campanulariidae	*Clytia hemisphaerica*	P
HB02_2	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB02_2	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB02_2	Bryozoa	Electridae	*Conopeum seurati*	P
HB02_2	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB02_2	Mollusca	Nassariidae	*Ilyanassa obsoleta*	109
HB02_2	Arthropoda	Paguridae	*Pagurus longicarpus*	21
HB02_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	17
HB02_2	Arthropoda	Corophiidae	*Apocorophium acutum*	14
HB02_2	Mollusca	Nassariidae	*Ilyanassa trivittata*	13
HB02_2	Arthropoda	Panopeidae	*Dyspanopeus sayi*	13
HB02_2	Arthropoda	Caprellidae	*Caprella penantis*	13
HB02_2	Arthropoda	Balanidae	*Amphibalanus improvisus*	10

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB02_2	Mollusca	Calyptraeidae	*Crepidula fornicata*	9
HB02_2	Mollusca	Calyptraeidae	*Crepidula convexa*	9
HB02_2	Annelida	Nereididae	*Alitta succinea*	6
HB02_2	Mollusca	Muricidae	*Urosalpinx cinerea*	6
HB02_2	Arthropoda	Aoridae	*Grandidierella japonica*	6
HB02_2	Mollusca	Myidae	*Mya arenaria*	5
HB02_2	Arthropoda	Amphilochidae	*Ampithoe valida*	4
HB02_2	Annelida	Phyllodocidae	*Eumida sanguinea*	3
HB02_2	Annelida	Capitellidae	*Heteromastus filiformis*	3
HB02_2	Annelida	Sabellidae	*Parasabella microphthalma*	3
HB02_2	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	3
HB02_2	Mollusca	Veneridae	*Petricolaria pholadiformis*	3
HB02_2	Mollusca	Pyramidellidae	*Boonea bisuturalis*	3
HB02_2	Arthropoda	Idoteidae	*Edotia triloba*	2
HB02_2	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
HB02_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
HB02_2	Arthropoda	Ischyroceridae	*Jassa marmorata*	2
HB02_2	Arthropoda	Idoteidae	*Erichsonella filiformis*	2
HB02_2	Annelida	Terebellidae	*Polycirrus* sp.	2
HB02_2	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
HB02_2	Annelida	Nereididae	*Neanthes arenaceodentata*	1
HB02_2	Arthropoda	Melitidae	*Melita nitida*	1
HB02_2	Annelida	Nereididae	Nereididae	1
HB02_2	Mollusca	Calyptraeidae	*Crepidula* sp.	1
HB02_2	Mollusca	Muricidae	*Eupleura caudata*	1
HB03_1	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB03_1	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB03_1	Arthropoda	Balanidae	*Amphibalanus improvisus*	1040
HB03_1	Arthropoda	Amphilochidae	*Ampithoe valida*	210
HB03_1	Arthropoda	Chironomidae	*Chironomidae*	148
HB03_1	Platyhelminthes		Turbellaria sp. 7 nai	72
HB03_1	Arthropoda	Corophiidae	*Monocorophium insidiosum*	26
HB03_1	Arthropoda	Balanidae	*Amphibalanus eburneus*	24
HB03_1	Arthropoda	Archaeobalanidae	*Semibalanus balanoides*	19
HB03_1	Arthropoda	Corophiidae	*Apocorophium acutum*	6
HB03_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	4
HB03_1	Mollusca	Nassariidae	*Ilyanassa obsoleta*	4
HB03_1	Mollusca	Veneridae	*Petricolaria pholadiformis*	4
HB03_1	Arthropoda	Caprellidae	*Caprella penantis*	4
HB03_1	Annelida	Nereididae	*Alitta succinea*	3
HB03_1	Arthropoda	Ischyroceridae	*Jassa marmorata*	1
HB03_1	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB03_1	Mollusca	Muricidae	*Urosalpinx cinerea*	1

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB03_1	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB03_1	Arthropoda	Varunidae	*Hemigrapsus sanguineus*	1
HB03_2	Arthropoda	Balanidae	*Amphibalanus improvisus*	2120
HB03_2	Arthropoda	Amphilochidae	*Ampithoe valida*	162
HB03_2	Platyhelminthes		Turbellaria sp. 7 nai	79
HB03_2	Arthropoda	Chironomidae	Chironomidae	66
HB03_2	Arthropoda	Corophiidae	*Monocorophium insidiosum*	32
HB03_2	Arthropoda	Balanidae	*Amphibalanus eburneus*	26
HB03_2	Arthropoda	Corophiidae	*Apocorophium acutum*	16
HB03_2	Annelida	Nereididae	*Alitta succinea*	7
HB03_2	Mollusca	Muricidae	*Urosalpinx cinerea*	6
HB03_2	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	4
HB03_2	Mollusca	Veneridae	*Petricolaria pholadiformis*	4
HB03_2	Mollusca	Calyptraeidae	*Crepidula fornicata*	3
HB03_2	Arthropoda	Ischyroceridae	*Jassa marmorata*	3
HB03_2	Mollusca	Mytilidae	*Mytilus edulis*	2
HB03_2	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	2
HB03_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	2
HB03_2	Annelida	Polynoidae	*Harmothoe imbricata*	1
HB03_2	Mollusca	Myidae	*Mya arenaria*	1
HB03_2	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
HB03_2	Annelida		Oligochaeta	1
HB03_2	Arthropoda	Caprellidae	*Caprella penantis*	1
HB03_2	Annelida	Capitellidae	*Mediomastus ambiseta*	1
HB03_3	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB03_3	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB03_3	Bryozoa	Electridae	*Conopeum seurati*	P
HB03_3	Annelida	Sabellariidae	*Sabellaria vulgaris*	632
HB03_3	Arthropoda	Balanidae	*Amphibalanus improvisus*	561
HB03_3	Arthropoda	Corophiidae	*Monocorophium insidiosum*	332
HB03_3	Mollusca	Veneridae	*Petricolaria pholadiformis*	195
HB03_3	Arthropoda	Corophiidae	*Apocorophium acutum*	84
HB03_3	Mollusca	Myidae	*Mya arenaria*	81
HB03_3	Platyhelminthes		Turbellaria sp. 7 nai	79
HB03_3	Arthropoda	Amphilochidae	*Ampithoe valida*	60
HB03_3	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	53
HB03_3	Annelida	Nereididae	*Alitta succinea*	30
HB03_3	Annelida	Phyllodocidae	*Eumida sanguinea*	28
HB03_3	Mollusca	Muricidae	*Urosalpinx cinerea*	28
HB03_3	Mollusca	Nassariidae	*Ilyanassa obsoleta*	24
HB03_3	Mollusca	Calyptraeidae	*Crepidula fornicata*	22
HB03_3	Annelida	Sabellidae	*Parasabella microphthalma*	11
HB03_3	Annelida	Nereididae	Nereididae	10

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB03_3	Arthropoda	Caprellidae	*Caprella penantis*	8
HB03_3	Mollusca	Mytilidae	*Mytilus edulis*	5
HB03_3	Arthropoda	Archaeobalanidae	*Semibalanus balanoides*	4
HB03_3	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
HB03_3	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
HB03_3	Platyhelminthes	Euplanidae	*Euplana gracilis*	2
HB03_3	Arthropoda	Unciolidae	*Unciola serrata*	2
HB03_3	Annelida	Spionidae	*Polydora websteri*	1
HB03_3	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
HB03_3	Cnidaria	Metridiidae	*Metridium senile*	1
HB03_3	Arthropoda	Chironomidae	*Chironomidae*	1
HB03_3	Chordata	Molgulidae	*Molgula manhattensis*	1
HB03_3	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
HB03_3	Annelida	Syllidae	*Exogone dispar*	1
HB03_3	Platyhelminthes		Turbellaria sp. 6 nai	1
HB03_4	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB03_4	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB03_4	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB03_4	Bryozoa	Electridae	*Conopeum seurati*	P
HB03_4	Arthropoda	Balanidae	*Amphibalanus improvisus*	623
HB03_4	Arthropoda	Corophiidae	*Monocorophium insidiosum*	421
HB03_4	Mollusca	Veneridae	*Petricolaria pholadiformis*	127
HB03_4	Mollusca	Myidae	*Mya arenaria*	99
HB03_4	Annelida	Sabellariidae	*Sabellaria vulgaris*	86
HB03_4	Mollusca	Nassariidae	*Ilyanassa obsoleta*	75
HB03_4	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	60
HB03_4	Mollusca	Muricidae	*Urosalpinx cinerea*	59
HB03_4	Arthropoda	Amphilochidae	*Ampithoe valida*	50
HB03_4	Arthropoda	Corophiidae	*Apocorophium acutum*	34
HB03_4	Mollusca	Calyptraeidae	*Crepidula fornicata*	22
HB03_4	Arthropoda	Caprellidae	*Caprella penantis*	21
HB03_4	Platyhelminthes		Turbellaria sp. 7 nai	12
HB03_4	Annelida	Nereididae	*Alitta succinea*	11
HB03_4	Annelida	Sabellidae	*Parasabella microphthalma*	7
HB03_4	Annelida	Phyllodocidae	*Eumida sanguinea*	6
HB03_4	Chordata	Molgulidae	*Molgula manhattensis*	6
HB03_4	Mollusca	Mytilidae	*Mytilus edulis*	5
HB03_4	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	4
HB03_4	Annelida	Nereididae	Nereididae	4
HB03_4	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
HB03_4	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
HB03_4	Mollusca	Veneridae	*Mercenaria mercenaria*	2
HB03_4	Mollusca	Calyptraeidae	*Crepidula* sp.	2

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB03_4	Arthropoda	Unciolidae	*Unciola serrata*	2
HB03_4	Annelida	Spionidae	*Streblospio benedicti*	1
HB03_4	Mollusca	Lacunidae	*Lacuna vincta*	1
HB03_4	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB03_4	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB03_4	Arthropoda	Maeridae	*Elasmopus levis*	1
HB03_4	Mollusca	Muricidae	*Eupleura caudata*	1
HB03_4	Porifera	Clionaidae	*Cliona* sp.	1
HB04_1	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_1	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB04_1	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_1	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB04_1	Mollusca	Nassariidae	*Ilyanassa obsoleta*	49
HB04_1	Annelida	Sabellariidae	*Sabellaria vulgaris*	42
HB04_1	Annelida	Nereididae	*Alitta succinea*	18
HB04_1	Mollusca	Muricidae	*Urosalpinx cinerea*	15
HB04_1	Arthropoda	Corophiidae	*Apocorophium acutum*	11
HB04_1	Arthropoda	Caprellidae	*Caprella penantis*	11
HB04_1	Mollusca	Myidae	*Mya arenaria*	8
HB04_1	Arthropoda	Unciolidae	*Unciola serrata*	8
HB04_1	Mollusca	Calyptraeidae	*Crepidula fornicata*	7
HB04_1	Arthropoda	Balanidae	*Amphibalanus improvisus*	7
HB04_1	Mollusca	Veneridae	*Petricolaria pholadiformis*	7
HB04_1	Arthropoda	Paguridae	*Pagurus longicarpus*	7
HB04_1	Arthropoda	Corophiidae	*Monocorophium insidiosum*	6
HB04_1	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	5
HB04_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	4
HB04_1	Annelida	Spionidae	*Polydora websteri*	4
HB04_1	Annelida	Sabellidae	*Parasabella microphthalma*	4
HB04_1	Arthropoda	Amphilochidae	*Ampithoe valida*	4
HB04_1	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
HB04_1	Mollusca	Pyramidellidae	*Boonea bisuturalis*	3
HB04_1	Arthropoda	Idoteidae	*Erichsonella filiformis*	2
HB04_1	Annelida	Nereididae	Nereididae	2
HB04_1	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB04_1	Annelida	Polynoidae	*Lepidonotus squamatus*	1
HB04_1	Annelida	Polynoidae	*Harmothoe* sp.	1
HB04_1	Arthropoda	Maeridae	*Elasmopus levis*	1
HB04_1	Annelida	Capitellidae	*Mediomastus ambiseta*	1
HB04_1	Mollusca	Corambidae	*Corambe obscura*	1
HB04_1	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB04_1	Mollusca	Muricidae	*Eupleura caudata*	1
HB04_1	Nemertea	Lineidae	*Lineus ruber*	1

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB04_2	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB04_2	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB04_2	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_2	Arthropoda	Balanidae	*Amphibalanus improvisus*	1128
HB04_2	Mollusca	Muricidae	*Urosalpinx cinerea*	165
HB04_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	100
HB04_2	Mollusca	Nassariidae	*Ilyanassa obsoleta*	84
HB04_2	Arthropoda	Amphilochidae	*Ampithoe valida*	41
HB04_2	Arthropoda	Corophiidae	*Apocorophium acutum*	31
HB04_2	Arthropoda	Caprellidae	*Caprella penantis*	31
HB04_2	Mollusca	Veneridae	*Petricolaria pholadiformis*	30
HB04_2	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	25
HB04_2	Arthropoda	Panopeidae	*Dyspanopeus sayi*	14
HB04_2	Arthropoda	Corophiidae	*Monocorophium insidiosum*	9
HB04_2	Mollusca	Calyptraeidae	*Crepidula fornicata*	5
HB04_2	Annelida	Nereididae	Nereididae	5
HB04_2	Annelida	Nereididae	*Alitta succinea*	4
HB04_2	Mollusca	Muricidae	*Eupleura caudata*	3
HB04_2	Arthropoda	Paguridae	*Pagurus longicarpus*	2
HB04_2	Platyhelminthes		Turbellaria sp. 7 nai	2
HB04_2	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB04_2	Mollusca	Myidae	*Mya arenaria*	1
HB04_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	1
HB04_2	Mollusca	Veneridae	*Gemma gemma*	1
HB04_2	Annelida	Polynoidae	*Harmothoe* sp.	1
HB04_2	Annelida	Nereididae	*Neanthes arenaceodentata*	1
HB04_2	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB04_2	Arthropoda	Corophiidae	*Monocorophium tuberculatum*	1
HB04_2	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
HB04_2	Arthropoda	Balanidae	*Amphibalanus eburneus*	1
HB04_2	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB04_2	Arthropoda	Unciolidae	*Unciola serrata*	1
HB04_2	Arthropoda	Aoridae	*Grandidierella japonica*	1
HB04_3	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_3	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB04_3	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_3	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB04_3	Arthropoda	Balanidae	*Amphibalanus improvisus*	3917
HB04_3	Annelida	Sabellariidae	*Sabellaria vulgaris*	549
HB04_3	Mollusca	Muricidae	*Urosalpinx cinerea*	343
HB04_3	Mollusca	Nassariidae	*Ilyanassa obsoleta*	167
HB04_3	Mollusca	Veneridae	*Petricolaria pholadiformis*	164
HB04_3	Arthropoda	Amphilochidae	*Ampithoe valida*	95

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB04_3	Arthropoda	Corophiidae	*Apocorophium acutum*	66
HB04_3	Arthropoda	Caprellidae	*Caprella penantis*	57
HB04_3	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	52
HB04_3	Arthropoda	Corophiidae	*Monocorophium insidiosum*	50
HB04_3	Mollusca	Myidae	*Mya arenaria*	36
HB04_3	Annelida	Sabellidae	*Parasabella microphthalma*	23
HB04_3	Arthropoda	Panopeidae	*Dyspanopeus sayi*	18
HB04_3	Annelida	Nereididae	*Alitta succinea*	16
HB04_3	Annelida	Nereididae	Nereididae	13
HB04_3	Annelida	Phyllodocidae	*Eumida sanguinea*	11
HB04_3	Mollusca	Calyptraeidae	*Crepidula fornicata*	7
HB04_3	Platyhelminthes		Turbellaria sp. 7 nai	7
HB04_3	Arthropoda	Archaeobalanidae	*Semibalanus balanoides*	6
HB04_3	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	6
HB04_3	Mollusca	Nassariidae	*Ilyanassa trivittata*	4
HB04_3	Cnidaria	Metridiidae	*Metridium senile*	4
HB04_3	Arthropoda	Idoteidae	*Edotia triloba*	2
HB04_3	Mollusca	Muricidae	*Eupleura caudata*	2
HB04_3	Arthropoda	Unciolidae	*Unciola serrata*	2
HB04_3	Annelida	Polynoidae	*Lepidonotus squamatus*	1
HB04_3	Mollusca	Mytilidae	*Mytilus edulis*	1
HB04_3	Arthropoda	Corophiidae	*Monocorophium acherusicum*	1
HB04_3	Arthropoda	Maeridae	*Elasmopus levis*	1
HB04_3	Mollusca	Mactridae	*Mulinia lateralis*	1
HB04_3	Arthropoda	Chironomidae	*Chironomidae*	1
HB04_3	Chordata	Molgulidae	*Molgula manhattensis*	1
HB04_3	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB04_3	Mollusca	Calyptraeidae	*Crepidula* sp.	1
HB04_3	Porifera	Hymerhabdiidae	*Prosuberites* sp.	1
HB04_4	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB04_4	Cnidaria	Campanulariidae	*Obelia dichotoma*	P
HB04_4	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_4	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB04_4	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB04_4	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_4	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB04_4	Arthropoda	Balanidae	*Amphibalanus improvisus*	1019
HB04_4	Arthropoda	Caprellidae	*Caprella penantis*	390
HB04_4	Mollusca	Nassariidae	*Ilyanassa obsoleta*	112
HB04_4	Arthropoda	Amphilochidae	*Ampithoe valida*	91
HB04_4	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	74
HB04_4	Mollusca	Muricidae	*Urosalpinx cinerea*	62
HB04_4	Mollusca	Veneridae	*Petricolaria pholadiformis*	59

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB04_4	Arthropoda	Corophiidae	*Apocorophium acutum*	41
HB04_4	Arthropoda	Panopeidae	*Dyspanopeus sayi*	23
HB04_4	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	19
HB04_4	Arthropoda	Corophiidae	*Monocorophium insidiosum*	10
HB04_4	Arthropoda	Idoteidae	*Erichsonella filiformis*	7
HB04_4	Arthropoda	Corophiidae	*Monocorophium acherusicum*	6
HB04_4	Mollusca	Nassariidae	*Ilyanassa trivittata*	5
HB04_4	Chordata	Molgulidae	*Molgula manhattensis*	5
HB04_4	Arthropoda	Idoteidae	*Edotia triloba*	3
HB04_4	Arthropoda	Paguridae	*Pagurus longicarpus*	3
HB04_4	Porifera	Hymerhabdiidae	*Prosuberites* sp.	3
HB04_4	Platyhelminthes		Turbellaria sp. 7 nai	3
HB04_4	Arthropoda	Aoridae	*Grandidierella japonica*	3
HB04_4	Annelida	Phyllodocidae	*Eumida sanguinea*	2
HB04_4	Annelida		Oligochaeta	2
HB04_4	Annelida	Nereididae	*Alitta succinea*	2
HB04_4	Arthropoda	Caprellidae	*Paracaprella tenuis*	2
HB04_4	Arthropoda	Maeridae	*Elasmopus levis*	2
HB04_4	Annelida	Capitellidae	*Mediomastus ambiseta*	2
HB04_4	Mollusca	Muricidae	*Eupleura caudata*	2
HB04_4	Arthropoda	Unciolidae	*Unciola serrata*	2
HB04_4	Mollusca	Columbellidae	*Astyris lunata*	1
HB04_4	Mollusca	Myidae	*Mya arenaria*	1
HB04_4	Arthropoda	Ischyroceridae	*Jassa marmorata*	1
HB04_4	Annelida	Polynoidae	*Lepidonotus sublevis*	1
HB04_4	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB04_4	Porifera	Clionaidae	*Cliona celata*	1
HB04_4	Mollusca	Mactridae	*Mulinia lateralis*	1
HB04_4	Annelida	Nereididae	Nereididae	1
HB04_4	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB05_1	Cnidaria	Haleciidae	*Halecium* sp.	P
HB05_1	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB05_1	Cnidaria	Campanulariidae	*Obelia dichotoma*	P
HB05_1	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB05_1	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB05_1	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB05_1	Bryozoa	Electridae	*Conopeum seurati*	P
HB05_1	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB05_1	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB05_1	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB05_1	Arthropoda	Caprellidae	*Caprella penantis*	280
HB05_1	Arthropoda	Corophiidae	*Apocorophium acutum*	85
HB05_1	Arthropoda	Balanidae	*Amphibalanus improvisus*	43

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB05_1	Arthropoda	Ischyroceridae	*Jassa marmorata*	26
HB05_1	Arthropoda	Panopeidae	*Dyspanopeus sayi*	17
HB05_1	Mollusca	Myidae	*Mya arenaria*	16
HB05_1	Mollusca	Veneridae	*Petricolaria pholadiformis*	10
HB05_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	9
HB05_1	Mollusca	Muricidae	*Urosalpinx cinerea*	9
HB05_1	Platyhelminthes		Turbellaria sp. 7 nai	9
HB05_1	Mollusca	Calyptraeidae	*Crepidula fornicata*	8
HB05_1	Cnidaria	Metridiidae	*Metridium senile*	8
HB05_1	Arthropoda	Corophiidae	*Monocorophium acherusicum*	7
HB05_1	Annelida	Sabellidae	*Parasabella microphthalma*	6
HB05_1	Arthropoda	Unciolidae	*Unciola serrata*	5
HB05_1	Mollusca	Mytilidae	*Mytilus edulis*	3
HB05_1	Mollusca	Nassariidae	*Ilyanassa trivittata*	2
HB05_1	Arthropoda	Amphilochidae	*Ampithoe valida*	2
HB05_1	Mollusca	Columbellidae	*Astyris lunata*	1
HB05_1	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
HB05_1	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
HB05_1	Annelida	Nereididae	*Alitta succinea*	1
HB05_1	Arthropoda	Corophiidae	*Monocorophium tuberculatum*	1
HB05_2	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB05_2	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB05_2	Cnidaria	Campanulariidae	*Obelia dichotoma*	P
HB05_2	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB05_2	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB05_2	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB05_2	Bryozoa	Electridae	*Conopeum seurati*	P
HB05_2	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB05_2	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB05_2	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB05_2	Arthropoda	Corophiidae	*Apocorophium acutum*	398
HB05_2	Arthropoda	Caprellidae	*Caprella penantis*	358
HB05_2	Arthropoda	Balanidae	*Amphibalanus improvisus*	231
HB05_2	Mollusca	Veneridae	*Petricolaria pholadiformis*	49
HB05_2	Arthropoda	Ischyroceridae	*Jassa marmorata*	45
HB05_2	Mollusca	Myidae	*Mya arenaria*	29
HB05_2	Mollusca	Calyptraeidae	*Crepidula fornicata*	21
HB05_2	Arthropoda	Panopeidae	*Dyspanopeus sayi*	20
HB05_2	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	18
HB05_2	Platyhelminthes		Turbellaria sp. 7 nai	18
HB05_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	17
HB05_2	Arthropoda	Corophiidae	*Monocorophium insidiosum*	12
HB05_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	12

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB05_2	Mollusca	Muricidae	*Urosalpinx cinerea*	11
HB05_2	Mollusca	Mytilidae	*Mytilus edulis*	6
HB05_2	Annelida	Nereididae	*Alitta succinea*	6
HB05_2	Annelida	Sabellidae	*Parasabella microphthalma*	4
HB05_2	Annelida	Phyllodocidae	*Eumida sanguinea*	3
HB05_2	Arthropoda	Amphilochidae	*Ampithoe valida*	3
HB05_2	Annelida	Polynoidae	*Lepidonotus sublevis*	2
HB05_2	Porifera	Clionaidae	*Cliona celata*	2
HB05_2	Annelida	Nereididae	Nereididae	2
HB05_2	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB05_2	Porifera	Halichondriidae	*Halichondria bowerbanki*	1
HB05_2	Arthropoda	Chironomidae	Chironomidae	1
HB05_2	Chordata	Molgulidae	*Molgula manhattensis*	1
HB05_2	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB05_2	Arthropoda	Unciolidae	*Unciola serrata*	1
HB05_2	Porifera	Hymerhabdiidae	*Prosuberites* sp.	1
HB05_3	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB05_3	Cnidaria	Haleciidae	*Halecium* sp.	P
HB05_3	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB05_3	Cnidaria	Campanulariidae	*Obelia dichotoma*	P
HB05_3	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB05_3	Bryozoa	Electridae	*Conopeum tenuissimum*	P
HB05_3	Bryozoa	Electridae	*Conopeum seurati*	P
HB05_3	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB05_3	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB05_3	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB05_3	Arthropoda	Corophiidae	*Apocorophium acutum*	180
HB05_3	Arthropoda	Caprellidae	*Caprella penantis*	180
HB05_3	Mollusca	Veneridae	*Petricolaria pholadiformis*	58
HB05_3	Mollusca	Myidae	*Mya arenaria*	44
HB05_3	Annelida	Sabellidae	*Parasabella microphthalma*	33
HB05_3	Arthropoda	Ischyroceridae	*Jassa marmorata*	26
HB05_3	Annelida	Nereididae	*Alitta succinea*	16
HB05_3	Arthropoda	Corophiidae	*Monocorophium acherusicum*	12
HB05_3	Arthropoda	Balanidae	*Amphibalanus improvisus*	9
HB05_3	Mollusca	Calyptraeidae	*Crepidula fornicata*	7
HB05_3	Annelida	Phyllodocidae	*Eumida sanguinea*	5
HB05_3	Arthropoda	Amphilochidae	*Ampithoe valida*	4
HB05_3	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	3
HB05_3	Annelida	Spionidae	*Polydora websteri*	3
HB05_3	Platyhelminthes		Turbellaria sp. *7* nai	3
HB05_3	Mollusca	Nassariidae	*Ilyanassa obsoleta*	2
HB05_3	Annelida	Polynoidae	*Lepidonotus squamatus*	1

(continued)

Appendix Table F-2. (Continued)

Sample ID	Phylum	Family	Species/Taxon	Count[1]
HB05_3	Mollusca	Mytilidae	*Mytilus edulis*	1
HB05_3	Annelida		Oligochaeta	1
HB05_3	Cnidaria	Metridiidae	*Metridium senile*	1
HB05_3	Mollusca	Veneridae	*Mercenaria mercenaria*	1
HB05_3	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB05_3	Annelida	Syllidae	*Exogone dispar*	1
HB05_3	Nemertea	Lineidae	*Lineus ruber*	1

Appendix Table F-3. Phylogenetic Listing of Macrofaunal Taxa Collected in Destructive Samples during the July 2015 Hard-bottom Study. Only taxa with Exclude code = 'G' (Good) were included in diversity and richness calculations; those with Exclude code = 'B' (Bad) or 'C' (Colonial) were excluded.

Phylum	Higher Taxon	Family	Species/Taxon	Exclude Code
Porifera	Demospongiae	Clionaidae	*Cliona celata*	G
			Cliona sp.	B
		Halichondriidae	*Halichondria bowerbanki*	G
		Hymerhabdiidae	*Prosuberites* sp.	G
Cnidaria	Anthozoa	Metridiidae	*Metridium senile*	G
	Hydrozoa	Campanulariidae	*Clytia hemisphaerica*	C
			Gonothyraea loveni	C
			Obelia dichotoma	C
		Haleciidae	*Halecium* sp.	C
Platyhelminthes	Turbellaria		Turbellaria sp. 6 nai	G
			Turbellaria sp. 7 nai	G
		Euplanidae	*Euplana gracilis*	G
Nemertea	Nemertea	Amphiporidae	*Zygonemertes virescens*	G
		Lineidae	*Lineus ruber*	G
Mollusca	Gastropoda	Calyptraeidae	*Crepidula convexa*	G
			Crepidula fornicata	G
			Crepidula sp.	B
		Columbellidae	*Astyris lunata*	G
		Corambidae	*Corambe obscura*	G
		Lacunidae	*Lacuna vincta*	G
		Muricidae	*Eupleura caudata*	G
			Urosalpinx cinerea	G
		Nassariidae	*Ilyanassa obsoleta*	G
			Ilyanassa trivittata	G
		Pyramidellidae	*Boonea bisuturalis*	G
Mollusca	Bivalvia	Mactridae	*Mulinia lateralis*	G
		Myidae	*Mya arenaria*	G
		Mytilidae	*Mytilus edulis*	G
		Veneridae	*Gemma gemma*	G
			Mercenaria mercenaria	G
			Petricolaria pholadiformis	G
Annelida	Oligochaeta		Oligochaeta	G
Annelida	Polychaeta	Capitellidae	*Heteromastus filiformis*	G
			Mediomastus ambiseta	G
		Nereididae	*Alitta succinea*	G
			Neanthes arenaceodentata	G
			Nereididae	B
		Phyllodocidae	*Eumida sanguinea*	G
		Polynoidae	*Harmothoe imbricata*	G
			Harmothoe sp.	B
			Lepidonotus squamatus	G
			Lepidonotus sublevis	G
		Sabellariidae	*Sabellaria vulgaris*	G
		Sabellidae	*Parasabella microphthalma*	G

(continued)

Appendix Table F-3. (Continued)

Phylum	Higher Taxon	Family	Species/Taxon	Exclude Code
Annelida (cont'd)	Polychaeta (cont'd)	Spionidae	*Polydora websteri*	G
			Streblospio benedicti	G
		Syllidae	*Exogone dispar*	G
		Terebellidae	*Polycirrus* sp.	G
Arthropoda	Cirripedia	Archaeobalanidae	*Semibalanus balanoides*	G
		Balanidae	*Amphibalanus eburneus*	G
			Amphibalanus improvisus	G
Arthropoda	Merostomata	Limulidae	*Limulus polyphemus*	G
Arthropoda	Insecta	Chironomidae	Chironomidae	G
Arthropoda	Amphipoda	Amphilochidae	*Ampithoe valida*	G
		Aoridae	*Grandidierella japonica*	G
			Microdeutopus gryllotalpa	G
		Caprellidae	*Caprella penantis*	G
			Paracaprella tenuis	G
		Corophiidae	*Apocorophium acutum*	G
			Monocorophium acherusicum	G
			Monocorophium insidiosum	G
			Monocorophium tuberculatum	G
		Ischyroceridae	*Ericthonius brasiliensis*	G
			Jassa marmorata	G
		Maeridae	*Elasmopus levis*	G
		Melitidae	*Melita nitida*	G
		Unciolidae	*Unciola serrata*	G
Arthropoda	Isopoda	Idoteidae	*Edotia triloba*	G
			Erichsonella filiformis	G
Arthropoda	Decapoda	Paguridae	*Pagurus longicarpus*	G
		Panopeidae	*Dyspanopeus sayi*	G
		Varunidae	*Hemigrapsus sanguineus*	G
Bryozoa	Gymnolaemata	Aeverrilliidae	*Aeverrillia armata*	C
		Alcyonidiidae	*Alcyonidium polyoum*	C
		Electridae	*Conopeum seurati*	C
			Conopeum tenuissimum	C
		Nolellidae	*Anguinella palmata*	C
		Schizoporellidae	*Schizoporella unicornis*	C
		Vesiculariidae	*Bowerbankia gracilis*	C
Entoprocta	Entoprocta	Pedicellinidae	*Pedicellina cernua*	C
Chordata	Urochordata	Molgulidae	*Molgula manhattensis*	G

Appendix Table F-4. Macrofaunal Community Parameters for Destructive Samples Collected during the July 2015 Hard-bottom Study.

Sample ID	Total Abundance	Log-Series Alpha	Shannon-Wiener Diversity (H')	Pielou's Evenness (J')	Number of Species
HB02_1	616	5.24	1.33	0.41	25
HB02_2	291	8.80	2.56	0.75	31
HB03_1	1569	2.85	1.21	0.42	18
HB03_2	2540	3.31	0.77	0.25	22
HB03_3	2265	4.89	2.13	0.63	30
HB03_4	1750	4.94	2.08	0.62	29
HB04_1	236	8.73	2.75	0.82	29
HB04_2	1692	4.77	1.36	0.41	28
HB04_3	5627	4.65	1.28	0.37	33
HB04_4	1963	6.26	1.72	0.48	36
HB05_1	550	4.85	1.86	0.59	23
HB05_2	1274	5.06	1.96	0.59	28
HB05_3	593	5.02	1.99	0.63	24

Appendix Table F-5. Contribution to Macrofaunal Abundance in each Destructive Sample for each Numerically Dominant Phyla and all Other Phyla Combined; July 2015 Hard-bottom Study.

Sample ID	Annelida	Arthropoda	Mollusca	Other Phyla	Total Abundance
HB02_1	45	482	82	7	616
HB02_2	36	96	159	0	291
HB03_1	5	1483	9	72	1569
HB03_2	12	2432	17	79	2540
HB03_3	713	1112	355	85	2265
HB03_4	115	1222	394	19	1750
HB04_1	74	69	92	1	236
HB04_2	112	1287	291	2	1692
HB04_3	613	4274	727	13	5627
HB04_4	12	1696	243	12	1963
HB05_1	7	476	50	17	550
HB05_2	29	1104	118	23	1274
HB05_3	60	414	114	5	593

Appendix Table F-6. Contribution to Macrofaunal Species Richness in each Destructive Sample for each Numerically Dominant Phyla and all Other Phyla Combined; July 2015 Hard-bottom Study.

Sample ID	Annelida	Arthropoda	Mollusca	Other Phyla	Total Number of Species
HB02_1	7	11	5	2	25
HB02_2	7	15	9	0	31
HB03_1	3	11	3	1	18
HB03_2	5	10	6	1	22
HB03_3	6	12	6	6	30
HB03_4	5	12	10	2	29
HB04_1	7	12	9	1	29
HB04_2	4	14	9	1	28
HB04_3	5	14	10	4	33
HB04_4	7	17	8	4	36
HB05_1	2	11	8	2	23
HB05_2	5	11	7	5	28
HB05_3	7	7	7	3	24

Appendix Table F-7. Dry Weights by Sample and Macroalgal Taxon for Destructive Samples Collected during the July 2015 Hard-bottom Study.

Sample ID	Phylum	Class	Order	Species/Taxon	Sample Dry Weight (g)
HB02_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	2.09
HB02_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	0.1
HB02_1	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium virgatum*	0.06
HB02_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	0.04
HB02_1	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.02
HB02_1	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.01
HB02_1	Chlorophyta	Ulvophyceae	Cladophorales	*Chaetomorpha* sp.	<0.01
HB02_1	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	<0.01
HB02_1	Rhodophyta	Bangiophyceae	Bangiales	*Porphyra* sp.	<0.01
HB02_2	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	2.66
HB02_2	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium virgatum*	0.01
HB02_2	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB02_2	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	<0.01
HB02_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	<0.01
HB02_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	<0.01
HB03_1	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	<0.01
HB03_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	<0.01
HB03_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	<0.01
HB03_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.02
HB03_2	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	<0.01
HB03_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	<0.01
HB03_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	1.37
HB03_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	0.46
HB03_3	Chlorophyta	Ulvophyceae	Ulvales	Ulvales	0.03
HB03_3	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.01
HB03_3	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB03_3	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium virgatum*	<0.01
HB03_3	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	<0.01
HB03_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.46
HB03_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	0.25
HB03_4	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.14
HB03_4	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.01
HB03_4	Chlorophyta	Ulvophyceae	Ulvales	Ulvales	0.01
HB03_4	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	<0.01
HB03_4	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	<0.01
HB03_4	Chlorophyta	Ulvophyceae	Cladophorales	*Chaetomorpha melagonium*	<0.01
HB03_4	Chlorophyta	Ulvophyceae	Cladophorales	*Chaetomorpha picquotiana*	<0.01
HB03_4	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	<0.01
HB04_1	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	1.22
HB04_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.54
HB04_1	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.01
HB04_1	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	<0.01
HB04_1	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	<0.01
HB04_1	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	<0.01
HB04_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	0.94

(continued)

Appendix Table F-7. (Continued)

Sample ID	Phylum	Class	Order	Species/Taxon	Sample Dry Weight (g)
HB04_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.35
HB04_2	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.01
HB04_2	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.01
HB04_2	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	<0.01
HB04_2	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium virgatum*	<0.01
HB04_2	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	<0.01
HB04_2	Chlorophyta	Ulvophyceae	Ulvales	Ulvales	<0.01
HB04_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	0.41
HB04_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.34
HB04_3	Chlorophyta	Ulvophyceae	Ulvales	Ulvales	0.01
HB04_3	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB04_3	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium virgatum*	<0.01
HB04_3	Chlorophyta	Ulvophyceae	Cladophorales	*Chaetomorpha linum*	<0.01
HB04_3	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	<0.01
HB04_3	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	<0.01
HB04_4	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.8
HB04_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	0.61
HB04_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.36
HB04_4	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.06
HB04_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	0.05
HB04_4	Chlorophyta	Ulvophyceae	Ulvales	Ulvales	0.01
HB04_4	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium virgatum*	<0.01
HB04_4	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	<0.01
HB05_1	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	0.05
HB05_1	Rhodophyta	Florideophyceae	Ceramiales	*Scagelia pylaisaei*	0.04
HB05_1	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.01
HB05_1	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.01
HB05_1	Rhodophyta	Florideophyceae	Ceramiales	*Aglaothamnion* sp.	<0.01
HB05_1	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB05_1	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	<0.01
HB05_1	Chlorophyta	Ulvophyceae	Ulvales	Ulvales	<0.01
HB05_2	Rhodophyta	Florideophyceae	Ceramiales	*Scagelia pylaisaei*	0.13
HB05_2	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.04
HB05_2	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	0.04
HB05_2	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.02
HB05_2	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	0.02
HB05_2	Rhodophyta	Florideophyceae	Ceramiales	*Aglaothamnion* sp.	0.01
HB05_2	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.01
HB05_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.01
HB05_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	0.01
HB05_3	Rhodophyta	Florideophyceae	Gigartinales	Gigartinales	0.12
HB05_3	Rhodophyta	Florideophyceae	Ceramiales	*Scagelia pylaisaei*	0.05
HB05_3	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.03
HB05_3	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	0.02
HB05_3	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.01

(continued)

Appendix Table F-7. (Continued)

Sample ID	Phylum	Class	Order	Species/Taxon	Sample Dry Weight (g)
HB05_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	0.01
HB05_3	Rhodophyta	Florideophyceae	Ceramiales	*Aglaothamnion* sp.	<0.01
HB05_3	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB05_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	<0.01

Appendix Table F-8. Data by Taxon for each Photographic Quadrat Analyzed for the September 2015 Hard-bottom Study.

Station: HB02	Complete Transect		1 M		5 M		8 M		20 M		22 M		28 M	
Date	9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015	
Comments: Total number of squares is 64 per image.							Seems to overlap, as a result count may be off							
Substrate	Sand, gravel, shell debris, cobble, and large rocks		sand with gravel, shell debris, & large rocks		rocks		large rocks		large rocks		Sand with shell debris, cobble, and large rocks		cobble and large rock with shell debris	
Drape	absent-low		low		low		low		absent		absent		low	
Relief	low-moderate		low		low-moderate		low-moderate		low-moderate		low-moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Percent Present**	**Relative Abundance**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**	**Number of Squares**	**%**
Algae														
Red Filamentous Algae (includes all red filamentous species)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Red Branching Algae (*Agardhiella* spp.)	26.3	Abundant	11	17.2	26	40.6	27	42.2	33	51.6		0.0	4	6.3
Laver (*Porphyra* spp.)	1.0	Present		0.0		0.0	4	6.3		0.0		0.0		0.0
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Red Algae Species 1 (Gigartinales Species 1)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Unidentifiable Dark Red Algae	5.2	Present	10	15.6		0.0	10	15.6		0.0		0.0		0.0
Polly (*Polysiphonia lanosa*) on *Ulva*	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Gut Weed (*Ulva intestinalis*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Sea Lettuce (*Ulva lactuca*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Sea Lettuce (*Ulva* spp.)	14.1	Abundant	6	9.4	2	3.1	22	34.4	12	18.8	7	10.9	5	7.8
Whipweed (*Chordaria flagelliformis*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Unidentifiable Red Algae	39.6	Abundant	15	23.4	36	56.3	5	7.8		0.0	46	71.9	50	78.1
Bryozoan														
Broazoan (includes all broazoan species)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Lacy Crusts (*Membranipora* and related genera)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0

(continued)

Appendix Table F-8. (Continued)

Station: HB02	Complete transect		1 M		5 M		8 M		20 M		22 M		28 M	
Date	9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015	
Cnidaria														
Tubularian Hydroids (*Tubularia* spp.)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
General Hydroids (includes all hydroid species)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Ghost Anemone (*Diadumene leucolena*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Frilled Anemone (*Metridium senile*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Polychaete														
Tube Worms (Serpulidae; tubes only no tentacles)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Sponges														
Red Beard Sponge (*Microciona prolifera*)	2.1	Present		0.0	4	6.3		0.0	4	6.3		0.0		0.0
Bowerbank's Halichondria (*Halichondria bowerbanki*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Encrusting Sponge (includes all encrusting unidentifiable sponges)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Mollusks														
Common Periwinkle (*Littorina littorea*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Oyster Drill (*Urosalpinx cinerea*)	1.6	Present		0.0	1	1.6		0.0		0.0		0.0	5	7.8
Oyster Drill egg cases	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Mud Dog Whelk (*Ilyanassa obsoleta*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Slipper Shell (*Crepidula* spp.)	5.7	Present		0.0	9	14.1		0.0	5	7.8	2	3.1	6	9.4
Unidentifiable Gastropod (Gastropoda)	2.3	Present		0.0		0.0	3	4.7	1	1.6	2	3.1	3	4.7
Blue Mussel (*Mytilus edulis*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Quahog (*Mercenaria mercenaria*)	0.3	Present		0.0		0.0		0.0		0.0		0.0	1	1.6
Unidentifiable Bivalve (Bivalvia)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Arthropoda														
Barnacles (*Balanus* spp.)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Dead Barnacles (*Balanus* spp.)	14.3	Abundant	7	10.9	16	25.0	10	15.6	14	21.9		0.0	8	12.5
Hermit Crab (*Pagurus* spp.)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Unidentifiable Crab (Brachyura)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Tunicates														
Sea Grapes (*Molgula manhattensis*)	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
General Tunicate	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0
Others														
Unidentifiable A	0.0	Not Observed		0.0		0.0		0.0		0.0		0.0		0.0

(continued)

Appendix Table F-8. (Continued)

Station: HB04	Complete transect		0 M		3 M		5 M		7M		10 M		15 M		17 M		21 M		25 M		29 M	
Date	**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**	
Comments: Total number of squares is 64 per image.									Quadrat 1 & 2 look very similar, they maybe overlap-ping. Counts may be off										minus 4 squares		minus 4 squares	
Substrate	rocks		rocks		rocks		rocks		rocks		rocks		rock		rocks		rocks		rock		rock	
Drape	low		low		low		low		low		low		low		low		low		low		low	
Relief	low-moderate		moderate		low-moderate		moderate		moderate		moderate		moderate		moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Percent present**	**Relative Abun-dance**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**
Algae																						
Red Filamentous Algae (includes all red filamentous species)	20.8%	Abundant	16	25.0%	3	4.7%		0.0%	10	15.6%	37	57.8%		0.0%	16	25.0%	17	26.6%	18	30.0%	14	23.3%
Red Branching Algae (*Agardhiella* spp.)	23.2%	Abundant	5	7.8%	7	10.9%	12	18.8%	20	31.3%	18	28.1%	8	12.5%	20	31.3%	23	35.9%	15	25.0%	18	30.0%
Laver (*Porphyra* spp.)	0.3%	Present		0.0%		0.0%	2	3.1%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Red Algae Species 1 (Gigartinales Species 1)	4.4%	Present		0.0%		0.0%	3	4.7%	5	7.8%		0.0%	18	28.1%		0.0%		0.0%		0.0%	2	3.3%
Unidentifiable Dark Red Algae	0.9%	Present		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	6	9.4%		0.0%		0.0%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB04	Complete transect		0 M		3 M		5 M		7M		10 M		15 M		17 M		21 M		25 M		29 M	
Date	9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015	
Biota Algae (cont.)	Percent present	Relative Abun-dance	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%
Polly (*Polysiphonia lanosa*) on *Ulva*	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Gut Weed (*Ulva intestinalis*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Sea Lettuce (*Ulva lactuca*)	27.3%	Abundant	34	53.1%	30	46.9%	42	65.6%	36	56.3%	9	14.1%		0.0%	24	37.5%		0.0%		0.0%		0.0%
Sea Lettuce (*Ulva* spp.)	42.9%	Abundant	2	3.1%		0.0%		0.0%		0.0%	29	45.3%	53	82.8%	33	51.6%	52	81.3%	46	76.7%	53	88.3%
Whipweed (*Chordaria flagelliformis*)	2.3%	Present		0.0%		0.0%		0.0%		0.0%		0.0%	15	23.4%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Red Algae	13.6%	Abundant		0.0%	33	51.6%	11	17.2%	15	23.4%		0.0%	20	31.3%	8	12.5%		0.0%		0.0%		0.0%
Cnidaria																						
Ghost Anemone (*Diadumene leucolena*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Frilled Anemone (*Metridium senile*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Tubularian Hydroids (*Tubularia spp.*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
General Hydroids (includes all hydroid species)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Bryozoan																						
Broazoan (includes all broazoan species)	0.3%	Present		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	2	3.1%		0.0%		0.0%
Lacy Crusts (*Membraniporaand* related genera)	0.5%	Present		0.0%		0.0%		0.0%	2	3.1%		0.0%	1	1.6%		0.0%		0.0%		0.0%		0.0%
Polychaete																						
Tube Worms (Serpulidae; tubes only no tentacles)	2.3%	Present		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	6	9.4%		0.0%	8	13.3%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB04	Complete transect		0 M		3 M		5 M		7M		10 M		15 M		17 M		21 M		25 M		29 M	
Date	9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015	
Biota	Percent present	Relative Abun-dance	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%
Sponges																						
Red Beard Sponge (*Microciona prolifera*)	20.8%	Abundant	20	31.3%	11	17.2%	23	35.9%	14	21.9%	20	31.3%	6	9.4%	16	25.0%	8	12.5%	4	6.7%	10	16.7%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	1.3%	Present		0.0%		0.0%		0.0%		0.0%	5	7.8%		0.0%		0.0%		0.0%		0.0%	3	5.0%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	2.4%	Present		0.0%		0.0%	5	7.8%		0.0%	5	7.8%		0.0%	1	1.6%	1	1.6%	3	5.0%		0.0%
Mollusks																						
Common Periwinkle (*Littorina littorea*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Oyster Drill (*Urosalpinx cinerea*)	1.4%	Present	3	4.7%		0.0%		0.0%		0.0%	2	3.1%		0.0%		0.0%		0.0%	3	5.0%	1	1.7%
Oyster Drill egg cases	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Slipper Shell (*Crepidula* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Gastropod (Gastropoda)	6.3%	Present	2	3.1%	7	10.9%	4	6.3%	5	7.8%	4	6.3%	6	9.4%	10	15.6%		0.0%	2	3.3%		0.0%
Blue Mussel (*Mytilus edulis*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Quahog (*Mercenaria mercenaria*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Bivalve (Bivalvia)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB04	Complete transect		0 M		3 M		5 M		7M		10 M		15 M		17 M		21 M		25 M		29 M	
Date	9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015	
Biota	Percent present	Relative Abun-dance	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%
Arthropoda																						
Barnacles (*Balanus spp.*)	0.2%	Present		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%	1	1.6%		0.0%		0.0%		0.0%
Dead Barnacles (*Balanus* spp.)	6.0%	Present	5	7.8%		0.0%	3	4.7%	3	4.7%	1	1.6%	4	6.3%	5	7.8%	14	21.9%	2	3.3%	1	1.7%
Hermit Crab (*Pagurus* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Crab (Brachyura)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Tunicates																						
Sea Grapes (*Molgula manhattensis*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
General Tunicate	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Others																						
Unidentifiable A	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB05	Complete transect		0 M		5 M		9 M		12 M		15 M		19 M		27 M	
Date	**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**	
Comments: Total number of squares is 64 per image.							minus 7 squares									
Substrate	rocks		rocks		rocks		rocks		rocks		rocks		rocks		rocks	
Drape	absent		absent		absent		absent		absent		absent		absent		absent	
Relief	moderate		moderate		moderate		moderate		moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Percent present**	**Relative Abundance**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**
Algae																
Red Filamentous Algae (includes all red filamentous species)	6.5%	Present	8	12.5%		0.0%	4	7.0%	2	3.1%	11	17.2%	2	3.1%	6	9.4%
Red Branching Algae (*Agardhiella* spp.)	3.5%	Present		0.0%	5	7.8%		0.0%		0.0%	5	7.8%	6	9.4%	2	3.1%
Laver (*Porphyra* spp.)	4.9%	Present		0.0%	5	7.8%		0.0%		0.0%		0.0%	20	31.3%		0.0%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.2%	Present		0.0%		0.0%	1	1.8%		0.0%		0.0%		0.0%		0.0%
Red Algae Species 1 (Gigartinales Species 1)	0.4%	Present		0.0%		0.0%		0.0%		0.0%		0.0%	2	3.1%		0.0%
Unidentifiable Dark Red Algae	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Polly (*Polysiphonia lanosa*) on *Ulva*	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Gut Weed (*Ulva intestinalis*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Sea Lettuce (*Ulva lactuca*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Sea Lettuce (*Ulva* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Whipweed (*Chordaria flagelliformis*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Red Algae	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Cnidaria																
Ghost Anemone (*Diadumene leucolena*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Frilled Anemone (*Metridium senile*)	0.6%	Present		0.0%		0.0%		0.0%	3	4.7%		0.0%		0.0%		0.0%
Tubularian Hydroids (*Tubularia* spp.)	0.4%	Present	2	3.1%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
General Hydroids (includes all hydroid species)	17.5%	Abundant	22	34.4%	9	14.1%	5	8.8%	21	32.8%	5	7.8%	3	4.7%	24	37.5%

(continued)

Appendix Table F-8. (Continued)

Station: HB05	Complete transect		0 M		5 M		9 M		12 M		15 M		19 M		27 M	
Date	9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015	
Biota	Percent present	Relative Abundance	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%
Bryozoan																
Broazoan (includes all broazoan species)	64.6%	Very Abundant	32	50.0%	55	85.9%	54	94.7%	48	75.0%	51	79.7%	42	65.6%	42	65.6%
Lacy Crusts (*Membraniporaand* related genera)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Polychaete																
Tube Worms (Serpulidae; tubes only no tentacles)	0.6%	Present	2	3.1%		0.0%	1	1.8%		0.0%		0.0%		0.0%		0.0%
Sponges																
Red Beard Sponge (*Microciona prolifera*)	12.7%	Abundant	9	14.1%	19	29.7%	10	17.5%	5	7.8%	6	9.4%	8	12.5%	7	10.9%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	31.3%	Abundant	15	23.4%	34	53.1%	17	29.8%	24	37.5%	28	43.8%	27	42.2%	13	20.3%
Mollusks																
Common Periwinkle (*Littorina littorea*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Oyster Drill (*Urosalpinx cinerea*)	0.4%	Present		0.0%	1	1.6%		0.0%		0.0%		0.0%	1	1.6%		0.0%
Oyster Drill egg cases	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.2%	Present		0.0%		0.0%		0.0%		0.0%		0.0%	1	1.6%		0.0%
Slipper Shell (*Crepidula* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Gastropod (Gastropoda)	3.0%	Present		0.0%	2	3.1%	2	3.5%	4	6.3%	2	3.1%	4	6.3%	1	1.6%
Blue Mussel (*Mytilus edulis*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Quahog (*Mercenaria mercenaria*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Bivalve (Bivalvia)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB05	Complete transect		0 M		5 M		9 M		12 M		15 M		19 M		27 M	
Date	9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015		9/21/2015	
Biota	Percent present	Relative Abundance	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%	Number of squares	%
Arthropoda																
Barnacles (*Balanus* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Dead Barnacles (*Balanus* spp.)	13.0%	Abundant	17	26.6%	8	12.5%	6	10.5%	15	23.4%	9	14.1%	5	7.8%	6	9.4%
Hermit Crab (*Pagurus* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Unidentifiable Crab (Brachyura)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Tunicates																
Sea Grapes (*Molgula manhattensis*)	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
General Tunicate	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%
Others																
Unidentifiable A	0.0%	Not Observed		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB07	Complete transect		0 M		4 M		15 M	
Date	**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**	
Comments: Total number of squares is 64 per image.								
Substrate	rocks		rocks		rocks		rocks	
Drape	absent		absent		absent		absent	
Relief	moderate		moderate		moderate		moderate	
Suspended matter	high, poor visiblity		high, poor visiblity		high, poor visiblity		high, poor visiblity	
Biota	**Percent present**	**Relative Abundance**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**
Algae								
Red Filamentous Algae (includes all red filamentous species)	8.3%	Present		0.0%	16	25.0%		0.0%
Red Branching Algae (*Agardhiella* spp.)	1.6%	Present		0.0%	2	3.1%	1	1.6%
Laver (*Porphyra* spp.)	2.6%	Present	5	7.8%		0.0%		0.0%
Grinnell's Pink Leaf (*Grinnellia americana*) (midrib visible)	0.0%	Not Observed		0.0%		0.0%		0.0%
Red Algae Species 1 (Gigartinales Species 1)	0.0%	Not Observed		0.0%		0.0%		0.0%
Unidentifiable Dark Red Algae	0.0%	Not Observed		0.0%		0.0%		0.0%
Polly (*Polysiphonia lanosa*) on *Ulva*	0.0%	Not Observed		0.0%		0.0%		0.0%
Gut Weed (*Ulva intestinalis*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Sea Lettuce (*Ulva lactuca*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Sea Lettuce (*Ulva spp.*)	0.5%	Present		0.0%		0.0%	1	1.6%
Whipweed (*Chordaria flagelliformis*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Unidentifiable Red Algae	0.0%	Not Observed		0.0%		0.0%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB07	Complete transect		0 M		4 M		15 M	
Date	**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**	
Biota	**Percent present**	**Relative Abundance**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**
Cnidaria								
Ghost Anemone (*Diadumene leucolena*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Frilled Anemone (*Metridium senile*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Tubularian Hydroids (*Tubularia* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%
General Hydroids (includes all hydroid species)	6.3%	Present		0.0%		0.0%	12	18.8%
Bryozoan								
Broazoan (includes all broazoan species)	59.9%	Very Abundant	29	45.3%	39	60.9%	47	73.4%
Lacy Crusts (*Membranipora* and related genera)	0.0%	Not Observed		0.0%		0.0%		0.0%
Polychaete								
Tube Worms (Serpulidae; tubes only no tentacles)	2.1%	Present	4	6.3%		0.0%		0.0%
Sponges								
Red Beard Sponge (*Microciona prolifera*)	31.3%	Abundant	27	42.2%	25	39.1%	8	12.5%
Bowerbank's Halichondria (*Halichondria bowerbanki*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Encrusting Sponge (includes all encrusting unidentifiable sponges)	29.7%	Abundant	20	31.3%	22	34.4%	15	23.4%
Mollusks								
Common Periwinkle (*Littorina littorea*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Oyster Drill (*Urosalpinx cinerea*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Oyster Drill egg cases	0.0%	Not Observed		0.0%		0.0%		0.0%
Mud Dog Whelk (*Ilyanassa obsoleta*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Thick-lipped Oyster Drill (*Eupleura caudata*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Slipper Shell (*Crepidula* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%
Unidentifiable Gastropod (Gastropoda)	2.6%	Present	2	3.1%	3	4.7%		0.0%

(continued)

Appendix Table F-8. (Continued)

Station: HB07	Complete transect		0 M		4 M		15 M	
Date	**9/21/2015**		**9/21/2015**		**9/21/2015**		**9/21/2015**	
Biota **Mullusks (cont.)**	**Percent present**	**Relative Abundance**	**Number of squares**	**%**	**Number of squares**	**%**	**Number of squares**	**%**
Blue Mussel (*Mytilus edulis*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Quahog (*Mercenaria mercenaria*)	0.0%	Not Observed		0.0%		0.0%		0.0%
Unidentifiable Bivalve (Bivalvia)	0.0%	Not Observed		0.0%		0.0%		0.0%
Arthropoda								
Barnacles (*Balanus* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%
Dead Barnacles (*Balanus* spp.)	1.6%	Present		0.0%		0.0%	3	4.7%
Hermit Crab (*Pagurus* spp.)	0.0%	Not Observed		0.0%		0.0%		0.0%
Unidentifiable Crab (Brachyura)	0.0%	Not Observed		0.0%		0.0%		0.0%
Tunicates								
Sea Grapes (*Molgula manhattensis*)	0.0%	Not Observed		0.0%		0.0%		0.0%
General Tunicate	0.0%	Not Observed		0.0%		0.0%		0.0%
Others								
Unidentifiable A	0.0%	Not Observed		0.0%		0.0%		0.0%

Appendix Table F-9. Macroinvertebrate Taxon Counts for each Destructive Sample Collected during the September 2015 Hard-bottom Study.

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB02_1	Cnidaria	Campanulariidae	Campanulariidae	P
HB02_1	Bryozoa	Electridae	*Conopeum seurati*	P
HB02_1	Mollusca	Calyptraeidae	*Crepidula fornicata*	37
HB02_1	Arthropoda	Ampeliscidae	*Ampelisca abdita*	30
HB02_1	Mollusca	Pyramidellidae	*Boonea bisuturalis*	28
HB02_1	Arthropoda	Corophiidae	*Apocorophium acutum*	27
HB02_1	Mollusca	Nassariidae	*Ilyanassa obsoleta*	19
HB02_1	Mollusca	Calyptraeidae	*Crepidula convexa*	14
HB02_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	10
HB02_1	Annelida	Nereididae	*Alitta succinea*	8
HB02_1	Mollusca	Muricidae	*Urosalpinx cinerea*	6
HB02_1	Arthropoda	Aoridae	*Grandidierella japonica*	6
HB02_1	Arthropoda	Maeridae	*Elasmopus levis*	5
HB02_1	Arthropoda	Caprellidae	*Caprella penantis*	5
HB02_1	Annelida	Sabellidae	*Parasabella microphthalma*	4
HB02_1	Mollusca	Nassariidae	*Ilyanassa trivittata*	3
HB02_1	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
HB02_1	Arthropoda	Caprellidae	*Paracaprella tenuis*	3
HB02_1	Arthropoda	Paguridae	*Pagurus longicarpus*	3
HB02_1	Annelida	Nereididae	Nereididae	3
HB02_1	Annelida	Spionidae	*Streblospio benedicti*	2
HB02_1	Mollusca	Columbellidae	*Astyris lunata*	2
HB02_1	Arthropoda	Idoteidae	*Edotia triloba*	2
HB02_1	Mollusca	Veneridae	*Petricolaria pholadiformis*	2
HB02_1	Annelida	Sabellariidae	*Sabellaria vulgaris*	2
HB02_1	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB02_1	Arthropoda	Callipallenidae	*Callipallene brevirostris*	1
HB02_1	Mollusca	Veneridae	*Mercenaria mercenaria*	1
HB02_1	Arthropoda	Stenothoidae	*Stenothoe* sp.	1
HB02_1	Arthropoda	Amphilochidae	*Ampithoe valida*	1
HB02_1	Annelida	Goniadidae	*Glycinde solitaria*	1
HB02_1	Nemertea	Lineidae	*Lineus ruber*	1
HB02_1	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
HB02_2	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB02_2	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB02_2	Bryozoa	Electridae	*Conopeum seurati*	P
HB02_2	Mollusca	Pyramidellidae	*Boonea bisuturalis*	58
HB02_2	Arthropoda	Corophiidae	*Apocorophium acutum*	18
HB02_2	Mollusca	Calyptraeidae	*Crepidula fornicata*	6
HB02_2	Arthropoda	Caprellidae	*Caprella penantis*	6
HB02_2	Mollusca	Columbellidae	*Astyris lunata*	5
HB02_2	Annelida	Nereididae	*Alitta succinea*	5

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB02_2	Mollusca	Muricidae	*Urosalpinx cinerea*	5
HB02_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	5
HB02_2	Mollusca	Nassariidae	*Ilyanassa trivittata*	3
HB02_2	Arthropoda	Idoteidae	*Erichsonella filiformis*	3
HB02_2	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
HB02_2	Arthropoda	Caprellidae	*Paracaprella tenuis*	2
HB02_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	1
HB02_2	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
HB02_2	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB02_2	Arthropoda	Callipallenidae	*Callipallene brevirostris*	1
HB02_2	Mollusca	Veneridae	*Mercenaria mercenaria*	1
HB02_2	Porifera	Clionaidae	*Cliona lobata*	1
HB02_2	Arthropoda	Hippolytidae	*Hippolyte zostericola*	1
HB02_2	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB02_2	Arthropoda	Aoridae	*Grandidierella japonica*	1
HB02_3	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB02_3	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB02_3	Cnidaria	Campanulariidae	Campanulariidae	P
HB02_3	Mollusca	Calyptraeidae	*Crepidula fornicata*	58
HB02_3	Mollusca	Pyramidellidae	*Boonea bisuturalis*	42
HB02_3	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	21
HB02_3	Arthropoda	Corophiidae	*Apocorophium acutum*	19
HB02_3	Mollusca	Muricidae	*Urosalpinx cinerea*	11
HB02_3	Arthropoda	Caprellidae	*Caprella penantis*	11
HB02_3	Annelida	Nereididae	*Alitta succinea*	9
HB02_3	Arthropoda	Maeridae	*Elasmopus levis*	7
HB02_3	Arthropoda	Hippolytidae	*Hippolyte zostericola*	7
HB02_3	Mollusca	Columbellidae	*Astyris lunata*	6
HB02_3	Mollusca	Nassariidae	*Ilyanassa obsoleta*	6
HB02_3	Arthropoda	Idoteidae	*Edotia triloba*	5
HB02_3	Annelida	Sabellariidae	*Sabellaria vulgaris*	5
HB02_3	Mollusca	Calyptraeidae	*Crepidula convexa*	5
HB02_3	Arthropoda	Caprellidae	*Paracaprella tenuis*	4
HB02_3	Annelida	Syllidae	*Myrianida prolifera*	4
HB02_3	Annelida	Syllidae	*Exogone dispar*	4
HB02_3	Arthropoda	Idoteidae	*Erichsonella filiformis*	3
HB02_3	Mollusca	Veneridae	*Petricolaria pholadiformis*	3
HB02_3	Mollusca	Nassariidae	*Ilyanassa trivittata*	2
HB02_3	Annelida	Sabellidae	*Parasabella microphthalma*	2
HB02_3	Arthropoda	Aoridae	*Grandidierella japonica*	2
HB02_3	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB02_3	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB02_3	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB02_3	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
HB02_3	Arthropoda	Melitidae	*Melita nitida*	1
HB02_3	Mollusca	Veneridae	*Mercenaria mercenaria*	1
HB02_3	Porifera	Clionaidae	*Cliona lobata*	1
HB02_3	Annelida	Nereididae	Nereididae	1
HB02_4	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB02_4	Bryozoa	Electridae	*Conopeum seurati*	P
HB02_4	Mollusca	Pyramidellidae	*Boonea bisuturalis*	58
HB02_4	Mollusca	Calyptraeidae	*Crepidula fornicata*	17
HB02_4	Arthropoda	Caprellidae	*Caprella penantis*	7
HB02_4	Mollusca	Columbellidae	*Astyris lunata*	6
HB02_4	Arthropoda	Idoteidae	*Erichsonella filiformis*	3
HB02_4	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
HB02_4	Arthropoda	Hippolytidae	*Hippolyte zostericola*	3
HB02_4	Annelida	Phyllodocidae	*Eumida sanguinea*	2
HB02_4	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
HB02_4	Arthropoda	Corophiidae	*Apocorophium acutum*	2
HB02_4	Arthropoda	Maeridae	*Elasmopus levis*	2
HB02_4	Mollusca	Muricidae	*Urosalpinx cinerea*	2
HB02_4	Annelida	Sabellariidae	*Sabellaria vulgaris*	2
HB02_4	Mollusca	Calyptraeidae	*Crepidula convexa*	2
HB02_4	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB02_4	Mollusca	Myidae	*Mya arenaria*	1
HB02_4	Arthropoda	Idoteidae	*Edotia triloba*	1
HB02_4	Porifera	Clionaidae	*Cliona lobata*	1
HB04_1	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB04_1	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_1	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB04_1	Entoprocta	Barentsiidae	*Barentsia gracilis*	P
HB04_1	Cnidaria	Campanulariidae	*Obelia bidentata*	P
HB04_1	Arthropoda	Corophiidae	*Apocorophium acutum*	125
HB04_1	Annelida	Sabellariidae	*Sabellaria vulgaris*	26
HB04_1	Annelida	Sabellidae	*Parasabella microphthalma*	14
HB04_1	Arthropoda	Caprellidae	*Caprella penantis*	12
HB04_1	Arthropoda	Caprellidae	*Paracaprella tenuis*	10
HB04_1	Annelida	Nereididae	*Alitta succinea*	8
HB04_1	Annelida	Syllidae	*Myrianida prolifera*	7
HB04_1	Annelida	Nereididae	Nereididae	6
HB04_1	Arthropoda	Corophiidae	*Monocorophium acherusicum*	4
HB04_1	Arthropoda	Maeridae	*Elasmopus levis*	4
HB04_1	Annelida	Phyllodocidae	*Eumida sanguinea*	3
HB04_1	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB04_1	Porifera	Microcionidae	*Microciona prolifera*	2

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB04_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
HB04_1	Arthropoda	Hippolytidae	*Hippolyte zostericola*	2
HB04_1	Arthropoda	Aoridae	*Grandidierella japonica*	2
HB04_1	Mollusca	Calyptraeidae	*Crepidula fornicata*	1
HB04_1	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB04_1	Annelida	Terebellidae	*Amphitrite* sp.	1
HB04_1	Arthropoda	Stenothoidae	*Stenothoe* sp.	1
HB04_1	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB04_1	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
HB04_1	Annelida	Serpulidae	*Hydroides dianthus*	1
HB04_2	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_2	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB04_2	Cnidaria	Haleciidae	*Halecium halecinum*	P
HB04_2	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_2	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB04_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	445
HB04_2	Arthropoda	Corophiidae	*Apocorophium acutum*	47
HB04_2	Annelida	Nereididae	*Alitta succinea*	27
HB04_2	Annelida	Sabellidae	*Parasabella microphthalma*	26
HB04_2	Arthropoda	Balanidae	*Amphibalanus improvisus*	16
HB04_2	Arthropoda	Caprellidae	*Paracaprella tenuis*	11
HB04_2	Annelida	Serpulidae	*Hydroides dianthus*	8
HB04_2	Annelida	Syllidae	*Myrianida prolifera*	6
HB04_2	Arthropoda	Caprellidae	*Caprella penantis*	6
HB04_2	Arthropoda	Aoridae	*Grandidierella japonica*	6
HB04_2	Arthropoda	Maeridae	*Elasmopus levis*	4
HB04_2	Mollusca	Muricidae	*Urosalpinx cinerea*	4
HB04_2	Annelida	Phyllodocidae	*Eumida sanguinea*	3
HB04_2	Arthropoda	Unciolidae	*Unciola serrata*	3
HB04_2	Nemertea	Lineidae	*Lineus ruber*	3
HB04_2	Annelida	Spionidae	*Polydora cornuta*	2
HB04_2	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	2
HB04_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
HB04_2	Arthropoda	Idoteidae	*Erichsonella filiformis*	2
HB04_2	Annelida	Nereididae	Nereididae	2
HB04_2	Arthropoda	Hippolytidae	*Hippolyte zostericola*	2
HB04_2	Porifera	Microcionidae	*Microciona prolifera*	1
HB04_2	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
HB04_2	Annelida	Phyllodocidae	*Eulalia viridis*	1
HB04_2	Arthropoda	Amphilochidae	*Ampithoe valida*	1
HB04_2	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
HB04_2	Annelida	Spionidae	*Dipolydora socialis*	1
HB04_2	Annelida	Syllidae	*Exogone dispar*	1

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB04_3	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB04_3	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB04_3	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_3	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB04_3	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_3	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB04_3	Arthropoda	Corophiidae	*Apocorophium acutum*	275
HB04_3	Annelida	Sabellidae	*Parasabella microphthalma*	38
HB04_3	Annelida	Nereididae	*Alitta succinea*	35
HB04_3	Arthropoda	Caprellidae	*Caprella penantis*	26
HB04_3	Mollusca	Nassariidae	*Ilyanassa obsoleta*	22
HB04_3	Mollusca	Muricidae	*Urosalpinx cinerea*	14
HB04_3	Arthropoda	Corophiidae	*Monocorophium insidiosum*	7
HB04_3	Annelida	Sabellariidae	*Sabellaria vulgaris*	6
HB04_3	Annelida	Phyllodocidae	*Eumida sanguinea*	5
HB04_3	Arthropoda	Corophiidae	*Monocorophium acherusicum*	5
HB04_3	Platyhelminthes		Turbellaria sp. 6 nai	5
HB04_3	Arthropoda	Caprellidae	*Paracaprella tenuis*	4
HB04_3	Arthropoda	Amphilochidae	*Ampithoe valida*	4
HB04_3	Arthropoda	Hippolytidae	*Hippolyte zostericola*	4
HB04_3	Mollusca	Columbellidae	*Astyris lunata*	3
HB04_3	Annelida	Syllidae	*Myrianida prolifera*	3
HB04_3	Nemertea	Amphiporidae	*Zygonemertes virescens*	3
HB04_3	Annelida	Spionidae	*Polydora cornuta*	2
HB04_3	Arthropoda	Maeridae	*Elasmopus levis*	2
HB04_3	Chordata	Styelidae	*Botrylloides violaceus*	2
HB04_3	Cnidaria		Actiniaria	2
HB04_3	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1
HB04_3	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
HB04_3	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB04_3	Porifera	Clionaidae	*Cliona celata*	1
HB04_3	Porifera	Halichondriidae	*Halichondria bowerbanki*	1
HB04_3	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
HB04_3	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB04_3	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
HB04_3	Annelida	Terebellidae	*Polycirrus* sp.	1
HB04_3	Chordata	Molgulidae	*Molgula manhattensis*	1
HB04_3	Porifera	Hymerhabdiidae	*Prosuberites* sp.	1
HB04_4	Cnidaria	Campanulariidae	*Gonothyraea loveni*	P
HB04_4	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_4	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB04_4	Cnidaria	Campanulariidae	*Campanulariidae*	P
HB04_4	Cnidaria	Haleciidae	*Halecium halecinum*	P

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB04_4	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_4	Arthropoda	Corophiidae	*Apocorophium acutum*	247
HB04_4	Arthropoda	Caprellidae	*Paracaprella tenuis*	24
HB04_4	Annelida	Sabellidae	*Parasabella microphthalma*	21
HB04_4	Arthropoda	Caprellidae	*Caprella penantis*	20
HB04_4	Annelida	Nereididae	*Alitta succinea*	18
HB04_4	Annelida	Sabellariidae	*Sabellaria vulgaris*	15
HB04_4	Chordata	Styelidae	*Botrylloides violaceus*	10
HB04_4	Mollusca	Columbellidae	*Astyris lunata*	6
HB04_4	Arthropoda	Corophiidae	*Monocorophium acherusicum*	5
HB04_4	Arthropoda	Idoteidae	*Erichsonella filiformis*	5
HB04_4	Arthropoda	Maeridae	*Elasmopus levis*	5
HB04_4	Annelida	Syllidae	*Myrianida prolifera*	5
HB04_4	Mollusca	Pyramidellidae	*Boonea bisuturalis*	5
HB04_4	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	4
HB04_4	Arthropoda	Corophiidae	*Monocorophium insidiosum*	4
HB04_4	Mollusca	Muricidae	*Urosalpinx cinerea*	4
HB04_4	Mollusca	Veneridae	*Petricolaria pholadiformis*	4
HB04_4	Arthropoda	Hippolytidae	*Hippolyte zostericola*	4
HB04_4	Arthropoda	Aoridae	*Grandidierella japonica*	4
HB04_4	Porifera	Microcionidae	*Microciona prolifera*	2
HB04_4	Annelida	Polynoidae	*Lepidonotus sublevis*	2
HB04_4	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
HB04_4	Arthropoda	Amphilochidae	*Ampithoe valida*	2
HB04_4	Annelida	Nereididae	Nereididae	2
HB04_4	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB04_4	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB04_4	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
HB04_4	Arthropoda	Callipallenidae	*Callipallene brevirostris*	1
HB04_4	Chordata	Molgulidae	*Molgula manhattensis*	1
HB04_4	Platyhelminthes		Turbellaria sp. 6 nai	1
HB04_4	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
HB04_5	Porifera	Microcionidae	*Microciona prolifera*	P
HB04_5	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB04_5	Bryozoa	Vesiculariidae	*Amathia vidovici*	P
HB04_5	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB04_5	Bryozoa	Electridae	*Conopeum seurati*	P
HB04_5	Bryozoa	Membraniporidae	*Membranipora* sp.	P
HB04_5	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB04_5	Arthropoda	Corophiidae	*Apocorophium acutum*	125
HB04_5	Arthropoda	Caprellidae	*Caprella penantis*	72
HB04_5	Annelida	Sabellariidae	*Sabellaria vulgaris*	24
HB04_5	Mollusca	Nassariidae	*Ilyanassa obsoleta*	18

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB04_5	Arthropoda	Corophiidae	*Monocorophium insidiosum*	13
HB04_5	Arthropoda	Caprellidae	*Paracaprella tenuis*	11
HB04_5	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	9
HB04_5	Annelida	Sabellidae	*Parasabella microphthalma*	8
HB04_5	Annelida	Nereididae	*Alitta succinea*	7
HB04_5	Mollusca	Pyramidellidae	*Boonea bisuturalis*	4
HB04_5	Arthropoda	Hippolytidae	*Hippolyte zostericola*	4
HB04_5	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB04_5	Arthropoda	Amphilochidae	*Ampithoe valida*	3
HB04_5	Chordata	Styelidae	*Botrylloides violaceus*	3
HB04_5	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	2
HB04_5	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
HB04_5	Annelida	Syllidae	*Myrianida prolifera*	2
HB04_5	Annelida	Serpulidae	*Hydroides dianthus*	2
HB04_5	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB04_5	Mollusca	Calyptraeidae	*Crepidula fornicata*	1
HB04_5	Mollusca	Columbellidae	*Astyris lunata*	1
HB04_5	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1
HB04_5	Arthropoda	Corophiidae	*Monocorophium acherusicum*	1
HB04_5	Cnidaria	Metridiidae	*Metridium senile*	1
HB04_5	Annelida	Hesionidae	*Oxydromus obscurus*	1
HB04_5	Annelida	Nereididae	Nereididae	1
HB04_5	Chordata	Molgulidae	*Molgula manhattensis*	1
HB04_5	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
HB04_5	Cnidaria	Diadumenidae	*Diadumene leucolena*	1
HB05_1	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB05_1	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB05_1	Bryozoa	Vesiculariidae	*Amathia vidovici*	P
HB05_1	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB05_1	Cnidaria	Haleciidae	*Halecium halecinum*	P
HB05_1	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB05_1	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB05_1	Arthropoda	Maeridae	*Elasmopus levis*	128
HB05_1	Arthropoda	Caprellidae	*Paracaprella tenuis*	98
HB05_1	Arthropoda	Corophiidae	*Apocorophium acutum*	70
HB05_1	Arthropoda	Caprellidae	*Caprella penantis*	37
HB05_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	21
HB05_1	Arthropoda	Panopeidae	*Dyspanopeus sayi*	11
HB05_1	Arthropoda	Corophiidae	*Monocorophium acherusicum*	10
HB05_1	Annelida	Sabellidae	*Parasabella microphthalma*	10
HB05_1	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	9
HB05_1	Annelida	Nereididae	*Alitta succinea*	6
HB05_1	Mollusca	Columbellidae	*Astyris lunata*	5

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB05_1	Chordata	Molgulidae	*Molgula manhattensis*	4
HB05_1	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB05_1	Annelida	Nereididae	Nereididae	3
HB05_1	Mollusca	Veneridae	*Petricolaria pholadiformis*	2
HB05_1	Nemertea	Amphiporidae	*Zygonemertes virescens*	2
HB05_1	Porifera	Microcionidae	*Microciona prolifera*	1
HB05_1	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB05_1	Mollusca	Myidae	*Mya arenaria*	1
HB05_1	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB05_1	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
HB05_1	Mollusca	Arcidae	*Anadara transversa*	1
HB05_1	Arthropoda	Callipallenidae	*Callipallene brevirostris*	1
HB05_1	Arthropoda	Corophiidae	*Monocorophium tuberculatum*	1
HB05_1	Annelida	Syllidae	*Myrianida prolifera*	1
HB05_1	Arthropoda	Stenothoidae	*Stenothoe* sp.	1
HB05_1	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
HB05_1	Arthropoda	Palaemoninae	*Palaemonetes vulgaris*	1
HB05_1	Platyhelminthes		Turbellaria sp. 6 nai	1
HB05_2	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB05_2	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB05_2	Bryozoa	Vesiculariidae	*Amathia vidovici*	P
HB05_2	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB05_2	Cnidaria	Halopterididae	*Halopteris tenella*	P
HB05_2	Cnidaria	Haleciidae	*Halecium halecinum*	P
HB05_2	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB05_2	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB05_2	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB05_2	Arthropoda	Caprellidae	*Caprella penantis*	117
HB05_2	Arthropoda	Caprellidae	*Paracaprella tenuis*	85
HB05_2	Arthropoda	Corophiidae	*Apocorophium acutum*	56
HB05_2	Arthropoda	Maeridae	*Elasmopus levis*	27
HB05_2	Arthropoda	Panopeidae	*Dyspanopeus sayi*	15
HB05_2	Arthropoda	Stenothoidae	*Stenothoe* sp.	14
HB05_2	Mollusca	Columbellidae	*Astyris lunata*	13
HB05_2	Arthropoda	Aoridae	*Grandidierella japonica*	9
HB05_2	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	6
HB05_2	Annelida	Nereididae	*Alitta succinea*	5
HB05_2	Mollusca	Muricidae	*Urosalpinx cinerea*	2
HB05_2	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB05_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	1
HB05_2	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB05_2	Arthropoda	Callipallenidae	*Callipallene brevirostris*	1
HB05_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	1

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB05_2	Arthropoda	Hippolytidae	*Hippolyte zostericola*	1
HB05_2	Arthropoda	Caprellidae	*Deutella incerta*	1
HB05_3	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB05_3	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB05_3	Cnidaria	Halopterididae	*Halopteris tenella*	P
HB05_3	Cnidaria	Haleciidae	*Halecium halecinum*	P
HB05_3	Bryozoa	Membraniporidae	*Membranipora* sp.	P
HB05_3	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB05_3	Bryozoa	Alcyonidiidae	*Alcyonidium polyoum*	P
HB05_3	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB05_3	Arthropoda	Corophiidae	*Apocorophium acutum*	52
HB05_3	Arthropoda	Caprellidae	*Caprella penantis*	18
HB05_3	Arthropoda	Maeridae	*Elasmopus levis*	9
HB05_3	Annelida	Sabellidae	*Parasabella microphthalma*	6
HB05_3	Arthropoda	Caprellidae	*Paracaprella tenuis*	6
HB05_3	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	4
HB05_3	Annelida	Nereididae	*Alitta succinea*	4
HB05_3	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
HB05_3	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
HB05_3	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB05_3	Mollusca	Veneridae	*Petricolaria pholadiformis*	3
HB05_3	Arthropoda	Corophiidae	*Monocorophium insidiosum*	2
HB05_3	Annelida	Nereididae	Nereididae	2
HB05_3	Porifera	Microcionidae	*Microciona prolifera*	1
HB05_3	Annelida	Polynoidae	*Lepidonotus squamatus*	1
HB05_3	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB05_3	Annelida		Oligochaeta	1
HB05_3	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB05_3	Arthropoda	Mysidae	*Heteromysis formosa*	1
HB05_3	Annelida	Syllidae	*Myrianida prolifera*	1
HB05_3	Chordata	Molgulidae	*Molgula manhattensis*	1
HB05_4	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB05_4	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB05_4	Bryozoa	Vesiculariidae	*Amathia vidovici*	P
HB05_4	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB05_4	Cnidaria	Halopterididae	*Halopteris tenella*	P
HB05_4	Cnidaria	Haleciidae	*Halecium halecinum*	P
HB05_4	Bryozoa	Electridae	*Conopeum seurati*	P
HB05_4	Bryozoa	Membraniporidae	*Membranipora* sp.	P
HB05_4	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB05_4	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB05_4	Arthropoda	Corophiidae	*Apocorophium acutum*	31
HB05_4	Arthropoda	Caprellidae	*Caprella penantis*	21

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB05_4	Mollusca	Nassariidae	*Ilyanassa trivittata*	16
HB05_4	Arthropoda	Caprellidae	*Paracaprella tenuis*	15
HB05_4	Annelida	Sabellidae	*Parasabella microphthalma*	13
HB05_4	Mollusca	Columbellidae	*Astyris lunata*	6
HB05_4	Annelida	Syllidae	*Myrianida prolifera*	5
HB05_4	Mollusca	Muricidae	*Urosalpinx cinerea*	4
HB05_4	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
HB05_4	Arthropoda	Maeridae	*Elasmopus levis*	3
HB05_4	Chordata	Molgulidae	*Molgula manhattensis*	3
HB05_4	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
HB05_4	Annelida	Nereididae	Nereididae	2
HB05_4	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB05_4	Arthropoda	Ischyroceridae	*Jassa marmorata*	1
HB05_4	Arthropoda	Callipallenidae	*Callipallene brevirostris*	1
HB05_4	Annelida	Serpulidae	*Hydroides dianthus*	1
HB07_1	Entoprocta	Pedicellinidae	*Pedicellina cernua*	P
HB07_1	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB07_1	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB07_1	Cnidaria	Halopterididae	*Halopteris tenella*	P
HB07_1	Cnidaria	Campanulariidae	*Clytia gracilis*	P
HB07_1	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB07_1	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB07_1	Entoprocta	Barentsiidae	*Barentsia gracilis*	P
HB07_1	Arthropoda	Corophiidae	*Apocorophium acutum*	39
HB07_1	Chordata	Molgulidae	*Molgula manhattensis*	36
HB07_1	Annelida	Sabellidae	*Parasabella microphthalma*	28
HB07_1	Mollusca	Muricidae	*Urosalpinx cinerea*	25
HB07_1	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	21
HB07_1	Arthropoda	Caprellidae	*Caprella penantis*	15
HB07_1	Arthropoda	Caprellidae	*Paracaprella tenuis*	11
HB07_1	Arthropoda	Panopeidae	*Dyspanopeus sayi*	10
HB07_1	Annelida	Nereididae	*Alitta succinea*	9
HB07_1	Annelida	Serpulidae	*Hydroides dianthus*	8
HB07_1	Cnidaria		Actiniaria	8
HB07_1	Arthropoda	Aoridae	*Grandidierella japonica*	7
HB07_1	Mollusca	Nassariidae	*Ilyanassa obsoleta*	4
HB07_1	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
HB07_1	Arthropoda	Maeridae	*Elasmopus levis*	3
HB07_1	Annelida	Syllidae	*Myrianida prolifera*	3
HB07_1	Cnidaria	Metridiidae	*Metridium senile*	3
HB07_1	Arthropoda	Corophiidae	*Monocorophium insidiosum*	2
HB07_1	Porifera	Microcionidae	*Microciona prolifera*	1
HB07_1	Annelida	Phyllodocidae	*Eumida sanguinea*	1

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB07_1	Annelida	Spionidae	*Polydora cornuta*	1
HB07_1	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB07_1	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1
HB07_1	Arthropoda	Ischyroceridae	*Jassa marmorata*	1
HB07_1	Annelida		Oligochaeta	1
HB07_1	Annelida	Syllidae	*Salvatoria clavata*	1
HB07_1	Arthropoda	Amphilochidae	*Ampithoe valida*	1
HB07_1	Annelida	Terebellidae	*Polycirrus* sp.	1
HB07_2	Bryozoa	Vesiculariidae	*Bowerbankia gracilis*	P
HB07_2	Bryozoa	Schizoporellidae	*Schizoporella unicornis*	P
HB07_2	Bryozoa	Aeverrilliidae	*Aeverrillia armata*	P
HB07_2	Bryozoa	Nolellidae	*Anguinella palmata*	P
HB07_2	Entoprocta	Barentsiidae	*Barentsia gracilis*	P
HB07_2	Cnidaria	Campanulariidae	*Obelia bidentata*	P
HB07_2	Chordata	Molgulidae	*Molgula manhattensis*	223
HB07_2	Arthropoda	Corophiidae	*Apocorophium acutum*	175
HB07_2	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	109
HB07_2	Arthropoda	Caprellidae	*Paracaprella tenuis*	63
HB07_2	Cnidaria		Actiniaria	53
HB07_2	Annelida	Sabellidae	*Parasabella microphthalma*	49
HB07_2	Arthropoda	Aoridae	*Grandidierella japonica*	40
HB07_2	Platyhelminthes		Turbellaria sp. 6 nai	10
HB07_2	Mollusca	Muricidae	*Urosalpinx cinerea*	9
HB07_2	Annelida	Phyllodocidae	*Eumida sanguinea*	8
HB07_2	Annelida	Syllidae	*Myrianida prolifera*	7
HB07_2	Arthropoda	Ampeliscidae	*Ampelisca abdita*	6
HB07_2	Annelida	Nereididae	*Alitta succinea*	6
HB07_2	Arthropoda	Caprellidae	*Caprella penantis*	6
HB07_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	5
HB07_2	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	4
HB07_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	4
HB07_2	Cnidaria	Metridiidae	*Metridium senile*	4
HB07_2	Annelida	Polynoidae	*Lepidonotus sublevis*	2
HB07_2	Mollusca	Polyceridae	*Palio dubia*	2
HB07_2	Mollusca	Lyonsiidae	*Lyonsia arenosa*	2
HB07_2	Porifera	Microcionidae	*Microciona prolifera*	1
HB07_2	Annelida	Spionidae	*Polydora cornuta*	1
HB07_2	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB07_2	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
HB07_2	Annelida		Oligochaeta	1
HB07_2	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
HB07_2	Arthropoda	Maeridae	*Elasmopus levis*	1
HB07_2	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1

(continued)

Appendix Table F-9. (Continued)

Sample ID	Phylum	Family	*Species/Taxon*	Count[1]
HB07_2	Annelida	Hesionidae	*Oxydromus obscurus*	1
HB07_2	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB07_2	Mollusca	Mactridae	*Mulinia lateralis*	1
HB07_2	Annelida	Nereididae	Nereididae	1
HB07_2	Arthropoda	Lysianassidae	*Lysianopsis alba*	1
HB07_2	Arthropoda	Hippolytidae	*Hippolyte zostericola*	1

Appendix Table F-10. Phylogenetic Listing of Macrofaunal Taxa Collected in Destructive Samples during the September 2015 Hard-bottom Study. Only taxa with Exclude code = 'G' (Good) were included in diversity and richness calculations; those with Exclude code = 'B' (Bad) or 'C' (Colonial) were excluded.

Phylum	Higher Taxon	Family	Species/Taxon	Exclude Code
Porifera	Demospongiae	Clionaidae	*Cliona celata*	G
			Cliona lobata	G
		Halichondriidae	*Halichondria bowerbanki*	G
		Hymerhabdiidae	*Prosuberites* sp.	G
		Microcionidae	*Microciona prolifera*	G
Cnidaria	Anthozoa	Diadumenidae	*Diadumene leucolena*	G
		Metridiidae	*Metridium senile*	G
			Actiniaria	G
	Hydrozoa	Campanulariidae	*Campanulariidae*	C
			Clytia gracilis	C
			Gonothyraea loveni	C
			Obelia bidentata	C
		Haleciidae	*Halecium halecinum*	C
		Halopterididae	*Halopteris tenella*	C
Platyhelminthes	Turbellaria		Turbellaria sp. 6 nai	G
Nemertea	Nemertea	Amphiporidae	*Zygonemertes virescens*	G
		Lineidae	*Lineus ruber*	G
Mollusca	Gastropoda	Calyptraeidae	*Crepidula convexa*	G
			Crepidula fornicata	G
		Columbellidae	*Astyris lunata*	G
		Muricidae	*Urosalpinx cinerea*	G
		Nassariidae	*Ilyanassa obsoleta*	G
			Ilyanassa trivittata	G
		Polyceridae	*Palio dubia*	G
		Pyramidellidae	*Boonea bisuturalis*	G
Mollusca	Bivalvia	Arcidae	*Anadara transversa*	G
		Lyonsiidae	*Lyonsia arenosa*	G
		Mactridae	*Mulinia lateralis*	G
		Myidae	*Mya arenaria*	G
		Veneridae	*Mercenaria mercenaria*	G
			Petricolaria pholadiformis	G
Annelida	Oligochaeta		Oligochaeta	G

(continued)

Appendix Table F-10. (Continued)

Phylum	Higher Taxon	Family	Species/Taxon	Exclude Code
Annelida	Polychaeta	Goniadidae	*Glycinde solitaria*	G
		Hesionidae	*Oxydromus obscurus*	G
		Nereididae	*Alitta succinea*	G
			Nereididae	B
		Phyllodocidae	*Eulalia viridis*	G
			Eumida sanguinea	G
		Polynoidae	*Lepidonotus squamatus*	G
			Lepidonotus sublevis	G
		Sabellariidae	*Sabellaria vulgaris*	G
		Sabellidae	*Parasabella microphthalma*	G
		Serpulidae	*Hydroides dianthus*	G
		Spionidae	*Dipolydora socialis*	G
			Polydora cornuta	G
			Streblospio benedicti	G
		Syllidae	*Exogone dispar*	G
			Myrianida prolifera	G
			Salvatoria clavata	G
		Terebellidae	*Amphitrite* sp.	G
			Polycirrus sp.	G
Arthropoda	Pycnogonida	Callipallenidae	*Callipallene brevirostris*	G
Arthropoda	Cirripedia	Balanidae	*Amphibalanus improvisus*	G
Arthropoda	Mysidacea	Mysidae	*Heteromysis formosa*	G
Arthropoda	Amphipoda	Ampeliscidae	*Ampelisca abdita*	G
			Ampelisca vadorum	G
		Amphilochidae	*Ampithoe valida*	G
		Aoridae	*Grandidierella japonica*	G
			Microdeutopus gryllotalpa	G
		Caprellidae	*Caprella penantis*	G
			Deutella incerta	G
			Paracaprella tenuis	G
		Corophiidae	*Apocorophium acutum*	G
			Monocorophium acherusicum	G
			Monocorophium insidiosum	G
			Monocorophium tuberculatum	G
		Ischyroceridae	*Ericthonius brasiliensis*	G
			Jassa marmorata	G
		Lysianassidae	*Lysianopsis alba*	G
		Maeridae	*Elasmopus levis*	G
		Melitidae	*Melita nitida*	G
		Stenothoidae	*Stenothoe* sp.	G
		Unciolidae	*Unciola serrata*	G

(continued)

Appendix Table F-10. (Continued)

Phylum	Higher Taxon	Family	Species/Taxon	Exclude Code
Arthropoda	Isopoda	Idoteidae	*Edotia triloba*	G
			Erichsonella filiformis	G
Arthropoda	Decapoda	Hippolytidae	*Hippolyte zostericola*	G
		Paguridae	*Pagurus longicarpus*	G
		Palaemoninae	*Palaemonetes vulgaris*	G
		Panopeidae	*Dyspanopeus sayi*	G
Bryozoa	Gymnolaemata	Aeverrilliidae	*Aeverrillia armata*	C
		Alcyonidiidae	*Alcyonidium polyoum*	C
		Electridae	*Conopeum seurati*	C
		Membraniporidae	*Membranipora* sp.	C
		Nolellidae	*Anguinella palmata*	C
		Schizoporellidae	*Schizoporella unicornis*	C
		Vesiculariidae	*Amathia vidovici*	C
			Bowerbankia gracilis	C
Entoprocta	Entoprocta	Barentsiidae	*Barentsia gracilis*	C
		Pedicellinidae	*Pedicellina cernua*	C
Chordata	Urochordata	Molgulidae	*Molgula manhattensis*	G
		Styelidae	*Botrylloides violaceus*	G

Appendix Table F-11. Macrofaunal Community Parameters for Destructive Samples Collected during the September 2015 Hard-bottom Study.

Sample ID	Total Abundance	Log-Series Alpha	Shannon-Wiener Diversity (H')	Pielou's Evenness (J')	Number of Species
HB02_1	232	9.23	2.75	0.81	30
HB02_2	127	7.17	2.08	0.68	21
HB02_3	244	8.59	2.67	0.79	29
HB02_4	115	5.99	1.90	0.66	18
HB04_1	237	5.98	1.84	0.60	22
HB04_2	634	5.73	1.36	0.41	27
HB04_3	478	7.73	1.82	0.53	32
HB04_4	427	7.37	1.90	0.56	30
HB04_5	323	7.37	2.12	0.64	28
HB05_1	432	6.71	2.13	0.64	28
HB05_2	356	4.00	1.94	0.67	18
HB05_3	123	6.83	2.11	0.71	20
HB05_4	128	4.86	2.26	0.82	16
HB07_1	245	8.15	2.70	0.81	28
HB07_2	801	7.21	2.23	0.63	34

Appendix Table F-12. Contribution to Macrofaunal Abundance in each Destructive Sample for each Numerically Dominant Phyla and all Other Phyla Combined; September 2015 Hard-bottom Study.

Sample ID	Annelida	Arthropoda	Mollusca	Other Phyla	Total Abundance
HB02_1	21	97	113	1	232
HB02_2	11	35	80	1	127
HB02_3	26	83	134	1	244
HB02_4	4	23	87	1	115
HB04_1	66	162	7	2	237
HB04_2	522	103	5	4	634
HB04_3	90	331	41	16	478
HB04_4	63	328	22	14	427
HB04_5	46	243	27	7	323
HB05_1	21	390	13	8	432
HB05_2	7	333	16	0	356
HB05_3	15	99	7	2	123
HB05_4	21	78	26	3	128
HB07_1	53	115	29	48	245
HB07_2	81	412	17	291	801

Appendix Table F-13. Contribution to Macrofaunal Species Richness in each Destructive Sample for each Numerically Dominant Phyla and all Other Phyla Combined; September 2015 Hard-bottom Study.

Sample ID	Annelida	Arthropoda	Mollusca	Other Phyla	Total Number of Species
HB02_1	6	13	10	1	30
HB02_2	3	9	8	1	21
HB02_3	6	13	9	1	29
HB02_4	2	8	7	1	18
HB04_1	7	9	5	1	22
HB04_2	10	13	2	2	27
HB04_3	7	12	5	8	32
HB04_4	5	14	7	4	30
HB04_5	7	11	5	5	28
HB05_1	4	14	6	4	28
HB05_2	3	12	3	0	18
HB05_3	5	10	3	2	20
HB05_4	3	9	3	1	16
HB07_1	9	13	2	4	28
HB07_2	9	13	7	5	34

Appendix Table F-14. Dry weights by Sample for Destructive Samples Collected during the September 2015 Hard-bottom Study.

Sample ID	Phylum	Class	Order	Species/Taxon	Sample Dry Weight (g)
HB02_1	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	1.7
HB02_1	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.7
HB02_1	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	0.45
HB02_1	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.14
HB02_1	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.09
HB02_1	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.02
HB02_1	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB02_1	Chlorophyta	Ulvophyceae	Cladophorales	*Chaetomorpha picquotiana*	<0.01
HB02_1	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	<0.01
HB02_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	<0.01
HB02_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01
HB02_2	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	1.47
HB02_2	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	0.43
HB02_2	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.39
HB02_2	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.35
HB02_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.06
HB02_2	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.03
HB02_2	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB02_2	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	<0.01
HB02_2	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	<0.01
HB02_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01
HB02_3	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	1.36
HB02_3	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.7
HB02_3	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	0.6
HB02_3	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.57
HB02_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.12
HB02_3	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.04
HB02_3	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB02_3	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	<0.01
HB02_3	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	<0.01
HB02_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01
HB02_4	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	1.09
HB02_4	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.57
HB02_4	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.22
HB02_4	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.14
HB02_4	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.02
HB02_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.02
HB02_4	Rhodophyta	Florideophyceae	Gigartinales	*Phyllophora/coccotylus*	0.01
HB02_4	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB02_4	Chlorophyta	Ulvophyceae	Cladophorales	*Chaetomorpha* sp.	<0.01
HB02_4	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	<0.01
HB02_4	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	<0.01
HB02_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01
HB04_1	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	0.66
HB04_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.42

(continued)

Appendix Table F-14. (Continued)

Sample ID	Phylum	Class	Order	Species/Taxon	Sample Dry Weight (g)
HB04_1	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.23
HB04_1	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.21
HB04_1	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.05
HB04_1	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.02
HB04_1	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.01
HB04_1	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB04_1	Rhodophyta	Florideophyceae	Corallinales	*Corallina officinalis*	<0.01
HB04_1	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	<0.01
HB04_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01
HB04_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.82
HB04_2	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.31
HB04_2	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.16
HB04_2	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.08
HB04_2	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	0.07
HB04_2	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.03
HB04_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	0.03
HB04_2	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.02
HB04_2	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	0.02
HB04_2	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB04_3	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	5.95
HB04_3	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	1.89
HB04_3	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.32
HB04_3	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.3
HB04_3	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.12
HB04_3	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.09
HB04_3	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.05
HB04_3	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.03
HB04_4	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	0.7
HB04_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.62
HB04_4	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.21
HB04_4	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.19
HB04_4	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.09
HB04_4	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.09
HB04_4	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.06
HB04_4	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.01
HB04_4	Chlorophyta	Ulvophyceae	Cladophorales	*Chaetomorpha picquotiana*	0.01
HB04_4	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	<0.01
HB04_4	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01
HB04_5	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.83
HB04_5	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	0.29
HB04_5	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	0.11
HB04_5	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.1
HB04_5	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.07
HB04_5	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.06
HB04_5	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.01

(continued)

Appendix Table F-14. (Continued)

Sample ID	Phylum	Class	Order	Species/Taxon	Sample Dry Weight (g)
HB04_5	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	0.01
HB04_5	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.01
HB04_5	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01
HB05_1	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	<0.01
HB05_1	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB05_1	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	<0.01
HB05_1	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia denudata*	<0.01
HB05_1	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	<0.01
HB05_2				Empty sample	
HB05_3	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	<0.01
HB05_3	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB05_3	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	<0.01
HB05_3	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	<0.01
HB05_3	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	<0.01
HB05_4	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	0.01
HB05_4	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	<0.01
HB05_4	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	<0.01
HB05_4	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	<0.01
HB05_4	Rhodophyta	Florideophyceae	Gracilariales	*Gracilaria tikvahiae*	<0.01
HB05_4	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	<0.01
HB07_1	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.02
HB07_1	Rhodophyta	Florideophyceae	Ceramiales	*Grinnellia americana*	0.02
HB07_1	Rhodophyta	Florideophyceae	Gigartinales	*Agardhiella subulata*	0.01
HB07_1	Chlorophyta	Ulvophyceae	Bryopsidales	*Bryopsis plumosa*	0.01
HB07_1	Chlorophyta	Ulvophyceae	Cladophorales	*Cladophora sericea*	0.01
HB07_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	0.01
HB07_1	Rhodophyta	Florideophyceae	Gelidiales	*Gelidium crinale*	<0.01
HB07_1	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	<0.01
HB07_1	Chlorophyta	Ulvophyceae	Ulvales	*Ulva intestinalis*	<0.01
HB07_2	Rhodophyta	Florideophyceae	Ceramiales	*Ceramium* sp.	0.01
HB07_2	Rhodophyta	Florideophyceae	Ceramiales	*Polysiphonia* sp.	<0.01
HB07_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva lactuca*	<0.01
HB07_2	Chlorophyta	Ulvophyceae	Ulvales	*Ulva* sp.	<0.01

Appendix G

Data Summaries for the September 2015 Benthic Macroinvertebrate Study

Appendix Table G-1 Data Listing by Sample for Water Quality Data Collected during the September 2015 Benthic Study.

Sample	Secchi Depth (ft)	pH	Total Nitrogen (mg/L)	Fecal Coliform (organisms/ 100mL)	Surface Temperature (°C)	Bottom Temperature (°C)	Surface Dissolved Oxygen (mg/L)	Bottom Dissolved Oxygen (mg/L)	Surface Salinity (PSU)	Bottom Salinity (PSU)
B10	4.0	7.5	1.0	<10	21.7	21.7	5.8	5.9	22.2	22.2
B11	5.5	7.9	1.0	<10	21.9	21.5	6.6	6.5	22.1	22.3
B12	4.2	7.7	1.0	<10	21.7	21.7	6.2	6.1	22.2	22.2
B13	4.0	7.7	1.0	<10	21.7	21.8	6.3	6.1	22.2	22.2
B14	6.2	7.8	2.3	<10	22.1	22.2	5.8	5.7	22.5	22.4
B15	6.0	7.9	1.0	<10	22.0	22.0	5.8	6.2	22.5	22.5
B16	5.7	8.0	2.3	1	22.0	22.0	5.9	5.9	22.3	22.4
B17	5.5	7.8	1.0	<10	21.8	21.8	6.0	6.1	22.3	22.3
B18	6.0	7.6	2.2	10	22.1	21.9	5.8	5.9	22.5	22.3
B19	4.5	7.7	1.0	<10	22.2	22.1	5.7	5.4	22.5	22.4
B2	3.5	7.9	1.0	10	21.5	21.4	6.7	6.6	22.2	22.3
B20	4.2	7.9	2.3	<10	21.8	21.9	6.4	6.3	22.2	22.2
B21	5.2	7.5	1.0	<10	21.8	21.9	5.9	5.8	22.3	22.3
B23	4.7	7.5	2.2	1	22.0	22.1	6.1	6.0	22.4	22.4
B24	5.7	7.4	2.1	<10	22.0	22.1	5.7	5.7	22.5	22.5
B25	4.5	7.9	2.1	2	21.7	21.8	6.1	6.2	22.2	22.1
B26	3.5	7.9	2.3	10	21.4	21.6	6.5	6.1	22.1	22.1
B28	4.2	7.9	2.5	<10	21.5	21.5	6.5	6.5	22.1	22.1
B29	3.5	7.8	2.5	<10	21.4	21.6	6.7	6.6	22.2	22.2
B3	6.0	7.4	2.1	<10	21.9	21.9	6.0	6.1	22.4	22.4
B30	5.0	7.5	3.8	1	22.1	22.4	6.2	5.9	22.5	22.6
B4	5.5	7.7	2.1	<10	22.2	22.1	5.8	5.6	22.5	22.5
B40	4.0	7.9	1.9	22	21.6	21.6	7.4	7.2	22.2	22.1
B44	3.5	7.9	2.1	10	21.0	21.2	6.6	6.4	22.0	22.0
B5	4.5	7.9	2.5	<10	21.3	21.5	6.2	6.3	22.1	22.1

(continued)

Appendix Table G-1. (Continued)

Sample	Secchi Depth (ft)	pH	Total Nitrogen (mg/L)	Fecal Coliform (organisms/ 100mL)	Surface Temperature (°C)	Bottom Temperature (°C)	Surface Dissolved Oxygen (mg/L)	Bottom Dissolved Oxygen (mg/L)	Surface Salinity (PSU)	Bottom Salinity (PSU)
B59	5.5	8.0	2.3	1	22.0	22.0	5.9	5.8	22.4	22.4
B6	5.5	7.7	1.0	<10	21.7	21.8	5.7	5.6	22.2	22.3
B7	3.7	8.0	2.3	<10	21.6	21.6	6.4	6.5	22.1	22.2
B8	4.0	7.8	1.0	<10	22.3	22.4	5.9	5.7	22.4	22.6
B9	4.0	8.0	2.1	5	21.8	21.9	6.0	5.9	22.2	22.3
HB1	5.0	7.9	2.0	<10	21.8	21.9	6.2	6.1	22.4	22.4
HB10	6.0	7.9	1.0	<10	22.0	22.1	5.9	5.9	22.5	22.6
HB11	5.5	7.9	1.9	10	21.9	21.9	6.2	6.1	22.4	22.4
HB12	4.5	7.7	1.0	2	22.3	22.4	6.4	6.2	22.6	22.6
HB13	3.7	7.7	1.0	<10	21.3	21.3	6.0	6.0	22.1	22.1
HB14	4.0	7.4	2.0	<10	21.4	21.4	6.5	6.5	22.1	22.1
HB16	4.0	7.4	2.3	<10	21.5	21.3	6.3	6.0	22.2	22.1
HB17	4.0	7.7	1.0	<10	21.5	21.5	6.3	6.1	22.1	22.1
HB19	4.2	7.7	1.0	4	22.1	22.2	6.4	6.2	22.4	22.3
HB2	4.0	7.7	1.0	26	21.4	21.5	6.3	6.3	22.1	22.1
HB20	4.4	7.9	1.0	<10	22.1	22.3	6.9	6.9	22.5	22.5
HB21	3.5	7.4	1.9	<10	21.3	21.3	5.8	5.3	22.1	22.1
HB22	4.5	7.9	1.8	<10	22.0	22.0	6.0	6.1	22.5	22.4
HB23	4.5	7.9	1.0	<10	21.9	22.1	6.8	6.9	22.4	22.4
HB24	4.0	7.9	1.0	4	21.7	21.8	6.8	6.8	22.2	22.2
HB25	4.0	7.7	1.0	<10	21.6	21.6	6.0	6.0	22.2	22.2
HB26	4.5	7.9	2.1	<10	21.8	21.8	6.3	6.2	22.3	22.3
HB27	4.7	7.7	1.0	<10	21.5	21.5	6.0	6.0	22.1	22.1
HB28	4.5	7.7	1.0	4	22.1	22.2	6.8	6.5	22.3	22.4
HB29	4.5	7.7	1.0	<10	21.5	21.5	5.9	6.0	22.1	22.1

(continued)

Appendix Table G-1. (Continued)

Sample	Secchi Depth (ft)	pH	Total Nitrogen (mg/L)	Fecal Coliform (organisms/ 100mL)	Surface Temperature (°C)	Bottom Temperature (°C)	Surface Dissolved Oxygen (mg/L)	Bottom Dissolved Oxygen (mg/L)	Surface Salinity (PSU)	Bottom Salinity (PSU)
HB3	5.5	7.9	1.0	<10	21.8	22.0	6.1	5.9	22.4	22.5
HB30	5.0	7.9	1.0	<10	21.9	21.9	6.2	6.3	22.4	22.4
HB31	4.0	7.4	2.0	<10	21.6	21.3	6.1	6.2	22.2	22.1
HB33	4.2	7.7	1.0	<10	21.6	21.6	5.8	5.9	22.2	22.2
HB4	5.2	7.4	2.1	<10	21.7	21.6	6.2	6.2	22.2	22.2
HB5	5.0	7.9	1.9	<10	21.9	22.0	6.0	6.1	22.4	22.4
HB6	4.5	7.9	2.2	<10	22.0	22.1	7.1	6.8	22.3	22.4
HB7	4.5	7.9	2.0	<10	21.9	21.9	6.1	6.2	22.4	22.4
HB8	3.7	7.9	1.0	<10	21.8	21.9	7.0	7.1	22.2	22.2
HB9	6.2	7.7	1.0	3	22.5	22.4	5.8	6.1	22.7	22.6

Appendix Table G-2. Data Listing by Sample for Sediment Characteristics Data Collected during the September 2015 Benthic Study.

Sample	TOC (%)	Clay (%)	Silt (%)	Sand, Fine (%)	Sand, Medium (%)	Sand, Coarse (%)	Gravel (%)
B10	0.3	3.6	2.1	14.3	20.5	29.7	30.5
B11	0.2	4.9	1.9	22.0	34.1	29.2	9.4
B12	0.3	4.3	0.2	9.7	37.0	46.0	3.2
B13	0.3	4.7	0.8	6.4	24.8	58.4	5.3
B14	0.3	4.6	3.9	26.2	26.6	28.2	11.6
B15	1.3	5.0	2.9	18.6	27.2	26.2	21.6
B16	0.4	2.3	4.3	27.5	25.1	24.8	16.5
B17	0.2	3.4	3.3	9.8	12.7	33.8	37.6
B18	0.4	5.8	1.2	37.2	27.3	20.0	9.3
B19	0.3	4.1	4.5	15.5	33.7	38.6	4.5
B2	0.2	3.9	4.4	25.3	33.8	27.4	6.9
B20	0.4	3.7	2.0	30.7	29.0	19.1	17.0
B21	0.3	2.1	1.8	7.6	24.7	52.2	11.9
B23	0.1	3.2	0.6	16.6	25.6	37.2	17.3
B24	0.9	7.4	5.0	18.3	25.7	27.5	17.8
B25	0.2	2.5	0.5	12.9	17.9	44.8	21.7
B26	0.3	4.0	2.0	46.0	16.5	21.2	12.0
B28	0.2	1.9	2.5	5.3	8.9	52.8	29.2
B29	0.2	1.9	2.5	7.4	24.8	43.3	20.4
B3	0.2	4.0	0.0	63.6	26.7	5.3	1.0
B30	0.2	3.8	0.9	6.0	24.0	64.5	1.2
B4	0.3	5.1	2.2	12.3	30.7	35.1	15.6
B40	0.3	3.0	0.5	35.3	20.6	21.2	19.7
B44	0.2	2.3	1.2	26.7	38.5	16.9	14.7
B5	0.5	3.4	5.1	11.5	18.9	38.8	22.9
B59	0.3	2.5	2.6	28.9	26.5	27.2	12.9
B6	0.2	4.1	0.7	10.4	39.6	36.0	9.9
B7	0.4	1.2	1.4	16.9	37.3	25.8	17.6
B8	0.5	8.7	6.6	52.0	16.3	8.3	9.9
B9	0.3	2.4	2.8	20.1	14.7	30.8	29.8
HB1	0.2	3.5	0.2	41.7	45.9	9.1	0.4
HB10	1.0	4.2	2.0	21.0	32.5	32.9	8.4
HB11	2.0	3.0	0.4	34.0	50.9	11.0	1.0
HB12	3.7	15.4	48.5	41.9	1.1	2.3	9.6
HB13	0.2	3.1	2.0	29.8	27.0	20.7	18.7
HB14	0.2	4.3	2.1	49.9	30.2	11.2	3.8
HB16	0.3	4.9	4.3	73.1	15.5	3.3	2.2
HB17	0.3	3.4	2.2	12.0	26.8	35.7	20.8
HB19	0.7	4.5	11.5	23.2	14.2	30.7	20.1
HB2	0.2	3.2	2.6	25.6	21.3	29.9	19.0
HB20	0.2	3.7	0.3	9.8	24.3	42.3	20.7
HB21	0.2	5.5	0.9	6.4	50.4	38.5	4.7
HB22	0.2	5.5	4.8	38.4	33.4	14.0	5.7
HB23	0.3	3.5	0.8	9.1	18.7	45.3	23.4

(continued)

Appendix Table G-2. (Continued)

Sample	TOC (%)	Clay (%)	Silt (%)	Sand, Fine (%)	Sand, Medium (%)	Sand, Coarse (%)	Gravel (%)
HB24	0.2	4.0	1.2	13.4	30.1	34.0	18.4
HB25	0.3	4.1	1.4	29.8	22.6	26.0	17.4
HB26	0.2	2.5	0.6	50.0	38.9	8.2	0.3
HB27	0.2	3.6	1.0	10.1	21.2	53.6	11.2
HB28	2.0	10.5	38.4	46.2	4.7	5.6	11.8
HB29	0.3	3.0	1.8	7.7	22.6	43.5	22.1
HB3	0.2	4.2	0.2	29.6	51.4	15.7	0.1
HB30	0.2	3.7	0.1	33.0	47.8	15.6	0.2
HB31	0.3	0.0	9.2	68.3	22.9	2.4	0.4
HB33	0.2	3.4	3.5	9.6	12.2	47.2	25.1
HB4	0.3	5.9	2.1	62.0	26.6	3.3	2.3
HB5	0.2	3.8	0.5	45.8	36.5	12.7	1.5
HB6	0.2	3.2	1.3	13.8	35.9	37.4	9.3
HB7	3.7	2.5	0.8	31.5	49.6	15.9	0.1
HB8	0.2	2.7	2.1	17.6	22.7	18.9	37.4
HB9	1.8	15.6	58.2	41.9	1.4	1.7	2.1

Appendix Table G-3 Taxon Counts by Sample for Soft-bottom Benthic Grab Samples Collected during the September 2015 Macroinvertebrate Study.

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B10	1981_10	Annelida	Capitellidae	*Mediomastus ambiseta*	1753
B10	1981_10	Annelida	Spionidae	*Streblospio benedicti*	262
B10	1981_10	Arthropoda	Aoridae	*Grandidierella japonica*	65
B10	1981_10	Annelida	Cirratulidae	*Tharyx acutus*	44
B10	1981_10	Annelida	Cirratulidae	Cirratulidae	41
B10	1981_10	Annelida	Phyllodocidae	*Eumida sanguinea*	39
B10	1981_10	Arthropoda	Anthuridae	*Cyathura burbancki*	26
B10	1981_10	Annelida		Oligochaeta	24
B10	1981_10	Annelida	Capitellidae	*Heteromastus filiformis*	23
B10	1981_10	Mollusca	Nassariidae	*Ilyanassa obsoleta*	20
B10	1981_10	Arthropoda	Corophiidae	*Monocorophium acherusicum*	16
B10	1981_10	Annelida	Syllidae	*Streptosyllis verrilli*	15
B10	1981_10	Mollusca	Pyramidellidae	*Boonea bisuturalis*	12
B10	1981_10	Annelida	Syllidae	*Salvatoria clavata*	11
B10	1981_10	Arthropoda	Maeridae	*Elasmopus levis*	10
B10	1981_10	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	8
B10	1981_10	Arthropoda	Lysianassidae	*Lysianopsis alba*	6
B10	1981_10	Annelida	Syllidae	*Opisthodonta longocirrata*	5
B10	1981_10	Arthropoda	Unciolidae	*Unciola serrata*	5
B10	1981_10	Mollusca	Tellinidae	*Tellina agilis*	4
B10	1981_10	Arthropoda	Ampeliscidae	*Ampelisca abdita*	4
B10	1981_10	Arthropoda	Panopeidae	*Dyspanopeus sayi*	4
B10	1981_10	Mollusca	Calyptraeidae	*Crepidula convexa*	4
B10	1981_10	Annelida	Phyllodocidae	*Hypereteone heteropoda*	3
B10	1981_10	Annelida	Nereididae	*Alitta succinea*	3
B10	1981_10	Arthropoda	Paguridae	*Pagurus longicarpus*	3
B10	1981_10	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
B10	1981_10	Annelida	Hesionidae	*Gyptis vittata*	3
B10	1981_10	Platyhelminthes		Turbellaria sp. 14 mwra	3
B10	1981_10	Mollusca	Calyptraeidae	*Crepidula fornicata*	2
B10	1981_10	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	2
B10	1981_10	Platyhelminthes		Turbellaria sp. 5 nai	2
B10	1981_10	Annelida	Maldanidae	*Euclymene collaris*	1
B10	1981_10	Annelida	Glyceridae	*Glycera dibranchiata*	1
B10	1981_10	Annelida	Glyceridae	*Glycera americana*	1
B10	1981_10	Annelida	Polynoidae	*Lepidonotus sublevis*	1
B10	1981_10	Annelida	Sigalionidae	*Sthenelais boa*	1
B10	1981_10	Annelida	Nereididae	*Neanthes arenaceodentata*	1
B10	1981_10	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B10	1981_10	Annelida	Terebellidae	*Polycirrus* sp.	1
B10	1981_10	Annelida	Nereididae	Nereididae	1
B10	1981_10	Mollusca		Gastropoda	1
B10	1981_10	Annelida	Goniadidae	*Glycinde solitaria*	1
B10	1981_10	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
B11	2637_11	Annelida	Sabellariidae	*Sabellaria vulgaris*	255
B11	2637_11	Annelida	Capitellidae	*Mediomastus ambiseta*	223

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B11	2637_11	Arthropoda	Unciolidae	*Unciola serrata*	113
B11	2637_11	Annelida		Oligochaeta	91
B11	2637_11	Arthropoda	Aoridae	*Grandidierella japonica*	87
B11	2637_11	Annelida	Spionidae	*Streblospio benedicti*	74
B11	2637_11	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	36
B11	2637_11	Annelida	Phyllodocidae	*Eumida sanguinea*	31
B11	2637_11	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	28
B11	2637_11	Arthropoda	Paguridae	*Pagurus longicarpus*	19
B11	2637_11	Annelida	Syllidae	*Myrianida prolifera*	16
B11	2637_11	Arthropoda	Corophiidae	*Apocorophium acutum*	15
B11	2637_11	Arthropoda	Corophiidae	*Monocorophium acherusicum*	13
B11	2637_11	Annelida	Syllidae	*Streptosyllis verrilli*	13
B11	2637_11	Arthropoda	Maeridae	*Elasmopus levis*	11
B11	2637_11	Annelida	Glyceridae	*Glycera dibranchiata*	9
B11	2637_11	Annelida	Capitellidae	*Heteromastus filiformis*	9
B11	2637_11	Annelida	Sabellidae	*Parasabella microphthalma*	9
B11	2637_11	Arthropoda	Lysianassidae	*Lysianopsis alba*	9
B11	2637_11	Annelida	Cirratulidae	*Tharyx acutus*	9
B11	2637_11	Annelida	Spionidae	*Polydora cornuta*	7
B11	2637_11	Arthropoda	Ampeliscidae	*Ampelisca abdita*	7
B11	2637_11	Annelida	Nereididae	*Alitta succinea*	7
B11	2637_11	Nemertea	Lineidae	*Lineus ruber*	7
B11	2637_11	Annelida	Syllidae	*Salvatoria clavata*	6
B11	2637_11	Annelida	Syllidae	*Opisthodonta longocirrata*	5
B11	2637_11	Platyhelminthes		Turbellaria sp. 14 mwra	4
B11	2637_11	Annelida	Polynoidae	*Lepidonotus squamatus*	3
B11	2637_11	Mollusca	Nassariidae	*Ilyanassa trivittata*	3
B11	2637_11	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	3
B11	2637_11	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
B11	2637_11	Mollusca	Veneridae	*Petricolaria pholadiformis*	3
B11	2637_11	Annelida	Terebellidae	*Polycirrus* sp.	3
B11	2637_11	Arthropoda	Mysidae	*Heteromysis formosa*	2
B11	2637_11	Mollusca	Muricidae	*Urosalpinx cinerea*	2
B11	2637_11	Annelida	Syllidae	*Brania wellfleetensis*	2
B11	2637_11	Mollusca	Calyptraeidae	*Crepidula convexa*	2
B11	2637_11	Nemertea	Amphiporidae	*Zygonemertes virescens*	2
B11	2637_11	Annelida	Spionidae	*Spio filicornis*	1
B11	2637_11	Arthropoda	Diastylidae	*Oxyurostylis smithi*	1
B11	2637_11	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
B11	2637_11	Annelida	Nereididae	*Neanthes arenaceodentata*	1
B11	2637_11	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B11	2637_11	Annelida	Hesionidae	*Oxydromus obscurus*	1
B11	2637_11	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
B11	2637_11	Annelida	Cirratulidae	Cirratulidae	1
B11	2637_11	Annelida	Nereididae	Nereididae	1
B11	2637_11	Annelida	Dorvilleidae	*Schistomeringos annulata*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B11	2637_11	Mollusca	Corambidae	*Corambe obscura*	1
B11	2637_11	Arthropoda	Bateidae	*Batea catharinensis*	1
B11	2637_11	Annelida	Oenonidae	*Drilonereis longa*	1
B12	1687_12	Annelida	Capitellidae	*Mediomastus ambiseta*	1265
B12	1687_12	Annelida		Oligochaeta	397
B12	1687_12	Annelida	Spionidae	*Streblospio benedicti*	351
B12	1687_12	Annelida	Syllidae	*Opisthodonta longocirrata*	87
B12	1687_12	Annelida	Cirratulidae	*Tharyx acutus*	76
B12	1687_12	Annelida	Cirratulidae	Cirratulidae	75
B12	1687_12	Annelida	Cirratulidae	*Caulleriella venefica*	73
B12	1687_12	Arthropoda	Aoridae	*Grandidierella japonica*	69
B12	1687_12	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	51
B12	1687_12	Annelida	Capitellidae	*Heteromastus filiformis*	22
B12	1687_12	Arthropoda	Ampeliscidae	*Ampelisca abdita*	21
B12	1687_12	Annelida	Syllidae	*Streptosyllis verrilli*	19
B12	1687_12	Annelida	Terebellidae	*Polycirrus* sp.	18
B12	1687_12	Mollusca	Nassariidae	*Ilyanassa trivittata*	17
B12	1687_12	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	16
B12	1687_12	Annelida	Syllidae	*Salvatoria clavata*	16
B12	1687_12	Annelida	Glyceridae	*Glycera dibranchiata*	15
B12	1687_12	Annelida	Syllidae	*Brania wellfleetensis*	13
B12	1687_12	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	12
B12	1687_12	Annelida	Sabellariidae	*Sabellaria vulgaris*	12
B12	1687_12	Arthropoda	Lysianassidae	*Lysianopsis alba*	8
B12	1687_12	Arthropoda	Unciolidae	*Unciola serrata*	8
B12	1687_12	Mollusca	Veneridae	*Mercenaria mercenaria*	6
B12	1687_12	Arthropoda	Maeridae	*Elasmopus levis*	5
B12	1687_12	Annelida	Maldanidae	*Euclymene collaris*	4
B12	1687_12	Mollusca	Nassariidae	*Ilyanassa obsoleta*	4
B12	1687_12	Annelida	Goniadidae	*Glycinde solitaria*	3
B12	1687_12	Platyhelminthes		Turbellaria sp. 5 nai	3
B12	1687_12	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
B12	1687_12	Arthropoda	Crangonidae	*Crangon septemspinosa*	2
B12	1687_12	Arthropoda	Paguridae	*Pagurus longicarpus*	2
B12	1687_12	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
B12	1687_12	Annelida	Glyceridae	*Glycera* sp.	1
B12	1687_12	Mollusca	Muricidae	*Urosalpinx cinerea*	1
B12	1687_12	Mollusca	Calyptraeidae	*Crepidula convexa*	1
B12	1687_12	Mollusca	Muricidae	*Eupleura caudata*	1
B12	1687_12	Annelida	Hesionidae	*Gyptis vittata*	1
B12	1687_12	Annelida	Magelonidae	*Magelona* sp.	1
B12	1687_12	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
B12	1687_12	Annelida	Syllidae	*Exogone dispar*	1
B13	1689_13	Annelida	Capitellidae	*Mediomastus ambiseta*	849
B13	1689_13	Annelida		Oligochaeta	425
B13	1689_13	Annelida	Spionidae	*Streblospio benedicti*	336

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B13	1689_13	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	138
B13	1689_13	Arthropoda	Aoridae	*Grandidierella japonica*	125
B13	1689_13	Arthropoda	Ampeliscidae	*Ampelisca abdita*	86
B13	1689_13	Annelida	Cirratulidae	Cirratulidae	57
B13	1689_13	Annelida	Syllidae	*Opisthodonta longocirrata*	49
B13	1689_13	Annelida	Cirratulidae	*Caulleriella venefica*	47
B13	1689_13	Arthropoda	Lysianassidae	*Lysianopsis alba*	32
B13	1689_13	Annelida	Phyllodocidae	*Eumida sanguinea*	24
B13	1689_13	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	21
B13	1689_13	Annelida	Terebellidae	*Polycirrus* sp.	21
B13	1689_13	Annelida	Syllidae	*Brania wellfleetensis*	21
B13	1689_13	Annelida	Syllidae	*Streptosyllis verrilli*	18
B13	1689_13	Annelida	Glyceridae	*Glycera dibranchiata*	17
B13	1689_13	Annelida	Capitellidae	*Heteromastus filiformis*	17
B13	1689_13	Arthropoda	Maeridae	*Elasmopus levis*	17
B13	1689_13	Annelida	Cirratulidae	*Tharyx acutus*	16
B13	1689_13	Annelida	Syllidae	*Salvatoria clavata*	14
B13	1689_13	Annelida	Maldanidae	*Euclymene collaris*	9
B13	1689_13	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	8
B13	1689_13	Annelida	Hesionidae	*Oxydromus obscurus*	5
B13	1689_13	Mollusca	Tellinidae	*Tellina agilis*	4
B13	1689_13	Annelida	Phyllodocidae	*Hypereteone heteropoda*	3
B13	1689_13	Annelida	Goniadidae	*Glycinde solitaria*	3
B13	1689_13	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
B13	1689_13	Annelida	Syllidae	*Myrianida prolifera*	2
B13	1689_13	Annelida	Hesionidae	*Microphthalmus* sp.	2
B13	1689_13	Arthropoda	Paguridae	*Pagurus longicarpus*	2
B13	1689_13	Arthropoda	Unciolidae	*Unciola serrata*	2
B13	1689_13	Nemertea	Amphiporidae	*Zygonemertes virescens*	2
B13	1689_13	Annelida	Glyceridae	*Glycera americana*	1
B13	1689_13	Annelida	Glyceridae	*Glycera* sp.	1
B13	1689_13	Annelida	Polynoidae	*Lepidonotus sublevis*	1
B13	1689_13	Annelida	Sigalionidae	*Sthenelais boa*	1
B13	1689_13	Annelida	Sabellidae	*Parasabella microphthalma*	1
B13	1689_13	Annelida	Pectinariidae	*Pectinaria gouldii*	1
B13	1689_13	Mollusca	Mactridae	*Mulinia lateralis*	1
B13	1689_13	Annelida	Nereididae	Nereididae	1
B13	1689_13	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
B13	1689_13	Annelida	Oenonidae	*Drilonereis longa*	1
B13	1689_13	Nemertea	Lineidae	*Lineus ruber*	1
B13	1689_13	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
B13	1689_13	Mollusca	Solenidae	Solenidae	1
B14	55_14	Annelida	Capitellidae	*Mediomastus ambiseta*	772
B14	55_14	Annelida		Oligochaeta	224
B14	55_14	Annelida	Spionidae	*Streblospio benedicti*	165
B14	55_14	Annelida	Syllidae	*Exogone dispar*	48

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B14	55_14	Arthropoda	Aoridae	*Grandidierella japonica*	34
B14	55_14	Arthropoda	Maeridae	*Elasmopus levis*	30
B14	55_14	Annelida	Phyllodocidae	*Eumida sanguinea*	28
B14	55_14	Arthropoda	Corophiidae	*Monocorophium acherusicum*	26
B14	55_14	Arthropoda	Ampeliscidae	*Ampelisca abdita*	15
B14	55_14	Annelida	Syllidae	*Streptosyllis verrilli*	15
B14	55_14	Annelida	Syllidae	*Opisthodonta longocirrata*	14
B14	55_14	Annelida	Cirratulidae	*Caulleriella venefica*	14
B14	55_14	Annelida	Cirratulidae	Cirratulidae	12
B14	55_14	Annelida	Capitellidae	*Heteromastus filiformis*	9
B14	55_14	Annelida	Glyceridae	*Glycera dibranchiata*	8
B14	55_14	Annelida	Cirratulidae	*Tharyx acutus*	8
B14	55_14	Annelida	Sabellariidae	*Sabellaria vulgaris*	6
B14	55_14	Mollusca	Veneridae	*Mercenaria mercenaria*	5
B14	55_14	Annelida	Terebellidae	*Polycirrus* sp.	5
B14	55_14	Arthropoda	Lysianassidae	*Lysianopsis alba*	5
B14	55_14	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	4
B14	55_14	Mollusca	Pyramidellidae	*Boonea bisuturalis*	4
B14	55_14	Nemertea	Amphiporidae	*Zygonemertes virescens*	4
B14	55_14	Annelida	Sigalionidae	*Sthenelais limicola*	3
B14	55_14	Mollusca	Nassariidae	*Ilyanassa obsoleta*	3
B14	55_14	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
B14	55_14	Annelida	Syllidae	*Myrianida prolifera*	3
B14	55_14	Annelida	Hesionidae	*Oxydromus obscurus*	3
B14	55_14	Arthropoda	Unciolidae	*Unciola serrata*	3
B14	55_14	Mollusca	Lyonsiidae	*Lyonsia arenosa*	3
B14	55_14	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
B14	55_14	Mollusca	Acteocinidae	*Acteocina canaliculata*	2
B14	55_14	Annelida	Syllidae	*Salvatoria clavata*	2
B14	55_14	Mollusca	Veneridae	*Petricolaria pholadiformis*	2
B14	55_14	Mollusca	Nuculidae	*Nucula proxima*	1
B14	55_14	Mollusca	Myidae	*Mya arenaria*	1
B14	55_14	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
B14	55_14	Annelida	Glyceridae	*Glycera* sp.	1
B14	55_14	Annelida	Sigalionidae	*Sthenelais boa*	1
B14	55_14	Annelida	Sabellidae	*Parasabella microphthalma*	1
B14	55_14	Arthropoda	Anthuridae	*Cyathura burbancki*	1
B14	55_14	Arthropoda	Melitidae	*Melita nitida*	1
B14	55_14	Mollusca	Muricidae	*Urosalpinx cinerea*	1
B14	55_14	Annelida	Syllidae	*Odontosyllis fulgurans*	1
B14	55_14	Mollusca	Hydrobiidae	Hydrobiidae	1
B14	55_14	Mollusca	Calyptraeidae	*Crepidula convexa*	1
B14	55_14	Mollusca	Muricidae	*Eupleura caudata*	1
B14	55_14	Annelida	Hesionidae	*Gyptis vittata*	1
B14	55_14	Platyhelminthes		Turbellaria sp. 6 nai	1
B14	55_14	Platyhelminthes		Turbellaria sp. 9 nai	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B15	2344_15	Annelida	Capitellidae	*Mediomastus ambiseta*	940
B15	2344_15	Annelida	Spionidae	*Streblospio benedicti*	402
B15	2344_15	Arthropoda	Aoridae	*Grandidierella japonica*	185
B15	2344_15	Annelida		Oligochaeta	146
B15	2344_15	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	49
B15	2344_15	Arthropoda	Ampeliscidae	*Ampelisca abdita*	25
B15	2344_15	Annelida	Cirratulidae	*Tharyx acutus*	25
B15	2344_15	Annelida	Phyllodocidae	*Eumida sanguinea*	22
B15	2344_15	Annelida	Sabellariidae	*Sabellaria vulgaris*	16
B15	2344_15	Arthropoda	Corophiidae	*Monocorophium acherusicum*	12
B15	2344_15	Annelida	Cirratulidae	Cirratulidae	12
B15	2344_15	Mollusca	Nassariidae	*Ilyanassa obsoleta*	11
B15	2344_15	Arthropoda	Lysianassidae	*Lysianopsis alba*	11
B15	2344_15	Annelida	Capitellidae	*Heteromastus filiformis*	10
B15	2344_15	Arthropoda	Anthuridae	*Cyathura burbancki*	10
B15	2344_15	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	10
B15	2344_15	Annelida	Syllidae	*Myrianida prolifera*	9
B15	2344_15	Annelida	Phyllodocidae	*Hypereteone heteropoda*	7
B15	2344_15	Annelida	Spionidae	*Polydora cornuta*	5
B15	2344_15	Mollusca	Nassariidae	*Ilyanassa trivittata*	5
B15	2344_15	Annelida	Sabellidae	*Parasabella microphthalma*	5
B15	2344_15	Arthropoda	Mysidae	*Heteromysis formosa*	4
B15	2344_15	Mollusca	Pyramidellidae	*Boonea bisuturalis*	4
B15	2344_15	Annelida	Syllidae	*Streptosyllis verrilli*	4
B15	2344_15	Annelida	Maldanidae	*Euclymene collaris*	3
B15	2344_15	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	3
B15	2344_15	Arthropoda	Caprellidae	*Paracaprella tenuis*	3
B15	2344_15	Annelida	Pectinariidae	*Pectinaria gouldii*	3
B15	2344_15	Mollusca	Veneridae	*Mercenaria mercenaria*	3
B15	2344_15	Annelida	Terebellidae	*Polycirrus* sp.	3
B15	2344_15	Nemertea	Amphiporidae	*Zygonemertes virescens*	3
B15	2344_15	Mollusca	Muricidae	*Urosalpinx cinerea*	2
B15	2344_15	Mollusca		*Nudibranchia*	2
B15	2344_15	Annelida	Syllidae	*Opisthodonta longocirrata*	2
B15	2344_15	Annelida	Hesionidae	*Gyptis vittata*	2
B15	2344_15	Arthropoda	Unciolidae	*Unciola serrata*	2
B15	2344_15	Mollusca	Calyptraeidae	*Crepidula fornicata*	1
B15	2344_15	Mollusca	Tellinidae	*Tellina agilis*	1
B15	2344_15	Annelida	Glyceridae	*Glycera dibranchiata*	1
B15	2344_15	Annelida	Nereididae	*Alitta succinea*	1
B15	2344_15	Arthropoda	Maeridae	*Elasmopus levis*	1
B15	2344_15	Annelida	Hesionidae	*Oxydromus obscurus*	1
B15	2344_15	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B15	2344_15	Mollusca	Corambidae	*Corambe obscura*	1
B15	2344_15	Annelida	Oenonidae	*Drilonereis longa*	1
B15	2344_15	Arthropoda	Palaemoninae	*Palaemonetes vulgaris*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B15	2344_15	Annelida	Cirratulidae	*Caulleriella venefica*	1
B16	720_16	Annelida	Capitellidae	*Mediomastus ambiseta*	510
B16	720_16	Annelida		Oligochaeta	325
B16	720_16	Annelida	Spionidae	*Streblospio benedicti*	75
B16	720_16	Arthropoda	Corophiidae	*Monocorophium acherusicum*	36
B16	720_16	Arthropoda	Aoridae	*Grandidierella japonica*	27
B16	720_16	Mollusca	Pyramidellidae	*Boonea bisuturalis*	23
B16	720_16	Annelida	Syllidae	*Exogone dispar*	22
B16	720_16	Annelida	Glyceridae	*Glycera dibranchiata*	19
B16	720_16	Annelida	Phyllodocidae	*Eumida sanguinea*	14
B16	720_16	Annelida	Terebellidae	*Polycirrus* sp.	14
B16	720_16	Annelida	Syllidae	*Streptosyllis verrilli*	13
B16	720_16	Annelida	Syllidae	*Salvatoria clavata*	11
B16	720_16	Annelida	Syllidae	*Myrianida prolifera*	10
B16	720_16	Annelida	Capitellidae	*Heteromastus filiformis*	9
B16	720_16	Annelida	Sabellariidae	*Sabellaria vulgaris*	8
B16	720_16	Arthropoda	Lysianassidae	*Lysianopsis alba*	8
B16	720_16	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	6
B16	720_16	Annelida	Cirratulidae	Cirratulidae	6
B16	720_16	Mollusca	Nassariidae	*Ilyanassa obsoleta*	5
B16	720_16	Arthropoda	Panopeidae	*Dyspanopeus sayi*	4
B16	720_16	Annelida	Syllidae	*Opisthodonta longocirrata*	4
B16	720_16	Annelida	Cirratulidae	*Caulleriella venefica*	4
B16	720_16	Mollusca	Tellinidae	*Tellina agilis*	2
B16	720_16	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
B16	720_16	Annelida	Phyllodocidae	*Hypereteone heteropoda*	2
B16	720_16	Annelida	Sigalionidae	*Sthenelais boa*	2
B16	720_16	Annelida	Nereididae	*Alitta succinea*	2
B16	720_16	Arthropoda	Anthuridae	*Cyathura burbancki*	2
B16	720_16	Arthropoda	Maeridae	*Elasmopus levis*	2
B16	720_16	Mollusca	Veneridae	*Mercenaria mercenaria*	2
B16	720_16	Arthropoda	Paguridae	*Pagurus longicarpus*	2
B16	720_16	Annelida	Cirratulidae	*Tharyx acutus*	2
B16	720_16	Nemertea	Amphiporidae	*Zygonemertes virescens*	2
B16	720_16	Annelida	Maldanidae	*Euclymene collaris*	1
B16	720_16	Arthropoda	Crangonidae	*Crangon septemspinosa*	1
B16	720_16	Annelida	Glyceridae	*Glycera* sp.	1
B16	720_16	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
B16	720_16	Arthropoda	Melitidae	*Melita nitida*	1
B16	720_16	Arthropoda	Mysidae	*Heteromysis formosa*	1
B16	720_16	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
B16	720_16	Annelida	Nereididae	Nereididae	1
B16	720_16	Mollusca	Muricidae	*Eupleura caudata*	1
B17	809_17	Annelida	Capitellidae	*Mediomastus ambiseta*	1422
B17	809_17	Annelida		Oligochaeta	637
B17	809_17	Annelida	Spionidae	*Streblospio benedicti*	224

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B17	809_17	Annelida	Syllidae	*Opisthodonta longocirrata*	72
B17	809_17	Annelida	Syllidae	*Streptosyllis verrilli*	66
B17	809_17	Arthropoda	Corophiidae	*Monocorophium acherusicum*	40
B17	809_17	Annelida	Phyllodocidae	*Eumida sanguinea*	39
B17	809_17	Annelida	Capitellidae	*Heteromastus filiformis*	38
B17	809_17	Annelida	Syllidae	*Myrianida prolifera*	26
B17	809_17	Arthropoda	Aoridae	*Grandidierella japonica*	14
B17	809_17	Arthropoda	Anthuridae	*Cyathura burbancki*	12
B17	809_17	Annelida	Syllidae	*Salvatoria clavata*	11
B17	809_17	Annelida	Terebellidae	*Polycirrus* sp.	10
B17	809_17	Annelida	Sabellariidae	*Sabellaria vulgaris*	10
B17	809_17	Arthropoda	Maeridae	*Elasmopus levis*	9
B17	809_17	Annelida	Cirratulidae	Cirratulidae	9
B17	809_17	Annelida	Syllidae	*Exogone dispar*	9
B17	809_17	Arthropoda	Panopeidae	*Dyspanopeus sayi*	7
B17	809_17	Mollusca	Tellinidae	*Tellina agilis*	6
B17	809_17	Annelida	Glyceridae	*Glycera* sp.	6
B17	809_17	Arthropoda	Lysianassidae	*Lysianopsis alba*	6
B17	809_17	Annelida	Cirratulidae	*Tharyx acutus*	6
B17	809_17	Annelida	Cirratulidae	*Caulleriella venefica*	6
B17	809_17	Arthropoda	Ampeliscidae	*Ampelisca abdita*	5
B17	809_17	Annelida	Glyceridae	*Glycera dibranchiata*	4
B17	809_17	Annelida	Phyllodocidae	*Hypereteone heteropoda*	3
B17	809_17	Mollusca	Pyramidellidae	*Boonea bisuturalis*	3
B17	809_17	Arthropoda	Paguridae	*Pagurus longicarpus*	3
B17	809_17	Mollusca	Calyptraeidae	*Crepidula convexa*	3
B17	809_17	Arthropoda	Unciolidae	*Unciola serrata*	3
B17	809_17	Mollusca	Nassariidae	*Ilyanassa obsoleta*	2
B17	809_17	Annelida	Glyceridae	*Glycera americana*	2
B17	809_17	Arthropoda	Melitidae	*Melita nitida*	2
B17	809_17	Mollusca	Veneridae	*Mercenaria mercenaria*	2
B17	809_17	Annelida	Hesionidae	*Oxydromus obscurus*	2
B17	809_17	Mollusca	Muricidae	*Urosalpinx cinerea*	2
B17	809_17	Chordata	Molgulidae	*Molgula manhattensis*	2
B17	809_17	Platyhelminthes		Turbellaria sp. 9 nai	2
B17	809_17	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
B17	809_17	Annelida	Polynoidae	*Lepidonotus sublevis*	1
B17	809_17	Annelida	Sigalionidae	*Sthenelais boa*	1
B17	809_17	Arthropoda	Corophiidae	*Apocorophium acutum*	1
B17	809_17	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
B17	809_17	Annelida	Hesionidae	*Microphthalmus* sp.	1
B17	809_17	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
B17	809_17	Annelida	Syllidae	*Brania wellfleetensis*	1
B17	809_17	Mollusca	Calyptraeidae	*Crepidula* sp.	1
B17	809_17	Annelida	Hesionidae	*Gyptis vittata*	1
B17	809_17	Nemertea	Amphiporidae	*Zygonemertes virescens*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B17	809_17	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
B18	1821_18	Annelida	Capitellidae	*Mediomastus ambiseta*	694
B18	1821_18	Arthropoda	Aoridae	*Grandidierella japonica*	168
B18	1821_18	Annelida		Oligochaeta	142
B18	1821_18	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	113
B18	1821_18	Annelida	Cirratulidae	*Tharyx acutus*	76
B18	1821_18	Annelida	Cirratulidae	Cirratulidae	65
B18	1821_18	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	56
B18	1821_18	Annelida	Spionidae	*Streblospio benedicti*	54
B18	1821_18	Annelida	Phyllodocidae	*Eumida sanguinea*	52
B18	1821_18	Arthropoda	Lysianassidae	*Lysianopsis alba*	29
B18	1821_18	Arthropoda	Unciolidae	*Unciola serrata*	22
B18	1821_18	Annelida	Syllidae	*Myrianida prolifera*	16
B18	1821_18	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	13
B18	1821_18	Annelida	Sabellariidae	*Sabellaria vulgaris*	13
B18	1821_18	Annelida	Capitellidae	*Heteromastus filiformis*	12
B18	1821_18	Arthropoda	Ampeliscidae	*Ampelisca abdita*	9
B18	1821_18	Annelida	Syllidae	*Streptosyllis verrilli*	9
B18	1821_18	Annelida	Glyceridae	*Glycera dibranchiata*	7
B18	1821_18	Mollusca	Nassariidae	*Ilyanassa obsoleta*	7
B18	1821_18	Arthropoda	Paguridae	*Pagurus longicarpus*	7
B18	1821_18	Arthropoda	Corophiidae	*Monocorophium acherusicum*	6
B18	1821_18	Arthropoda	Maeridae	*Elasmopus levis*	3
B18	1821_18	Annelida	Terebellidae	*Polycirrus* sp.	3
B18	1821_18	Mollusca	Calyptraeidae	*Crepidula convexa*	3
B18	1821_18	Annelida	Maldanidae	*Euclymene collaris*	2
B18	1821_18	Mollusca	Calyptraeidae	*Crepidula plana*	2
B18	1821_18	Annelida	Polynoidae	*Lepidonotus sublevis*	2
B18	1821_18	Annelida	Sabellidae	*Parasabella microphthalma*	2
B18	1821_18	Annelida	Hesionidae	*Oxydromus obscurus*	2
B18	1821_18	Annelida	Syllidae	*Salvatoria clavata*	2
B18	1821_18	Annelida	Spionidae	*Polydora cornuta*	1
B18	1821_18	Mollusca	Tellinidae	*Tellina agilis*	1
B18	1821_18	Arthropoda	Crangonidae	*Crangon septemspinosa*	1
B18	1821_18	Annelida	Spionidae	*Polydora websteri*	1
B18	1821_18	Annelida	Nereididae	*Neanthes arenaceodentata*	1
B18	1821_18	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
B18	1821_18	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
B18	1821_18	Annelida	Syllidae	*Brania wellfleetensis*	1
B18	1821_18	Annelida	Spionidae	*Dipolydora commensalis*	1
B18	1821_18	Annelida	Hesionidae	*Gyptis vittata*	1
B18	1821_18	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
B18	1821_18	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
B18	1821_18	Annelida	Syllidae	*Exogone dispar*	1
B19	686_19	Annelida	Capitellidae	*Mediomastus ambiseta*	891
B19	686_19	Annelida	Spionidae	*Streblospio benedicti*	217

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B19	686_19	Arthropoda	Ampeliscidae	*Ampelisca abdita*	123
B19	686_19	Annelida		Oligochaeta	122
B19	686_19	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	74
B19	686_19	Arthropoda	Aoridae	*Grandidierella japonica*	46
B19	686_19	Annelida	Cirratulidae	Cirratulidae	31
B19	686_19	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	23
B19	686_19	Annelida	Phyllodocidae	*Eumida sanguinea*	20
B19	686_19	Arthropoda	Corophiidae	*Monocorophium acherusicum*	20
B19	686_19	Arthropoda	Lysianassidae	*Lysianopsis alba*	20
B19	686_19	Annelida	Glyceridae	*Glycera dibranchiata*	18
B19	686_19	Annelida	Cirratulidae	*Caulleriella venefica*	15
B19	686_19	Annelida	Cirratulidae	*Tharyx acutus*	14
B19	686_19	Annelida	Syllidae	*Opisthodonta longocirrata*	12
B19	686_19	Annelida	Syllidae	*Exogone dispar*	9
B19	686_19	Annelida	Capitellidae	*Heteromastus filiformis*	8
B19	686_19	Arthropoda	Maeridae	*Elasmopus levis*	8
B19	686_19	Mollusca	Tellinidae	*Tellina agilis*	5
B19	686_19	Annelida	Hesionidae	*Oxydromus obscurus*	5
B19	686_19	Annelida	Syllidae	*Salvatoria clavata*	5
B19	686_19	Annelida	Terebellidae	*Polycirrus* sp.	4
B19	686_19	Arthropoda	Unciolidae	*Unciola serrata*	4
B19	686_19	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
B19	686_19	Annelida	Maldanidae	*Euclymene collaris*	2
B19	686_19	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
B19	686_19	Mollusca	Nassariidae	*Ilyanassa obsoleta*	2
B19	686_19	Annelida	Nereididae	*Neanthes arenaceodentata*	2
B19	686_19	Annelida	Nereididae	*Alitta succinea*	2
B19	686_19	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
B19	686_19	Annelida	Goniadidae	*Glycinde solitaria*	2
B19	686_19	Annelida	Capitellidae	*Capitella capitata complex*	2
B19	686_19	Annelida	Syllidae	*Streptosyllis verrilli*	2
B19	686_19	Annelida	Spionidae	*Polydora cornuta*	1
B19	686_19	Annelida	Glyceridae	*Glycera* sp.	1
B19	686_19	Arthropoda	Caprellidae	*Paracaprella tenuis*	1
B19	686_19	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
B19	686_19	Annelida	Pectinariidae	*Pectinaria gouldii*	1
B19	686_19	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B19	686_19	Mollusca	Muricidae	*Urosalpinx cinerea*	1
B19	686_19	Mollusca	Mactridae	*Mulinia lateralis*	1
B19	686_19	Mollusca	Muricidae	*Eupleura caudata*	1
B19	686_19	Annelida	Hesionidae	*Gyptis vittata*	1
B19	686_19	Mollusca	Naticidae	*Neverita duplicata*	1
B19	686_19	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
B19	686_19	Nemertea	Lineidae	*Lineus ruber*	1
B19	686_19	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
B2	2648_2	Annelida	Capitellidae	*Mediomastus ambiseta*	343

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B2	2648_2	Annelida		Oligochaeta	196
B2	2648_2	Arthropoda	Aoridae	*Grandidierella japonica*	120
B2	2648_2	Arthropoda	Unciolidae	*Unciola serrata*	110
B2	2648_2	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	95
B2	2648_2	Annelida	Spionidae	*Streblospio benedicti*	58
B2	2648_2	Arthropoda	Lysianassidae	*Lysianopsis alba*	55
B2	2648_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	49
B2	2648_2	Annelida	Phyllodocidae	*Eumida sanguinea*	43
B2	2648_2	Arthropoda	Maeridae	*Elasmopus levis*	34
B2	2648_2	Annelida	Capitellidae	*Heteromastus filiformis*	31
B2	2648_2	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	22
B2	2648_2	Annelida	Cirratulidae	*Tharyx acutus*	22
B2	2648_2	Annelida	Syllidae	*Streptosyllis verrilli*	13
B2	2648_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	11
B2	2648_2	Annelida	Terebellidae	*Polycirrus* sp.	10
B2	2648_2	Annelida	Glyceridae	*Glycera dibranchiata*	9
B2	2648_2	Arthropoda	Panopeidae	*Dyspanopeus sayi*	9
B2	2648_2	Arthropoda	Ampeliscidae	*Ampelisca abdita*	7
B2	2648_2	Annelida	Sabellidae	*Parasabella microphthalma*	7
B2	2648_2	Annelida	Spionidae	*Spio filicornis*	4
B2	2648_2	Annelida	Nereididae	*Alitta succinea*	4
B2	2648_2	Arthropoda	Corophiidae	*Apocorophium acutum*	4
B2	2648_2	Arthropoda	Mysidae	*Heteromysis formosa*	4
B2	2648_2	Annelida	Hesionidae	*Oxydromus obscurus*	4
B2	2648_2	Mollusca	Nassariidae	*Ilyanassa obsoleta*	3
B2	2648_2	Mollusca		Nudibranchia	3
B2	2648_2	Annelida	Syllidae	*Salvatoria clavata*	3
B2	2648_2	Annelida	Hesionidae	*Microphthalmus sczelkowii*	3
B2	2648_2	Annelida	Syllidae	*Opisthodonta longocirrata*	3
B2	2648_2	Mollusca	Tellinidae	*Tellina agilis*	2
B2	2648_2	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
B2	2648_2	Annelida	Syllidae	*Myrianida prolifera*	2
B2	2648_2	Arthropoda	Paguridae	*Pagurus longicarpus*	2
B2	2648_2	Nemertea	Amphiporidae	*Amphiporus bioculatus*	2
B2	2648_2	Nemertea	Amphiporidae	*Zygonemertes virescens*	2
B2	2648_2	Annelida	Maldanidae	*Euclymene collaris*	1
B2	2648_2	Mollusca	Myidae	*Mya arenaria*	1
B2	2648_2	Annelida	Nereididae	*Neanthes arenaceodentata*	1
B2	2648_2	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B2	2648_2	Mollusca	Muricidae	*Urosalpinx cinerea*	1
B2	2648_2	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
B2	2648_2	Annelida	Nereididae	Nereididae	1
B2	2648_2	Nemertea	Lineidae	*Cerebratulus lacteus*	1
B2	2648_2	Annelida	Syllidae	*Brania wellfleetensis*	1
B2	2648_2	Mollusca	Calyptraeidae	*Crepidula convexa*	1
B2	2648_2	Arthropoda	Bateidae	*Batea catharinensis*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B2	2648_2	Annelida	Hesionidae	*Gyptis vittata*	1
B2	2648_2	Nemertea	Amphiporidae	*Amphiporus ochraceus*	1
B2	2648_2	Annelida	Syllidae	*Exogone dispar*	1
B20	1129_20	Annelida	Capitellidae	*Mediomastus ambiseta*	319
B20	1129_20	Annelida		Oligochaeta	192
B20	1129_20	Annelida	Spionidae	*Streblospio benedicti*	148
B20	1129_20	Arthropoda	Aoridae	*Grandidierella japonica*	105
B20	1129_20	Mollusca	Nassariidae	*Ilyanassa obsoleta*	30
B20	1129_20	Annelida	Syllidae	*Streptosyllis verrilli*	23
B20	1129_20	Arthropoda	Corophiidae	*Monocorophium acherusicum*	15
B20	1129_20	Annelida	Glyceridae	*Glycera dibranchiata*	11
B20	1129_20	Mollusca	Calyptraeidae	*Crepidula convexa*	10
B20	1129_20	Annelida	Syllidae	*Exogone dispar*	9
B20	1129_20	Annelida	Phyllodocidae	*Eumida sanguinea*	8
B20	1129_20	Annelida	Terebellidae	*Polycirrus* sp.	6
B20	1129_20	Arthropoda	Lysianassidae	*Lysianopsis alba*	6
B20	1129_20	Mollusca	Nassariidae	*Ilyanassa trivittata*	4
B20	1129_20	Annelida	Capitellidae	*Heteromastus filiformis*	4
B20	1129_20	Annelida	Syllidae	*Salvatoria clavata*	4
B20	1129_20	Annelida	Glyceridae	*Glycera* sp.	3
B20	1129_20	Arthropoda	Corophiidae	*Apocorophium acutum*	3
B20	1129_20	Arthropoda	Maeridae	*Elasmopus levis*	3
B20	1129_20	Mollusca	Pyramidellidae	*Boonea bisuturalis*	3
B20	1129_20	Annelida	Phyllodocidae	*Hypereteone heteropoda*	2
B20	1129_20	Arthropoda	Caprellidae	*Paracaprella tenuis*	2
B20	1129_20	Mollusca	Columbellidae	*Astyris lunata*	1
B20	1129_20	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
B20	1129_20	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
B20	1129_20	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
B20	1129_20	Annelida	Orbiniidae	*Leitoscoloplos* sp.	1
B20	1129_20	Annelida	Polynoidae	*Lepidonotus sublevis*	1
B20	1129_20	Annelida	Sabellidae	*Parasabella microphthalma*	1
B20	1129_20	Annelida	Syllidae	*Myrianida prolifera*	1
B20	1129_20	Arthropoda	Stenothoidae	*Stenothoe* sp.	1
B20	1129_20	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B20	1129_20	Annelida	Cirratulidae	Cirratulidae	1
B20	1129_20	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
B20	1129_20	Mollusca	Muricidae	*Eupleura caudata*	1
B20	1129_20	Annelida	Cirratulidae	*Tharyx acutus*	1
B21	543_21	Annelida	Capitellidae	*Mediomastus ambiseta*	789
B21	543_21	Annelida		Oligochaeta	506
B21	543_21	Annelida	Spionidae	*Streblospio benedicti*	162
B21	543_21	Annelida	Syllidae	*Opisthodonta longocirrata*	97
B21	543_21	Annelida	Phyllodocidae	*Eumida sanguinea*	46
B21	543_21	Annelida	Cirratulidae	*Caulleriella venefica*	42
B21	543_21	Annelida	Glyceridae	*Glycera dibranchiata*	28

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B21	543_21	Annelida	Syllidae	*Exogone dispar*	27
B21	543_21	Annelida	Syllidae	*Streptosyllis verrilli*	26
B21	543_21	Annelida	Capitellidae	*Heteromastus filiformis*	24
B21	543_21	Arthropoda	Maeridae	*Elasmopus levis*	21
B21	543_21	Arthropoda	Aoridae	*Grandidierella japonica*	21
B21	543_21	Arthropoda	Corophiidae	*Monocorophium acherusicum*	15
B21	543_21	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	12
B21	543_21	Annelida	Syllidae	*Salvatoria clavata*	11
B21	543_21	Mollusca	Myidae	*Mya arenaria*	6
B21	543_21	Annelida	Terebellidae	*Polycirrus* sp.	6
B21	543_21	Annelida	Syllidae	*Brania wellfleetensis*	6
B21	543_21	Arthropoda	Ampeliscidae	*Ampelisca abdita*	5
B21	543_21	Mollusca	Calyptraeidae	*Crepidula convexa*	5
B21	543_21	Annelida	Goniadidae	*Glycinde solitaria*	4
B21	543_21	Annelida	Syllidae	*Myrianida prolifera*	3
B21	543_21	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
B21	543_21	Annelida	Spionidae	*Polydora cornuta*	2
B21	543_21	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	2
B21	543_21	Mollusca	Veneridae	*Petricolaria pholadiformis*	2
B21	543_21	Arthropoda	Paguridae	*Pagurus longicarpus*	2
B21	543_21	Annelida	Cirratulidae	Cirratulidae	2
B21	543_21	Nemertea	Amphiporidae	*Amphiporus bioculatus*	2
B21	543_21	Annelida	Maldanidae	*Euclymene collaris*	1
B21	543_21	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
B21	543_21	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
B21	543_21	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
B21	543_21	Annelida	Nereididae	*Alitta succinea*	1
B21	543_21	Arthropoda	Anthuridae	*Cyathura burbancki*	1
B21	543_21	Arthropoda	Melitidae	*Melita nitida*	1
B21	543_21	Annelida	Pectinariidae	*Pectinaria gouldii*	1
B21	543_21	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B21	543_21	Annelida	Hesionidae	*Oxydromus obscurus*	1
B21	543_21	Mollusca	Muricidae	*Urosalpinx cinerea*	1
B21	543_21	Arthropoda	Lysianassidae	*Lysianopsis alba*	1
B21	543_21	Arthropoda	Unciolidae	*Unciola serrata*	1
B21	543_21	Annelida	Oenonidae	*Drilonereis longa*	1
B21	543_21	Nemertea	Amphiporidae	*Amphiporus ochraceus*	1
B21	543_21	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
B21	543_21	Annelida	Capitellidae	*Capitella capitata complex*	1
B21	543_21	Platyhelminthes		Turbellaria sp. 9 nai	1
B23	240_23	Annelida		Oligochaeta	51
B23	240_23	Annelida	Syllidae	*Opisthodonta longocirrata*	29
B23	240_23	Annelida	Cirratulidae	*Caulleriella venefica*	19
B23	240_23	Annelida	Glyceridae	*Glycera* sp.	17
B23	240_23	Mollusca	Nassariidae	*Ilyanassa obsoleta*	8

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B23	240_23	Mollusca	Nassariidae	*Ilyanassa trivittata*	5
B23	240_23	Annelida	Capitellidae	*Mediomastus ambiseta*	4
B23	240_23	Annelida	Spionidae	*Streblospio benedicti*	3
B23	240_23	Annelida	Glyceridae	*Glycera dibranchiata*	3
B23	240_23	Mollusca	Pyramidellidae	*Boonea bisuturalis*	3
B23	240_23	Annelida	Terebellidae	*Polycirrus* sp.	3
B23	240_23	Mollusca	Tellinidae	*Tellina agilis*	2
B23	240_23	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
B23	240_23	Mollusca	Veneridae	*Gemma gemma*	2
B23	240_23	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
B23	240_23	Mollusca	Calyptraeidae	*Crepidula convexa*	2
B23	240_23	Annelida	Phyllodocidae	*Eumida sanguinea*	1
B23	240_23	Annelida	Spionidae	*Spio filicornis*	1
B23	240_23	Annelida	Syllidae	*Myrianida prolifera*	1
B23	240_23	Annelida	Syllidae	*Salvatoria clavata*	1
B23	240_23	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B23	240_23	Nemertea	Lineidae	*Cerebratulus lacteus*	1
B23	240_23	Annelida	Hesionidae	*Microphthalmus fragilis*	1
B23	240_23	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
B23	240_23	Arthropoda	Aoridae	*Grandidierella japonica*	1
B23	240_23	Annelida	Syllidae	*Streptosyllis verrilli*	1
B24	2288_24	Annelida	Capitellidae	*Mediomastus ambiseta*	772
B24	2288_24	Annelida	Spionidae	*Streblospio benedicti*	192
B24	2288_24	Annelida		Oligochaeta	124
B24	2288_24	Arthropoda	Aoridae	*Grandidierella japonica*	123
B24	2288_24	Annelida	Cirratulidae	*Tharyx acutus*	69
B24	2288_24	Annelida	Phyllodocidae	*Eumida sanguinea*	63
B24	2288_24	Annelida	Cirratulidae	Cirratulidae	52
B24	2288_24	Arthropoda	Unciolidae	*Unciola serrata*	35
B24	2288_24	Arthropoda	Corophiidae	*Monocorophium acherusicum*	33
B24	2288_24	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	30
B24	2288_24	Annelida	Syllidae	*Myrianida prolifera*	26
B24	2288_24	Arthropoda	Lysianassidae	*Lysianopsis alba*	25
B24	2288_24	Mollusca	Nassariidae	*Ilyanassa obsoleta*	10
B24	2288_24	Arthropoda	Mysidae	*Heteromysis formosa*	9
B24	2288_24	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	8
B24	2288_24	Annelida	Capitellidae	*Heteromastus filiformis*	8
B24	2288_24	Annelida	Sabellariidae	*Sabellaria vulgaris*	8
B24	2288_24	Arthropoda	Anthuridae	*Cyathura burbancki*	6
B24	2288_24	Arthropoda	Ampeliscidae	*Ampelisca abdita*	5
B24	2288_24	Annelida	Syllidae	*Streptosyllis verrilli*	5
B24	2288_24	Mollusca	Nassariidae	*Ilyanassa trivittata*	4
B24	2288_24	Mollusca	Tellinidae	*Tellina agilis*	4
B24	2288_24	Arthropoda	Panopeidae	*Dyspanopeus sayi*	4
B24	2288_24	Arthropoda	Corophiidae	*Monocorophium tuberculatum*	3
B24	2288_24	Annelida	Glyceridae	*Glycera dibranchiata*	2

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B24	2288_24	Annelida	Glyceridae	*Glycera americana*	2
B24	2288_24	Annelida	Glyceridae	*Glycera* sp.	2
B24	2288_24	Annelida	Hesionidae	*Oxydromus obscurus*	2
B24	2288_24	Annelida	Terebellidae	*Polycirrus* sp.	2
B24	2288_24	Mollusca	Corambidae	*Corambe obscura*	2
B24	2288_24	Mollusca	Calyptraeidae	*Crepidula convexa*	2
B24	2288_24	Annelida	Syllidae	*Exogone dispar*	2
B24	2288_24	Annelida	Maldanidae	*Euclymene collaris*	1
B24	2288_24	Annelida	Spionidae	*Polydora cornuta*	1
B24	2288_24	Annelida	Polynoidae	*Lepidonotus sublevis*	1
B24	2288_24	Annelida	Sabellidae	*Parasabella microphthalma*	1
B24	2288_24	Arthropoda	Maeridae	*Elasmopus levis*	1
B24	2288_24	Annelida	Syllidae	*Salvatoria clavata*	1
B24	2288_24	Annelida	Hesionidae	*Microphthalmus sczelkowii*	1
B24	2288_24	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B24	2288_24	Annelida	Spionidae	*Dipolydora socialis*	1
B24	2288_24	Arthropoda	Bateidae	*Batea catharinensis*	1
B24	2288_24	Platyhelminthes		Turbellaria sp. 5 nai	1
B25	849_25	Annelida		Oligochaeta	844
B25	849_25	Annelida	Syllidae	*Opisthodonta longocirrata*	156
B25	849_25	Mollusca	Veneridae	*Gemma gemma*	102
B25	849_25	Annelida	Capitellidae	*Mediomastus ambiseta*	45
B25	849_25	Mollusca	Nassariidae	*Ilyanassa obsoleta*	25
B25	849_25	Annelida	Glyceridae	*Glycera* sp.	15
B25	849_25	Mollusca	Pyramidellidae	*Boonea bisuturalis*	15
B25	849_25	Arthropoda	Aoridae	*Grandidierella japonica*	14
B25	849_25	Annelida	Terebellidae	*Polycirrus* sp.	13
B25	849_25	Annelida	Syllidae	*Streptosyllis verrilli*	9
B25	849_25	Annelida	Syllidae	*Exogone dispar*	8
B25	849_25	Mollusca	Veneridae	*Petricolaria pholadiformis*	6
B25	849_25	Annelida	Cirratulidae	*Caulleriella venefica*	5
B25	849_25	Annelida	Phyllodocidae	*Eumida sanguinea*	4
B25	849_25	Annelida	Syllidae	*Salvatoria clavata*	4
B25	849_25	Nemertea	Carinomidae	*Carinoma tremaphoros*	4
B25	849_25	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
B25	849_25	Annelida	Nereididae	*Neanthes arenaceodentata*	3
B25	849_25	Annelida	Spionidae	*Streblospio benedicti*	2
B25	849_25	Annelida	Glyceridae	*Glycera dibranchiata*	2
B25	849_25	Annelida	Hesionidae	*Microphthalmus* sp.	2
B25	849_25	Annelida	Hesionidae	*Microphthalmus fragilis*	2
B25	849_25	Platyhelminthes		Turbellaria sp. 9 nai	2
B25	849_25	Annelida	Spionidae	*Spio filicornis*	1
B25	849_25	Annelida	Spionidae	*Polydora cornuta*	1
B25	849_25	Mollusca	Myidae	*Mya arenaria*	1
B25	849_25	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
B25	849_25	Annelida	Capitellidae	*Heteromastus filiformis*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B25	849_25	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
B25	849_25	Annelida	Syllidae	*Myrianida prolifera*	1
B25	849_25	Annelida	Syllidae	*Exogone verugera*	1
B25	849_25	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B25	849_25	Annelida	Cirratulidae	Cirratulidae	1
B25	849_25	Annelida	Goniadidae	*Glycinde solitaria*	1
B25	849_25	Mollusca	Muricidae	*Eupleura caudata*	1
B26	986_26	Annelida	Capitellidae	*Mediomastus ambiseta*	119
B26	986_26	Annelida		Oligochaeta	61
B26	986_26	Arthropoda	Aoridae	*Grandidierella japonica*	44
B26	986_26	Mollusca	Nassariidae	*Ilyanassa obsoleta*	37
B26	986_26	Mollusca	Veneridae	*Gemma gemma*	31
B26	986_26	Annelida	Spionidae	*Streblospio benedicti*	19
B26	986_26	Arthropoda	Corophiidae	*Monocorophium acherusicum*	12
B26	986_26	Annelida	Glyceridae	*Glycera* sp.	9
B26	986_26	Annelida	Terebellidae	*Polycirrus* sp.	7
B26	986_26	Mollusca	Calyptraeidae	*Crepidula convexa*	6
B26	986_26	Annelida	Syllidae	*Exogone dispar*	5
B26	986_26	Annelida	Phyllodocidae	*Eumida sanguinea*	4
B26	986_26	Annelida	Syllidae	*Streptosyllis verrilli*	4
B26	986_26	Annelida	Spionidae	*Spio filicornis*	2
B26	986_26	Mollusca	Nassariidae	*Ilyanassa trivittata*	2
B26	986_26	Mollusca	Pyramidellidae	*Odostomia eburnea*	2
B26	986_26	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	2
B26	986_26	Arthropoda	Unciolidae	*Unciola serrata*	2
B26	986_26	Arthropoda	Crangonidae	*Crangon septemspinosa*	1
B26	986_26	Annelida	Capitellidae	*Heteromastus filiformis*	1
B26	986_26	Arthropoda	Maeridae	*Elasmopus levis*	1
B26	986_26	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
B26	986_26	Annelida	Syllidae	*Myrianida prolifera*	1
B26	986_26	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B26	986_26	Mollusca	Muricidae	*Urosalpinx cinerea*	1
B26	986_26	Annelida	Syllidae	*Salvatoria clavata*	1
B26	986_26	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B26	986_26	Mollusca	Muricidae	*Eupleura caudata*	1
B28	1390_28	Annelida		Oligochaeta	243
B28	1390_28	Annelida	Capitellidae	*Mediomastus ambiseta*	116
B28	1390_28	Annelida	Syllidae	*Opisthodonta longocirrata*	85
B28	1390_28	Annelida	Spionidae	*Streblospio benedicti*	37
B28	1390_28	Annelida	Cirratulidae	*Caulleriella venefica*	32
B28	1390_28	Annelida	Syllidae	*Streptosyllis verrilli*	25
B28	1390_28	Mollusca	Nassariidae	*Ilyanassa obsoleta*	11
B28	1390_28	Annelida	Syllidae	*Salvatoria clavata*	9
B28	1390_28	Annelida	Capitellidae	*Heteromastus filiformis*	6
B28	1390_28	Arthropoda	Panopeidae	*Dyspanopeus sayi*	4
B28	1390_28	Arthropoda	Aoridae	*Grandidierella japonica*	4

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B28	1390_28	Annelida	Glyceridae	*Glycera dibranchiata*	3
B28	1390_28	Arthropoda	Lysianassidae	*Lysianopsis alba*	3
B28	1390_28	Annelida	Syllidae	*Exogone dispar*	3
B28	1390_28	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
B28	1390_28	Annelida	Terebellidae	*Polycirrus* sp.	2
B28	1390_28	Annelida	Sabellariidae	*Sabellaria vulgaris*	2
B28	1390_28	Annelida	Orbiniidae	*Leitoscoloplos acutus*	2
B28	1390_28	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	2
B28	1390_28	Platyhelminthes		Turbellaria sp. 9 nai	2
B28	1390_28	Annelida	Phyllodocidae	*Eumida sanguinea*	1
B28	1390_28	Mollusca	Calyptraeidae	*Crepidula fornicata*	1
B28	1390_28	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
B28	1390_28	Annelida	Nereididae	*Alitta succinea*	1
B28	1390_28	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
B28	1390_28	Annelida	Cirratulidae	Cirratulidae	1
B28	1390_28	Annelida	Syllidae	*Brania wellfleetensis*	1
B28	1390_28	Arthropoda	Unciolidae	*Unciola serrata*	1
B28	1390_28	Nemertea	Carinomidae	*Carinoma tremaphoros*	1
B29	1547_29	Annelida	Capitellidae	*Mediomastus ambiseta*	307
B29	1547_29	Annelida		Oligochaeta	294
B29	1547_29	Arthropoda	Aoridae	*Grandidierella japonica*	50
B29	1547_29	Annelida	Spionidae	*Streblospio benedicti*	46
B29	1547_29	Annelida	Syllidae	*Opisthodonta longocirrata*	16
B29	1547_29	Mollusca	Pyramidellidae	*Boonea bisuturalis*	15
B29	1547_29	Arthropoda	Corophiidae	*Apocorophium acutum*	13
B29	1547_29	Annelida	Phyllodocidae	*Eumida sanguinea*	10
B29	1547_29	Annelida	Syllidae	*Exogone dispar*	10
B29	1547_29	Mollusca	Nassariidae	*Ilyanassa obsoleta*	7
B29	1547_29	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	7
B29	1547_29	Annelida	Cirratulidae	*Caulleriella venefica*	7
B29	1547_29	Annelida	Syllidae	*Streptosyllis verrilli*	7
B29	1547_29	Annelida	Capitellidae	*Heteromastus filiformis*	6
B29	1547_29	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	5
B29	1547_29	Annelida	Cirratulidae	Cirratulidae	5
B29	1547_29	Annelida	Syllidae	*Salvatoria clavata*	4
B29	1547_29	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	3
B29	1547_29	Annelida	Glyceridae	*Glycera dibranchiata*	3
B29	1547_29	Arthropoda	Caprellidae	*Paracaprella tenuis*	3
B29	1547_29	Annelida	Syllidae	*Myrianida prolifera*	3
B29	1547_29	Mollusca	Nassariidae	*Ilyanassa trivittata*	2
B29	1547_29	Annelida	Terebellidae	*Polycirrus* sp.	2
B29	1547_29	Arthropoda	Lysianassidae	*Lysianopsis alba*	2
B29	1547_29	Arthropoda	Unciolidae	*Unciola serrata*	2
B29	1547_29	Annelida	Cirratulidae	*Tharyx acutus*	2
B29	1547_29	Mollusca	Lyonsiidae	*Lyonsia arenosa*	2
B29	1547_29	Annelida	Spionidae	*Polydora cornuta*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B29	1547_29	Mollusca	Tellinidae	*Tellina agilis*	1
B29	1547_29	Annelida	Orbiniidae	*Leitoscoloplos* sp.	1
B29	1547_29	Arthropoda	Anthuridae	*Cyathura burbancki*	1
B29	1547_29	Arthropoda	Mysidae	*Heteromysis formosa*	1
B29	1547_29	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
B29	1547_29	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B29	1547_29	Annelida	Hesionidae	*Oxydromus obscurus*	1
B29	1547_29	Mollusca	Muricidae	*Urosalpinx cinerea*	1
B29	1547_29	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
B29	1547_29	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
B29	1547_29	Annelida	Syllidae	*Brania wellfleetensis*	1
B29	1547_29	Mollusca	Calyptraeidae	*Crepidula convexa*	1
B29	1547_29	Mollusca	Muricidae	*Eupleura caudata*	1
B3	2482_3	Annelida	Spionidae	*Streblospio benedicti*	151
B3	2482_3	Arthropoda	Unciolidae	*Unciola serrata*	31
B3	2482_3	Arthropoda	Aoridae	*Grandidierella japonica*	26
B3	2482_3	Annelida	Capitellidae	*Mediomastus ambiseta*	23
B3	2482_3	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	21
B3	2482_3	Annelida		Oligochaeta	16
B3	2482_3	Annelida	Glyceridae	*Glycera* sp.	12
B3	2482_3	Arthropoda	Corophiidae	*Monocorophium acherusicum*	9
B3	2482_3	Mollusca	Veneridae	*Gemma gemma*	8
B3	2482_3	Mollusca	Tellinidae	*Tellina agilis*	6
B3	2482_3	Annelida	Cirratulidae	*Tharyx acutus*	6
B3	2482_3	Mollusca	Nassariidae	*Ilyanassa obsoleta*	5
B3	2482_3	Annelida	Phyllodocidae	*Eumida sanguinea*	4
B3	2482_3	Annelida	Oenonidae	*Drilonereis longa*	4
B3	2482_3	Annelida	Cirratulidae	Cirratulidae	3
B3	2482_3	Mollusca	Calyptraeidae	*Crepidula convexa*	3
B3	2482_3	Annelida	Cirratulidae	*Caulleriella venefica*	3
B3	2482_3	Annelida	Spionidae	*Polydora cornuta*	2
B3	2482_3	Annelida	Phyllodocidae	*Hypereteone heteropoda*	2
B3	2482_3	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
B3	2482_3	Annelida	Sabellidae	*Parasabella microphthalma*	1
B3	2482_3	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B3	2482_3	Annelida	Chaetopteridae	*Spiochaetopterus costarum oculatus*	1
B3	2482_3	Annelida	Syllidae	*Streptosyllis verrilli*	1
B30	99_30	Annelida		Oligochaeta	417
B30	99_30	Annelida	Syllidae	*Opisthodonta longocirrata*	92
B30	99_30	Annelida	Spionidae	*Streblospio benedicti*	88
B30	99_30	Annelida	Capitellidae	*Mediomastus ambiseta*	88
B30	99_30	Arthropoda	Aoridae	*Grandidierella japonica*	60
B30	99_30	Arthropoda	Corophiidae	*Monocorophium acherusicum*	20
B30	99_30	Mollusca	Veneridae	*Gemma gemma*	19
B30	99_30	Annelida	Syllidae	*Streptosyllis verrilli*	15
B30	99_30	Annelida	Glyceridae	*Glycera* sp.	14

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B30	99_30	Annelida	Syllidae	*Myrianida prolifera*	14
B30	99_30	Annelida	Phyllodocidae	*Eumida sanguinea*	10
B30	99_30	Arthropoda	Maeridae	*Elasmopus levis*	10
B30	99_30	Annelida	Cirratulidae	*Caulleriella venefica*	9
B30	99_30	Annelida	Syllidae	*Exogone dispar*	8
B30	99_30	Mollusca	Nassariidae	*Ilyanassa trivittata*	7
B30	99_30	Annelida	Syllidae	*Salvatoria clavata*	6
B30	99_30	Annelida	Capitellidae	*Heteromastus filiformis*	5
B30	99_30	Annelida	Cirratulidae	Cirratulidae	4
B30	99_30	Arthropoda	Ampeliscidae	*Ampelisca abdita*	3
B30	99_30	Annelida	Glyceridae	*Glycera dibranchiata*	3
B30	99_30	Arthropoda	Corophiidae	*Monocorophium tuberculatum*	3
B30	99_30	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
B30	99_30	Arthropoda	Unciolidae	*Unciola serrata*	3
B30	99_30	Arthropoda	Paguridae	*Pagurus longicarpus*	2
B30	99_30	Annelida	Terebellidae	*Polycirrus* sp.	2
B30	99_30	Chordata	Molgulidae	*Molgula manhattensis*	2
B30	99_30	Arthropoda	Lysianassidae	*Lysianopsis alba*	2
B30	99_30	Mollusca	Calyptraeidae	*Crepidula convexa*	2
B30	99_30	Annelida	Spionidae	*Spiophanes bombyx*	1
B30	99_30	Mollusca	Anomiidae	*Anomia simplex*	1
B30	99_30	Mollusca	Tellinidae	*Tellina agilis*	1
B30	99_30	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
B30	99_30	Arthropoda	Caprellidae	*Paracaprella tenuis*	1
B30	99_30	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
B30	99_30	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
B30	99_30	Arthropoda	Stenothoidae	*Stenothoe* sp.	1
B30	99_30	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
B30	99_30	Annelida	Syllidae	Syllidae	1
B30	99_30	Annelida	Nereididae	Nereididae	1
B30	99_30	Annelida	Nephtyidae	*Bipalponephtys cornuta*	1
B30	99_30	Mollusca	Calyptraeidae	*Crepidula* sp.	1
B30	99_30	Annelida	Hesionidae	*Gyptis vittata*	1
B30	99_30	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
B30	99_30	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
B30	99_30	Platyhelminthes		Turbellaria sp. 5 nai	1
B4	2064_4	Annelida	Capitellidae	*Mediomastus ambiseta*	827
B4	2064_4	Annelida		Oligochaeta	432
B4	2064_4	Annelida	Cirratulidae	Cirratulidae	340
B4	2064_4	Arthropoda	Aoridae	*Grandidierella japonica*	211
B4	2064_4	Annelida	Spionidae	*Streblospio benedicti*	181
B4	2064_4	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	142
B4	2064_4	Annelida	Cirratulidae	*Tharyx acutus*	101
B4	2064_4	Annelida	Sabellariidae	*Sabellaria vulgaris*	67
B4	2064_4	Arthropoda	Corophiidae	*Monocorophium acherusicum*	37
B4	2064_4	Arthropoda	Lysianassidae	*Lysianopsis alba*	36

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B4	2064_4	Annelida	Capitellidae	*Heteromastus filiformis*	34
B4	2064_4	Arthropoda	Unciolidae	*Unciola serrata*	26
B4	2064_4	Annelida	Phyllodocidae	*Eumida sanguinea*	25
B4	2064_4	Annelida	Syllidae	*Myrianida prolifera*	20
B4	2064_4	Arthropoda	Paguridae	*Pagurus longicarpus*	14
B4	2064_4	Mollusca	Nassariidae	*Ilyanassa obsoleta*	13
B4	2064_4	Arthropoda	Panopeidae	*Dyspanopeus sayi*	10
B4	2064_4	Annelida	Terebellidae	*Polycirrus* sp.	9
B4	2064_4	Mollusca	Calyptraeidae	*Crepidula convexa*	9
B4	2064_4	Annelida	Glyceridae	*Glycera* sp.	7
B4	2064_4	Arthropoda	Maeridae	*Elasmopus levis*	7
B4	2064_4	Annelida	Oenonidae	*Drilonereis longa*	7
B4	2064_4	Arthropoda	Mysidae	*Heteromysis formosa*	6
B4	2064_4	Annelida	Hesionidae	*Oxydromus obscurus*	5
B4	2064_4	Annelida	Glyceridae	*Glycera dibranchiata*	4
B4	2064_4	Annelida	Syllidae	*Streptosyllis verrilli*	4
B4	2064_4	Mollusca	Muricidae	*Urosalpinx cinerea*	3
B4	2064_4	Mollusca	Myidae	*Mya arenaria*	2
B4	2064_4	Arthropoda	Ampeliscidae	*Ampelisca abdita*	2
B4	2064_4	Annelida	Polynoidae	*Lepidonotus sublevis*	2
B4	2064_4	Arthropoda	Anthuridae	*Cyathura burbancki*	2
B4	2064_4	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
B4	2064_4	Mollusca	Corambidae	*Corambe obscura*	2
B4	2064_4	Annelida	Goniadidae	*Glycinde solitaria*	2
B4	2064_4	Annelida	Syllidae	*Exogone dispar*	2
B4	2064_4	Annelida	Maldanidae	*Euclymene collaris*	1
B4	2064_4	Mollusca	Calyptraeidae	*Crepidula plana*	1
B4	2064_4	Mollusca	Anomiidae	*Anomia simplex*	1
B4	2064_4	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1
B4	2064_4	Annelida	Sigalionidae	*Sthenelais boa*	1
B4	2064_4	Annelida	Sabellidae	*Parasabella microphthalma*	1
B4	2064_4	Annelida	Pectinariidae	*Pectinaria gouldii*	1
B4	2064_4	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B4	2064_4	Annelida	Syllidae	*Salvatoria clavata*	1
B4	2064_4	Arthropoda	Bateidae	*Batea catharinensis*	1
B4	2064_4	Annelida	Hesionidae	*Gyptis vittata*	1
B4	2064_4	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
B4	2064_4	Annelida	Cirratulidae	*Caulleriella venefica*	1
B40	714_40	Annelida		Oligochaeta	249
B40	714_40	Annelida	Capitellidae	*Mediomastus ambiseta*	211
B40	714_40	Mollusca	Nassariidae	*Ilyanassa obsoleta*	47
B40	714_40	Annelida	Spionidae	*Streblospio benedicti*	28
B40	714_40	Annelida	Syllidae	*Streptosyllis verrilli*	28
B40	714_40	Mollusca	Pyramidellidae	*Boonea bisuturalis*	24
B40	714_40	Arthropoda	Aoridae	*Grandidierella japonica*	24
B40	714_40	Annelida	Syllidae	*Salvatoria clavata*	16

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B40	714_40	Annelida	Syllidae	*Opisthodonta longocirrata*	15
B40	714_40	Arthropoda	Corophiidae	*Monocorophium acherusicum*	14
B40	714_40	Annelida	Syllidae	*Exogone dispar*	13
B40	714_40	Annelida	Phyllodocidae	*Eumida sanguinea*	10
B40	714_40	Mollusca	Nassariidae	*Ilyanassa trivittata*	10
B40	714_40	Annelida	Glyceridae	*Glycera dibranchiata*	10
B40	714_40	Annelida	Sabellariidae	*Sabellaria vulgaris*	6
B40	714_40	Mollusca	Calyptraeidae	*Crepidula convexa*	5
B40	714_40	Annelida	Capitellidae	*Heteromastus filiformis*	4
B40	714_40	Annelida	Syllidae	*Myrianida prolifera*	4
B40	714_40	Annelida	Glyceridae	*Glycera* sp.	3
B40	714_40	Arthropoda	Paguridae	*Pagurus longicarpus*	3
B40	714_40	Annelida	Cirratulidae	*Caulleriella venefica*	3
B40	714_40	Annelida	Terebellidae	*Polycirrus* sp.	2
B40	714_40	Annelida	Spionidae	*Polydora cornuta*	1
B40	714_40	Annelida	Spionidae	*Spiophanes bombyx*	1
B40	714_40	Mollusca	Tellinidae	*Tellina agilis*	1
B40	714_40	Arthropoda	Idoteidae	*Edotia triloba*	1
B40	714_40	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1
B40	714_40	Arthropoda	Crangonidae	*Crangon septemspinosa*	1
B40	714_40	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
B40	714_40	Arthropoda	Maeridae	*Elasmopus levis*	1
B40	714_40	Annelida	Pectinariidae	*Pectinaria gouldii*	1
B40	714_40	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B40	714_40	Annelida	Cirratulidae	Cirratulidae	1
B40	714_40	Arthropoda	Lysianassidae	*Lysianopsis alba*	1
B40	714_40	Mollusca	Muricidae	*Eupleura caudata*	1
B40	714_40	Nemertea	Lineidae	*Lineus ruber*	1
B44	1787_44	Mollusca	Veneridae	*Gemma gemma*	696
B44	1787_44	Annelida		Oligochaeta	227
B44	1787_44	Annelida	Capitellidae	*Mediomastus ambiseta*	66
B44	1787_44	Mollusca	Nassariidae	*Ilyanassa obsoleta*	50
B44	1787_44	Annelida	Spionidae	*Streblospio benedicti*	36
B44	1787_44	Arthropoda	Aoridae	*Grandidierella japonica*	18
B44	1787_44	Annelida	Glyceridae	*Glycera dibranchiata*	16
B44	1787_44	Annelida	Syllidae	*Streptosyllis verrilli*	11
B44	1787_44	Mollusca	Calyptraeidae	*Crepidula convexa*	10
B44	1787_44	Annelida	Capitellidae	*Heteromastus filiformis*	6
B44	1787_44	Arthropoda	Corophiidae	*Monocorophium acherusicum*	5
B44	1787_44	Mollusca	Nassariidae	*Ilyanassa trivittata*	4
B44	1787_44	Annelida	Terebellidae	*Polycirrus* sp.	4
B44	1787_44	Annelida	Phyllodocidae	*Hypereteone heteropoda*	3
B44	1787_44	Annelida	Syllidae	*Opisthodonta longocirrata*	3
B44	1787_44	Annelida	Cirratulidae	*Caulleriella venefica*	2
B44	1787_44	Annelida	Spionidae	*Spio filicornis*	1
B44	1787_44	Annelida	Spionidae	*Polydora cornuta*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B44	1787_44	Mollusca	Tellinidae	*Tellina agilis*	1
B44	1787_44	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
B44	1787_44	Arthropoda	Corophiidae	*Apocorophium acutum*	1
B44	1787_44	Annelida	Syllidae	*Myrianida prolifera*	1
B44	1787_44	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
B44	1787_44	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B44	1787_44	Arthropoda	Caprellidae	*Caprella penantis*	1
B44	1787_44	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	1
B44	1787_44	Mollusca	Muricidae	*Eupleura caudata*	1
B5	1321_5	Annelida	Capitellidae	*Mediomastus ambiseta*	1052
B5	1321_5	Annelida		Oligochaeta	381
B5	1321_5	Annelida	Spionidae	*Streblospio benedicti*	152
B5	1321_5	Annelida	Capitellidae	*Heteromastus filiformis*	66
B5	1321_5	Annelida	Phyllodocidae	*Eumida sanguinea*	32
B5	1321_5	Annelida	Cirratulidae	Cirratulidae	27
B5	1321_5	Arthropoda	Corophiidae	*Monocorophium acherusicum*	25
B5	1321_5	Arthropoda	Anthuridae	*Cyathura burbancki*	23
B5	1321_5	Annelida	Syllidae	*Opisthodonta longocirrata*	21
B5	1321_5	Annelida	Syllidae	*Streptosyllis verrilli*	19
B5	1321_5	Annelida	Glyceridae	*Glycera dibranchiata*	12
B5	1321_5	Mollusca	Veneridae	*Gemma gemma*	12
B5	1321_5	Annelida	Terebellidae	*Polycirrus* sp.	10
B5	1321_5	Arthropoda	Ampeliscidae	*Ampelisca abdita*	9
B5	1321_5	Arthropoda	Maeridae	*Elasmopus levis*	8
B5	1321_5	Annelida	Syllidae	*Exogone dispar*	8
B5	1321_5	Annelida	Cirratulidae	*Caulleriella venefica*	8
B5	1321_5	Arthropoda	Aoridae	*Grandidierella japonica*	7
B5	1321_5	Mollusca	Veneridae	*Mercenaria mercenaria*	6
B5	1321_5	Annelida	Syllidae	*Salvatoria clavata*	5
B5	1321_5	Annelida	Cirratulidae	*Tharyx acutus*	5
B5	1321_5	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	4
B5	1321_5	Arthropoda	Panopeidae	*Dyspanopeus sayi*	4
B5	1321_5	Arthropoda	Unciolidae	*Unciola serrata*	4
B5	1321_5	Mollusca	Nassariidae	*Ilyanassa obsoleta*	3
B5	1321_5	Annelida	Pectinariidae	*Pectinaria gouldii*	3
B5	1321_5	Annelida	Goniadidae	*Glycinde solitaria*	3
B5	1321_5	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
B5	1321_5	Arthropoda	Lysianassidae	*Lysianopsis alba*	2
B5	1321_5	Mollusca	Calyptraeidae	*Crepidula fornicata*	1
B5	1321_5	Mollusca	Tellinidae	*Tellina agilis*	1
B5	1321_5	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
B5	1321_5	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
B5	1321_5	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
B5	1321_5	Annelida	Glyceridae	*Glycera americana*	1
B5	1321_5	Annelida	Glyceridae	*Glycera* sp.	1
B5	1321_5	Annelida	Syllidae	*Myrianida prolifera*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B5	1321_5	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B5	1321_5	Mollusca	Acteonidae	*Japonactaeon punctostriatus*	1
B5	1321_5	Mollusca	Calyptraeidae	*Crepidula convexa*	1
B5	1321_5	Arthropoda	Bateidae	*Batea catharinensis*	1
B5	1321_5	Mollusca	Muricidae	*Eupleura caudata*	1
B5	1321_5	Annelida	Hesionidae	*Gyptis vittata*	1
B59	717_59	Annelida	Capitellidae	*Mediomastus ambiseta*	319
B59	717_59	Annelida		Oligochaeta	281
B59	717_59	Arthropoda	Aoridae	*Grandidierella japonica*	36
B59	717_59	Mollusca	Nassariidae	*Ilyanassa obsoleta*	23
B59	717_59	Annelida	Syllidae	*Streptosyllis verrilli*	19
B59	717_59	Arthropoda	Corophiidae	*Monocorophium acherusicum*	18
B59	717_59	Annelida	Spionidae	*Streblospio benedicti*	17
B59	717_59	Annelida	Syllidae	*Salvatoria clavata*	14
B59	717_59	Annelida	Phyllodocidae	*Eumida sanguinea*	13
B59	717_59	Annelida	Syllidae	*Exogone dispar*	11
B59	717_59	Annelida	Capitellidae	*Heteromastus filiformis*	10
B59	717_59	Annelida	Syllidae	*Myrianida prolifera*	9
B59	717_59	Annelida	Terebellidae	*Polycirrus* sp.	9
B59	717_59	Annelida	Syllidae	*Opisthodonta longocirrata*	8
B59	717_59	Annelida	Glyceridae	*Glycera* sp.	7
B59	717_59	Mollusca	Veneridae	*Petricolaria pholadiformis*	7
B59	717_59	Mollusca	Calyptraeidae	*Crepidula convexa*	7
B59	717_59	Mollusca	Pyramidellidae	*Boonea bisuturalis*	6
B59	717_59	Arthropoda	Panopeidae	*Dyspanopeus sayi*	5
B59	717_59	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	4
B59	717_59	Annelida	Glyceridae	*Glycera dibranchiata*	4
B59	717_59	Annelida	Cirratulidae	Cirratulidae	3
B59	717_59	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
B59	717_59	Mollusca	Calyptraeidae	*Crepidula plana*	2
B59	717_59	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
B59	717_59	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	2
B59	717_59	Arthropoda	Paguridae	*Pagurus longicarpus*	2
B59	717_59	Arthropoda	Lysianassidae	*Lysianopsis alba*	2
B59	717_59	Mollusca	Muricidae	*Eupleura caudata*	2
B59	717_59	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
B59	717_59	Mollusca	Tellinidae	*Tellina agilis*	1
B59	717_59	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
B59	717_59	Annelida	Orbiniidae	*Leitoscoloplos* sp.	1
B59	717_59	Mollusca	Acteocinidae	*Acteocina canaliculata*	1
B59	717_59	Arthropoda	Corophiidae	*Apocorophium acutum*	1
B59	717_59	Arthropoda	Maeridae	*Elasmopus levis*	1
B59	717_59	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
B59	717_59	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B59	717_59	Annelida	Hesionidae	*Oxydromus obscurus*	1
B59	717_59	Mollusca	Calyptraeidae	*Crepidula* sp.	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B59	717_59	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
B59	717_59	Annelida	Cirratulidae	*Caulleriella venefica*	1
B6	2100_6	Annelida	Capitellidae	*Mediomastus ambiseta*	353
B6	2100_6	Annelida	Spionidae	*Streblospio benedicti*	129
B6	2100_6	Annelida	Syllidae	*Salvatoria clavata*	82
B6	2100_6	Arthropoda	Aoridae	*Grandidierella japonica*	73
B6	2100_6	Annelida		Oligochaeta	60
B6	2100_6	Annelida	Cirratulidae	Cirratulidae	47
B6	2100_6	Arthropoda	Lysianassidae	*Lysianopsis alba*	46
B6	2100_6	Annelida	Phyllodocidae	*Eumida sanguinea*	43
B6	2100_6	Annelida	Cirratulidae	*Tharyx acutus*	39
B6	2100_6	Annelida	Syllidae	*Opisthodonta longocirrata*	37
B6	2100_6	Annelida	Capitellidae	*Heteromastus filiformis*	31
B6	2100_6	Mollusca	Nassariidae	*Ilyanassa obsoleta*	13
B6	2100_6	Arthropoda	Unciolidae	*Unciola serrata*	12
B6	2100_6	Arthropoda	Maeridae	*Elasmopus levis*	11
B6	2100_6	Annelida	Glyceridae	*Glycera dibranchiata*	10
B6	2100_6	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	10
B6	2100_6	Annelida	Syllidae	*Streptosyllis verrilli*	9
B6	2100_6	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	6
B6	2100_6	Annelida	Cirratulidae	*Caulleriella venefica*	6
B6	2100_6	Arthropoda	Ampeliscidae	*Ampelisca abdita*	5
B6	2100_6	Annelida	Terebellidae	*Polycirrus* sp.	5
B6	2100_6	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	4
B6	2100_6	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
B6	2100_6	Arthropoda	Paguridae	*Pagurus longicarpus*	3
B6	2100_6	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
B6	2100_6	Mollusca	Calyptraeidae	*Crepidula convexa*	3
B6	2100_6	Platyhelminthes		Turbellaria sp. 14 mwra	3
B6	2100_6	Annelida	Maldanidae	*Euclymene collaris*	2
B6	2100_6	Annelida	Spionidae	*Spio filicornis*	2
B6	2100_6	Annelida	Polynoidae	*Lepidonotus sublevis*	2
B6	2100_6	Annelida	Syllidae	*Myrianida prolifera*	2
B6	2100_6	Annelida	Hesionidae	*Oxydromus obscurus*	2
B6	2100_6	Platyhelminthes		Turbellaria sp. 5 nai	2
B6	2100_6	Mollusca	Calyptraeidae	*Crepidula plana*	1
B6	2100_6	Mollusca	Tellinidae	*Tellina agilis*	1
B6	2100_6	Annelida	Glyceridae	*Glycera americana*	1
B6	2100_6	Annelida	Nereididae	*Neanthes arenaceodentata*	1
B6	2100_6	Annelida	Sabellidae	*Parasabella microphthalma*	1
B6	2100_6	Arthropoda	Anthuridae	*Cyathura burbancki*	1
B6	2100_6	Arthropoda	Caprellidae	*Caprella penantis*	1
B6	2100_6	Annelida	Nereididae	Nereididae	1
B6	2100_6	Annelida	Spionidae	*Dipolydora commensalis*	1
B6	2100_6	Mollusca	Calyptraeidae	*Crepidula* sp.	1
B6	2100_6	Mollusca	Muricidae	*Eupleura caudata*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B6	2100_6	Annelida	Hesionidae	*Gyptis vittata*	1
B6	2100_6	Annelida	Oenonidae	*Drilonereis longa*	1
B6	2100_6	Annelida	Syllidae	*Exogone dispar*	1
B7	659_7	Annelida	Capitellidae	*Mediomastus ambiseta*	1333
B7	659_7	Annelida		Oligochaeta	413
B7	659_7	Annelida	Spionidae	*Streblospio benedicti*	162
B7	659_7	Arthropoda	Corophiidae	*Monocorophium acherusicum*	67
B7	659_7	Annelida	Syllidae	*Streptosyllis verrilli*	58
B7	659_7	Annelida	Syllidae	*Opisthodonta longocirrata*	37
B7	659_7	Annelida	Phyllodocidae	*Eumida sanguinea*	31
B7	659_7	Annelida	Cirratulidae	*Tharyx acutus*	30
B7	659_7	Annelida	Capitellidae	*Heteromastus filiformis*	11
B7	659_7	Arthropoda	Aoridae	*Grandidierella japonica*	11
B7	659_7	Annelida	Syllidae	*Salvatoria clavata*	7
B7	659_7	Mollusca	Nassariidae	*Ilyanassa obsoleta*	6
B7	659_7	Arthropoda	Maeridae	*Elasmopus levis*	6
B7	659_7	Annelida	Terebellidae	*Polycirrus* sp.	6
B7	659_7	Annelida	Phyllodocidae	*Hypereteone heteropoda*	5
B7	659_7	Annelida	Cirratulidae	Cirratulidae	5
B7	659_7	Arthropoda	Anthuridae	*Cyathura burbancki*	4
B7	659_7	Annelida	Hesionidae	*Oxydromus obscurus*	4
B7	659_7	Annelida	Syllidae	*Exogone dispar*	4
B7	659_7	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
B7	659_7	Arthropoda	Lysianassidae	*Lysianopsis alba*	3
B7	659_7	Arthropoda	Mysidae	*Heteromysis formosa*	2
B7	659_7	Annelida	Syllidae	*Myrianida prolifera*	2
B7	659_7	Platyhelminthes		Turbellaria	2
B7	659_7	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
B7	659_7	Arthropoda	Unciolidae	*Unciola serrata*	2
B7	659_7	Platyhelminthes		Turbellaria sp. 5 nai	2
B7	659_7	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
B7	659_7	Arthropoda	Crangonidae	*Crangon septemspinosa*	1
B7	659_7	Annelida	Glyceridae	*Glycera dibranchiata*	1
B7	659_7	Annelida	Glyceridae	*Glycera americana*	1
B7	659_7	Annelida	Polynoidae	*Lepidonotus sublevis*	1
B7	659_7	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
B7	659_7	Annelida	Syllidae	*Exogone verugera*	1
B7	659_7	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B7	659_7	Annelida	Dorvilleidae	*Schistomeringos annulata*	1
B7	659_7	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
B7	659_7	Annelida	Goniadidae	*Glycinde solitaria*	1
B7	659_7	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
B7	659_7	Platyhelminthes		Turbellaria sp. 6 nai	1
B7	659_7	Annelida	Cirratulidae	*Caulleriella venefica*	1
B8	630_8	Annelida	Capitellidae	*Mediomastus ambiseta*	475
B8	630_8	Annelida	Spionidae	*Streblospio benedicti*	245

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B8	630_8	Arthropoda	Ampeliscidae	*Ampelisca abdita*	54
B8	630_8	Arthropoda	Aoridae	*Grandidierella japonica*	50
B8	630_8	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	42
B8	630_8	Annelida		Oligochaeta	37
B8	630_8	Annelida	Sabellariidae	*Sabellaria vulgaris*	22
B8	630_8	Arthropoda	Corophiidae	*Monocorophium acherusicum*	17
B8	630_8	Annelida	Phyllodocidae	*Eumida sanguinea*	15
B8	630_8	Annelida	Capitellidae	*Heteromastus filiformis*	15
B8	630_8	Arthropoda	Anthuridae	*Cyathura burbancki*	14
B8	630_8	Arthropoda	Maeridae	*Elasmopus levis*	7
B8	630_8	Arthropoda	Lysianassidae	*Lysianopsis alba*	7
B8	630_8	Arthropoda	Mysidae	*Heteromysis formosa*	6
B8	630_8	Annelida	Cirratulidae	Cirratulidae	6
B8	630_8	Annelida	Glyceridae	*Glycera americana*	5
B8	630_8	Arthropoda	Panopeidae	*Dyspanopeus sayi*	5
B8	630_8	Annelida	Syllidae	*Exogone dispar*	5
B8	630_8	Mollusca	Anomiidae	*Anomia simplex*	4
B8	630_8	Arthropoda	Melitidae	*Melita nitida*	4
B8	630_8	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	3
B8	630_8	Arthropoda	Paguridae	*Pagurus longicarpus*	3
B8	630_8	Arthropoda	Unciolidae	*Unciola serrata*	3
B8	630_8	Annelida	Polynoidae	*Lepidonotus sublevis*	2
B8	630_8	Annelida	Hesionidae	*Oxydromus obscurus*	2
B8	630_8	Mollusca	Muricidae	*Urosalpinx cinerea*	2
B8	630_8	Annelida	Spionidae	*Polydora cornuta*	1
B8	630_8	Mollusca	Tellinidae	*Tellina agilis*	1
B8	630_8	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
B8	630_8	Annelida	Nereididae	*Alitta succinea*	1
B8	630_8	Arthropoda	Caprellidae	*Paracaprella tenuis*	1
B8	630_8	Arthropoda	Corophiidae	*Apocorophium acutum*	1
B8	630_8	Mollusca	Veneridae	*Mercenaria mercenaria*	1
B8	630_8	Annelida	Syllidae	*Salvatoria clavata*	1
B8	630_8	Annelida	Syllidae	*Odontosyllis fulgurans*	1
B8	630_8	Mollusca	Calyptraeidae	*Crepidula convexa*	1
B8	630_8	Annelida	Hesionidae	*Gyptis vittata*	1
B8	630_8	Annelida	Cirratulidae	*Tharyx acutus*	1
B8	630_8	Annelida	Oenonidae	*Drilonereis longa*	1
B8	630_8	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
B8	630_8	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
B9	654_9	Annelida	Capitellidae	*Mediomastus ambiseta*	2006
B9	654_9	Annelida		Oligochaeta	473
B9	654_9	Annelida	Spionidae	*Streblospio benedicti*	136
B9	654_9	Annelida	Syllidae	*Streptosyllis verrilli*	88
B9	654_9	Arthropoda	Corophiidae	*Monocorophium acherusicum*	70
B9	654_9	Annelida	Cirratulidae	Cirratulidae	54
B9	654_9	Annelida	Phyllodocidae	*Eumida sanguinea*	39

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
B9	654_9	Mollusca	Nassariidae	*Ilyanassa obsoleta*	34
B9	654_9	Annelida	Cirratulidae	*Tharyx acutus*	25
B9	654_9	Annelida	Syllidae	*Exogone dispar*	25
B9	654_9	Annelida	Syllidae	*Salvatoria clavata*	22
B9	654_9	Arthropoda	Maeridae	*Elasmopus levis*	21
B9	654_9	Annelida	Syllidae	*Opisthodonta longocirrata*	19
B9	654_9	Annelida	Capitellidae	*Heteromastus filiformis*	18
B9	654_9	Arthropoda	Aoridae	*Grandidierella japonica*	15
B9	654_9	Annelida	Glyceridae	*Glycera dibranchiata*	10
B9	654_9	Annelida	Sabellariidae	*Sabellaria vulgaris*	10
B9	654_9	Arthropoda	Lysianassidae	*Lysianopsis alba*	10
B9	654_9	Arthropoda	Panopeidae	*Dyspanopeus sayi*	9
B9	654_9	Annelida	Syllidae	*Myrianida prolifera*	9
B9	654_9	Mollusca	Pyramidellidae	*Boonea bisuturalis*	8
B9	654_9	Annelida	Terebellidae	*Polycirrus* sp.	7
B9	654_9	Mollusca	Calyptraeidae	*Crepidula convexa*	6
B9	654_9	Arthropoda	Mysidae	*Heteromysis formosa*	5
B9	654_9	Annelida	Hesionidae	*Oxydromus obscurus*	4
B9	654_9	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	3
B9	654_9	Arthropoda	Anthuridae	*Cyathura burbancki*	3
B9	654_9	Arthropoda	Melitidae	*Melita nitida*	3
B9	654_9	Mollusca	Muricidae	*Urosalpinx cinerea*	3
B9	654_9	Nemertea	Amphiporidae	*Zygonemertes virescens*	3
B9	654_9	Annelida	Cirratulidae	*Caulleriella venefica*	3
B9	654_9	Annelida	Pectinariidae	*Pectinaria gouldii*	2
B9	654_9	Mollusca	Veneridae	*Petricolaria pholadiformis*	2
B9	654_9	Annelida	Hesionidae	*Gyptis vittata*	2
B9	654_9	Platyhelminthes		Turbellaria sp. 5 nai	2
B9	654_9	Annelida	Maldanidae	*Euclymene collaris*	1
B9	654_9	Mollusca	Tellinidae	*Tellina agilis*	1
B9	654_9	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
B9	654_9	Annelida	Sigalionidae	*Sthenelais boa*	1
B9	654_9	Annelida	Nereididae	*Alitta succinea*	1
B9	654_9	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
B9	654_9	Arthropoda	Paguridae	*Pagurus longicarpus*	1
B9	654_9	Annelida	Nereididae	Nereididae	1
B9	654_9	Annelida	Goniadidae	*Glycinde solitaria*	1
B9	654_9	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
HB1	2528_1	Mollusca	Veneridae	*Gemma gemma*	67
HB1	2528_1	Annelida	Spionidae	*Streblospio benedicti*	57
HB1	2528_1	Annelida	Capitellidae	*Mediomastus ambiseta*	51
HB1	2528_1	Annelida		Oligochaeta	37
HB1	2528_1	Arthropoda	Aoridae	*Grandidierella japonica*	25
HB1	2528_1	Annelida	Cirratulidae	*Caulleriella venefica*	18
HB1	2528_1	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	12
HB1	2528_1	Annelida	Glyceridae	*Glycera dibranchiata*	11

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB1	2528_1	Mollusca	Nassariidae	*Ilyanassa obsoleta*	7
HB1	2528_1	Nemertea	Carinomidae	*Carinoma tremaphoros*	5
HB1	2528_1	Mollusca	Pyramidellidae	*Boonea bisuturalis*	4
HB1	2528_1	Arthropoda	Unciolidae	*Unciola serrata*	4
HB1	2528_1	Annelida	Cirratulidae	*Tharyx acutus*	4
HB1	2528_1	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
HB1	2528_1	Mollusca	Tellinidae	*Tellina agilis*	2
HB1	2528_1	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB1	2528_1	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
HB1	2528_1	Annelida	Capitellidae	*Heteromastus filiformis*	1
HB1	2528_1	Annelida	Cirratulidae	Cirratulidae	1
HB1	2528_1	Annelida	Orbiniidae	*Leitoscoloplos acutus*	1
HB1	2528_1	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB1	2528_1	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
HB1	2528_1	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
HB10	2441_10	Annelida	Capitellidae	*Mediomastus ambiseta*	788
HB10	2441_10	Annelida	Spionidae	*Streblospio benedicti*	262
HB10	2441_10	Annelida		Oligochaeta	210
HB10	2441_10	Arthropoda	Aoridae	*Grandidierella japonica*	80
HB10	2441_10	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	51
HB10	2441_10	Arthropoda	Lysianassidae	*Lysianopsis alba*	50
HB10	2441_10	Annelida	Cirratulidae	*Tharyx acutus*	33
HB10	2441_10	Annelida	Phyllodocidae	*Eumida sanguinea*	22
HB10	2441_10	Annelida	Sabellariidae	*Sabellaria vulgaris*	21
HB10	2441_10	Annelida	Cirratulidae	Cirratulidae	15
HB10	2441_10	Arthropoda	Corophiidae	*Monocorophium acherusicum*	6
HB10	2441_10	Mollusca	Nassariidae	*Ilyanassa obsoleta*	6
HB10	2441_10	Annelida	Capitellidae	*Heteromastus filiformis*	6
HB10	2441_10	Annelida	Syllidae	*Myrianida prolifera*	6
HB10	2441_10	Arthropoda	Anthuridae	*Cyathura burbancki*	5
HB10	2441_10	Annelida	Hesionidae	*Gyptis vittata*	5
HB10	2441_10	Arthropoda	Mysidae	*Heteromysis formosa*	4
HB10	2441_10	Annelida	Terebellidae	*Polycirrus* sp.	4
HB10	2441_10	Arthropoda	Maeridae	*Elasmopus levis*	3
HB10	2441_10	Arthropoda	Panopeidae	*Dyspanopeus sayi*	3
HB10	2441_10	Arthropoda	Unciolidae	*Unciola serrata*	3
HB10	2441_10	Annelida	Glyceridae	*Glycera dibranchiata*	2
HB10	2441_10	Annelida	Phyllodocidae	*Hypereteone heteropoda*	2
HB10	2441_10	Annelida	Glyceridae	*Glycera* sp.	2
HB10	2441_10	Mollusca	Lyonsiidae	*Lyonsia* sp.	2
HB10	2441_10	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
HB10	2441_10	Annelida	Syllidae	*Exogone dispar*	2
HB10	2441_10	Mollusca	Anomiidae	*Anomia simplex*	1
HB10	2441_10	Mollusca	Tellinidae	*Tellina agilis*	1
HB10	2441_10	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB10	2441_10	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB10	2441_10	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB10	2441_10	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB10	2441_10	Annelida	Goniadidae	*Glycinde solitaria*	1
HB10	2441_10	Mollusca	Muricidae	*Eupleura caudata*	1
HB10	2441_10	Annelida	Syllidae	*Streptosyllis verrilli*	1
HB11	2486_11	Arthropoda	Aoridae	*Grandidierella japonica*	178
HB11	2486_11	Annelida		Oligochaeta	153
HB11	2486_11	Annelida	Capitellidae	*Mediomastus ambiseta*	104
HB11	2486_11	Arthropoda	Corophiidae	*Monocorophium acherusicum*	92
HB11	2486_11	Annelida	Spionidae	*Streblospio benedicti*	72
HB11	2486_11	Mollusca	Veneridae	*Gemma gemma*	40
HB11	2486_11	Annelida	Syllidae	*Streptosyllis verrilli*	26
HB11	2486_11	Annelida	Cirratulidae	*Caulleriella venefica*	18
HB11	2486_11	Annelida	Capitellidae	*Heteromastus filiformis*	16
HB11	2486_11	Mollusca	Nassariidae	*Ilyanassa trivittata*	14
HB11	2486_11	Annelida	Phyllodocidae	*Eumida sanguinea*	11
HB11	2486_11	Annelida	Terebellidae	*Polycirrus* sp.	9
HB11	2486_11	Arthropoda	Unciolidae	*Unciola serrata*	8
HB11	2486_11	Mollusca	Nassariidae	*Ilyanassa obsoleta*	7
HB11	2486_11	Annelida	Cirratulidae	*Tharyx acutus*	7
HB11	2486_11	Mollusca	Myidae	*Mya arenaria*	6
HB11	2486_11	Annelida	Glyceridae	*Glycera dibranchiata*	6
HB11	2486_11	Annelida	Glyceridae	*Glycera* sp.	5
HB11	2486_11	Arthropoda	Paguridae	*Pagurus longicarpus*	5
HB11	2486_11	Annelida	Cirratulidae	Cirratulidae	5
HB11	2486_11	Annelida	Syllidae	*Opisthodonta longocirrata*	4
HB11	2486_11	Annelida	Spionidae	*Spio filicornis*	2
HB11	2486_11	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	2
HB11	2486_11	Annelida	Spionidae	*Spio* sp.	2
HB11	2486_11	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	2
HB11	2486_11	Mollusca	Calyptraeidae	*Crepidula convexa*	2
HB11	2486_11	Mollusca	Muricidae	*Eupleura caudata*	2
HB11	2486_11	Annelida	Hesionidae	*Gyptis vittata*	2
HB11	2486_11	Annelida	Spionidae	*Polydora websteri*	1
HB11	2486_11	Annelida	Nereididae	*Alitta succinea*	1
HB11	2486_11	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB11	2486_11	Annelida	Hesionidae	*Microphthalmus* sp.	1
HB11	2486_11	Annelida	Syllidae	*Salvatoria clavata*	1
HB11	2486_11	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
HB11	2486_11	Annelida	Syllidae	*Exogone dispar*	1
HB11	2486_11	Platyhelminthes		Turbellaria sp. 6 nai	1
HB11	2486_11	Platyhelminthes		Turbellaria sp. 5 nai	1
HB12	2071_12	Annelida	Spionidae	*Streblospio benedicti*	620
HB12	2071_12	Arthropoda	Ampeliscidae	*Ampelisca abdita*	536
HB12	2071_12	Annelida	Capitellidae	*Mediomastus ambiseta*	447
HB12	2071_12	Annelida		Oligochaeta	165

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB12	2071_12	Mollusca	Nassariidae	*Ilyanassa obsoleta*	52
HB12	2071_12	Arthropoda	Aoridae	*Grandidierella japonica*	15
HB12	2071_12	Annelida	Phyllodocidae	*Hypereteone heteropoda*	11
HB12	2071_12	Annelida	Spionidae	*Polydora cornuta*	9
HB12	2071_12	Mollusca	Calyptraeidae	*Crepidula convexa*	9
HB12	2071_12	Annelida	Sabellariidae	*Sabellaria vulgaris*	8
HB12	2071_12	Annelida	Capitellidae	*Heteromastus filiformis*	7
HB12	2071_12	Mollusca	Pyramidellidae	*Boonea bisuturalis*	6
HB12	2071_12	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	5
HB12	2071_12	Arthropoda	Corophiidae	*Monocorophium acherusicum*	4
HB12	2071_12	Arthropoda	Paguridae	*Pagurus longicarpus*	4
HB12	2071_12	Mollusca	Nassariidae	*Ilyanassa trivittata*	3
HB12	2071_12	Annelida	Cirratulidae	*Tharyx acutus*	3
HB12	2071_12	Annelida	Orbiniidae	*Leitoscoloplos fragilis*	2
HB12	2071_12	Annelida	Pectinariidae	*Pectinaria gouldii*	2
HB12	2071_12	Annelida	Cirratulidae	Cirratulidae	2
HB12	2071_12	Nemertea	Lineidae	*Cerebratulus lacteus*	2
HB12	2071_12	Annelida	Hesionidae	*Gyptis vittata*	2
HB12	2071_12	Annelida	Syllidae	*Streptosyllis verrilli*	2
HB12	2071_12	Mollusca	Calyptraeidae	*Crepidula fornicata*	1
HB12	2071_12	Mollusca	Veneridae	*Gemma gemma*	1
HB12	2071_12	Annelida	Orbiniidae	*Leitoscoloplos* sp.	1
HB12	2071_12	Annelida	Glyceridae	*Glycera americana*	1
HB12	2071_12	Mollusca	Acteocinidae	*Acteocina canaliculata*	1
HB12	2071_12	Mollusca	Veneridae	*Mercenaria mercenaria*	1
HB12	2071_12	Mollusca	Pyramidellidae	*Fargoa bartschi*	1
HB12	2071_12	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB12	2071_12	Annelida	Nereididae	Nereididae	1
HB12	2071_12	Annelida	Goniadidae	*Glycinde solitaria*	1
HB12	2071_12	Annelida	Capitellidae	*Capitella capitata complex*	1
HB13	2144_13	Annelida	Capitellidae	*Mediomastus ambiseta*	714
HB13	2144_13	Annelida	Spionidae	*Streblospio benedicti*	253
HB13	2144_13	Annelida		Oligochaeta	195
HB13	2144_13	Annelida	Syllidae	*Streptosyllis verrilli*	87
HB13	2144_13	Annelida	Cirratulidae	*Caulleriella venefica*	66
HB13	2144_13	Arthropoda	Aoridae	*Grandidierella japonica*	56
HB13	2144_13	Annelida	Capitellidae	*Heteromastus filiformis*	35
HB13	2144_13	Mollusca	Pyramidellidae	*Boonea bisuturalis*	29
HB13	2144_13	Annelida	Phyllodocidae	*Eumida sanguinea*	18
HB13	2144_13	Annelida	Cirratulidae	*Tharyx acutus*	17
HB13	2144_13	Annelida	Cirratulidae	Cirratulidae	16
HB13	2144_13	Annelida	Syllidae	*Opisthodonta longocirrata*	15
HB13	2144_13	Annelida	Glyceridae	*Glycera dibranchiata*	13
HB13	2144_13	Annelida	Syllidae	*Exogone dispar*	12
HB13	2144_13	Arthropoda	Corophiidae	*Monocorophium acherusicum*	10
HB13	2144_13	Mollusca	Nassariidae	*Ilyanassa obsoleta*	8

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB13	2144_13	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	8
HB13	2144_13	Annelida	Phyllodocidae	*Hypereteone heteropoda*	7
HB13	2144_13	Annelida	Syllidae	*Salvatoria clavata*	5
HB13	2144_13	Mollusca	Calyptraeidae	*Crepidula convexa*	5
HB13	2144_13	Mollusca	Nassariidae	*Ilyanassa trivittata*	4
HB13	2144_13	Annelida	Terebellidae	*Polycirrus* sp.	4
HB13	2144_13	Mollusca	Tellinidae	*Tellina agilis*	3
HB13	2144_13	Arthropoda	Anthuridae	*Cyathura burbancki*	3
HB13	2144_13	Arthropoda	Paguridae	*Pagurus longicarpus*	3
HB13	2144_13	Annelida	Spionidae	*Spio filicornis*	2
HB13	2144_13	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	2
HB13	2144_13	Arthropoda	Idoteidae	*Erichsonella filiformis*	2
HB13	2144_13	Annelida	Pectinariidae	*Pectinaria gouldii*	2
HB13	2144_13	Annelida	Hesionidae	*Oxydromus obscurus*	2
HB13	2144_13	Mollusca	Muricidae	*Urosalpinx cinerea*	2
HB13	2144_13	Arthropoda	Lysianassidae	*Lysianopsis alba*	2
HB13	2144_13	Platyhelminthes		Turbellaria sp. 5 nai	2
HB13	2144_13	Annelida	Spionidae	*Spiophanes bombyx*	1
HB13	2144_13	Mollusca	Acteocinidae	*Acteocina canaliculata*	1
HB13	2144_13	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
HB13	2144_13	Annelida	Spionidae	*Scolelepis* sp.	1
HB13	2144_13	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB13	2144_13	Mollusca	Muricidae	*Eupleura caudata*	1
HB13	2144_13	Arthropoda	Unciolidae	*Unciola serrata*	1
HB13	2144_13	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
HB13	2144_13	Mollusca	Solenidae	Solenidae	1
HB14	2375_14	Annelida	Capitellidae	*Mediomastus ambiseta*	95
HB14	2375_14	Annelida		Oligochaeta	66
HB14	2375_14	Annelida	Spionidae	*Streblospio benedicti*	63
HB14	2375_14	Arthropoda	Aoridae	*Grandidierella japonica*	36
HB14	2375_14	Mollusca	Veneridae	*Gemma gemma*	27
HB14	2375_14	Annelida	Glyceridae	*Glycera dibranchiata*	19
HB14	2375_14	Annelida	Cirratulidae	Cirratulidae	17
HB14	2375_14	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	15
HB14	2375_14	Mollusca	Nassariidae	*Ilyanassa obsoleta*	15
HB14	2375_14	Annelida	Cirratulidae	*Tharyx acutus*	14
HB14	2375_14	Annelida	Cirratulidae	*Caulleriella venefica*	14
HB14	2375_14	Annelida	Spionidae	*Spio filicornis*	12
HB14	2375_14	Annelida	Glyceridae	*Glycera* sp.	12
HB14	2375_14	Annelida	Capitellidae	*Heteromastus filiformis*	8
HB14	2375_14	Arthropoda	Ampeliscidae	*Ampelisca abdita*	6
HB14	2375_14	Mollusca	Tellinidae	*Tellina agilis*	4
HB14	2375_14	Annelida	Sabellariidae	*Sabellaria vulgaris*	4
HB14	2375_14	Arthropoda	Unciolidae	*Unciola serrata*	4
HB14	2375_14	Arthropoda	Corophiidae	*Monocorophium acherusicum*	3
HB14	2375_14	Mollusca	Nassariidae	*Ilyanassa trivittata*	2

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB14	2375_14	Arthropoda	Paguridae	*Pagurus longicarpus*	2
HB14	2375_14	Nemertea	Amphiporidae	*Amphiporus bioculatus*	2
HB14	2375_14	Annelida	Spionidae	*Polydora cornuta*	1
HB14	2375_14	Annelida	Spionidae	*Spiophanes bombyx*	1
HB14	2375_14	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
HB14	2375_14	Annelida	Orbiniidae	*Leitoscoloplos* sp.	1
HB14	2375_14	Annelida	Spionidae	*Scolelepis* sp.	1
HB14	2375_14	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB14	2375_14	Annelida	Oenonidae	*Drilonereis longa*	1
HB14	2375_14	Annelida	Chaetopteridae	*Spiochaetopterus costarum oculatus*	1
HB14	2375_14	Annelida	Syllidae	*Exogone dispar*	1
HB14	2375_14	Annelida	Syllidae	*Streptosyllis verrilli*	1
HB16	2376_16	Annelida	Spionidae	*Streblospio benedicti*	108
HB16	2376_16	Annelida	Capitellidae	*Mediomastus ambiseta*	71
HB16	2376_16	Arthropoda	Aoridae	*Grandidierella japonica*	49
HB16	2376_16	Mollusca	Nassariidae	*Ilyanassa obsoleta*	23
HB16	2376_16	Annelida	Cirratulidae	*Tharyx acutus*	22
HB16	2376_16	Arthropoda	Lysianassidae	*Lysianopsis alba*	14
HB16	2376_16	Annelida	Capitellidae	*Heteromastus filiformis*	11
HB16	2376_16	Arthropoda	Corophiidae	*Monocorophium acherusicum*	10
HB16	2376_16	Annelida	Glyceridae	*Glycera dibranchiata*	9
HB16	2376_16	Annelida	Cirratulidae	Cirratulidae	9
HB16	2376_16	Arthropoda	Ampeliscidae	*Ampelisca abdita*	8
HB16	2376_16	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	8
HB16	2376_16	Mollusca	Tellinidae	*Tellina agilis*	5
HB16	2376_16	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	5
HB16	2376_16	Mollusca	Veneridae	*Gemma gemma*	4
HB16	2376_16	Annelida		Oligochaeta	4
HB16	2376_16	Mollusca	Pyramidellidae	*Boonea bisuturalis*	3
HB16	2376_16	Annelida	Spionidae	*Spio filicornis*	2
HB16	2376_16	Annelida	Phyllodocidae	*Hypereteone heteropoda*	2
HB16	2376_16	Annelida	Glyceridae	*Glycera* sp.	2
HB16	2376_16	Arthropoda	Maeridae	*Elasmopus levis*	2
HB16	2376_16	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
HB16	2376_16	Arthropoda	Mysidae	*Heteromysis formosa*	1
HB16	2376_16	Annelida	Goniadidae	*Glycinde solitaria*	1
HB16	2376_16	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	1
HB16	2376_16	Mollusca	Muricidae	*Eupleura caudata*	1
HB16	2376_16	Annelida	Syllidae	*Streptosyllis verrilli*	1
HB17	2087_17	Annelida	Capitellidae	*Mediomastus ambiseta*	1518
HB17	2087_17	Annelida	Spionidae	*Streblospio benedicti*	378
HB17	2087_17	Annelida		Oligochaeta	366
HB17	2087_17	Arthropoda	Aoridae	*Grandidierella japonica*	141
HB17	2087_17	Mollusca	Pyramidellidae	*Boonea bisuturalis*	64
HB17	2087_17	Annelida	Syllidae	*Streptosyllis verrilli*	48
HB17	2087_17	Annelida	Cirratulidae	*Tharyx acutus*	47

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB17	2087_17	Mollusca	Nassariidae	*Ilyanassa obsoleta*	41
HB17	2087_17	Annelida	Phyllodocidae	*Eumida sanguinea*	29
HB17	2087_17	Annelida	Syllidae	*Exogone dispar*	29
HB17	2087_17	Arthropoda	Corophiidae	*Monocorophium acherusicum*	23
HB17	2087_17	Annelida	Capitellidae	*Heteromastus filiformis*	23
HB17	2087_17	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	23
HB17	2087_17	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	19
HB17	2087_17	Annelida	Syllidae	*Opisthodonta longocirrata*	12
HB17	2087_17	Annelida	Terebellidae	*Polycirrus* sp.	8
HB17	2087_17	Annelida	Phyllodocidae	*Hypereteone heteropoda*	7
HB17	2087_17	Annelida	Syllidae	*Salvatoria clavata*	6
HB17	2087_17	Annelida	Spionidae	*Polydora cornuta*	5
HB17	2087_17	Arthropoda	Ampeliscidae	*Ampelisca abdita*	5
HB17	2087_17	Annelida	Glyceridae	*Glycera dibranchiata*	5
HB17	2087_17	Mollusca	Muricidae	*Eupleura caudata*	5
HB17	2087_17	Annelida	Nereididae	Nereididae	4
HB17	2087_17	Annelida	Sabellariidae	*Sabellaria vulgaris*	4
HB17	2087_17	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	3
HB17	2087_17	Arthropoda	Anthuridae	*Cyathura burbancki*	3
HB17	2087_17	Annelida	Cirratulidae	Cirratulidae	3
HB17	2087_17	Mollusca	Nassariidae	*Ilyanassa trivittata*	2
HB17	2087_17	Mollusca	Tellinidae	*Tellina agilis*	2
HB17	2087_17	Annelida	Sigalionidae	*Sthenelais boa*	2
HB17	2087_17	Annelida	Nereididae	*Neanthes arenaceodentata*	2
HB17	2087_17	Arthropoda	Caprellidae	*Paracaprella tenuis*	2
HB17	2087_17	Arthropoda	Corophiidae	*Apocorophium acutum*	2
HB17	2087_17	Arthropoda	Maeridae	*Elasmopus levis*	2
HB17	2087_17	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	2
HB17	2087_17	Annelida	Pectinariidae	*Pectinaria gouldii*	2
HB17	2087_17	Annelida	Hesionidae	*Oxydromus obscurus*	2
HB17	2087_17	Mollusca	Corambidae	*Corambe obscura*	2
HB17	2087_17	Arthropoda	Lysianassidae	*Lysianopsis alba*	2
HB17	2087_17	Mollusca	Calyptraeidae	*Crepidula convexa*	2
HB17	2087_17	Annelida	Goniadidae	*Glycinde solitaria*	2
HB17	2087_17	Platyhelminthes		Turbellaria sp. 5 nai	2
HB17	2087_17	Annelida	Nereididae	*Alitta succinea*	1
HB17	2087_17	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB17	2087_17	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB17	2087_17	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
HB17	2087_17	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB17	2087_17	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB17	2087_17	Arthropoda	Bateidae	*Batea catharinensis*	1
HB17	2087_17	Annelida	Hesionidae	*Gyptis vittata*	1
HB17	2087_17	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
HB17	2087_17	Nemertea	Amphiporidae	*Amphiporus ochraceus*	1
HB19	2014_19	Annelida	Spionidae	*Streblospio benedicti*	894

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB19	2014_19	Annelida	Capitellidae	*Mediomastus ambiseta*	872
HB19	2014_19	Annelida		Oligochaeta	145
HB19	2014_19	Annelida	Sabellariidae	*Sabellaria vulgaris*	110
HB19	2014_19	Arthropoda	Ampeliscidae	*Ampelisca abdita*	97
HB19	2014_19	Arthropoda	Aoridae	*Grandidierella japonica*	79
HB19	2014_19	Mollusca	Nassariidae	*Ilyanassa obsoleta*	63
HB19	2014_19	Annelida	Spionidae	*Polydora cornuta*	30
HB19	2014_19	Chordata	Molgulidae	*Molgula manhattensis*	21
HB19	2014_19	Annelida	Orbiniidae	*Leitoscoloplos fragilis*	20
HB19	2014_19	Annelida	Capitellidae	*Heteromastus filiformis*	20
HB19	2014_19	Annelida	Orbiniidae	*Leitoscoloplos* sp.	16
HB19	2014_19	Annelida	Phyllodocidae	*Hypereteone heteropoda*	14
HB19	2014_19	Mollusca	Pyramidellidae	*Boonea bisuturalis*	13
HB19	2014_19	Arthropoda	Corophiidae	*Monocorophium acherusicum*	12
HB19	2014_19	Mollusca	Nassariidae	*Ilyanassa trivittata*	11
HB19	2014_19	Annelida	Syllidae	*Streptosyllis verrilli*	9
HB19	2014_19	Annelida	Spionidae	*Spio filicornis*	8
HB19	2014_19	Annelida	Glyceridae	*Glycera dibranchiata*	7
HB19	2014_19	Annelida	Pectinariidae	*Pectinaria gouldii*	6
HB19	2014_19	Annelida	Goniadidae	*Glycinde solitaria*	6
HB19	2014_19	Annelida	Phyllodocidae	*Eumida sanguinea*	4
HB19	2014_19	Arthropoda	Caprellidae	*Paracaprella tenuis*	3
HB19	2014_19	Mollusca	Calyptraeidae	*Crepidula convexa*	3
HB19	2014_19	Annelida	Glyceridae	*Glycera americana*	2
HB19	2014_19	Annelida	Nereididae	*Alitta succinea*	2
HB19	2014_19	Mollusca	Veneridae	*Mercenaria mercenaria*	2
HB19	2014_19	Annelida	Hesionidae	*Gyptis vittata*	2
HB19	2014_19	Annelida	Cirratulidae	*Tharyx acutus*	2
HB19	2014_19	Mollusca	Lyonsiidae	*Lyonsia arenosa*	2
HB19	2014_19	Mollusca	Myidae	*Mya arenaria*	1
HB19	2014_19	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
HB19	2014_19	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
HB19	2014_19	Arthropoda	Corophiidae	*Apocorophium acutum*	1
HB19	2014_19	Arthropoda	Stenothoidae	*Stenothoe* sp.	1
HB19	2014_19	Annelida	Nereididae	Nereididae	1
HB19	2014_19	Nemertea	Lineidae	*Cerebratulus lacteus*	1
HB19	2014_19	Arthropoda	Lysianassidae	*Lysianopsis alba*	1
HB19	2014_19	Annelida	Oenonidae	*Drilonereis longa*	1
HB19	2014_19	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
HB19	2014_19	Annelida	Chaetopteridae	*Spiochaetopterus costarum oculatus*	1
HB19	2014_19	Annelida	Syllidae	*Exogone dispar*	1
HB19	2014_19	Annelida	Capitellidae	*Capitella capitata complex*	1
HB2	2143_2	Annelida	Capitellidae	*Mediomastus ambiseta*	1754
HB2	2143_2	Annelida		Oligochaeta	371
HB2	2143_2	Annelida	Spionidae	*Streblospio benedicti*	317
HB2	2143_2	Annelida	Cirratulidae	Cirratulidae	125

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB2	2143_2	Annelida	Cirratulidae	*Tharyx acutus*	99
HB2	2143_2	Annelida	Syllidae	*Streptosyllis verrilli*	57
HB2	2143_2	Annelida	Capitellidae	*Heteromastus filiformis*	56
HB2	2143_2	Mollusca	Pyramidellidae	*Boonea bisuturalis*	53
HB2	2143_2	Arthropoda	Aoridae	*Grandidierella japonica*	40
HB2	2143_2	Mollusca	Calyptraeidae	*Crepidula fornicata*	35
HB2	2143_2	Arthropoda	Anthuridae	*Cyathura burbancki*	27
HB2	2143_2	Annelida	Phyllodocidae	*Eumida sanguinea*	25
HB2	2143_2	Annelida	Syllidae	*Opisthodonta longocirrata*	18
HB2	2143_2	Annelida	Syllidae	*Salvatoria clavata*	15
HB2	2143_2	Arthropoda	Corophiidae	*Monocorophium acherusicum*	13
HB2	2143_2	Annelida	Phyllodocidae	*Hypereteone heteropoda*	10
HB2	2143_2	Annelida	Syllidae	*Exogone dispar*	10
HB2	2143_2	Annelida	Cirratulidae	*Caulleriella venefica*	8
HB2	2143_2	Platyhelminthes		Turbellaria sp. 5 nai	7
HB2	2143_2	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	6
HB2	2143_2	Mollusca	Calyptraeidae	*Crepidula convexa*	6
HB2	2143_2	Arthropoda	Corophiidae	*Apocorophium acutum*	5
HB2	2143_2	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	5
HB2	2143_2	Annelida	Terebellidae	*Polycirrus* sp.	5
HB2	2143_2	Annelida	Glyceridae	*Glycera dibranchiata*	4
HB2	2143_2	Arthropoda	Paguridae	*Pagurus longicarpus*	4
HB2	2143_2	Annelida	Spionidae	*Polydora cornuta*	3
HB2	2143_2	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB2	2143_2	Arthropoda	Lysianassidae	*Lysianopsis alba*	3
HB2	2143_2	Annelida	Syllidae	*Myrianida prolifera*	2
HB2	2143_2	Mollusca	Veneridae	*Mercenaria mercenaria*	2
HB2	2143_2	Annelida	Maldanidae	*Euclymene collaris*	1
HB2	2143_2	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB2	2143_2	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1
HB2	2143_2	Arthropoda	Corophiidae	*Monocorophium insidiosum*	1
HB2	2143_2	Arthropoda	Maeridae	*Elasmopus levis*	1
HB2	2143_2	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
HB2	2143_2	Annelida	Nereididae	Nereididae	1
HB2	2143_2	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB2	2143_2	Mollusca	Muricidae	*Eupleura caudata*	1
HB20	1439_20	Annelida	Capitellidae	*Mediomastus ambiseta*	608
HB20	1439_20	Annelida		Oligochaeta	607
HB20	1439_20	Annelida	Spionidae	*Streblospio benedicti*	196
HB20	1439_20	Arthropoda	Aoridae	*Grandidierella japonica*	183
HB20	1439_20	Annelida	Syllidae	*Streptosyllis verrilli*	103
HB20	1439_20	Arthropoda	Corophiidae	*Monocorophium acherusicum*	67
HB20	1439_20	Mollusca	Nassariidae	*Ilyanassa obsoleta*	63
HB20	1439_20	Annelida	Syllidae	*Salvatoria clavata*	46
HB20	1439_20	Mollusca	Pyramidellidae	*Boonea bisuturalis*	40
HB20	1439_20	Mollusca	Calyptraeidae	*Crepidula convexa*	36

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB20	1439_20	Annelida	Phyllodocidae	*Eumida sanguinea*	35
HB20	1439_20	Arthropoda	Melitidae	*Melita nitida*	26
HB20	1439_20	Arthropoda	Lysianassidae	*Lysianopsis alba*	19
HB20	1439_20	Mollusca	Calyptraeidae	*Crepidula fornicata*	16
HB20	1439_20	Annelida	Syllidae	*Exogone dispar*	16
HB20	1439_20	Annelida	Syllidae	*Opisthodonta longocirrata*	14
HB20	1439_20	Annelida	Terebellidae	*Polycirrus* sp.	12
HB20	1439_20	Arthropoda	Maeridae	*Elasmopus levis*	11
HB20	1439_20	Annelida	Glyceridae	*Glycera* sp.	10
HB20	1439_20	Mollusca	Nassariidae	*Ilyanassa trivittata*	9
HB20	1439_20	Arthropoda	Panopeidae	*Dyspanopeus sayi*	7
HB20	1439_20	Annelida	Capitellidae	*Heteromastus filiformis*	6
HB20	1439_20	Annelida	Phyllodocidae	*Hypereteone heteropoda*	6
HB20	1439_20	Annelida	Nereididae	*Alitta succinea*	6
HB20	1439_20	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	5
HB20	1439_20	Annelida	Spionidae	*Spio filicornis*	4
HB20	1439_20	Arthropoda	Corophiidae	*Apocorophium acutum*	4
HB20	1439_20	Nemertea	Amphiporidae	*Zygonemertes virescens*	4
HB20	1439_20	Annelida	Hesionidae	*Oxydromus obscurus*	3
HB20	1439_20	Annelida	Cirratulidae	Cirratulidae	3
HB20	1439_20	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
HB20	1439_20	Annelida	Spionidae	*Polydora cornuta*	2
HB20	1439_20	Annelida	Glyceridae	*Glycera dibranchiata*	2
HB20	1439_20	Annelida	Orbiniidae	*Leitoscoloplos* sp.	2
HB20	1439_20	Annelida	Syllidae	*Myrianida prolifera*	2
HB20	1439_20	Mollusca	Muricidae	*Urosalpinx cinerea*	2
HB20	1439_20	Chordata	Molgulidae	*Molgula manhattensis*	2
HB20	1439_20	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	2
HB20	1439_20	Mollusca	Muricidae	*Eupleura caudata*	2
HB20	1439_20	Nemertea	Amphiporidae	*Amphiporus bioculatus*	2
HB20	1439_20	Annelida	Cirratulidae	*Caulleriella venefica*	2
HB20	1439_20	Annelida	Sigalionidae	*Sthenelais limicola*	1
HB20	1439_20	Mollusca	Calyptraeidae	*Crepidula plana*	1
HB20	1439_20	Mollusca	Myidae	*Mya arenaria*	1
HB20	1439_20	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
HB20	1439_20	Mollusca	Veneridae	*Gemma gemma*	1
HB20	1439_20	Annelida	Polynoidae	*Lepidonotus sublevis*	1
HB20	1439_20	Annelida	Sigalionidae	*Sthenelais boa*	1
HB20	1439_20	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB20	1439_20	Arthropoda	Caprellidae	*Paracaprella tenuis*	1
HB20	1439_20	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB20	1439_20	Annelida	Nereididae	Nereididae	1
HB20	1439_20	Annelida	Goniadidae	*Glycinde solitaria*	1
HB20	1439_20	Annelida	Hesionidae	*Gyptis vittata*	1
HB20	1439_20	Platyhelminthes		Turbellaria sp. 5 nai	1
HB20	1439_20	Platyhelminthes		Turbellaria sp. 14 mwra	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB21	2422_21	Annelida	Spionidae	*Streblospio benedicti*	74
HB21	2422_21	Annelida	Capitellidae	*Mediomastus ambiseta*	70
HB21	2422_21	Mollusca	Nassariidae	*Ilyanassa obsoleta*	33
HB21	2422_21	Annelida	Cirratulidae	*Tharyx acutus*	29
HB21	2422_21	Annelida	Cirratulidae	Cirratulidae	20
HB21	2422_21	Arthropoda	Aoridae	*Grandidierella japonica*	19
HB21	2422_21	Mollusca	Veneridae	*Gemma gemma*	14
HB21	2422_21	Annelida	Glyceridae	*Glycera* sp.	10
HB21	2422_21	Annelida	Syllidae	*Streptosyllis verrilli*	10
HB21	2422_21	Annelida		Oligochaeta	9
HB21	2422_21	Annelida	Glyceridae	*Glycera dibranchiata*	8
HB21	2422_21	Mollusca	Nassariidae	*Ilyanassa trivittata*	7
HB21	2422_21	Annelida	Capitellidae	*Heteromastus filiformis*	5
HB21	2422_21	Annelida	Spionidae	*Scolelepis* sp.	5
HB21	2422_21	Annelida	Phyllodocidae	*Hypereteone heteropoda*	3
HB21	2422_21	Annelida	Cirratulidae	*Caulleriella venefica*	3
HB21	2422_21	Mollusca	Tellinidae	*Tellina agilis*	2
HB21	2422_21	Arthropoda	Paguridae	*Pagurus longicarpus*	2
HB21	2422_21	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	2
HB21	2422_21	Annelida	Spionidae	*Spio filicornis*	1
HB21	2422_21	Arthropoda	Corophiidae	*Monocorophium acherusicum*	1
HB21	2422_21	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB21	2422_21	Mollusca	Calyptraeidae	*Crepidula convexa*	1
HB21	2422_21	Arthropoda	Unciolidae	*Unciola serrata*	1
HB21	2422_21	Annelida	Oenonidae	*Drilonereis longa*	1
HB22	2439_22	Annelida	Spionidae	*Streblospio benedicti*	214
HB22	2439_22	Annelida	Capitellidae	*Mediomastus ambiseta*	59
HB22	2439_22	Annelida		Oligochaeta	23
HB22	2439_22	Arthropoda	Aoridae	*Grandidierella japonica*	15
HB22	2439_22	Annelida	Spionidae	*Scolelepis* sp.	12
HB22	2439_22	Arthropoda	Corophiidae	*Monocorophium acherusicum*	10
HB22	2439_22	Annelida	Glyceridae	*Glycera dibranchiata*	8
HB22	2439_22	Annelida	Cirratulidae	Cirratulidae	6
HB22	2439_22	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	6
HB22	2439_22	Annelida	Cirratulidae	*Tharyx acutus*	6
HB22	2439_22	Annelida	Capitellidae	*Heteromastus filiformis*	5
HB22	2439_22	Annelida	Syllidae	*Streptosyllis verrilli*	5
HB22	2439_22	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	4
HB22	2439_22	Annelida	Phyllodocidae	*Eumida sanguinea*	3
HB22	2439_22	Mollusca	Calyptraeidae	*Crepidula fornicata*	3
HB22	2439_22	Annelida	Spionidae	*Polydora cornuta*	2
HB22	2439_22	Arthropoda	Ampeliscidae	*Ampelisca abdita*	2
HB22	2439_22	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	2
HB22	2439_22	Annelida	Glyceridae	*Glycera* sp.	2
HB22	2439_22	Arthropoda	Paguridae	*Pagurus longicarpus*	2
HB22	2439_22	Arthropoda	Lysianassidae	*Lysianopsis alba*	2

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB22	2439_22	Annelida	Spionidae	*Spio filicornis*	1
HB22	2439_22	Mollusca	Tellinidae	*Tellina agilis*	1
HB22	2439_22	Mollusca	Nassariidae	*Ilyanassa obsoleta*	1
HB22	2439_22	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
HB22	2439_22	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
HB22	2439_22	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB22	2439_22	Arthropoda	Caprellidae	*Paracaprella tenuis*	1
HB22	2439_22	Arthropoda	Maeridae	*Elasmopus levis*	1
HB22	2439_22	Arthropoda	Mysidae	*Heteromysis formosa*	1
HB22	2439_22	Annelida	Hesionidae	*Microphthalmus* sp.	1
HB22	2439_22	Mollusca	Lyonsiidae	*Lyonsia* sp.	1
HB22	2439_22	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB22	2439_22	Annelida	Goniadidae	Goniadidae	1
HB22	2439_22	Mollusca	Calyptraeidae	*Crepidula* sp.	1
HB22	2439_22	Annelida	Oenonidae	*Drilonereis longa*	1
HB22	2439_22	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
HB22	2439_22	Annelida	Cirratulidae	*Caulleriella venefica*	1
HB23	1438_23	Annelida		Oligochaeta	443
HB23	1438_23	Annelida	Capitellidae	*Mediomastus ambiseta*	215
HB23	1438_23	Annelida	Spionidae	*Streblospio benedicti*	52
HB23	1438_23	Mollusca	Calyptraeidae	*Crepidula fornicata*	50
HB23	1438_23	Arthropoda	Aoridae	*Grandidierella japonica*	34
HB23	1438_23	Annelida	Syllidae	*Streptosyllis verrilli*	28
HB23	1438_23	Mollusca	Calyptraeidae	*Crepidula convexa*	19
HB23	1438_23	Arthropoda	Corophiidae	*Monocorophium acherusicum*	15
HB23	1438_23	Mollusca	Nassariidae	*Ilyanassa obsoleta*	12
HB23	1438_23	Mollusca	Veneridae	*Gemma gemma*	12
HB23	1438_23	Annelida	Capitellidae	*Heteromastus filiformis*	12
HB23	1438_23	Annelida	Phyllodocidae	*Eumida sanguinea*	11
HB23	1438_23	Mollusca	Pyramidellidae	*Boonea bisuturalis*	10
HB23	1438_23	Annelida	Glyceridae	*Glycera dibranchiata*	9
HB23	1438_23	Arthropoda	Melitidae	*Melita nitida*	8
HB23	1438_23	Annelida	Syllidae	*Opisthodonta longocirrata*	7
HB23	1438_23	Arthropoda	Maeridae	*Elasmopus levis*	6
HB23	1438_23	Annelida	Syllidae	*Salvatoria clavata*	5
HB23	1438_23	Annelida	Syllidae	*Exogone dispar*	5
HB23	1438_23	Arthropoda	Anthuridae	*Cyathura burbancki*	3
HB23	1438_23	Annelida	Terebellidae	*Polycirrus* sp.	3
HB23	1438_23	Annelida	Cirratulidae	Cirratulidae	3
HB23	1438_23	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
HB23	1438_23	Arthropoda	Caprellidae	*Paracaprella tenuis*	2
HB23	1438_23	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
HB23	1438_23	Mollusca	Veneridae	*Mercenaria mercenaria*	2
HB23	1438_23	Annelida	Nereididae	Nereididae	2
HB23	1438_23	Mollusca		Gastropoda	2
HB23	1438_23	Arthropoda	Lysianassidae	*Lysianopsis alba*	2

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB23	1438_23	Mollusca	Calyptraeidae	*Crepidula plana*	1
HB23	1438_23	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB23	1438_23	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
HB23	1438_23	Annelida	Glyceridae	*Glycera americana*	1
HB23	1438_23	Arthropoda	Corophiidae	*Apocorophium acutum*	1
HB23	1438_23	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB23	1438_23	Arthropoda	Stenothoidae	*Stenothoe* sp.	1
HB23	1438_23	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB23	1438_23	Mollusca	Muricidae	*Eupleura caudata*	1
HB23	1438_23	Annelida	Hesionidae	*Gyptis vittata*	1
HB23	1438_23	Annelida	Cirratulidae	*Caulleriella venefica*	1
HB24	1363_24	Annelida		Oligochaeta	541
HB24	1363_24	Annelida	Capitellidae	*Mediomastus ambiseta*	350
HB24	1363_24	Annelida	Spionidae	*Streblospio benedicti*	96
HB24	1363_24	Arthropoda	Aoridae	*Grandidierella japonica*	83
HB24	1363_24	Annelida	Syllidae	*Streptosyllis verrilli*	62
HB24	1363_24	Arthropoda	Corophiidae	*Monocorophium acherusicum*	18
HB24	1363_24	Mollusca	Nassariidae	*Ilyanassa obsoleta*	11
HB24	1363_24	Annelida	Terebellidae	*Polycirrus* sp.	10
HB24	1363_24	Mollusca	Calyptraeidae	*Crepidula fornicata*	8
HB24	1363_24	Annelida	Syllidae	*Salvatoria clavata*	5
HB24	1363_24	Annelida	Syllidae	*Opisthodonta longocirrata*	5
HB24	1363_24	Mollusca	Calyptraeidae	*Crepidula convexa*	5
HB24	1363_24	Annelida	Phyllodocidae	*Eumida sanguinea*	4
HB24	1363_24	Annelida	Glyceridae	*Glycera dibranchiata*	4
HB24	1363_24	Annelida	Capitellidae	*Heteromastus filiformis*	4
HB24	1363_24	Annelida	Phyllodocidae	*Hypereteone heteropoda*	4
HB24	1363_24	Annelida	Glyceridae	*Glycera* sp.	4
HB24	1363_24	Arthropoda	Maeridae	*Elasmopus levis*	4
HB24	1363_24	Arthropoda	Lysianassidae	*Lysianopsis alba*	4
HB24	1363_24	Annelida	Syllidae	*Exogone dispar*	4
HB24	1363_24	Mollusca	Veneridae	*Mercenaria mercenaria*	3
HB24	1363_24	Annelida	Cirratulidae	Cirratulidae	3
HB24	1363_24	Mollusca	Nassariidae	*Ilyanassa trivittata*	2
HB24	1363_24	Arthropoda	Corophiidae	*Apocorophium acutum*	2
HB24	1363_24	Annelida	Sabellariidae	*Sabellaria vulgaris*	2
HB24	1363_24	Annelida	Cirratulidae	*Caulleriella venefica*	2
HB24	1363_24	Annelida	Spionidae	*Polydora cornuta*	1
HB24	1363_24	Mollusca	Tellinidae	*Tellina agilis*	1
HB24	1363_24	Annelida	Orbiniidae	*Leitoscoloplos* sp.	1
HB24	1363_24	Mollusca	Acteocinidae	*Acteocina canaliculata*	1
HB24	1363_24	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
HB24	1363_24	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
HB24	1363_24	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB24	1363_24	Annelida	Hesionidae	*Oxydromus obscurus*	1
HB24	1363_24	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB24	1363_24	Arthropoda	Paguridae	*Pagurus longicarpus*	1
HB24	1363_24	Annelida	Hesionidae	*Gyptis vittata*	1
HB25	2146_25	Annelida	Capitellidae	*Mediomastus ambiseta*	981
HB25	2146_25	Annelida	Spionidae	*Streblospio benedicti*	237
HB25	2146_25	Annelida		Oligochaeta	191
HB25	2146_25	Annelida	Syllidae	*Streptosyllis verrilli*	105
HB25	2146_25	Arthropoda	Aoridae	*Grandidierella japonica*	52
HB25	2146_25	Annelida	Cirratulidae	*Tharyx acutus*	47
HB25	2146_25	Annelida	Capitellidae	*Heteromastus filiformis*	28
HB25	2146_25	Annelida	Phyllodocidae	*Eumida sanguinea*	21
HB25	2146_25	Annelida	Syllidae	*Opisthodonta longocirrata*	18
HB25	2146_25	Annelida	Cirratulidae	*Caulleriella venefica*	15
HB25	2146_25	Mollusca	Pyramidellidae	*Boonea bisuturalis*	14
HB25	2146_25	Mollusca	Nassariidae	*Ilyanassa obsoleta*	12
HB25	2146_25	Annelida	Glyceridae	*Glycera dibranchiata*	11
HB25	2146_25	Annelida	Syllidae	*Salvatoria clavata*	11
HB25	2146_25	Annelida	Cirratulidae	Cirratulidae	9
HB25	2146_25	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	7
HB25	2146_25	Mollusca	Calyptraeidae	*Crepidula convexa*	6
HB25	2146_25	Arthropoda	Corophiidae	*Monocorophium acherusicum*	5
HB25	2146_25	Platyhelminthes		Turbellaria sp. 9 nai	5
HB25	2146_25	Mollusca	Calyptraeidae	*Crepidula fornicata*	4
HB25	2146_25	Annelida	Terebellidae	*Polycirrus* sp.	4
HB25	2146_25	Annelida	Syllidae	*Exogone dispar*	4
HB25	2146_25	Mollusca	Nassariidae	*Ilyanassa trivittata*	3
HB25	2146_25	Annelida	Phyllodocidae	*Hypereteone heteropoda*	3
HB25	2146_25	Arthropoda	Anthuridae	*Cyathura burbancki*	2
HB25	2146_25	Arthropoda	Paguridae	*Pagurus longicarpus*	2
HB25	2146_25	Annelida	Sabellariidae	*Sabellaria vulgaris*	2
HB25	2146_25	Mollusca	Muricidae	*Eupleura caudata*	2
HB25	2146_25	Arthropoda	Unciolidae	*Unciola serrata*	2
HB25	2146_25	Annelida	Maldanidae	*Euclymene collaris*	1
HB25	2146_25	Annelida	Spionidae	*Spio filicornis*	1
HB25	2146_25	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB25	2146_25	Annelida	Glyceridae	*Glycera* sp.	1
HB25	2146_25	Annelida	Sigalionidae	*Sthenelais boa*	1
HB25	2146_25	Annelida	Nereididae	*Neanthes arenaceodentata*	1
HB25	2146_25	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB25	2146_25	Annelida	Spionidae	*Dipolydora socialis*	1
HB25	2146_25	Mollusca		Gastropoda	1
HB25	2146_25	Annelida	Goniadidae	*Glycinde solitaria*	1
HB25	2146_25	Platyhelminthes		Turbellaria sp. 5 nai	1
HB26	2527_26	Annelida	Capitellidae	*Mediomastus ambiseta*	44
HB26	2527_26	Annelida	Spionidae	*Streblospio benedicti*	23
HB26	2527_26	Annelida	Glyceridae	*Glycera* sp.	16
HB26	2527_26	Mollusca	Veneridae	*Gemma gemma*	13

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB26	2527_26	Annelida	Cirratulidae	*Caulleriella venefica*	13
HB26	2527_26	Mollusca	Nassariidae	*Ilyanassa obsoleta*	12
HB26	2527_26	Annelida		Oligochaeta	11
HB26	2527_26	Nemertea	Carinomidae	*Carinoma tremaphoros*	7
HB26	2527_26	Annelida	Glyceridae	*Glycera dibranchiata*	6
HB26	2527_26	Arthropoda	Aoridae	*Grandidierella japonica*	6
HB26	2527_26	Mollusca	Pyramidellidae	*Boonea bisuturalis*	5
HB26	2527_26	Mollusca	Tellinidae	*Tellina agilis*	2
HB26	2527_26	Annelida	Cirratulidae	Cirratulidae	2
HB26	2527_26	Mollusca	Calyptraeidae	*Crepidula convexa*	2
HB26	2527_26	Mollusca	Lyonsiidae	*Lyonsia arenosa*	2
HB26	2527_26	Arthropoda	Corophiidae	*Monocorophium acherusicum*	1
HB26	2527_26	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
HB26	2527_26	Annelida	Spionidae	*Scolelepis* sp.	1
HB26	2527_26	Annelida	Chaetopteridae	*Spiochaetopterus costarum oculatus*	1
HB27	2089_27	Annelida	Capitellidae	*Mediomastus ambiseta*	632
HB27	2089_27	Annelida		Oligochaeta	359
HB27	2089_27	Annelida	Spionidae	*Streblospio benedicti*	251
HB27	2089_27	Annelida	Capitellidae	*Heteromastus filiformis*	63
HB27	2089_27	Mollusca	Pyramidellidae	*Boonea bisuturalis*	59
HB27	2089_27	Annelida	Syllidae	*Streptosyllis verrilli*	58
HB27	2089_27	Arthropoda	Aoridae	*Grandidierella japonica*	50
HB27	2089_27	Annelida	Phyllodocidae	*Eumida sanguinea*	45
HB27	2089_27	Annelida	Syllidae	*Opisthodonta longocirrata*	36
HB27	2089_27	Annelida	Syllidae	*Exogone dispar*	29
HB27	2089_27	Mollusca	Nassariidae	*Ilyanassa obsoleta*	25
HB27	2089_27	Annelida	Syllidae	*Salvatoria clavata*	18
HB27	2089_27	Annelida	Cirratulidae	*Caulleriella venefica*	16
HB27	2089_27	Annelida	Cirratulidae	Cirratulidae	15
HB27	2089_27	Annelida	Sabellariidae	*Sabellaria vulgaris*	10
HB27	2089_27	Arthropoda	Paguridae	*Pagurus longicarpus*	9
HB27	2089_27	Mollusca	Calyptraeidae	*Crepidula convexa*	7
HB27	2089_27	Annelida	Cirratulidae	*Tharyx acutus*	7
HB27	2089_27	Mollusca	Nassariidae	*Ilyanassa trivittata*	6
HB27	2089_27	Annelida	Glyceridae	*Glycera dibranchiata*	6
HB27	2089_27	Mollusca	Veneridae	*Mercenaria mercenaria*	6
HB27	2089_27	Annelida	Hesionidae	*Gyptis vittata*	6
HB27	2089_27	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	5
HB27	2089_27	Mollusca	Muricidae	*Eupleura caudata*	5
HB27	2089_27	Annelida	Phyllodocidae	*Hypereteone heteropoda*	4
HB27	2089_27	Annelida	Nereididae	*Neanthes arenaceodentata*	4
HB27	2089_27	Annelida	Hesionidae	*Microphthalmus* sp.	4
HB27	2089_27	Arthropoda	Unciolidae	*Unciola serrata*	4
HB27	2089_27	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	3
HB27	2089_27	Arthropoda	Anthuridae	*Cyathura burbancki*	3
HB27	2089_27	Annelida	Terebellidae	*Polycirrus* sp.	3

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB27	2089_27	Mollusca	Calyptraeidae	*Crepidula fornicata*	2
HB27	2089_27	Arthropoda	Ampeliscidae	*Ampelisca abdita*	2
HB27	2089_27	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
HB27	2089_27	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
HB27	2089_27	Arthropoda	Maeridae	*Elasmopus levis*	2
HB27	2089_27	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	2
HB27	2089_27	Annelida	Hesionidae	*Oxydromus obscurus*	2
HB27	2089_27	Annelida	Glyceridae	*Glycera americana*	1
HB27	2089_27	Mollusca	Pyramidellidae	*Odostomia eburnea*	1
HB27	2089_27	Annelida	Polynoidae	*Lepidonotus sublevis*	1
HB27	2089_27	Annelida	Sigalionidae	*Sthenelais boa*	1
HB27	2089_27	Annelida	Nereididae	*Alitta succinea*	1
HB27	2089_27	Arthropoda	Mysidae	*Heteromysis formosa*	1
HB27	2089_27	Arthropoda	Panopeidae	*Dyspanopeus sayi*	1
HB27	2089_27	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB27	2089_27	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB27	2089_27	Annelida	Syllidae	*Brania wellfleetensis*	1
HB27	2089_27	Arthropoda	Lysianassidae	*Lysianopsis alba*	1
HB27	2089_27	Annelida	Goniadidae	*Glycinde solitaria*	1
HB27	2089_27	Platyhelminthes		Turbellaria sp. 5 nai	1
HB27	2089_27	Platyhelminthes		Turbellaria sp. 9 nai	1
HB28	2013_28	Annelida	Spionidae	*Streblospio benedicti*	892
HB28	2013_28	Annelida	Capitellidae	*Mediomastus ambiseta*	772
HB28	2013_28	Arthropoda	Ampeliscidae	*Ampelisca abdita*	238
HB28	2013_28	Annelida		Oligochaeta	59
HB28	2013_28	Mollusca	Nassariidae	*Ilyanassa obsoleta*	46
HB28	2013_28	Arthropoda	Aoridae	*Grandidierella japonica*	37
HB28	2013_28	Annelida	Spionidae	*Polydora cornuta*	22
HB28	2013_28	Annelida	Phyllodocidae	*Hypereteone heteropoda*	21
HB28	2013_28	Annelida	Orbiniidae	*Leitoscoloplos fragilis*	19
HB28	2013_28	Mollusca	Pyramidellidae	*Boonea bisuturalis*	16
HB28	2013_28	Arthropoda	Corophiidae	*Monocorophium acherusicum*	14
HB28	2013_28	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	6
HB28	2013_28	Annelida	Capitellidae	*Heteromastus filiformis*	6
HB28	2013_28	Annelida	Orbiniidae	*Leitoscoloplos* sp.	6
HB28	2013_28	Mollusca	Calyptraeidae	*Crepidula convexa*	6
HB28	2013_28	Annelida	Sabellariidae	*Sabellaria vulgaris*	5
HB28	2013_28	Annelida	Goniadidae	*Glycinde solitaria*	5
HB28	2013_28	Mollusca	Nassariidae	*Ilyanassa trivittata*	3
HB28	2013_28	Annelida	Pectinariidae	*Pectinaria gouldii*	3
HB28	2013_28	Annelida	Sigalionidae	*Sthenelais boa*	2
HB28	2013_28	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB28	2013_28	Arthropoda	Crangonidae	*Crangon septemspinosa*	1
HB28	2013_28	Annelida	Nereididae	*Alitta succinea*	1
HB28	2013_28	Mollusca	Veneridae	*Mercenaria mercenaria*	1
HB28	2013_28	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB28	2013_28	Annelida	Hesionidae	*Gyptis vittata*	1
HB28	2013_28	Annelida	Chaetopteridae	*Spiochaetopterus costarum oculatus*	1
HB28	2013_28	Platyhelminthes		Turbellaria sp. 5 nai	1
HB28	2013_28	Annelida	Syllidae	*Streptosyllis verrilli*	1
HB29	2088_29	Annelida	Capitellidae	*Mediomastus ambiseta*	309
HB29	2088_29	Annelida		Oligochaeta	261
HB29	2088_29	Annelida	Spionidae	*Streblospio benedicti*	101
HB29	2088_29	Arthropoda	Aoridae	*Grandidierella japonica*	49
HB29	2088_29	Annelida	Syllidae	*Exogone dispar*	43
HB29	2088_29	Annelida	Phyllodocidae	*Eumida sanguinea*	23
HB29	2088_29	Annelida	Syllidae	*Salvatoria clavata*	20
HB29	2088_29	Arthropoda	Corophiidae	*Monocorophium acherusicum*	18
HB29	2088_29	Mollusca	Nassariidae	*Ilyanassa obsoleta*	17
HB29	2088_29	Annelida	Syllidae	*Streptosyllis verrilli*	17
HB29	2088_29	Mollusca	Pyramidellidae	*Boonea bisuturalis*	13
HB29	2088_29	Annelida	Cirratulidae	*Tharyx acutus*	12
HB29	2088_29	Annelida	Cirratulidae	*Caulleriella venefica*	11
HB29	2088_29	Arthropoda	Corophiidae	*Apocorophium acutum*	10
HB29	2088_29	Annelida	Capitellidae	*Heteromastus filiformis*	8
HB29	2088_29	Arthropoda	Maeridae	*Elasmopus levis*	8
HB29	2088_29	Arthropoda	Paguridae	*Pagurus longicarpus*	8
HB29	2088_29	Annelida	Sabellariidae	*Sabellaria vulgaris*	8
HB29	2088_29	Mollusca	Calyptraeidae	*Crepidula convexa*	6
HB29	2088_29	Arthropoda	Lysianassidae	*Lysianopsis alba*	5
HB29	2088_29	Arthropoda	Panopeidae	*Dyspanopeus sayi*	4
HB29	2088_29	Annelida	Cirratulidae	Cirratulidae	4
HB29	2088_29	Annelida	Phyllodocidae	*Hypereteone heteropoda*	3
HB29	2088_29	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	2
HB29	2088_29	Annelida	Glyceridae	*Glycera dibranchiata*	2
HB29	2088_29	Annelida	Glyceridae	*Glycera* sp.	2
HB29	2088_29	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	2
HB29	2088_29	Annelida	Syllidae	*Opisthodonta longocirrata*	2
HB29	2088_29	Annelida	Spionidae	*Dipolydora commensalis*	2
HB29	2088_29	Annelida	Goniadidae	*Glycinde solitaria*	2
HB29	2088_29	Annelida	Spionidae	*Polydora cornuta*	1
HB29	2088_29	Mollusca	Calyptraeidae	*Crepidula plana*	1
HB29	2088_29	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
HB29	2088_29	Annelida	Nereididae	*Alitta succinea*	1
HB29	2088_29	Arthropoda	Idoteidae	*Erichsonella filiformis*	1
HB29	2088_29	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB29	2088_29	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB29	2088_29	Annelida	Syllidae	*Odontosyllis fulgurans*	1
HB29	2088_29	Mollusca		Gastropoda	1
HB29	2088_29	Arthropoda	Bateidae	*Batea catharinensis*	1
HB29	2088_29	Mollusca	Muricidae	*Eupleura caudata*	1
HB29	2088_29	Arthropoda	Unciolidae	*Unciola serrata*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB29	2088_29	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
HB29	2088_29	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
HB3	2530_3	Annelida	Spionidae	*Streblospio benedicti*	182
HB3	2530_3	Annelida	Capitellidae	*Mediomastus ambiseta*	19
HB3	2530_3	Annelida		Oligochaeta	18
HB3	2530_3	Arthropoda	Corophiidae	*Apocorophium acutum*	14
HB3	2530_3	Annelida	Spionidae	*Polydora colonia*	10
HB3	2530_3	Arthropoda	Caprellidae	*Paracaprella tenuis*	9
HB3	2530_3	Mollusca	Nassariidae	*Ilyanassa obsoleta*	7
HB3	2530_3	Arthropoda	Paguridae	*Pagurus longicarpus*	6
HB3	2530_3	Mollusca	Calyptraeidae	*Crepidula convexa*	6
HB3	2530_3	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	6
HB3	2530_3	Arthropoda	Unciolidae	*Unciola serrata*	6
HB3	2530_3	Arthropoda	Aoridae	*Grandidierella japonica*	6
HB3	2530_3	Annelida	Glyceridae	*Glycera dibranchiata*	4
HB3	2530_3	Annelida	Spionidae	*Polydora cornuta*	3
HB3	2530_3	Annelida	Terebellidae	*Polycirrus* sp.	3
HB3	2530_3	Annelida	Sabellariidae	*Sabellaria vulgaris*	3
HB3	2530_3	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
HB3	2530_3	Annelida	Capitellidae	*Heteromastus filiformis*	2
HB3	2530_3	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	2
HB3	2530_3	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
HB3	2530_3	Annelida	Cirratulidae	*Tharyx acutus*	2
HB3	2530_3	Annelida	Spionidae	*Spio filicornis*	1
HB3	2530_3	Mollusca	Tellinidae	*Tellina agilis*	1
HB3	2530_3	Mollusca	Veneridae	*Gemma gemma*	1
HB3	2530_3	Annelida	Polynoidae	*Lepidonotus sublevis*	1
HB3	2530_3	Arthropoda	Maeridae	*Elasmopus levis*	1
HB3	2530_3	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
HB3	2530_3	Mollusca	Lyonsiidae	*Lyonsia* sp.	1
HB3	2530_3	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB3	2530_3	Arthropoda	Caprellidae	*Caprella penantis*	1
HB3	2530_3	Annelida	Cirratulidae	Cirratulidae	1
HB3	2530_3	Annelida	Syllidae	*Opisthodonta longocirrata*	1
HB3	2530_3	Mollusca	Calyptraeidae	*Crepidula* sp.	1
HB3	2530_3	Arthropoda	Bateidae	*Batea catharinensis*	1
HB3	2530_3	Annelida	Oenonidae	*Drilonereis longa*	1
HB3	2530_3	Annelida	Syllidae	*Streptosyllis verrilli*	1
HB30	2529_30	Annelida	Glyceridae	*Glycera* sp.	12
HB30	2529_30	Annelida		Oligochaeta	12
HB30	2529_30	Nemertea	Carinomidae	*Carinoma tremaphoros*	10
HB30	2529_30	Mollusca	Veneridae	*Gemma gemma*	6
HB30	2529_30	Annelida	Cirratulidae	*Caulleriella venefica*	4
HB30	2529_30	Annelida	Capitellidae	*Mediomastus ambiseta*	3
HB30	2529_30	Arthropoda	Aoridae	*Grandidierella japonica*	3
HB30	2529_30	Mollusca	Calyptraeidae	*Crepidula fornicata*	2

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB30	2529_30	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
HB30	2529_30	Annelida	Glyceridae	*Glycera dibranchiata*	2
HB30	2529_30	Mollusca	Nassariidae	*Ilyanassa obsoleta*	2
HB30	2529_30	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	2
HB30	2529_30	Annelida	Cirratulidae	Cirratulidae	2
HB30	2529_30	Annelida	Spionidae	*Streblospio benedicti*	1
HB30	2529_30	Mollusca	Tellinidae	*Tellina agilis*	1
HB30	2529_30	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB30	2529_30	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
HB30	2529_30	Annelida	Capitellidae	*Heteromastus filiformis*	1
HB30	2529_30	Annelida	Spionidae	*Scolelepis* sp.	1
HB30	2529_30	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
HB30	2529_30	Annelida	Terebellidae	*Polycirrus* sp.	1
HB30	2529_30	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB31	2424_31	Annelida	Spionidae	*Streblospio benedicti*	204
HB31	2424_31	Annelida	Capitellidae	*Mediomastus ambiseta*	54
HB31	2424_31	Mollusca	Nassariidae	*Ilyanassa obsoleta*	36
HB31	2424_31	Arthropoda	Aoridae	*Grandidierella japonica*	19
HB31	2424_31	Annelida	Glyceridae	*Glycera dibranchiata*	17
HB31	2424_31	Mollusca	Veneridae	*Gemma gemma*	11
HB31	2424_31	Annelida	Spionidae	*Scolelepis* sp.	9
HB31	2424_31	Annelida	Capitellidae	*Heteromastus filiformis*	8
HB31	2424_31	Annelida	Cirratulidae	Cirratulidae	8
HB31	2424_31	Annelida	Phyllodocidae	*Hypereteone heteropoda*	5
HB31	2424_31	Annelida		Oligochaeta	5
HB31	2424_31	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	5
HB31	2424_31	Annelida	Spionidae	*Spio filicornis*	4
HB31	2424_31	Mollusca	Tellinidae	*Tellina agilis*	4
HB31	2424_31	Annelida	Spionidae	*Polydora cornuta*	3
HB31	2424_31	Annelida	Cirratulidae	*Tharyx acutus*	3
HB31	2424_31	Annelida	Syllidae	*Streptosyllis verrilli*	3
HB31	2424_31	Arthropoda	Corophiidae	*Monocorophium acherusicum*	2
HB31	2424_31	Mollusca	Calyptraeidae	*Crepidula convexa*	2
HB31	2424_31	Annelida	Spionidae	*Spiophanes bombyx*	1
HB31	2424_31	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
HB31	2424_31	Annelida	Glyceridae	*Glycera* sp.	1
HB31	2424_31	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	1
HB31	2424_31	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB31	2424_31	Arthropoda	Paguridae	*Pagurus longicarpus*	1
HB33	2090_33	Annelida	Capitellidae	*Mediomastus ambiseta*	2377
HB33	2090_33	Annelida		Oligochaeta	775
HB33	2090_33	Annelida	Spionidae	*Streblospio benedicti*	407
HB33	2090_33	Annelida	Cirratulidae	*Tharyx acutus*	94
HB33	2090_33	Annelida	Syllidae	*Opisthodonta longocirrata*	88
HB33	2090_33	Annelida	Phyllodocidae	*Eumida sanguinea*	72
HB33	2090_33	Arthropoda	Aoridae	*Grandidierella japonica*	60

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB33	2090_33	Annelida	Capitellidae	*Heteromastus filiformis*	56
HB33	2090_33	Arthropoda	Maeridae	*Elasmopus levis*	42
HB33	2090_33	Annelida	Syllidae	*Streptosyllis verrilli*	40
HB33	2090_33	Arthropoda	Lysianassidae	*Lysianopsis alba*	30
HB33	2090_33	Annelida	Cirratulidae	Cirratulidae	29
HB33	2090_33	Annelida	Syllidae	*Salvatoria clavata*	28
HB33	2090_33	Mollusca	Calyptraeidae	*Crepidula fornicata*	23
HB33	2090_33	Annelida	Syllidae	*Exogone dispar*	21
HB33	2090_33	Arthropoda	Corophiidae	*Monocorophium acherusicum*	20
HB33	2090_33	Arthropoda	Anthuridae	*Cyathura burbancki*	19
HB33	2090_33	Mollusca	Nassariidae	*Ilyanassa obsoleta*	18
HB33	2090_33	Annelida	Terebellidae	*Polycirrus* sp.	18
HB33	2090_33	Mollusca	Calyptraeidae	*Crepidula convexa*	13
HB33	2090_33	Arthropoda	Melitidae	*Melita nitida*	9
HB33	2090_33	Arthropoda	Panopeidae	*Dyspanopeus sayi*	9
HB33	2090_33	Annelida	Phyllodocidae	*Hypereteone heteropoda*	7
HB33	2090_33	Arthropoda	Unciolidae	*Unciola serrata*	7
HB33	2090_33	Platyhelminthes		Turbellaria sp. 5 nai	7
HB33	2090_33	Mollusca	Pyramidellidae	*Boonea bisuturalis*	5
HB33	2090_33	Annelida	Hesionidae	*Gyptis vittata*	5
HB33	2090_33	Annelida	Spionidae	*Polydora cornuta*	4
HB33	2090_33	Arthropoda	Mysidae	*Heteromysis formosa*	4
HB33	2090_33	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	3
HB33	2090_33	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	3
HB33	2090_33	Annelida	Nereididae	*Neanthes arenaceodentata*	3
HB33	2090_33	Annelida	Sabellidae	*Parasabella microphthalma*	3
HB33	2090_33	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB33	2090_33	Arthropoda	Ampeliscidae	*Ampelisca abdita*	2
HB33	2090_33	Annelida	Glyceridae	*Glycera americana*	2
HB33	2090_33	Annelida	Syllidae	*Myrianida prolifera*	2
HB33	2090_33	Annelida	Goniadidae	Goniadidae	2
HB33	2090_33	Annelida	Nereididae	Nereididae	2
HB33	2090_33	Mollusca	Muricidae	*Eupleura caudata*	2
HB33	2090_33	Annelida	Cirratulidae	*Caulleriella venefica*	2
HB33	2090_33	Platyhelminthes		Turbellaria sp. 9 nai	2
HB33	2090_33	Annelida	Maldanidae	*Euclymene collaris*	1
HB33	2090_33	Annelida	Orbiniidae	*Leitoscoloplos robustus*	1
HB33	2090_33	Arthropoda	Corophiidae	*Apocorophium acutum*	1
HB33	2090_33	Annelida	Hesionidae	*Oxydromus obscurus*	1
HB33	2090_33	Arthropoda	Paguridae	*Pagurus longicarpus*	1
HB33	2090_33	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB33	2090_33	Annelida	Syllidae	*Brania wellfleetensis*	1
HB33	2090_33	Chordata	Harrimaniidae	*Saccoglossus kowalevskii*	1
HB33	2090_33	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	1
HB33	2090_33	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB33	2090_33	Platyhelminthes		Turbellaria sp. 14 mwra	1
HB4	2374_4	Arthropoda	Aoridae	*Grandidierella japonica*	208
HB4	2374_4	Annelida	Spionidae	*Streblospio benedicti*	148
HB4	2374_4	Annelida	Capitellidae	*Mediomastus ambiseta*	134
HB4	2374_4	Mollusca	Nassariidae	*Ilyanassa obsoleta*	73
HB4	2374_4	Annelida	Cirratulidae	Cirratulidae	71
HB4	2374_4	Arthropoda	Corophiidae	*Monocorophium acherusicum*	57
HB4	2374_4	Annelida	Cirratulidae	*Tharyx acutus*	30
HB4	2374_4	Annelida	Capitellidae	*Heteromastus filiformis*	29
HB4	2374_4	Annelida	Glyceridae	*Glycera dibranchiata*	17
HB4	2374_4	Annelida	Sabellariidae	*Sabellaria vulgaris*	17
HB4	2374_4	Arthropoda	Unciolidae	*Unciola serrata*	12
HB4	2374_4	Annelida	Syllidae	*Streptosyllis verrilli*	12
HB4	2374_4	Annelida	Phyllodocidae	*Eumida sanguinea*	11
HB4	2374_4	Mollusca	Veneridae	*Gemma gemma*	11
HB4	2374_4	Annelida		Oligochaeta	7
HB4	2374_4	Arthropoda	Maeridae	*Elasmopus levis*	7
HB4	2374_4	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	7
HB4	2374_4	Arthropoda	Paguridae	*Pagurus longicarpus*	5
HB4	2374_4	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	4
HB4	2374_4	Mollusca	Calyptraeidae	*Crepidula convexa*	4
HB4	2374_4	Annelida	Spionidae	*Spio filicornis*	3
HB4	2374_4	Annelida	Spionidae	*Polydora cornuta*	3
HB4	2374_4	Arthropoda	Corophiidae	*Monocorophium tuberculatum*	3
HB4	2374_4	Arthropoda	Caprellidae	*Caprella penantis*	3
HB4	2374_4	Platyhelminthes		Turbellaria sp. 6 nai	3
HB4	2374_4	Arthropoda	Idoteidae	*Edotia triloba*	2
HB4	2374_4	Annelida	Nereididae	*Neanthes arenaceodentata*	2
HB4	2374_4	Arthropoda	Corophiidae	*Apocorophium acutum*	2
HB4	2374_4	Arthropoda	Lysianassidae	*Lysianopsis alba*	2
HB4	2374_4	Annelida	Cirratulidae	*Caulleriella venefica*	2
HB4	2374_4	Mollusca	Nassariidae	*Ilyanassa trivittata*	1
HB4	2374_4	Mollusca	Tellinidae	*Tellina agilis*	1
HB4	2374_4	Arthropoda	Diastylidae	*Oxyurostylis smithi*	1
HB4	2374_4	Arthropoda	Ampeliscidae	*Ampelisca abdita*	1
HB4	2374_4	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
HB4	2374_4	Annelida	Spionidae	*Pygospio elegans*	1
HB4	2374_4	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
HB4	2374_4	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB4	2374_4	Annelida	Syllidae	*Salvatoria clavata*	1
HB4	2374_4	Mollusca	Veneridae	*Petricolaria pholadiformis*	1
HB4	2374_4	Mollusca	Pyramidellidae	*Boonea bisuturalis*	1
HB4	2374_4	Mollusca	Corambidae	*Corambe obscura*	1
HB4	2374_4	Annelida	Goniadidae	*Glycinde solitaria*	1
HB4	2374_4	Mollusca	Muricidae	*Eupleura caudata*	1
HB4	2374_4	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB4	2374_4	Annelida	Syllidae	*Exogone dispar*	1
HB5	2485_5	Annelida	Spionidae	*Streblospio benedicti*	102
HB5	2485_5	Annelida		Oligochaeta	49
HB5	2485_5	Annelida	Capitellidae	*Mediomastus ambiseta*	41
HB5	2485_5	Annelida	Glyceridae	*Glycera dibranchiata*	19
HB5	2485_5	Annelida	Cirratulidae	*Caulleriella venefica*	18
HB5	2485_5	Arthropoda	Aoridae	*Grandidierella japonica*	16
HB5	2485_5	Mollusca	Veneridae	*Gemma gemma*	14
HB5	2485_5	Mollusca	Nassariidae	*Ilyanassa obsoleta*	11
HB5	2485_5	Annelida	Spionidae	*Scolelepis* sp.	11
HB5	2485_5	Annelida	Glyceridae	*Glycera* sp.	10
HB5	2485_5	Mollusca	Tellinidae	*Tellina agilis*	7
HB5	2485_5	Arthropoda	Corophiidae	*Monocorophium acherusicum*	4
HB5	2485_5	Mollusca	Calyptraeidae	*Crepidula* sp.	4
HB5	2485_5	Nemertea	Carinomidae	*Carinoma tremaphoros*	4
HB5	2485_5	Annelida	Cirratulidae	Cirratulidae	3
HB5	2485_5	Annelida	Capitellidae	*Heteromastus filiformis*	2
HB5	2485_5	Annelida	Phyllodocidae	*Hypereteone heteropoda*	2
HB5	2485_5	Annelida	Syllidae	*Salvatoria clavata*	2
HB5	2485_5	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
HB5	2485_5	Mollusca	Calyptraeidae	*Crepidula convexa*	2
HB5	2485_5	Arthropoda	Unciolidae	*Unciola serrata*	2
HB5	2485_5	Annelida	Syllidae	*Streptosyllis verrilli*	2
HB5	2485_5	Arthropoda	Ischyroceridae	*Ericthonius brasiliensis*	1
HB5	2485_5	Annelida	Hesionidae	*Microphthalmus* sp.	1
HB5	2485_5	Arthropoda	Paguridae	*Pagurus longicarpus*	1
HB5	2485_5	Annelida	Syllidae	*Opisthodonta longocirrata*	1
HB5	2485_5	Annelida	Spionidae	*Scolelepis (parascolelepis) texana*	1
HB5	2485_5	Annelida	Oenonidae	*Drilonereis longa*	1
HB5	2485_5	Annelida	Syllidae	*Exogone dispar*	1
HB5	2485_5	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
HB6	1364_6	Annelida		Oligochaeta	677
HB6	1364_6	Annelida	Capitellidae	*Mediomastus ambiseta*	393
HB6	1364_6	Annelida	Spionidae	*Streblospio benedicti*	157
HB6	1364_6	Arthropoda	Aoridae	*Grandidierella japonica*	76
HB6	1364_6	Mollusca	Nassariidae	*Ilyanassa obsoleta*	36
HB6	1364_6	Arthropoda	Corophiidae	*Monocorophium acherusicum*	26
HB6	1364_6	Annelida	Syllidae	*Streptosyllis verrilli*	25
HB6	1364_6	Annelida	Phyllodocidae	*Eumida sanguinea*	15
HB6	1364_6	Mollusca	Nassariidae	*Ilyanassa trivittata*	14
HB6	1364_6	Mollusca	Pyramidellidae	*Boonea bisuturalis*	13
HB6	1364_6	Annelida	Terebellidae	*Polycirrus* sp.	13
HB6	1364_6	Arthropoda	Maeridae	*Elasmopus levis*	12
HB6	1364_6	Mollusca	Calyptraeidae	*Crepidula fornicata*	11
HB6	1364_6	Mollusca	Calyptraeidae	*Crepidula convexa*	11
HB6	1364_6	Annelida	Glyceridae	*Glycera dibranchiata*	10

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB6	1364_6	Annelida	Glyceridae	*Glycera* sp.	8
HB6	1364_6	Arthropoda	Caprellidae	*Paracaprella tenuis*	8
HB6	1364_6	Arthropoda	Corophiidae	*Apocorophium acutum*	7
HB6	1364_6	Annelida	Syllidae	*Salvatoria clavata*	7
HB6	1364_6	Annelida	Syllidae	*Exogone dispar*	7
HB6	1364_6	Mollusca	Veneridae	*Gemma gemma*	6
HB6	1364_6	Annelida	Syllidae	*Opisthodonta longocirrata*	6
HB6	1364_6	Arthropoda	Stenothoidae	*Stenothoe* sp.	4
HB6	1364_6	Arthropoda	Paguridae	*Pagurus longicarpus*	4
HB6	1364_6	Annelida	Cirratulidae	Cirratulidae	4
HB6	1364_6	Arthropoda	Crangonidae	*Crangon septemspinosa*	3
HB6	1364_6	Annelida	Spionidae	*Dipolydora commensalis*	3
HB6	1364_6	Mollusca	Muricidae	*Eupleura caudata*	3
HB6	1364_6	Annelida	Spionidae	*Polydora cornuta*	2
HB6	1364_6	Mollusca	Tellinidae	*Tellina agilis*	2
HB6	1364_6	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	2
HB6	1364_6	Annelida	Orbiniidae	*Leitoscoloplos* sp.	2
HB6	1364_6	Arthropoda	Panopeidae	*Dyspanopeus sayi*	2
HB6	1364_6	Annelida	Syllidae	*Myrianida prolifera*	2
HB6	1364_6	Annelida	Hesionidae	*Oxydromus obscurus*	2
HB6	1364_6	Mollusca	Muricidae	*Urosalpinx cinerea*	2
HB6	1364_6	Annelida	Hesionidae	*Gyptis vittata*	2
HB6	1364_6	Mollusca	Columbellidae	*Astyris lunata*	1
HB6	1364_6	Mollusca	Anomiidae	*Anomia simplex*	1
HB6	1364_6	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	1
HB6	1364_6	Annelida	Capitellidae	*Heteromastus filiformis*	1
HB6	1364_6	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
HB6	1364_6	Annelida	Sigalionidae	*Sthenelais boa*	1
HB6	1364_6	Annelida	Nereididae	*Neanthes arenaceodentata*	1
HB6	1364_6	Annelida	Nereididae	*Alitta succinea*	1
HB6	1364_6	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB6	1364_6	Annelida	Sabellariidae	*Sabellaria vulgaris*	1
HB6	1364_6	Annelida	Cirratulidae	*Tharyx acutus*	1
HB6	1364_6	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
HB6	1364_6	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
HB6	1364_6	Annelida	Cirratulidae	*Caulleriella venefica*	1
HB7	2487_7	Annelida	Capitellidae	*Mediomastus ambiseta*	1755
HB7	2487_7	Annelida	Spionidae	*Streblospio benedicti*	416
HB7	2487_7	Arthropoda	Aoridae	*Grandidierella japonica*	154
HB7	2487_7	Arthropoda	Ampeliscidae	*Ampelisca abdita*	123
HB7	2487_7	Annelida		Oligochaeta	94
HB7	2487_7	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	89
HB7	2487_7	Arthropoda	Lysianassidae	*Lysianopsis alba*	65
HB7	2487_7	Annelida	Phyllodocidae	*Eumida sanguinea*	58
HB7	2487_7	Annelida	Cirratulidae	*Tharyx acutus*	27
HB7	2487_7	Annelida	Cirratulidae	Cirratulidae	23

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB7	2487_7	Annelida	Capitellidae	*Heteromastus filiformis*	21
HB7	2487_7	Arthropoda	Phoxocephalidae	*Eobrolgus spinosus*	12
HB7	2487_7	Arthropoda	Maeridae	*Elasmopus levis*	10
HB7	2487_7	Annelida	Phyllodocidae	*Hypereteone heteropoda*	9
HB7	2487_7	Mollusca	Nassariidae	*Ilyanassa trivittata*	8
HB7	2487_7	Arthropoda	Corophiidae	*Monocorophium acherusicum*	8
HB7	2487_7	Annelida	Syllidae	*Myrianida prolifera*	8
HB7	2487_7	Annelida	Terebellidae	*Polycirrus* sp.	8
HB7	2487_7	Annelida	Sabellidae	*Parasabella microphthalma*	7
HB7	2487_7	Annelida	Syllidae	*Streptosyllis verrilli*	7
HB7	2487_7	Annelida	Maldanidae	*Euclymene collaris*	6
HB7	2487_7	Arthropoda	Panopeidae	*Dyspanopeus sayi*	6
HB7	2487_7	Annelida	Hesionidae	*Oxydromus obscurus*	6
HB7	2487_7	Annelida	Goniadidae	*Glycinde solitaria*	5
HB7	2487_7	Annelida	Hesionidae	*Gyptis vittata*	5
HB7	2487_7	Annelida	Syllidae	*Exogone dispar*	5
HB7	2487_7	Annelida	Pectinariidae	*Pectinaria gouldii*	4
HB7	2487_7	Annelida	Sabellariidae	*Sabellaria vulgaris*	4
HB7	2487_7	Arthropoda	Anthuridae	*Cyathura burbancki*	3
HB7	2487_7	Nemertea	Amphiporidae	*Zygonemertes virescens*	3
HB7	2487_7	Annelida	Cirratulidae	*Caulleriella venefica*	3
HB7	2487_7	Annelida	Spionidae	*Polydora cornuta*	2
HB7	2487_7	Mollusca	Tellinidae	*Tellina agilis*	2
HB7	2487_7	Arthropoda	Mysidae	*Heteromysis formosa*	2
HB7	2487_7	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
HB7	2487_7	Platyhelminthes		Turbellaria sp. 6 nai	2
HB7	2487_7	Platyhelminthes		Turbellaria sp. 5 nai	2
HB7	2487_7	Annelida	Ampharetidae	*Ampharete oculata*	1
HB7	2487_7	Mollusca	Anomiidae	*Anomia simplex*	1
HB7	2487_7	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
HB7	2487_7	Annelida	Glyceridae	*Glycera dibranchiata*	1
HB7	2487_7	Annelida	Glyceridae	*Glycera americana*	1
HB7	2487_7	Mollusca	Acteocinidae	*Acteocina canaliculata*	1
HB7	2487_7	Annelida	Sigalionidae	*Sthenelais boa*	1
HB7	2487_7	Annelida	Nereididae	*Alitta succinea*	1
HB7	2487_7	Mollusca	Muricidae	*Urosalpinx cinerea*	1
HB7	2487_7	Annelida	Nereididae	Nereididae	1
HB7	2487_7	Mollusca	Muricidae	*Eupleura caudata*	1
HB7	2487_7	Arthropoda	Unciolidae	*Unciola serrata*	1
HB7	2487_7	Nemertea	Amphiporidae	*Amphiporus bioculatus*	1
HB7	2487_7	Mollusca	Lyonsiidae	*Lyonsia arenosa*	1
HB7	2487_7	Annelida	Spionidae	*Boccardiella* sp.	1
HB8	1440_8	Annelida		Oligochaeta	484
HB8	1440_8	Annelida	Capitellidae	*Mediomastus ambiseta*	369
HB8	1440_8	Arthropoda	Aoridae	*Grandidierella japonica*	144
HB8	1440_8	Annelida	Spionidae	*Streblospio benedicti*	134

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB8	1440_8	Mollusca	Nassariidae	*Ilyanassa obsoleta*	121
HB8	1440_8	Annelida	Syllidae	*Streptosyllis verrilli*	53
HB8	1440_8	Arthropoda	Corophiidae	*Monocorophium acherusicum*	42
HB8	1440_8	Mollusca	Pyramidellidae	*Boonea bisuturalis*	40
HB8	1440_8	Mollusca	Veneridae	*Gemma gemma*	24
HB8	1440_8	Mollusca	Calyptraeidae	*Crepidula convexa*	22
HB8	1440_8	Arthropoda	Maeridae	*Elasmopus levis*	16
HB8	1440_8	Mollusca	Nassariidae	*Ilyanassa trivittata*	13
HB8	1440_8	Annelida	Glyceridae	*Glycera dibranchiata*	13
HB8	1440_8	Annelida	Syllidae	*Salvatoria clavata*	9
HB8	1440_8	Annelida	Phyllodocidae	*Eumida sanguinea*	8
HB8	1440_8	Arthropoda	Panopeidae	*Dyspanopeus sayi*	8
HB8	1440_8	Mollusca	Veneridae	*Mercenaria mercenaria*	7
HB8	1440_8	Annelida	Terebellidae	*Polycirrus* sp.	7
HB8	1440_8	Mollusca	Calyptraeidae	*Crepidula fornicata*	6
HB8	1440_8	Annelida	Capitellidae	*Heteromastus filiformis*	6
HB8	1440_8	Annelida	Syllidae	*Opisthodonta longocirrata*	6
HB8	1440_8	Arthropoda	Lysianassidae	*Lysianopsis alba*	5
HB8	1440_8	Annelida	Syllidae	*Exogone dispar*	5
HB8	1440_8	Arthropoda	Melitidae	*Melita nitida*	4
HB8	1440_8	Annelida	Spionidae	*Spio filicornis*	3
HB8	1440_8	Mollusca	Tellinidae	*Tellina agilis*	3
HB8	1440_8	Mollusca	Muricidae	*Urosalpinx cinerea*	3
HB8	1440_8	Annelida	Spionidae	*Polydora cornuta*	2
HB8	1440_8	Chordata	Molgulidae	*Molgula manhattensis*	2
HB8	1440_8	Annelida	Orbiniidae	*Leitoscoloplos acutus*	2
HB8	1440_8	Arthropoda	Idoteidae	*Edotia triloba*	1
HB8	1440_8	Arthropoda	Aoridae	*Microdeutopus gryllotalpa*	1
HB8	1440_8	Annelida	Spionidae	*Pygospio elegans*	1
HB8	1440_8	Annelida	Phyllodocidae	*Hypereteone heteropoda*	1
HB8	1440_8	Annelida	Sigalionidae	*Sthenelais boa*	1
HB8	1440_8	Annelida	Sabellidae	*Parasabella microphthalma*	1
HB8	1440_8	Arthropoda	Anthuridae	*Cyathura burbancki*	1
HB8	1440_8	Arthropoda	Corophiidae	*Apocorophium acutum*	1
HB8	1440_8	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB8	1440_8	Annelida	Syllidae	*Myrianida prolifera*	1
HB8	1440_8	Arthropoda	Paguridae	*Pagurus longicarpus*	1
HB8	1440_8	Annelida	Cirratulidae	Cirratulidae	1
HB8	1440_8	Annelida	Nereididae	Nereididae	1
HB8	1440_8	Annelida	Goniadidae	*Glycinde solitaria*	1
HB8	1440_8	Mollusca	Muricidae	*Eupleura caudata*	1
HB8	1440_8	Annelida	Hesionidae	*Gyptis vittata*	1
HB8	1440_8	Annelida	Cirratulidae	*Tharyx acutus*	1
HB8	1440_8	Annelida	Sphaerodoridae	*Sphaerodoridae*	1
HB8	1440_8	Nemertea	Amphiporidae	*Zygonemertes virescens*	1
HB8	1440_8	Annelida	Cirratulidae	*Caulleriella venefica*	1

(continued)

Appendix Table G-3. (Continued)

Sample	Sample ID	Phylum	Family	Species/Taxon	Count
HB8	1440_8	Platyhelminthes		Turbellaria sp. 5 nai	1
HB8	1440_8	Arthropoda	Hippolytidae	*Hippolyte* sp.	1
HB9	2012_9	Annelida	Spionidae	*Streblospio benedicti*	975
HB9	2012_9	Arthropoda	Ampeliscidae	*Ampelisca abdita*	559
HB9	2012_9	Annelida	Capitellidae	*Mediomastus ambiseta*	314
HB9	2012_9	Mollusca	Nassariidae	*Ilyanassa obsoleta*	39
HB9	2012_9	Arthropoda	Corophiidae	*Monocorophium acherusicum*	19
HB9	2012_9	Arthropoda	Aoridae	*Grandidierella japonica*	18
HB9	2012_9	Annelida	Spionidae	*Polydora cornuta*	14
HB9	2012_9	Mollusca	Calyptraeidae	*Crepidula convexa*	13
HB9	2012_9	Annelida	Capitellidae	*Heteromastus filiformis*	11
HB9	2012_9	Annelida	Sabellariidae	*Sabellaria vulgaris*	9
HB9	2012_9	Annelida	Cirratulidae	*Tharyx acutus*	8
HB9	2012_9	Annelida	Orbiniidae	*Leitoscoloplos fragilis*	7
HB9	2012_9	Annelida	Phyllodocidae	*Hypereteone heteropoda*	7
HB9	2012_9	Annelida		Oligochaeta	7
HB9	2012_9	Mollusca	Veneridae	*Mercenaria mercenaria*	4
HB9	2012_9	Annelida	Goniadidae	*Glycinde solitaria*	4
HB9	2012_9	Arthropoda	Paguridae	*Pagurus longicarpus*	3
HB9	2012_9	Mollusca	Calyptraeidae	*Crepidula plana*	2
HB9	2012_9	Arthropoda	Ampeliscidae	*Ampelisca vadorum*	2
HB9	2012_9	Annelida	Glyceridae	*Glycera dibranchiata*	2
HB9	2012_9	Annelida	Glyceridae	*Glycera americana*	2
HB9	2012_9	Mollusca	Pyramidellidae	*Boonea bisuturalis*	2
HB9	2012_9	Chordata	Molgulidae	*Molgula manhattensis*	2
HB9	2012_9	Annelida	Hesionidae	*Gyptis vittata*	2
HB9	2012_9	Annelida	Phyllodocidae	*Eumida sanguinea*	1
HB9	2012_9	Annelida	Pectinariidae	*Pectinaria gouldii*	1
HB9	2012_9	Annelida	Syllidae	*Salvatoria clavata*	1
HB9	2012_9	Mollusca	Mactridae	*Mulinia lateralis*	1
HB9	2012_9	Annelida	Cirratulidae	Cirratulidae	1
HB9	2012_9	Nemertea	Lineidae	*Cerebratulus lacteus*	1
HB9	2012_9	Mollusca	Pyramidellidae	*Turbonilla interrupta*	1

Appendix Table G-4. Phylogenetic Listing of Macrofaunal Taxa Collected in Benthic Grab Samples during the September 2015 Macroinvertebrate Study. Taxa with Exclude code = 'B' were not included in diversity and richness calculations.

Phylum	Higher Taxon	Family	Species Taxon	Exclude Code
Platyhelminthes	Turbellaria		Turbellaria	B
			Turbellaria sp. 14 mwra	G
			Turbellaria sp. 5 nai	G
			Turbellaria sp. 6 nai	G
			Turbellaria sp. 9 nai	G
Nemertea	Nemertea	Amphiporidae	*Amphiporus bioculatus*	G
			Amphiporus ochraceus	G
			Zygonemertes virescens	G
		Carinomidae	*Carinoma tremaphoros*	G
		Lineidae	*Cerebratulus lacteus*	G
			Lineus ruber	G
Mollusca	Gastropoda		Gastropoda	B
			Nudibranchia	G
		Acteocinidae	*Acteocina canaliculata*	G
		Acteonidae	*Japonactaeon punctostriatus*	G
		Calyptraeidae	*Crepidula convexa*	G
			Crepidula sp.	B
		Columbellidae	*Astyris lunata*	G
		Corambidae	*Corambe obscura*	G
		Hydrobiidae	Hydrobiidae	G
		Muricidae	*Eupleura caudata*	G
			Urosalpinx cinerea	G
		Nassariidae	*Ilyanassa obsoleta*	G
			Ilyanassa trivittata	G
		Naticidae	*Neverita duplicata*	G
		Pyramidellidae	*Boonea bisuturalis*	G
			Fargoa bartschi	G
			Odostomia eburnea	G
			Turbonilla interrupta	G
Mollusca	Bivalvia	Anomiidae	*Anomia simplex*	G
		Lyonsiidae	*Lyonsia arenosa*	G
			Lyonsia sp.	B
		Mactridae	*Mulinia lateralis*	G
		Myidae	*Mya arenaria*	G
		Nuculidae	*Nucula proxima*	G

(continued)

Appendix Table G-4. (Continued)

Phylum	Higher Taxon	Family	Species Taxon	Exclude Code
Mollusca (cont'd)	Bivalvia (cont'd)	Solenidae	Solenidae	G
		Tellinidae	*Tellina agilis*	G
		Veneridae	*Gemma gemma*	G
			Mercenaria mercenaria	G
			Petricolaria pholadiformis	G
Annelida	Polychaeta	Ampharetidae	*Ampharete oculata*	G
		Capitellidae	*Capitella capitata complex*	G
			Heteromastus filiformis	G
			Mediomastus ambiseta	G
		Chaetopteridae	*Spiochaetopterus costarum oculatus*	G
		Cirratulidae	*Caulleriella venefica*	G
			Cirratulidae	B
			Tharyx acutus	G
		Dorvilleidae	*Schistomeringos annulata*	G
		Glyceridae	*Glycera americana*	G
			Glycera dibranchiata	G
			Glycera sp.	B
		Goniadidae	*Glycinde solitaria*	G
			Goniadidae	B
		Hesionidae	*Gyptis vittata*	G
			Microphthalmus fragilis	G
			Microphthalmus sczelkowii	G
			Microphthalmus sp.	B
			Oxydromus obscurus	G
		Magelonidae	*Magelona* sp.	G
		Maldanidae	*Euclymene collaris*	G
		Nephtyidae	*Bipalponephtys cornuta*	G
		Nereididae	*Alitta succinea*	G
			Neanthes arenaceodentata	G
			Nereididae	B
		Oenonidae	*Drilonereis longa*	G
		Orbiniidae	*Leitoscoloplos acutus*	G
			Leitoscoloplos fragilis	G
			Leitoscoloplos robustus	G
			Leitoscoloplos sp.	B

(continued)

Appendix Table G-4. (Continued)

Phylum	Higher Taxon	Family	Species Taxon	Exclude Code
Annelida (cont'd)	Polychaeta (cont'd)	Pectinariidae	*Pectinaria gouldii*	G
		Phyllodocidae	*Eumida sanguinea*	G
			Hypereteone heteropoda	G
		Polynoidae	*Lepidonotus squamatus*	G
			Lepidonotus sublevis	G
		Sabellidae	*Parasabella microphthalma*	G
		Sigalionidae	*Sthenelais boa*	G
			Sthenelais limicola	G
		Sphaerodoridae	*Sphaerodoridae*	G
		Spionidae	*Boccardiella* sp.	G
			Dipolydora socialis	G
			Polydora colonia	G
			Polydora cornuta	G
			Pygospio elegans	G
			Scolelepis (parascolelepis) texana	G
			Scolelepis sp.	B
			Spio filicornis	G
			Spio sp.	B
			Spiophanes bombyx	G
			Streblospio benedicti	G
		Syllidae	*Brania wellfleetensis*	G
			Exogone dispar	G
			Exogone verugera	G
			Myrianida prolifera	G
			Odontosyllis fulgurans	G
			Opisthodonta longocirrata	G
			Salvatoria clavata	G
			Streptosyllis verrilli	G
			Syllidae	B
		Terebellidae	*Polycirrus* sp.	G
Annelida	Oligochaeta		Oligochaeta	G
Arthropoda	Mysidacea	Mysidae	*Heteromysis formosa*	G
Arthropoda	Amphipoda	Ampeliscidae	*Ampelisca abdita*	G
			Ampelisca vadorum	G
		Aoridae	*Grandidierella japonica*	G
			Microdeutopus gryllotalpa	G

(continued)

Appendix Table G-4. (Continued)

Phylum	Higher Taxon	Family	Species Taxon	Exclude Code
Arthropoda (cont'd)	Amphipoda (cont'd)	Bateidae	*Batea catharinensis*	G
		Caprellidae	*Caprella penantis*	G
		Corophiidae	*Apocorophium acutum*	G
			Monocorophium acherusicum	G
			Monocorophium insidiosum	G
			Monocorophium tuberculatum	G
		Ischyroceridae	*Ericthonius brasiliensis*	G
		Lysianassidae	*Lysianopsis alba*	G
		Maeridae	*Elasmopus levis*	G
		Melitidae	*Melita nitida*	G
		Phoxocephalidae	*Eobrolgus spinosus*	G
		Stenothoidae	*Stenothoe* sp.	G
		Unciolidae	*Unciola serrata*	G
Arthropoda	Isopoda	Anthuridae	*Cyathura burbancki*	G
		Idoteidae	*Edotia triloba*	G
			Erichsonella filiformis	G
Arthropoda	Cumacea	Diastylidae	*Oxyurostylis smithi*	G
Arthropoda	Decapoda	Crangonidae	*Crangon septemspinosa*	G
		Hippolytidae	*Hippolyte* sp.	G
		Paguridae	*Pagurus longicarpus*	G
		Palaemoninae	*Palaemonetes vulgaris*	G
		Panopeidae	*Dyspanopeus sayi*	G
Chordata	Hemichordata	Harrimaniidae	*Saccoglossus kowalevskii*	G
Chordata	Urochordata	Molgulidae	*Molgula manhattensis*	G

Appendix Table G-5 Macroinvertebrate Community Parameters for Benthic Grab Samples Collected during the September 2015 Macroinvertebrate Study

Location, Sample		Total Abundance	Log-Series Alpha	Shannon-Wiener Diversity (H')	Pielou's Evenness (J')	Number of Species
Open Water	B10	2432	6.62	1.22	0.33	39
	B11	899	10.84	2.76	0.71	48
	B12	2669	6.11	1.87	0.52	37
	B13	2386	6.86	2.16	0.58	40
	B14	1494	9.25	1.86	0.48	47
	B15	1951	7.79	1.79	0.48	43
	B16	1176	7.52	1.89	0.52	38
	B17	2727	7.66	1.63	0.43	45
	B18	1587	7.07	2.07	0.57	38
	B19	1725	8.03	1.88	0.50	43
	B2	1256	9.90	2.56	0.66	48
	B20	921	6.20	1.99	0.58	31
	B21	1892	8.28	1.91	0.50	45
	B23	165	8.62	2.26	0.70	25
	B24	1637	7.46	1.98	0.54	40
	B25	1297	5.95	1.37	0.40	32
	B26	378	6.71	2.22	0.67	27
	B28	599	5.54	1.92	0.59	26
	B29	843	7.92	1.88	0.52	37
	B3	340	5.33	2.04	0.66	22
	B30	924	8.03	2.05	0.56	38
	B4	2538	7.80	2.11	0.56	44
	B40	737	7.10	2.13	0.61	33
	B44	1168	4.94	1.44	0.44	27
	B5	1926	7.16	1.63	0.44	40
	B59	853	7.64	1.95	0.55	36
	B6	1067	8.57	2.45	0.66	41
	B7	2231	6.51	1.46	0.40	38
	B8	1042	7.75	1.89	0.52	38
	B9	3149	6.87	1.45	0.39	42

(continued)

Appendix Table G-5. (Continued)

Location, Sample		Total Abundance	Log-Series Alpha	Shannon-Wiener Diversity (H')	Pielou's Evenness (J')	Number of Species
Near Hard-Bottom	HB1	315	5.39	2.32	0.75	22
	HB10	1583	5.69	1.69	0.49	32
	HB11	808	6.68	2.40	0.69	32
	HB12	1918	4.85	1.66	0.49	29
	HB13	1610	7.22	2.00	0.55	39
	HB14	446	6.46	2.47	0.75	27
	HB16	377	6.08	2.31	0.72	25
	HB17	2853	8.20	1.77	0.46	48
	HB19	2375	6.64	1.72	0.47	39
	HB2	3061	5.78	1.57	0.44	36
	HB20	2182	8.69	2.25	0.58	48
	HB21	331	5.49	2.27	0.73	22
	HB22	404	7.30	1.74	0.52	29
	HB23	933	6.68	1.87	0.53	33
	HB24	1241	6.00	1.69	0.49	32
	HB25	1808	6.16	1.73	0.49	35
	HB26	168	4.55	2.26	0.82	16
	HB27	1764	9.13	2.18	0.56	48
	HB28	2182	4.34	1.54	0.47	27
	HB29	975	7.89	2.21	0.61	38
	HB3	315	8.56	1.89	0.55	31
	HB30	68	8.66	2.44	0.86	17
	HB31	408	5.05	1.80	0.58	22
	HB33	4305	7.57	1.66	0.43	48
	HB4	888	9.96	2.43	0.64	44
	HB5	335	6.44	2.24	0.70	25
	HB6	1568	8.42	1.88	0.50	44
	HB7	2975	8.35	1.65	0.42	49
	HB8	1577	9.59	2.26	0.58	49
	HB9	2021	4.60	1.43	0.43	28

Appendix Table G-6 Contribution to Macroinvertebrate Abundance by Benthic Grab Sample for each Numerically Dominant Phyla and all Other Phyla Combined; September 2015 Macroinvertebrate Study

Location, Sample		Annelida	Arthropoda	Mollusca	Other phyla	Total Number of Species
Open Water	B10	2235	149	42	6	2432
	B11	524	348	14	13	899
	B12	2439	196	30	4	2669
	B13	1943	433	7	3	2386
	B14	1339	124	25	6	1494
	B15	1605	314	29	3	1951
	B16	1047	93	34	2	1176
	B17	2597	103	22	5	2727
	B18	1145	428	12	2	1587
	B19	1387	323	13	2	1725
	B2	761	476	13	6	1256
	B20	736	136	49	0	921
	B21	1788	82	18	4	1892
	B23	135	6	23	1	165
	B24	1330	284	22	1	1637
	B25	1122	19	150	6	1297
	B26	233	64	81	0	378
	B28	569	14	13	3	599
	B29	726	85	32	0	843
	B3	251	67	22	0	340
	B30	780	107	33	4	924
	B4	2009	495	33	1	2538
	B40	600	47	89	1	737
	B44	379	26	763	0	1168
	B5	1810	89	27	0	1926
	B59	727	75	50	1	853
	B6	868	175	19	5	1067
	B7	2115	102	8	6	2231
	B8	815	216	10	1	1042
	B9	2948	141	54	6	3149

(continued)

Appendix Table G-6. (Continued)

Location, Sample		Annelida	Arthropoda	Mollusca	Other phyla	Total Number of Species
Near Hard-Bottom	HB1	195	32	82	6	315
	HB10	1362	207	14	0	1583
	HB11	447	287	71	3	808
	HB12	1277	564	75	2	1918
	HB13	1465	88	54	3	1610
	HB14	329	66	49	2	446
	HB16	243	98	36	0	377
	HB17	2501	228	120	4	2853
	HB19	2064	193	95	23	2375
	HB2	2881	108	65	7	3061
	HB20	1694	324	154	10	2182
	HB21	251	23	57	0	331
	HB22	358	40	5	1	404
	HB23	799	74	60	0	933
	HB24	1103	114	24	0	1241
	HB25	1692	71	39	6	1808
	HB26	117	8	36	7	168
	HB27	1565	87	110	2	1764
	HB28	1813	296	72	1	2182
	HB29	824	110	40	1	975
	HB3	255	42	18	0	315
	HB30	40	8	10	10	68
	HB31	332	23	53	0	408
	HB33	4042	210	41	12	4305
	HB4	481	308	95	4	888
	HB5	266	24	41	4	335
	HB6	1340	137	89	2	1568
	HB7	2476	474	17	8	2975
	HB8	1114	225	234	4	1577
	HB9	1357	601	60	3	2021

Appendix Table G-7 Contribution to Macroinvertebrate Species Richness by Benthic Grab Sample for each Numerically Dominant Phyla and all Other Phyla Combined; September 2015 Macroinvertebrate Study

Location, Sample		Annelida	Arthropoda	Mollusca	Other phyla	Total Number of Species
Open Water	B10	20	11	5	3	39
	B11	22	15	8	3	48
	B12	18	11	6	2	37
	B13	24	10	4	2	40
	B14	21	11	12	3	47
	B15	21	13	8	1	43
	B16	18	13	6	1	38
	B17	21	12	9	3	45
	B18	20	12	4	2	38
	B19	22	11	8	2	43
	B2	22	14	8	4	48
	B20	16	9	6	0	31
	B21	23	11	8	3	45
	B23	13	4	7	1	25
	B24	20	14	5	1	40
	B25	20	4	6	2	32
	B26	11	8	8	0	27
	B28	16	6	2	2	26
	B29	17	10	10	0	37
	B3	14	4	4	0	22
	B30	16	12	7	3	38
	B4	22	13	8	1	44
	B40	16	9	7	1	33
	B44	15	5	7	0	27
	B5	20	12	8	0	40
	B59	14	12	9	1	36
	B6	23	12	4	2	41
	B7	21	12	2	3	38
	B8	17	14	6	1	38
	B9	22	11	6	3	42

(continued)

Appendix Table G-7. (Continued)

Location, Sample		Annelida	Arthropoda	Mollusca	Other phyla	Total Number of Species
Near Hard-Bottom	HB1	11	3	6	2	22
	HB10	15	11	6	0	32
	HB11	17	6	6	3	32
	HB12	14	5	9	1	29
	HB13	18	10	9	2	39
	HB14	15	6	5	1	27
	HB16	11	9	5	0	25
	HB17	22	14	9	3	48
	HB19	21	8	7	3	39
	HB2	17	13	5	1	36
	HB20	25	10	8	5	48
	HB21	13	4	5	0	22
	HB22	15	10	3	1	29
	HB23	15	10	8	0	33
	HB24	17	8	7	0	32
	HB25	20	7	6	2	35
	HB26	6	3	6	1	16
	HB27	24	14	8	2	48
	HB28	16	5	5	1	27
	HB29	18	13	6	1	38
	HB3	15	11	5	0	31
	HB30	8	4	4	1	17
	HB31	14	4	4	0	22
	HB33	24	14	5	5	48
	HB4	18	14	10	2	44
	HB5	13	5	6	1	25
	HB6	22	10	10	2	44
	HB7	25	12	8	4	49
	HB8	25	12	9	3	49
	HB9	15	5	6	2	28

Appendix Table G-8 Macroinvertebrate Biomass for Benthic Grab Samples Collected during the September 2015 Macroinvertebrate Study

Sample	Dry Weight (g)	Ash Free Dry Mass (g)
B10	8.909	0.740
B11	0.855	0.282
B12	2.932	0.306
B13	0.491	0.206
B14	2.648	0.215
B15	7.376	0.740
B16	2.278	0.336
B17	4.040	0.724
B18	3.656	0.401
B19	20.645	3.197
B2	2.522	0.452
B20	5.327	0.349
B21	0.977	0.149
B23	3.881	0.261
B24	6.996	0.654
B25	1.657	0.145
B26	5.598	0.387
B28	2.823	0.408
B29	3.997	0.330
B3	2.080	0.180
B30	0.619	0.133
B4	7.723	0.824
B40	7.306	0.467
B44	15.849	1.121
B5	1.919	0.266
B59	7.878	0.763
B6	5.543	0.473
B7	1.763	0.182
B8	0.376	0.152
B9	21.075	1.934
HB1	3.594	0.256
HB10	3.475	0.346
HB11	5.219	0.421
HB12	6.465	2.410
HB13	2.136	0.242

(continued)

Appendix Table G-8. (Continued)

Sample	Dry Weight (g)	Ash Free Dry Mass (g)
HB14	4.319	0.323
HB16	13.312	1.005
HB17	5.326	0.496
HB19	3.008	0.322
HB2	16.748	1.752
HB20	19.510	1.836
HB21	3.186	0.243
HB22	0.720	0.117
HB23	28.778	2.911
HB24	7.582	0.675
HB25	6.191	0.582
HB26	6.734	0.480
HB27	3.046	0.321
HB28	4.556	0.389
HB29	3.393	0.372
HB3	4.271	0.415
HB30	1.302	0.114
HB31	5.037	0.495
HB33	16.874	1.872
HB4	14.846	1.207
HB5	5.886	0.428
HB6	12.145	1.145
HB7	1.387	0.238
HB8	14.482	1.474
HB9	1.736	0.320

Appendix Table G-9. Hard Clam Counts, Length, and Collection Method for the September 2015 Macroinvertebrate Study.

Sample ID	Collection Method	Total Count	Mean clam length (mm)
1129_20	Clam rake	7	73
1217_42	Clam rake (7 clams), van Veen grab (1 clam)	8	65
1363_24	SCUBA diver	10	72
1364_6	Clam rake	6	70
1374_22	Clam rake	7	77
1438_23	SCUBA diver	12	76
1439_20	Clam rake	6	75
1440_8	Clam rake	6	73
1787_44	Clam rake	6	70
2012_9	SCUBA diver	11	76
2013_28	SCUBA diver	10	70
2014_19	SCUBA diver	9	74
2071_12	SCUBA diver	11	71
2146_25	Clam rake	6	77
654_9	Clam rake	6	70
659_7	Clam rake	6	75
714_40	Clam rake (5 clams), van Veen grab (1 clam)	6	68
717_59	Clam rake (7 clams), van Veen grab (1 clam)	8	70
720_16	Clam rake	7	66
986_26	Clam rake	7	75
HB02_1	SCUBA diver	6	76
HB02_2	SCUBA diver	6	72
HB04_6	SCUBA diver	6	81
HB04_7	SCUBA diver	6	79
HB05_8	SCUBA diver	6	71
HB05_9	SCUBA diver	6	70
HB06_11	SCUBA diver	11	74
HB06_12	SCUBA diver	11	78
HB07_13	SCUBA diver	10	76
HB07_14	SCUBA diver	8	66

Appendix Table G-10. Hard Clam Tissue Contaminant Data by Sample.

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1129_20	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.46	JK	ng/Kg	3.49	0.0781	8290A
1129_20	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.34	BJ	ng/Kg	3.49	0.0682	8290A
1129_20	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	3.49	U	ng/Kg	3.49	0.0872	8290A
1129_20	Dioxin/Furan	1,2,3,4,7,8-HxCDD	3.49	U	ng/Kg	3.49	0.162	8290A
1129_20	Dioxin/Furan	1,2,3,4,7,8-HxCDF	3.49	U	ng/Kg	3.49	0.0873	8290A
1129_20	Dioxin/Furan	1,2,3,6,7,8-HxCDD	3.49	U	ng/Kg	3.49	0.178	8290A
1129_20	Dioxin/Furan	1,2,3,6,7,8-HxCDF	3.49	U	ng/Kg	3.49	0.0808	8290A
1129_20	Dioxin/Furan	1,2,3,7,8,9-HxCDD	3.49	U	ng/Kg	3.49	0.154	8290A
1129_20	Dioxin/Furan	1,2,3,7,8,9-HxCDF	3.49	U	ng/Kg	3.49	0.122	8290A
1129_20	Dioxin/Furan	1,2,3,7,8-PeCDD	3.49	U	ng/Kg	3.49	0.207	8290A
1129_20	Dioxin/Furan	1,2,3,7,8-PeCDF	3.49	U	ng/Kg	3.49	0.129	8290A
1129_20	Dioxin/Furan	2,3,4,6,7,8-HxCDF	3.49	U	ng/Kg	3.49	0.0928	8290A
1129_20	Dioxin/Furan	2,3,4,7,8-PeCDF	3.49	U	ng/Kg	3.49	0.129	8290A
1129_20	Dioxin/Furan	2,3,7,8-TCDD	0.7	U	ng/Kg	0.7	0.248	8290A
1129_20	Dioxin/Furan	2,3,7,8-TCDF	0.6	JK	ng/Kg	0.7	0.341	8290A
1129_20	Dioxin/Furan	OCDD	2.46	BJ	ng/Kg	6.98	0.267	8290A
1129_20	Dioxin/Furan	OCDF	6.98	U	ng/Kg	6.98	0.266	8290A
1129_20	Dioxin/Furan	Total Hepta-Dioxins	3.49	U	ng/Kg	3.49	0.0781	8290A
1129_20	Dioxin/Furan	Total Hepta-Furans	3.49	U	ng/Kg	3.49	0.0771	8290A
1129_20	Dioxin/Furan	Total Hexa-Dioxins	3.49	U	ng/Kg	3.49	0.164	8290A
1129_20	Dioxin/Furan	Total Hexa-Furans	3.49	U	ng/Kg	3.49	0.0938	8290A
1129_20	Dioxin/Furan	Total Penta-Dioxins	3.49	U	ng/Kg	3.49	0.207	8290A
1129_20	Dioxin/Furan	Total Penta-Furans	3.49	U	ng/Kg	3.49	0.129	8290A
1129_20	Dioxin/Furan	Total Tetra-Dioxins	0.7	U	ng/Kg	0.7	0.248	8290A
1129_20	Dioxin/Furan	Total Tetra-Furans	0.7	U	ng/Kg	0.7	0.341	8290A
1129_20	Lipid	Lipids, Total	0.34		%	0.01	.	NOAA LIPID
1129_20	Metal	Aluminum	31.8		mg/Kg	1.9	0.2	6020A
1129_20	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
1129_20	Metal	Arsenic	14.2		mg/Kg	0.46	0.02	6020A
1129_20	Metal	Barium	1.59		mg/Kg	0.05	0.005	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1129_20	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
1129_20	Metal	Cadmium	1.42		mg/Kg	0.02	0.004	6020A
1129_20	Metal	Calcium	6490		mg/Kg	1.9	1.9	6010C
1129_20	Metal	Chromium	0.53		mg/Kg	0.19	0.02	6020A
1129_20	Metal	Cobalt	1.21		mg/Kg	0.02	0.003	6020A
1129_20	Metal	Copper	13.7		mg/Kg	0.09	0.02	6020A
1129_20	Metal	Iron	167		mg/Kg	3.7	0.9	6010C
1129_20	Metal	Lead	2.61	*	mg/Kg	0.02	0.0005	6020A
1129_20	Metal	Magnesium	5770		mg/Kg	0.9	0.6	6010C
1129_20	Metal	Manganese	289		mg/Kg	0.05	0.01	6020A
1129_20	Metal	Mercury	0.1		mg/Kg	0.02	0.004	7471B
1129_20	Metal	Nickel	3.66		mg/Kg	0.19	0.02	6020A
1129_20	Metal	Potassium	12600		mg/Kg	37	8.4	6010C
1129_20	Metal	Selenium	2.8		mg/Kg	0.9	0.2	6020A
1129_20	Metal	Silver	4.21		mg/Kg	0.02	0.006	6020A
1129_20	Metal	Sodium	43000		mg/Kg	372	18.6	6010C
1129_20	Metal	Strontium	88		mg/Kg	0.09	0.03	6010C
1129_20	Metal	Tin	0.06		mg/Kg	0.05	0.028	6020A
1129_20	Metal	Titanium	0.68		mg/Kg	0.19	0.07	6010C
1129_20	Metal	Vanadium	0.67		mg/Kg	0.19	0.007	6020A
1129_20	Metal	Zinc	221		mg/Kg	0.46	0.06	6020A
1129_20	Organochloride Pesticide	4,4'-DDD	1.6	P	ug/Kg	1	0.55	8081B
1129_20	Organochloride Pesticide	4,4'-DDE	1.4	Ui	ug/Kg	1.4	1.4	8081B
1129_20	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.65	8081B
1129_20	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
1129_20	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
1129_20	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
1129_20	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
1129_20	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
1129_20	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1129_20	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
1129_20	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
1129_20	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
1129_20	Organochloride Pesticide	Heptachlor Epoxide	1	Ui	ug/Kg	1	0.23	8081B
1129_20	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
1129_20	Organochloride Pesticide	Toxaphene	50	Ui	ug/Kg	50	16	8081B
1129_20	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
1129_20	Organochloride Pesticide	alpha-Chlordane	0.43	JP	ug/Kg	1	0.25	8081B
1129_20	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
1129_20	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
1129_20	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
1129_20	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.28	8081B
1129_20	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
1129_20	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1129_20	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
1129_20	PCB	Aroclor 1242	7.4	J	ug/Kg	10	2.8	8082A
1129_20	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
1129_20	PCB	Aroclor 1254	13		ug/Kg	10	2.8	8082A
1129_20	PCB	Aroclor 1260	3.9	J	ug/Kg	10	2.8	8082A
1129_20	Semivolatile Organic Coumpound/PAH	2-Methylphenol	39	U	ug/Kg	39	8.1	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	4-Methylphenol	39	U	ug/Kg	39	8.7	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Acenaphthene	0.99	J	ug/Kg	9.9	0.93	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Acenaphthylene	1.1	J	ug/Kg	9.9	0.91	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.76	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	9.9	0.76	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1129_20	Semivolatile Organic Coumpound/PAH	Chrysene	2.5	J	ug/Kg	9.9	1.1	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.8	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.7	J	ug/Kg	9.9	0.97	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Fluorene	2.2	J	ug/Kg	9.9	1.1	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	96	U	ug/Kg	96	7.6	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Phenanthrene	3.7	J	ug/Kg	9.9	1.4	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Phenol	72	J	ug/Kg	2000	19	8270D SIM
1129_20	Semivolatile Organic Coumpound/PAH	Pyrene	6.1	J	ug/Kg	9.9	0.99	8270D SIM
1129_20	Total Solids	Total Solids	11.7		%	.	.	Freeze Dry
1217_42	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.84	JK	ng/Kg	3.33	0.0824	8290A
1217_42	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.27	BJ	ng/Kg	3.33	0.0605	8290A
1217_42	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	3.33	U	ng/Kg	3.33	0.0734	8290A
1217_42	Dioxin/Furan	1,2,3,4,7,8-HxCDD	3.33	U	ng/Kg	3.33	0.14	8290A
1217_42	Dioxin/Furan	1,2,3,4,7,8-HxCDF	3.33	U	ng/Kg	3.33	0.121	8290A
1217_42	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.24	J	ng/Kg	3.33	0.143	8290A
1217_42	Dioxin/Furan	1,2,3,6,7,8-HxCDF	3.33	U	ng/Kg	3.33	0.11	8290A
1217_42	Dioxin/Furan	1,2,3,7,8,9-HxCDD	3.33	U	ng/Kg	3.33	0.128	8290A
1217_42	Dioxin/Furan	1,2,3,7,8,9-HxCDF	3.33	U	ng/Kg	3.33	0.158	8290A
1217_42	Dioxin/Furan	1,2,3,7,8-PeCDD	3.33	U	ng/Kg	3.33	0.22	8290A
1217_42	Dioxin/Furan	1,2,3,7,8-PeCDF	3.33	U	ng/Kg	3.33	0.129	8290A
1217_42	Dioxin/Furan	2,3,4,6,7,8-HxCDF	3.33	U	ng/Kg	3.33	0.119	8290A
1217_42	Dioxin/Furan	2,3,4,7,8-PeCDF	3.33	U	ng/Kg	3.33	0.122	8290A
1217_42	Dioxin/Furan	2,3,7,8-TCDD	0.67	U	ng/Kg	0.67	0.171	8290A
1217_42	Dioxin/Furan	2,3,7,8-TCDF	0.67	U	ng/Kg	0.67	0.485	8290A
1217_42	Dioxin/Furan	OCDD	3.27	BJ	ng/Kg	6.66	0.0686	8290A
1217_42	Dioxin/Furan	OCDF	1.5	BJ	ng/Kg	6.66	0.249	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1217_42	Dioxin/Furan	Total Hepta-Dioxins	3.33	U	ng/Kg	3.33	0.0824	8290A
1217_42	Dioxin/Furan	Total Hepta-Furans	3.33	U	ng/Kg	3.33	0.0668	8290A
1217_42	Dioxin/Furan	Total Hexa-Dioxins	0.24	J	ng/Kg	3.33	0.137	8290A
1217_42	Dioxin/Furan	Total Hexa-Furans	3.33	U	ng/Kg	3.33	0.125	8290A
1217_42	Dioxin/Furan	Total Penta-Dioxins	3.33	U	ng/Kg	3.33	0.22	8290A
1217_42	Dioxin/Furan	Total Penta-Furans	3.33	U	ng/Kg	3.33	0.125	8290A
1217_42	Dioxin/Furan	Total Tetra-Dioxins	0.67	U	ng/Kg	0.67	0.171	8290A
1217_42	Dioxin/Furan	Total Tetra-Furans	0.67	U	ng/Kg	0.67	0.485	8290A
1217_42	Lipid	Lipids, Total	0.27		%	0.01	.	NOAA LIPID
1217_42	Metal	Aluminum	20.3		mg/Kg	1.9	0.2	6020A
1217_42	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
1217_42	Metal	Arsenic	10.9		mg/Kg	0.47	0.02	6020A
1217_42	Metal	Barium	1.42		mg/Kg	0.05	0.005	6020A
1217_42	Metal	Beryllium	0.02	J	mg/Kg	0.02	0.003	6020A
1217_42	Metal	Cadmium	1.05		mg/Kg	0.02	0.004	6020A
1217_42	Metal	Calcium	8750		mg/Kg	1.9	1.9	6010C
1217_42	Metal	Chromium	0.46		mg/Kg	0.19	0.02	6020A
1217_42	Metal	Cobalt	1.21		mg/Kg	0.02	0.003	6020A
1217_42	Metal	Copper	13.7		mg/Kg	0.09	0.02	6020A
1217_42	Metal	Iron	141		mg/Kg	3.7	0.9	6010C
1217_42	Metal	Lead	2.15	*	mg/Kg	0.02	0.0005	6020A
1217_42	Metal	Magnesium	5530		mg/Kg	0.9	0.6	6010C
1217_42	Metal	Manganese	190		mg/Kg	0.05	0.01	6020A
1217_42	Metal	Mercury	0.06		mg/Kg	0.02	0.004	7471B
1217_42	Metal	Nickel	4.15		mg/Kg	0.19	0.02	6020A
1217_42	Metal	Potassium	12900		mg/Kg	37	8.4	6010C
1217_42	Metal	Selenium	1.9		mg/Kg	0.9	0.2	6020A
1217_42	Metal	Silver	2.03		mg/Kg	0.02	0.006	6020A
1217_42	Metal	Sodium	39200		mg/Kg	373	18.6	6010C
1217_42	Metal	Strontium	94.9		mg/Kg	0.09	0.03	6010C

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1217_42	Metal	Tin	0.05	J	mg/Kg	0.05	0.028	6020A
1217_42	Metal	Titanium	0.49		mg/Kg	0.19	0.08	6010C
1217_42	Metal	Vanadium	0.44		mg/Kg	0.19	0.007	6020A
1217_42	Metal	Zinc	208		mg/Kg	0.47	0.06	6020A
1217_42	Organochloride Pesticide	4,4'-DDD	1.7		ug/Kg	1	0.55	8081B
1217_42	Organochloride Pesticide	4,4'-DDE	1.3	Ui	ug/Kg	1.3	1.3	8081B
1217_42	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.56	8081B
1217_42	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
1217_42	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
1217_42	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
1217_42	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
1217_42	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
1217_42	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
1217_42	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
1217_42	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
1217_42	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
1217_42	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
1217_42	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
1217_42	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
1217_42	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
1217_42	Organochloride Pesticide	alpha-Chlordane	1	U	ug/Kg	1	0.25	8081B
1217_42	Organochloride Pesticide	beta-BHC	1.1		ug/Kg	1	0.41	8081B
1217_42	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
1217_42	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
1217_42	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
1217_42	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
1217_42	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1217_42	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
1217_42	PCB	Aroclor 1242	5	JP	ug/Kg	10	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1217_42	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
1217_42	PCB	Aroclor 1254	10		ug/Kg	10	2.8	8082A
1217_42	PCB	Aroclor 1260	3.6	J	ug/Kg	10	2.8	8082A
1217_42	Semivolatile Organic Coumpound/PAH	2-Methylphenol	39	U	ug/Kg	39	8.1	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	4-Methylphenol	39	U	ug/Kg	39	8.7	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.75	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.5	J	ug/Kg	9.9	0.75	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Chrysene	2.1	J	ug/Kg	9.9	1.1	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.5	J	ug/Kg	9.9	0.97	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	96	U	ug/Kg	96	7.6	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Phenanthrene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Phenol	81	J	ug/Kg	2000	19	8270D SIM
1217_42	Semivolatile Organic Coumpound/PAH	Pyrene	4.7	J	ug/Kg	9.9	0.99	8270D SIM
1217_42	Total Solids	Total Solids	12.4		%	.	.	Freeze Dry
1363_24	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.91	J	ng/Kg	2.5	0.0393	8290A
1363_24	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.4	J	ng/Kg	2.5	0.0241	8290A
1363_24	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.1	JK	ng/Kg	2.5	0.027	8290A
1363_24	Dioxin/Furan	1,2,3,4,7,8-HxCDD	2.5	U	ng/Kg	2.5	0.0305	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1363_24	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.11	JK	ng/Kg	2.5	0.0281	8290A
1363_24	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.15	J	ng/Kg	2.5	0.0327	8290A
1363_24	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.1	J	ng/Kg	2.5	0.0276	8290A
1363_24	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.14	JK	ng/Kg	2.5	0.029	8290A
1363_24	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.12	J	ng/Kg	2.5	0.034	8290A
1363_24	Dioxin/Furan	1,2,3,7,8-PeCDD	0.13	J	ng/Kg	2.5	0.0503	8290A
1363_24	Dioxin/Furan	1,2,3,7,8-PeCDF	0.11	JK	ng/Kg	2.5	0.0378	8290A
1363_24	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.11	J	ng/Kg	2.5	0.0291	8290A
1363_24	Dioxin/Furan	2,3,4,7,8-PeCDF	0.17	J	ng/Kg	2.5	0.0369	8290A
1363_24	Dioxin/Furan	2,3,7,8-TCDD	0.23	JK	ng/Kg	0.5	0.0731	8290A
1363_24	Dioxin/Furan	2,3,7,8-TCDF	0.62		ng/Kg	0.5	0.0566	8290A
1363_24	Dioxin/Furan	OCDD	9.39		ng/Kg	5	0.122	8290A
1363_24	Dioxin/Furan	OCDF	1.33	J	ng/Kg	5	0.102	8290A
1363_24	Dioxin/Furan	Total Hepta-Dioxins	1.98	J	ng/Kg	2.5	0.0393	8290A
1363_24	Dioxin/Furan	Total Hepta-Furans	0.4	J	ng/Kg	2.5	0.0255	8290A
1363_24	Dioxin/Furan	Total Hexa-Dioxins	0.4	J	ng/Kg	2.5	0.0307	8290A
1363_24	Dioxin/Furan	Total Hexa-Furans	0.42	J	ng/Kg	2.5	0.0295	8290A
1363_24	Dioxin/Furan	Total Penta-Dioxins	0.3	J	ng/Kg	2.5	0.0503	8290A
1363_24	Dioxin/Furan	Total Penta-Furans	0.62	J	ng/Kg	2.5	0.0374	8290A
1363_24	Dioxin/Furan	Total Tetra-Dioxins	0.67		ng/Kg	0.5	0.0731	8290A
1363_24	Dioxin/Furan	Total Tetra-Furans	1.72		ng/Kg	0.5	0.0566	8290A
1363_24	Lipid	Lipids, Total	0.73		%	0.02	.	NOAA LIPID
1363_24	Metal	Aluminum	126		mg/Kg	1.9	0.2	6020A
1363_24	Metal	Antimony	0.02	J	mg/Kg	0.05	0.002	6020A
1363_24	Metal	Arsenic	15.1		mg/Kg	0.48	0.02	6020A
1363_24	Metal	Barium	1.98		mg/Kg	0.05	0.005	6020A
1363_24	Metal	Beryllium	0.04		mg/Kg	0.02	0.003	6020A
1363_24	Metal	Cadmium	1.34		mg/Kg	0.02	0.004	6020A
1363_24	Metal	Calcium	6320		mg/Kg	1.9	1.9	6010C
1363_24	Metal	Chromium	1.06		mg/Kg	0.19	0.02	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1363_24	Metal	Cobalt	1.76		mg/Kg	0.02	0.003	6020A
1363_24	Metal	Copper	14		mg/Kg	0.1	0.02	6020A
1363_24	Metal	Iron	281	N	mg/Kg	3.9	1	6010C
1363_24	Metal	Lead	3.03		mg/Kg	0.02	0.0005	6020A
1363_24	Metal	Magnesium	5620		mg/Kg	1	0.6	6010C
1363_24	Metal	Manganese	326		mg/Kg	0.05	0.01	6020A
1363_24	Metal	Mercury	0.13		mg/Kg	0.02	0.004	7471B
1363_24	Metal	Nickel	5.63		mg/Kg	0.19	0.02	6020A
1363_24	Metal	Potassium	11700		mg/Kg	38	8.7	6010C
1363_24	Metal	Selenium	3.1		mg/Kg	1	0.2	6020A
1363_24	Metal	Silver	5.86		mg/Kg	0.02	0.006	6020A
1363_24	Metal	Sodium	39000		mg/Kg	385	19.2	6010C
1363_24	Metal	Strontium	86.4		mg/Kg	0.1	0.03	6010C
1363_24	Metal	Tin	0.09		mg/Kg	0.05	0.029	6020A
1363_24	Metal	Titanium	3.42	*	mg/Kg	0.19	0.08	6010C
1363_24	Metal	Vanadium	1.04		mg/Kg	0.19	0.007	6020A
1363_24	Metal	Zinc	251		mg/Kg	0.48	0.06	6020A
1363_24	Organochloride Pesticide	4,4'-DDD	2.2		ug/Kg	0.98	0.55	8081B
1363_24	Organochloride Pesticide	4,4'-DDE	1.3	Ui	ug/Kg	1.3	1.3	8081B
1363_24	Organochloride Pesticide	4,4'-DDT	0.98	Ui	ug/Kg	0.98	0.59	8081B
1363_24	Organochloride Pesticide	Aldrin	1.1	Ui	ug/Kg	1.1	1.1	8081B
1363_24	Organochloride Pesticide	Dieldrin	0.98	U	ug/Kg	0.98	0.2	8081B
1363_24	Organochloride Pesticide	Endosulfan I	0.98	U	ug/Kg	0.98	0.22	8081B
1363_24	Organochloride Pesticide	Endosulfan II	0.98	U	ug/Kg	0.98	0.24	8081B
1363_24	Organochloride Pesticide	Endosulfan Sulfate	0.98	U	ug/Kg	0.98	0.53	8081B
1363_24	Organochloride Pesticide	Endrin	0.98	U	ug/Kg	0.98	0.28	8081B
1363_24	Organochloride Pesticide	Endrin Aldehyde	0.98	U	ug/Kg	0.98	0.62	8081B
1363_24	Organochloride Pesticide	Endrin Ketone	0.98	U	ug/Kg	0.98	0.39	8081B
1363_24	Organochloride Pesticide	Heptachlor	0.98	U	ug/Kg	0.98	0.27	8081B
1363_24	Organochloride Pesticide	Heptachlor Epoxide	0.98	Ui	ug/Kg	0.98	0.28	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1363_24	Organochloride Pesticide	Methoxychlor	0.98	U	ug/Kg	0.98	0.48	8081B
1363_24	Organochloride Pesticide	Toxaphene	49	U	ug/Kg	49	13	8081B
1363_24	Organochloride Pesticide	alpha-BHC	0.98	U	ug/Kg	0.98	0.16	8081B
1363_24	Organochloride Pesticide	alpha-Chlordane	1.2	Ui	ug/Kg	1.2	1.2	8081B
1363_24	Organochloride Pesticide	beta-BHC	0.49	JP	ug/Kg	0.98	0.41	8081B
1363_24	Organochloride Pesticide	delta-BHC	0.98	U	ug/Kg	0.98	0.2	8081B
1363_24	Organochloride Pesticide	gamma-BHC (Lindane)	0.98	U	ug/Kg	0.98	0.21	8081B
1363_24	Organochloride Pesticide	gamma-Chlordane	0.98	U	ug/Kg	0.98	0.26	8081B
1363_24	PCB	Aroclor 1016	9.8	U	ug/Kg	9.8	2.8	8082A
1363_24	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1363_24	PCB	Aroclor 1232	9.8	U	ug/Kg	9.8	2.8	8082A
1363_24	PCB	Aroclor 1242	7.3	J	ug/Kg	9.8	2.8	8082A
1363_24	PCB	Aroclor 1248	9.8	U	ug/Kg	9.8	2.8	8082A
1363_24	PCB	Aroclor 1254	14		ug/Kg	9.8	2.8	8082A
1363_24	PCB	Aroclor 1260	4.1	J	ug/Kg	9.8	2.8	8082A
1363_24	Semivolatile Organic Coumpound/PAH	2-Methylphenol	38	U	ug/Kg	38	8.1	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	4-Methylphenol	38	U	ug/Kg	38	8.7	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.3	J	ug/Kg	10	0.76	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Chrysene	2.7	J	ug/Kg	10	1.1	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.7	J	ug/Kg	10	0.98	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1363_24	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	95	U	ug/Kg	95	7.6	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Phenanthrene	10	U	ug/Kg	10	1.4	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Phenol	44	J	ug/Kg	1900	19	8270D SIM
1363_24	Semivolatile Organic Coumpound/PAH	Pyrene	7.4	J	ug/Kg	10	1	8270D SIM
1363_24	Total Solids	Total Solids	12.6		%	.	.	Freeze Dry
1364_6	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	2.1	J	ng/Kg	2.46	0.0265	8290A
1364_6	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.26	J	ng/Kg	2.46	0.0294	8290A
1364_6	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.08	J	ng/Kg	2.46	0.0334	8290A
1364_6	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.06	JK	ng/Kg	2.46	0.0509	8290A
1364_6	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.09	J	ng/Kg	2.46	0.0265	8290A
1364_6	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.15	JK	ng/Kg	2.46	0.0553	8290A
1364_6	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.06	J	ng/Kg	2.46	0.0257	8290A
1364_6	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.1	JK	ng/Kg	2.46	0.0487	8290A
1364_6	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.12	J	ng/Kg	2.46	0.0342	8290A
1364_6	Dioxin/Furan	1,2,3,7,8-PeCDD	0.09	J	ng/Kg	2.46	0.0495	8290A
1364_6	Dioxin/Furan	1,2,3,7,8-PeCDF	0.12	JK	ng/Kg	2.46	0.0178	8290A
1364_6	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.1	JK	ng/Kg	2.46	0.0283	8290A
1364_6	Dioxin/Furan	2,3,4,7,8-PeCDF	0.16	J	ng/Kg	2.46	0.0173	8290A
1364_6	Dioxin/Furan	2,3,7,8-TCDD	0.19	JK	ng/Kg	0.49	0.0893	8290A
1364_6	Dioxin/Furan	2,3,7,8-TCDF	0.55		ng/Kg	0.49	0.0576	8290A
1364_6	Dioxin/Furan	OCDD	8.66		ng/Kg	4.92	0.144	8290A
1364_6	Dioxin/Furan	OCDF	0.53	J	ng/Kg	4.92	0.0976	8290A
1364_6	Dioxin/Furan	Total Hepta-Dioxins	4.19		ng/Kg	2.46	0.0265	8290A
1364_6	Dioxin/Furan	Total Hepta-Furans	0.58	J	ng/Kg	2.46	0.0312	8290A
1364_6	Dioxin/Furan	Total Hexa-Dioxins	1.48	J	ng/Kg	2.46	0.0516	8290A
1364_6	Dioxin/Furan	Total Hexa-Furans	0.41	J	ng/Kg	2.46	0.0283	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1364_6	Dioxin/Furan	Total Penta-Dioxins	0.57	J	ng/Kg	2.46	0.0495	8290A
1364_6	Dioxin/Furan	Total Penta-Furans	0.51	J	ng/Kg	2.46	0.0176	8290A
1364_6	Dioxin/Furan	Total Tetra-Dioxins	0.49	U	ng/Kg	0.49	0.0893	8290A
1364_6	Dioxin/Furan	Total Tetra-Furans	1.66		ng/Kg	0.49	0.0576	8290A
1364_6	Lipid	Lipids, Total	0.29		%	0.01	.	NOAA LIPID
1364_6	Metal	Aluminum	23.8		mg/Kg	1.9	0.2	6020A
1364_6	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
1364_6	Metal	Arsenic	10.9		mg/Kg	0.47	0.02	6020A
1364_6	Metal	Barium	1.67		mg/Kg	0.05	0.005	6020A
1364_6	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
1364_6	Metal	Cadmium	1.63		mg/Kg	0.02	0.004	6020A
1364_6	Metal	Calcium	7270		mg/Kg	1.9	1.9	6010C
1364_6	Metal	Chromium	0.75		mg/Kg	0.19	0.02	6020A
1364_6	Metal	Cobalt	1.38		mg/Kg	0.02	0.003	6020A
1364_6	Metal	Copper	14		mg/Kg	0.09	0.02	6020A
1364_6	Metal	Iron	142		mg/Kg	3.8	0.9	6010C
1364_6	Metal	Lead	1.99	*	mg/Kg	0.02	0.0005	6020A
1364_6	Metal	Magnesium	6450		mg/Kg	0.9	0.6	6010C
1364_6	Metal	Manganese	304		mg/Kg	0.05	0.01	6020A
1364_6	Metal	Mercury	0.09		mg/Kg	0.02	0.004	7471B
1364_6	Metal	Nickel	4.58		mg/Kg	0.19	0.02	6020A
1364_6	Metal	Potassium	14100		mg/Kg	38	8.5	6010C
1364_6	Metal	Selenium	2.6		mg/Kg	0.9	0.2	6020A
1364_6	Metal	Silver	3.41		mg/Kg	0.02	0.006	6020A
1364_6	Metal	Sodium	46000		mg/Kg	377	18.9	6010C
1364_6	Metal	Strontium	98.3		mg/Kg	0.09	0.03	6010C
1364_6	Metal	Tin	0.06		mg/Kg	0.05	0.028	6020A
1364_6	Metal	Titanium	0.54		mg/Kg	0.19	0.08	6010C
1364_6	Metal	Vanadium	0.61		mg/Kg	0.19	0.007	6020A
1364_6	Metal	Zinc	218		mg/Kg	0.47	0.06	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1364_6	Organochloride Pesticide	4,4'-DDD	1.5	P	ug/Kg	1	0.55	8081B
1364_6	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
1364_6	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.61	8081B
1364_6	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
1364_6	Organochloride Pesticide	Dieldrin	4.6	Ui	ug/Kg	4.6	4.6	8081B
1364_6	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
1364_6	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
1364_6	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
1364_6	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
1364_6	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
1364_6	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
1364_6	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
1364_6	Organochloride Pesticide	Heptachlor Epoxide	1	Ui	ug/Kg	1	0.26	8081B
1364_6	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
1364_6	Organochloride Pesticide	Toxaphene	50	Ui	ug/Kg	50	14	8081B
1364_6	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
1364_6	Organochloride Pesticide	alpha-Chlordane	0.39	J	ug/Kg	1	0.25	8081B
1364_6	Organochloride Pesticide	beta-BHC	2.1	P	ug/Kg	1	0.41	8081B
1364_6	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
1364_6	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
1364_6	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.29	8081B
1364_6	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
1364_6	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1364_6	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
1364_6	PCB	Aroclor 1242	6.8	J	ug/Kg	10	2.8	8082A
1364_6	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
1364_6	PCB	Aroclor 1254	11		ug/Kg	10	2.8	8082A
1364_6	PCB	Aroclor 1260	3.4	J	ug/Kg	10	2.8	8082A
1364_6	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1364_6	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.2	U	ug/Kg	9.2	0.87	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.2	U	ug/Kg	9.2	0.85	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Anthracene	0.9	J	ug/Kg	9.2	0.7	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	9.2	0.7	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.2	U	ug/Kg	9.2	1.4	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.2	U	ug/Kg	9.2	1.3	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.2	U	ug/Kg	9.2	1.8	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.2	U	ug/Kg	9.2	1.1	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Chrysene	1.9	J	ug/Kg	9.2	1.1	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.2	U	ug/Kg	9.2	1.6	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.2	U	ug/Kg	9.2	0.83	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.5	J	ug/Kg	9.2	0.9	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Fluorene	9.2	U	ug/Kg	9.2	0.96	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.2	U	ug/Kg	9.2	1.8	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Naphthalene	9.2	U	ug/Kg	9.2	2.8	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	98	U	ug/Kg	98	7.6	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.5	J	ug/Kg	9.2	1.3	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Phenol	39	J	ug/Kg	2000	19	8270D SIM
1364_6	Semivolatile Organic Coumpound/PAH	Pyrene	5.1	J	ug/Kg	9.2	0.92	8270D SIM
1364_6	Total Solids	Total Solids	12.3		%	.	.	Freeze Dry
1374_22	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.4	J	ng/Kg	3.26	0.0392	8290A
1374_22	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.19	BJ	ng/Kg	3.26	0.0333	8290A
1374_22	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.09	J	ng/Kg	3.26	0.0401	8290A
1374_22	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.07	J	ng/Kg	3.26	0.0209	8290A
1374_22	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.1	J	ng/Kg	3.26	0.0295	8290A
1374_22	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.13	J	ng/Kg	3.26	0.0212	8290A
1374_22	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.08	J	ng/Kg	3.26	0.0276	8290A
1374_22	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.09	JK	ng/Kg	3.26	0.0195	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1374_22	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.08	J	ng/Kg	3.26	0.0324	8290A
1374_22	Dioxin/Furan	1,2,3,7,8-PeCDD	0.11	JK	ng/Kg	3.26	0.0489	8290A
1374_22	Dioxin/Furan	1,2,3,7,8-PeCDF	3.26	U	ng/Kg	3.26	0.057	8290A
1374_22	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.09	J	ng/Kg	3.26	0.0287	8290A
1374_22	Dioxin/Furan	2,3,4,7,8-PeCDF	0.17	J	ng/Kg	3.26	0.0569	8290A
1374_22	Dioxin/Furan	2,3,7,8-TCDD	0.18	JK	ng/Kg	0.65	0.0491	8290A
1374_22	Dioxin/Furan	2,3,7,8-TCDF	0.44	J	ng/Kg	0.65	0.041	8290A
1374_22	Dioxin/Furan	OCDD	2.86	BJ	ng/Kg	6.52	0.0933	8290A
1374_22	Dioxin/Furan	OCDF	0.52	BJ	ng/Kg	6.52	0.0972	8290A
1374_22	Dioxin/Furan	Total Hepta-Dioxins	0.83	J	ng/Kg	3.26	0.0392	8290A
1374_22	Dioxin/Furan	Total Hepta-Furans	0.28	J	ng/Kg	3.26	0.0366	8290A
1374_22	Dioxin/Furan	Total Hexa-Dioxins	0.35	J	ng/Kg	3.26	0.0205	8290A
1374_22	Dioxin/Furan	Total Hexa-Furans	0.48	J	ng/Kg	3.26	0.0295	8290A
1374_22	Dioxin/Furan	Total Penta-Dioxins	3.26	U	ng/Kg	3.26	0.0489	8290A
1374_22	Dioxin/Furan	Total Penta-Furans	0.4	J	ng/Kg	3.26	0.057	8290A
1374_22	Dioxin/Furan	Total Tetra-Dioxins	0.33	J	ng/Kg	0.65	0.0491	8290A
1374_22	Dioxin/Furan	Total Tetra-Furans	1.47		ng/Kg	0.65	0.041	8290A
1374_22	Lipid	Lipids, Total	0.28		%	0.01	.	NOAA LIPID
1374_22	Metal	Aluminum	37.7		mg/Kg	2	0.2	6020A
1374_22	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
1374_22	Metal	Arsenic	14		mg/Kg	0.49	0.02	6020A
1374_22	Metal	Barium	1.45		mg/Kg	0.05	0.005	6020A
1374_22	Metal	Beryllium	0.02	J	mg/Kg	0.02	0.003	6020A
1374_22	Metal	Cadmium	1.39		mg/Kg	0.02	0.004	6020A
1374_22	Metal	Calcium	7120		mg/Kg	2	2	6010C
1374_22	Metal	Chromium	0.64		mg/Kg	0.2	0.02	6020A
1374_22	Metal	Cobalt	1.42		mg/Kg	0.02	0.003	6020A
1374_22	Metal	Copper	13.5		mg/Kg	0.1	0.02	6020A
1374_22	Metal	Iron	201		mg/Kg	4	1	6010C
1374_22	Metal	Lead	2.65	*	mg/Kg	0.02	0.0005	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1374_22	Metal	Magnesium	6130		mg/Kg	1	0.6	6010C
1374_22	Metal	Manganese	295		mg/Kg	0.05	0.01	6020A
1374_22	Metal	Mercury	0.09		mg/Kg	0.02	0.004	7471B
1374_22	Metal	Nickel	5.57		mg/Kg	0.2	0.02	6020A
1374_22	Metal	Potassium	12900		mg/Kg	39	8.9	6010C
1374_22	Metal	Selenium	2.9		mg/Kg	1	0.2	6020A
1374_22	Metal	Silver	3.48		mg/Kg	0.02	0.006	6020A
1374_22	Metal	Sodium	44300		mg/Kg	395	19.7	6010C
1374_22	Metal	Strontium	91.7		mg/Kg	0.1	0.03	6010C
1374_22	Metal	Tin	0.06		mg/Kg	0.05	0.03	6020A
1374_22	Metal	Titanium	0.9		mg/Kg	0.2	0.08	6010C
1374_22	Metal	Vanadium	0.54		mg/Kg	0.2	0.007	6020A
1374_22	Metal	Zinc	211		mg/Kg	0.49	0.06	6020A
1374_22	Organochloride Pesticide	4,4'-DDD	1.6	P	ug/Kg	1	0.55	8081B
1374_22	Organochloride Pesticide	4,4'-DDE	1.4	P	ug/Kg	1	0.45	8081B
1374_22	Organochloride Pesticide	4,4'-DDT	5.6	Ui	ug/Kg	5.6	5.6	8081B
1374_22	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
1374_22	Organochloride Pesticide	Dieldrin	1	Ui	ug/Kg	1	0.36	8081B
1374_22	Organochloride Pesticide	Endosulfan I	1	Ui	ug/Kg	1	0.51	8081B
1374_22	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
1374_22	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
1374_22	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
1374_22	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
1374_22	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
1374_22	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
1374_22	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
1374_22	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
1374_22	Organochloride Pesticide	Toxaphene	50	Ui	ug/Kg	50	15	8081B
1374_22	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
1374_22	Organochloride Pesticide	alpha-Chlordane	1	U	ug/Kg	1	0.25	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1374_22	Organochloride Pesticide	beta-BHC	1.5	Ui	ug/Kg	1.5	1.5	8081B
1374_22	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
1374_22	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
1374_22	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
1374_22	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
1374_22	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1374_22	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
1374_22	PCB	Aroclor 1242	5.9	JP	ug/Kg	10	2.8	8082A
1374_22	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
1374_22	PCB	Aroclor 1254	11		ug/Kg	10	2.8	8082A
1374_22	PCB	Aroclor 1260	3.3	J	ug/Kg	10	2.8	8082A
1374_22	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Acenaphthene	1.4	J	ug/Kg	9.9	0.93	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Acenaphthylene	1.4	J	ug/Kg	9.9	0.91	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Anthracene	0.87	J	ug/Kg	9.9	0.75	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	9.9	0.75	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Chrysene	2.3	J	ug/Kg	9.9	1.1	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Dibenzofuran	0.97	J	ug/Kg	9.9	0.89	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.5	J	ug/Kg	9.9	0.97	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Fluorene	1.2	J	ug/Kg	9.9	1.1	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1374_22	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	100	U	ug/Kg	100	7.6	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.7	J	ug/Kg	9.9	1.4	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Phenol	75	J	ug/Kg	2000	19	8270D SIM
1374_22	Semivolatile Organic Coumpound/PAH	Pyrene	5.7	J	ug/Kg	9.9	0.99	8270D SIM
1374_22	Total Solids	Total Solids	11.1		%	.	.	Freeze Dry
1438_23	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.87	J	ng/Kg	2.43	0.0171	8290A
1438_23	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.23	J	ng/Kg	2.43	0.0221	8290A
1438_23	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.14	J	ng/Kg	2.43	0.0248	8290A
1438_23	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.09	JK	ng/Kg	2.43	0.028	8290A
1438_23	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.11	J	ng/Kg	2.43	0.0092	8290A
1438_23	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.12	J	ng/Kg	2.43	0.0304	8290A
1438_23	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.07	JK	ng/Kg	2.43	0.0086	8290A
1438_23	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.09	J	ng/Kg	2.43	0.0268	8290A
1438_23	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.11	J	ng/Kg	2.43	0.011	8290A
1438_23	Dioxin/Furan	1,2,3,7,8-PeCDD	0.14	J	ng/Kg	2.43	0.042	8290A
1438_23	Dioxin/Furan	1,2,3,7,8-PeCDF	0.11	JK	ng/Kg	2.43	0.0372	8290A
1438_23	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.08	J	ng/Kg	2.43	0.0094	8290A
1438_23	Dioxin/Furan	2,3,4,7,8-PeCDF	0.2	JK	ng/Kg	2.43	0.0368	8290A
1438_23	Dioxin/Furan	2,3,7,8-TCDD	0.49	U	ng/Kg	0.49	0.0667	8290A
1438_23	Dioxin/Furan	2,3,7,8-TCDF	0.5		ng/Kg	0.49	0.0445	8290A
1438_23	Dioxin/Furan	OCDD	7.37		ng/Kg	4.87	0.0422	8290A
1438_23	Dioxin/Furan	OCDF	0.54	J	ng/Kg	4.87	0.0637	8290A
1438_23	Dioxin/Furan	Total Hepta-Dioxins	1.86	J	ng/Kg	2.43	0.0171	8290A
1438_23	Dioxin/Furan	Total Hepta-Furans	0.36	J	ng/Kg	2.43	0.0233	8290A
1438_23	Dioxin/Furan	Total Hexa-Dioxins	0.72	J	ng/Kg	2.43	0.0284	8290A
1438_23	Dioxin/Furan	Total Hexa-Furans	0.41	J	ng/Kg	2.43	0.0095	8290A
1438_23	Dioxin/Furan	Total Penta-Dioxins	0.14	J	ng/Kg	2.43	0.042	8290A
1438_23	Dioxin/Furan	Total Penta-Furans	2.43	U	ng/Kg	2.43	0.037	8290A
1438_23	Dioxin/Furan	Total Tetra-Dioxins	0.32	J	ng/Kg	0.49	0.0667	8290A
1438_23	Dioxin/Furan	Total Tetra-Furans	2.22		ng/Kg	0.49	0.0445	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1438_23	Lipid	Lipids, Total	0.54		%	0.02	.	NOAA LIPID
1438_23	Metal	Aluminum	106		mg/Kg	2	0.2	6020A
1438_23	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
1438_23	Metal	Arsenic	14.4		mg/Kg	0.49	0.02	6020A
1438_23	Metal	Barium	1.88		mg/Kg	0.05	0.005	6020A
1438_23	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
1438_23	Metal	Cadmium	1.5		mg/Kg	0.02	0.004	6020A
1438_23	Metal	Calcium	6440		mg/Kg	2	2	6010C
1438_23	Metal	Chromium	1.04		mg/Kg	0.2	0.02	6020A
1438_23	Metal	Cobalt	2.7		mg/Kg	0.02	0.003	6020A
1438_23	Metal	Copper	14.2		mg/Kg	0.1	0.02	6020A
1438_23	Metal	Iron	224	N	mg/Kg	3.9	1	6010C
1438_23	Metal	Lead	2.51		mg/Kg	0.02	0.0005	6020A
1438_23	Metal	Magnesium	6730		mg/Kg	1	0.6	6010C
1438_23	Metal	Manganese	212		mg/Kg	0.05	0.01	6020A
1438_23	Metal	Mercury	0.12		mg/Kg	0.02	0.004	7471B
1438_23	Metal	Nickel	7.24		mg/Kg	0.2	0.02	6020A
1438_23	Metal	Potassium	13200		mg/Kg	39	8.8	6010C
1438_23	Metal	Selenium	3.5		mg/Kg	1	0.2	6020A
1438_23	Metal	Silver	6.06		mg/Kg	0.02	0.006	6020A
1438_23	Metal	Sodium	44400		mg/Kg	390	19.5	6010C
1438_23	Metal	Strontium	93.3		mg/Kg	0.1	0.03	6010C
1438_23	Metal	Tin	0.08		mg/Kg	0.05	0.029	6020A
1438_23	Metal	Titanium	2.81	*	mg/Kg	0.2	0.08	6010C
1438_23	Metal	Vanadium	0.96		mg/Kg	0.2	0.007	6020A
1438_23	Metal	Zinc	238		mg/Kg	0.49	0.06	6020A
1438_23	Organochloride Pesticide	4,4'-DDD	1.6		ug/Kg	0.97	0.55	8081B
1438_23	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
1438_23	Organochloride Pesticide	4,4'-DDT	0.97	U	ug/Kg	0.97	0.49	8081B
1438_23	Organochloride Pesticide	Aldrin	1.1	Ui	ug/Kg	1.1	1.1	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1438_23	Organochloride Pesticide	Dieldrin	0.97	U	ug/Kg	0.97	0.2	8081B
1438_23	Organochloride Pesticide	Endosulfan I	0.97	U	ug/Kg	0.97	0.22	8081B
1438_23	Organochloride Pesticide	Endosulfan II	0.97	U	ug/Kg	0.97	0.24	8081B
1438_23	Organochloride Pesticide	Endosulfan Sulfate	0.97	U	ug/Kg	0.97	0.53	8081B
1438_23	Organochloride Pesticide	Endrin	0.97	U	ug/Kg	0.97	0.28	8081B
1438_23	Organochloride Pesticide	Endrin Aldehyde	0.97	U	ug/Kg	0.97	0.62	8081B
1438_23	Organochloride Pesticide	Endrin Ketone	0.97	U	ug/Kg	0.97	0.39	8081B
1438_23	Organochloride Pesticide	Heptachlor	0.97	U	ug/Kg	0.97	0.27	8081B
1438_23	Organochloride Pesticide	Heptachlor Epoxide	0.97	U	ug/Kg	0.97	0.18	8081B
1438_23	Organochloride Pesticide	Methoxychlor	0.97	U	ug/Kg	0.97	0.48	8081B
1438_23	Organochloride Pesticide	Toxaphene	49	Ui	ug/Kg	49	17	8081B
1438_23	Organochloride Pesticide	alpha-BHC	0.97	U	ug/Kg	0.97	0.16	8081B
1438_23	Organochloride Pesticide	alpha-Chlordane	0.97	Ui	ug/Kg	0.97	0.8	8081B
1438_23	Organochloride Pesticide	beta-BHC	0.97	Ui	ug/Kg	0.97	0.65	8081B
1438_23	Organochloride Pesticide	delta-BHC	0.97	U	ug/Kg	0.97	0.2	8081B
1438_23	Organochloride Pesticide	gamma-BHC (Lindane)	0.97	U	ug/Kg	0.97	0.21	8081B
1438_23	Organochloride Pesticide	gamma-Chlordane	0.97	Ui	ug/Kg	0.97	0.38	8081B
1438_23	PCB	Aroclor 1016	9.7	U	ug/Kg	9.7	2.8	8082A
1438_23	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1438_23	PCB	Aroclor 1232	9.7	U	ug/Kg	9.7	2.8	8082A
1438_23	PCB	Aroclor 1242	6	J	ug/Kg	9.7	2.8	8082A
1438_23	PCB	Aroclor 1248	9.7	U	ug/Kg	9.7	2.8	8082A
1438_23	PCB	Aroclor 1254	11		ug/Kg	9.7	2.8	8082A
1438_23	PCB	Aroclor 1260	9.7	U	ug/Kg	9.7	2.8	8082A
1438_23	Semivolatile Organic Coumpound/PAH	2-Methylphenol	39	U	ug/Kg	39	8.1	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	4-Methylphenol	39	U	ug/Kg	39	8.7	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.76	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1438_23	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	9.9	0.76	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Chrysene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.8	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.9	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.1	J	ug/Kg	9.9	0.97	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	98	U	ug/Kg	98	7.6	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.5	J	ug/Kg	9.9	1.4	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Phenol	39	J	ug/Kg	2000	19	8270D SIM
1438_23	Semivolatile Organic Coumpound/PAH	Pyrene	6.7	J	ug/Kg	9.9	0.99	8270D SIM
1438_23	Total Solids	Total Solids	11.5		%	.	.	Freeze Dry
1439_20	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.69	J	ng/Kg	2.44	0.0508	8290A
1439_20	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.19	JK	ng/Kg	2.44	0.0156	8290A
1439_20	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.07	J	ng/Kg	2.44	0.0181	8290A
1439_20	Dioxin/Furan	1,2,3,4,7,8-HxCDD	2.44	U	ng/Kg	2.44	0.0573	8290A
1439_20	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.09	J	ng/Kg	2.44	0.0376	8290A
1439_20	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.14	JK	ng/Kg	2.44	0.0623	8290A
1439_20	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.06	JK	ng/Kg	2.44	0.0354	8290A
1439_20	Dioxin/Furan	1,2,3,7,8,9-HxCDD	2.44	U	ng/Kg	2.44	0.0548	8290A
1439_20	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.08	JK	ng/Kg	2.44	0.0476	8290A
1439_20	Dioxin/Furan	1,2,3,7,8-PeCDD	2.44	U	ng/Kg	2.44	0.0438	8290A
1439_20	Dioxin/Furan	1,2,3,7,8-PeCDF	2.44	U	ng/Kg	2.44	0.0648	8290A
1439_20	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.07	J	ng/Kg	2.44	0.0389	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1439_20	Dioxin/Furan	2,3,4,7,8-PeCDF	2.44	U	ng/Kg	2.44	0.0631	8290A
1439_20	Dioxin/Furan	2,3,7,8-TCDD	0.49	U	ng/Kg	0.49	0.0968	8290A
1439_20	Dioxin/Furan	2,3,7,8-TCDF	0.52		ng/Kg	0.49	0.108	8290A
1439_20	Dioxin/Furan	OCDD	6.23		ng/Kg	4.89	0.065	8290A
1439_20	Dioxin/Furan	OCDF	0.46	JK	ng/Kg	4.89	0.133	8290A
1439_20	Dioxin/Furan	Total Hepta-Dioxins	1.56	J	ng/Kg	2.44	0.0508	8290A
1439_20	Dioxin/Furan	Total Hepta-Furans	0.07	J	ng/Kg	2.44	0.0168	8290A
1439_20	Dioxin/Furan	Total Hexa-Dioxins	0.53	J	ng/Kg	2.44	0.058	8290A
1439_20	Dioxin/Furan	Total Hexa-Furans	0.17	J	ng/Kg	2.44	0.0394	8290A
1439_20	Dioxin/Furan	Total Penta-Dioxins	2.44	U	ng/Kg	2.44	0.0438	8290A
1439_20	Dioxin/Furan	Total Penta-Furans	0.31	J	ng/Kg	2.44	0.064	8290A
1439_20	Dioxin/Furan	Total Tetra-Dioxins	0.49	U	ng/Kg	0.49	0.0968	8290A
1439_20	Dioxin/Furan	Total Tetra-Furans	1.24		ng/Kg	0.49	0.108	8290A
1439_20	Lipid	Lipids, Total	0.3		%	0.01	.	NOAA LIPID
1439_20	Metal	Aluminum	31.8		mg/Kg	2	0.2	6020A
1439_20	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
1439_20	Metal	Arsenic	11.4		mg/Kg	0.49	0.02	6020A
1439_20	Metal	Barium	1.29		mg/Kg	0.05	0.005	6020A
1439_20	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
1439_20	Metal	Cadmium	1.42		mg/Kg	0.02	0.004	6020A
1439_20	Metal	Calcium	7150		mg/Kg	2	2	6010C
1439_20	Metal	Chromium	0.6		mg/Kg	0.2	0.02	6020A
1439_20	Metal	Cobalt	1.28		mg/Kg	0.02	0.003	6020A
1439_20	Metal	Copper	12.6		mg/Kg	0.1	0.02	6020A
1439_20	Metal	Iron	126		mg/Kg	3.9	1	6010C
1439_20	Metal	Lead	1.26	*	mg/Kg	0.02	0.0005	6020A
1439_20	Metal	Magnesium	5820		mg/Kg	1	0.6	6010C
1439_20	Metal	Manganese	242		mg/Kg	0.05	0.01	6020A
1439_20	Metal	Mercury	0.09		mg/Kg	0.02	0.004	7471B
1439_20	Metal	Nickel	2.94		mg/Kg	0.2	0.02	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1439_20	Metal	Potassium	12800		mg/Kg	39	8.9	6010C
1439_20	Metal	Selenium	2.1		mg/Kg	1	0.2	6020A
1439_20	Metal	Silver	2.38		mg/Kg	0.02	0.006	6020A
1439_20	Metal	Sodium	44500		mg/Kg	393	19.7	6010C
1439_20	Metal	Strontium	87.8		mg/Kg	0.1	0.03	6010C
1439_20	Metal	Tin	0.05	J	mg/Kg	0.05	0.03	6020A
1439_20	Metal	Titanium	0.78		mg/Kg	0.2	0.08	6010C
1439_20	Metal	Vanadium	0.57		mg/Kg	0.2	0.007	6020A
1439_20	Metal	Zinc	168		mg/Kg	0.49	0.06	6020A
1439_20	Organochloride Pesticide	4,4'-DDD	1.9		ug/Kg	1	0.55	8081B
1439_20	Organochloride Pesticide	4,4'-DDE	1.3	Ui	ug/Kg	1.3	1.3	8081B
1439_20	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B
1439_20	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
1439_20	Organochloride Pesticide	Dieldrin	1	Ui	ug/Kg	1	0.95	8081B
1439_20	Organochloride Pesticide	Endosulfan I	1	Ui	ug/Kg	1	0.43	8081B
1439_20	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
1439_20	Organochloride Pesticide	Endosulfan Sulfate	1	Ui	ug/Kg	1	0.6	8081B
1439_20	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
1439_20	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
1439_20	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
1439_20	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
1439_20	Organochloride Pesticide	Heptachlor Epoxide	1	Ui	ug/Kg	1	0.21	8081B
1439_20	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
1439_20	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
1439_20	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
1439_20	Organochloride Pesticide	alpha-Chlordane	1	U	ug/Kg	1	0.25	8081B
1439_20	Organochloride Pesticide	beta-BHC	1	Ui	ug/Kg	1	0.54	8081B
1439_20	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
1439_20	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1439_20	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
1439_20	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
1439_20	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1439_20	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
1439_20	PCB	Aroclor 1242	6	J	ug/Kg	10	2.8	8082A
1439_20	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
1439_20	PCB	Aroclor 1254	11		ug/Kg	10	2.8	8082A
1439_20	PCB	Aroclor 1260	10	U	ug/Kg	10	2.8	8082A
1439_20	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Acenaphthene	1.1	J	ug/Kg	9.6	0.9	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Acenaphthylene	1.2	J	ug/Kg	9.6	0.88	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Anthracene	0.92	J	ug/Kg	9.6	0.73	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.5	J	ug/Kg	9.6	0.73	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.6	U	ug/Kg	9.6	1.4	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.6	U	ug/Kg	9.6	1.3	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.6	U	ug/Kg	9.6	1.9	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.6	U	ug/Kg	9.6	1.1	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Chrysene	9.6	U	ug/Kg	9.6	1.1	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.6	U	ug/Kg	9.6	1.7	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Dibenzofuran	1	J	ug/Kg	9.6	0.86	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.2	J	ug/Kg	9.6	0.94	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Fluorene	1.3	J	ug/Kg	9.6	1	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.6	U	ug/Kg	9.6	1.9	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Naphthalene	9.6	U	ug/Kg	9.6	2.9	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	100	U	ug/Kg	100	7.6	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.4	J	ug/Kg	9.6	1.3	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Phenol	64	J	ug/Kg	2000	19	8270D SIM
1439_20	Semivolatile Organic Coumpound/PAH	Pyrene	4.3	J	ug/Kg	9.6	0.96	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1439_20	Total Solids	Total Solids	11.7		%	.	.	Freeze Dry
1440_8	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	1.36	J	ng/Kg	2.48	0.0158	8290A
1440_8	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.21	J	ng/Kg	2.48	0.0205	8290A
1440_8	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.08	JK	ng/Kg	2.48	0.0231	8290A
1440_8	Dioxin/Furan	1,2,3,4,7,8-HxCDD	2.48	U	ng/Kg	2.48	0.0464	8290A
1440_8	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.07	JK	ng/Kg	2.48	0.0185	8290A
1440_8	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.13	J	ng/Kg	2.48	0.0514	8290A
1440_8	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.05	JK	ng/Kg	2.48	0.0176	8290A
1440_8	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.09	JK	ng/Kg	2.48	0.0448	8290A
1440_8	Dioxin/Furan	1,2,3,7,8,9-HxCDF	2.48	U	ng/Kg	2.48	0.0221	8290A
1440_8	Dioxin/Furan	1,2,3,7,8-PeCDD	0.07	JK	ng/Kg	2.48	0.0268	8290A
1440_8	Dioxin/Furan	1,2,3,7,8-PeCDF	2.48	U	ng/Kg	2.48	0.0416	8290A
1440_8	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.08	JK	ng/Kg	2.48	0.0189	8290A
1440_8	Dioxin/Furan	2,3,4,7,8-PeCDF	0.1	JK	ng/Kg	2.48	0.0406	8290A
1440_8	Dioxin/Furan	2,3,7,8-TCDD	0.5	U	ng/Kg	0.5	0.0517	8290A
1440_8	Dioxin/Furan	2,3,7,8-TCDF	0.41	JK	ng/Kg	0.5	0.0806	8290A
1440_8	Dioxin/Furan	OCDD	8.51		ng/Kg	4.96	0.0548	8290A
1440_8	Dioxin/Furan	OCDF	0.51	JK	ng/Kg	4.96	0.103	8290A
1440_8	Dioxin/Furan	Total Hepta-Dioxins	2.46	J	ng/Kg	2.48	0.0158	8290A
1440_8	Dioxin/Furan	Total Hepta-Furans	0.45	J	ng/Kg	2.48	0.0217	8290A
1440_8	Dioxin/Furan	Total Hexa-Dioxins	0.45	J	ng/Kg	2.48	0.0474	8290A
1440_8	Dioxin/Furan	Total Hexa-Furans	0.07	J	ng/Kg	2.48	0.0191	8290A
1440_8	Dioxin/Furan	Total Penta-Dioxins	2.48	U	ng/Kg	2.48	0.0268	8290A
1440_8	Dioxin/Furan	Total Penta-Furans	0.33	J	ng/Kg	2.48	0.0411	8290A
1440_8	Dioxin/Furan	Total Tetra-Dioxins	0.45	J	ng/Kg	0.5	0.0517	8290A
1440_8	Dioxin/Furan	Total Tetra-Furans	1.78		ng/Kg	0.5	0.0806	8290A
1440_8	Lipid	Lipids, Total	0.25		%	0.01	.	NOAA LIPID
1440_8	Metal	Aluminum	19.8		mg/Kg	1.9	0.2	6020A
1440_8	Metal	Antimony	0.02	J	mg/Kg	0.05	0.002	6020A
1440_8	Metal	Arsenic	13.8		mg/Kg	0.49	0.02	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1440_8	Metal	Barium	1.75		mg/Kg	0.05	0.005	6020A
1440_8	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
1440_8	Metal	Cadmium	1.08		mg/Kg	0.02	0.004	6020A
1440_8	Metal	Calcium	6940		mg/Kg	1.9	1.9	6010C
1440_8	Metal	Chromium	0.87		mg/Kg	0.19	0.02	6020A
1440_8	Metal	Cobalt	1.63		mg/Kg	0.02	0.003	6020A
1440_8	Metal	Copper	15		mg/Kg	0.1	0.02	6020A
1440_8	Metal	Iron	181		mg/Kg	3.9	1	6010C
1440_8	Metal	Lead	2.67	*	mg/Kg	0.02	0.0005	6020A
1440_8	Metal	Magnesium	6030		mg/Kg	1	0.6	6010C
1440_8	Metal	Manganese	258		mg/Kg	0.05	0.01	6020A
1440_8	Metal	Mercury	0.09		mg/Kg	0.02	0.004	7471B
1440_8	Metal	Nickel	4.23		mg/Kg	0.19	0.02	6020A
1440_8	Metal	Potassium	13900		mg/Kg	39	8.7	6010C
1440_8	Metal	Selenium	2.8		mg/Kg	1	0.2	6020A
1440_8	Metal	Silver	4.26		mg/Kg	0.02	0.006	6020A
1440_8	Metal	Sodium	40700		mg/Kg	388	19.4	6010C
1440_8	Metal	Strontium	96.2		mg/Kg	0.1	0.03	6010C
1440_8	Metal	Tin	0.06		mg/Kg	0.05	0.029	6020A
1440_8	Metal	Titanium	0.32		mg/Kg	0.19	0.08	6010C
1440_8	Metal	Vanadium	0.65		mg/Kg	0.19	0.007	6020A
1440_8	Metal	Zinc	236		mg/Kg	0.49	0.06	6020A
1440_8	Organochloride Pesticide	4,4'-DDD	1.4	P	ug/Kg	1	0.55	8081B
1440_8	Organochloride Pesticide	4,4'-DDE	1	P	ug/Kg	1	0.45	8081B
1440_8	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.75	8081B
1440_8	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
1440_8	Organochloride Pesticide	Dieldrin	5.8	Ui	ug/Kg	5.8	5.8	8081B
1440_8	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
1440_8	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
1440_8	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1440_8	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
1440_8	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
1440_8	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
1440_8	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
1440_8	Organochloride Pesticide	Heptachlor Epoxide	1	Ui	ug/Kg	1	0.23	8081B
1440_8	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
1440_8	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
1440_8	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
1440_8	Organochloride Pesticide	alpha-Chlordane	0.47	J	ug/Kg	1	0.25	8081B
1440_8	Organochloride Pesticide	beta-BHC	1.1	Ui	ug/Kg	1.1	1.1	8081B
1440_8	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
1440_8	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
1440_8	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
1440_8	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
1440_8	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1440_8	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
1440_8	PCB	Aroclor 1242	6.1	J	ug/Kg	10	2.8	8082A
1440_8	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
1440_8	PCB	Aroclor 1254	9.7	J	ug/Kg	10	2.8	8082A
1440_8	PCB	Aroclor 1260	3.7	J	ug/Kg	10	2.8	8082A
1440_8	Semivolatile Organic Coumpound/PAH	2-Methylphenol	37	U	ug/Kg	37	8.1	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	4-Methylphenol	37	U	ug/Kg	37	8.7	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Anthracene	0.95	J	ug/Kg	9.9	0.76	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.7	J	ug/Kg	9.9	0.76	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1440_8	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Chrysene	1.9	J	ug/Kg	9.9	1.1	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.4	J	ug/Kg	9.9	0.97	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	10	J	ug/Kg	93	7.6	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.5	J	ug/Kg	9.9	1.4	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Phenol	65	J	ug/Kg	1900	19	8270D SIM
1440_8	Semivolatile Organic Coumpound/PAH	Pyrene	4.4	J	ug/Kg	9.9	0.99	8270D SIM
1440_8	Total Solids	Total Solids	11.8		%	.	.	Freeze Dry
1787_44	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.37	J	ng/Kg	3.3	0.0279	8290A
1787_44	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.21	BJ	ng/Kg	3.3	0.0339	8290A
1787_44	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.13	J	ng/Kg	3.3	0.0426	8290A
1787_44	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.1	J	ng/Kg	3.3	0.0367	8290A
1787_44	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.1	J	ng/Kg	3.3	0.0313	8290A
1787_44	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.13	J	ng/Kg	3.3	0.0374	8290A
1787_44	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.1	JK	ng/Kg	3.3	0.0293	8290A
1787_44	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.11	J	ng/Kg	3.3	0.0343	8290A
1787_44	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.12	J	ng/Kg	3.3	0.0395	8290A
1787_44	Dioxin/Furan	1,2,3,7,8-PeCDD	0.1	J	ng/Kg	3.3	0.0396	8290A
1787_44	Dioxin/Furan	1,2,3,7,8-PeCDF	0.11	J	ng/Kg	3.3	0.0384	8290A
1787_44	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.11	J	ng/Kg	3.3	0.0327	8290A
1787_44	Dioxin/Furan	2,3,4,7,8-PeCDF	0.17	JK	ng/Kg	3.3	0.038	8290A
1787_44	Dioxin/Furan	2,3,7,8-TCDD	0.18	JK	ng/Kg	0.66	0.0372	8290A
1787_44	Dioxin/Furan	2,3,7,8-TCDF	0.43	J	ng/Kg	0.66	0.0364	8290A
1787_44	Dioxin/Furan	OCDD	2.35	BJ	ng/Kg	6.59	0.0847	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1787_44	Dioxin/Furan	OCDF	0.39	BJ	ng/Kg	6.59	0.0791	8290A
1787_44	Dioxin/Furan	Total Hepta-Dioxins	0.79	J	ng/Kg	3.3	0.0279	8290A
1787_44	Dioxin/Furan	Total Hepta-Furans	0.13	J	ng/Kg	3.3	0.038	8290A
1787_44	Dioxin/Furan	Total Hexa-Dioxins	0.42	J	ng/Kg	3.3	0.036	8290A
1787_44	Dioxin/Furan	Total Hexa-Furans	0.4	J	ng/Kg	3.3	0.0329	8290A
1787_44	Dioxin/Furan	Total Penta-Dioxins	0.23	J	ng/Kg	3.3	0.0396	8290A
1787_44	Dioxin/Furan	Total Penta-Furans	0.71	J	ng/Kg	3.3	0.0383	8290A
1787_44	Dioxin/Furan	Total Tetra-Dioxins	0.46	J	ng/Kg	0.66	0.0372	8290A
1787_44	Dioxin/Furan	Total Tetra-Furans	1.94		ng/Kg	0.66	0.0364	8290A
1787_44	Lipid	Lipids, Total	0.28		%	0.01	.	NOAA LIPID
1787_44	Metal	Aluminum	46.7		mg/Kg	1.9	0.2	6020A
1787_44	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
1787_44	Metal	Arsenic	12.1		mg/Kg	0.47	0.02	6020A
1787_44	Metal	Barium	1.6		mg/Kg	0.05	0.005	6020A
1787_44	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
1787_44	Metal	Cadmium	1.36		mg/Kg	0.02	0.004	6020A
1787_44	Metal	Calcium	7860		mg/Kg	1.9	1.9	6010C
1787_44	Metal	Chromium	0.61		mg/Kg	0.19	0.02	6020A
1787_44	Metal	Cobalt	0.97		mg/Kg	0.02	0.003	6020A
1787_44	Metal	Copper	14		mg/Kg	0.09	0.02	6020A
1787_44	Metal	Iron	171		mg/Kg	3.8	0.9	6010C
1787_44	Metal	Lead	2.34	*	mg/Kg	0.02	0.0005	6020A
1787_44	Metal	Magnesium	6210		mg/Kg	0.9	0.6	6010C
1787_44	Metal	Manganese	224		mg/Kg	0.05	0.01	6020A
1787_44	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
1787_44	Metal	Nickel	5.38		mg/Kg	0.19	0.02	6020A
1787_44	Metal	Potassium	14100		mg/Kg	38	8.4	6010C
1787_44	Metal	Selenium	2.3		mg/Kg	0.9	0.2	6020A
1787_44	Metal	Silver	1.08		mg/Kg	0.02	0.006	6020A
1787_44	Metal	Sodium	47900		mg/Kg	375	18.8	6010C

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1787_44	Metal	Strontium	92.8		mg/Kg	0.09	0.03	6010C
1787_44	Metal	Tin	0.08		mg/Kg	0.05	0.028	6020A
1787_44	Metal	Titanium	1.19		mg/Kg	0.19	0.08	6010C
1787_44	Metal	Vanadium	0.66		mg/Kg	0.19	0.007	6020A
1787_44	Metal	Zinc	198		mg/Kg	0.47	0.06	6020A
1787_44	Organochloride Pesticide	4,4'-DDD	1	P	ug/Kg	1	0.55	8081B
1787_44	Organochloride Pesticide	4,4'-DDE	1.1	P	ug/Kg	1	0.45	8081B
1787_44	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.84	8081B
1787_44	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
1787_44	Organochloride Pesticide	Dieldrin	3.4	Ui	ug/Kg	3.4	3.4	8081B
1787_44	Organochloride Pesticide	Endosulfan I	1	Ui	ug/Kg	1	0.25	8081B
1787_44	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
1787_44	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
1787_44	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
1787_44	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
1787_44	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
1787_44	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
1787_44	Organochloride Pesticide	Heptachlor Epoxide	1	Ui	ug/Kg	1	0.23	8081B
1787_44	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
1787_44	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
1787_44	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
1787_44	Organochloride Pesticide	alpha-Chlordane	0.26	JP	ug/Kg	1	0.25	8081B
1787_44	Organochloride Pesticide	beta-BHC	1.5	P	ug/Kg	1	0.41	8081B
1787_44	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
1787_44	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
1787_44	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.35	8081B
1787_44	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
1787_44	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
1787_44	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1787_44	PCB	Aroclor 1242	5.4	J	ug/Kg	10	2.8	8082A
1787_44	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
1787_44	PCB	Aroclor 1254	8.9	J	ug/Kg	10	2.8	8082A
1787_44	PCB	Aroclor 1260	3	J	ug/Kg	10	2.8	8082A
1787_44	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.75	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.9	J	ug/Kg	9.9	0.75	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.3	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Chrysene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Fluoranthene	5.1	J	ug/Kg	9.9	0.97	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	100	U	ug/Kg	100	7.6	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.6	J	ug/Kg	9.9	1.3	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Phenol	72	J	ug/Kg	2000	19	8270D SIM
1787_44	Semivolatile Organic Coumpound/PAH	Pyrene	5.6	J	ug/Kg	9.9	0.99	8270D SIM
1787_44	Total Solids	Total Solids	11.6		%	.	.	Freeze Dry
2012_9	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.64	J	ng/Kg	2.47	0.015	8290A
2012_9	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.24	J	ng/Kg	2.47	0.0235	8290A
2012_9	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.08	J	ng/Kg	2.47	0.0262	8290A

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Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2012_9	Dioxin/Furan	1,2,3,4,7,8-HxCDD	2.47	U	ng/Kg	2.47	0.0338	8290A
2012_9	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.08	JK	ng/Kg	2.47	0.0195	8290A
2012_9	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.12	J	ng/Kg	2.47	0.0368	8290A
2012_9	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.06	JK	ng/Kg	2.47	0.0182	8290A
2012_9	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.08	JK	ng/Kg	2.47	0.0324	8290A
2012_9	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.07	J	ng/Kg	2.47	0.0228	8290A
2012_9	Dioxin/Furan	1,2,3,7,8-PeCDD	0.1	JK	ng/Kg	2.47	0.0468	8290A
2012_9	Dioxin/Furan	1,2,3,7,8-PeCDF	0.09	JK	ng/Kg	2.47	0.0338	8290A
2012_9	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.09	JK	ng/Kg	2.47	0.0204	8290A
2012_9	Dioxin/Furan	2,3,4,7,8-PeCDF	0.16	JK	ng/Kg	2.47	0.0325	8290A
2012_9	Dioxin/Furan	2,3,7,8-TCDD	0.49	U	ng/Kg	0.49	0.0653	8290A
2012_9	Dioxin/Furan	2,3,7,8-TCDF	0.42	JK	ng/Kg	0.49	0.0541	8290A
2012_9	Dioxin/Furan	OCDD	6.45		ng/Kg	4.93	0.125	8290A
2012_9	Dioxin/Furan	OCDF	0.5	J	ng/Kg	4.93	0.0908	8290A
2012_9	Dioxin/Furan	Total Hepta-Dioxins	1.47	J	ng/Kg	2.47	0.015	8290A
2012_9	Dioxin/Furan	Total Hepta-Furans	0.53	J	ng/Kg	2.47	0.0248	8290A
2012_9	Dioxin/Furan	Total Hexa-Dioxins	0.12	J	ng/Kg	2.47	0.0343	8290A
2012_9	Dioxin/Furan	Total Hexa-Furans	0.19	J	ng/Kg	2.47	0.0201	8290A
2012_9	Dioxin/Furan	Total Penta-Dioxins	2.47	U	ng/Kg	2.47	0.0468	8290A
2012_9	Dioxin/Furan	Total Penta-Furans	0.55	J	ng/Kg	2.47	0.0332	8290A
2012_9	Dioxin/Furan	Total Tetra-Dioxins	0.34	J	ng/Kg	0.49	0.0653	8290A
2012_9	Dioxin/Furan	Total Tetra-Furans	1.04		ng/Kg	0.49	0.0541	8290A
2012_9	Lipid	Lipids, Total	0.48		%	0.02	.	NOAA LIPID
2012_9	Metal	Aluminum	63.3		mg/Kg	2	0.2	6020A
2012_9	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
2012_9	Metal	Arsenic	12.5		mg/Kg	0.5	0.02	6020A
2012_9	Metal	Barium	2.18		mg/Kg	0.05	0.005	6020A
2012_9	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
2012_9	Metal	Cadmium	1.25		mg/Kg	0.02	0.004	6020A
2012_9	Metal	Calcium	7730		mg/Kg	2	2	6010C

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2012_9	Metal	Chromium	0.6		mg/Kg	0.2	0.02	6020A
2012_9	Metal	Cobalt	1.82		mg/Kg	0.02	0.003	6020A
2012_9	Metal	Copper	17.4		mg/Kg	0.1	0.02	6020A
2012_9	Metal	Iron	237	N	mg/Kg	4	1	6010C
2012_9	Metal	Lead	4.18		mg/Kg	0.02	0.0005	6020A
2012_9	Metal	Magnesium	6760		mg/Kg	1	0.6	6010C
2012_9	Metal	Manganese	342		mg/Kg	0.05	0.01	6020A
2012_9	Metal	Mercury	0.06		mg/Kg	0.02	0.004	7471B
2012_9	Metal	Nickel	5.42		mg/Kg	0.2	0.02	6020A
2012_9	Metal	Potassium	13300		mg/Kg	40	9	6010C
2012_9	Metal	Selenium	2.8		mg/Kg	1	0.2	6020A
2012_9	Metal	Silver	3.52		mg/Kg	0.02	0.006	6020A
2012_9	Metal	Sodium	48100		mg/Kg	400	20	6010C
2012_9	Metal	Strontium	107		mg/Kg	0.1	0.03	6010C
2012_9	Metal	Tin	0.07		mg/Kg	0.05	0.03	6020A
2012_9	Metal	Titanium	1.76	*	mg/Kg	0.2	0.08	6010C
2012_9	Metal	Vanadium	0.61		mg/Kg	0.2	0.007	6020A
2012_9	Metal	Zinc	281		mg/Kg	0.5	0.06	6020A
2012_9	Organochloride Pesticide	4,4'-DDD	1.9		ug/Kg	1	0.55	8081B
2012_9	Organochloride Pesticide	4,4'-DDE	1.3	Ui	ug/Kg	1.3	1.3	8081B
2012_9	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.68	8081B
2012_9	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
2012_9	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
2012_9	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
2012_9	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
2012_9	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
2012_9	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
2012_9	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
2012_9	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
2012_9	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2012_9	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
2012_9	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
2012_9	Organochloride Pesticide	Toxaphene	50	Ui	ug/Kg	50	15	8081B
2012_9	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
2012_9	Organochloride Pesticide	beta-BHC	1	Ui	ug/Kg	1	0.6	8081B
2012_9	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
2012_9	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
2012_9	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
2012_9	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
2012_9	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
2012_9	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
2012_9	PCB	Aroclor 1242	7	J	ug/Kg	10	2.8	8082A
2012_9	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
2012_9	PCB	Aroclor 1254	13		ug/Kg	10	2.8	8082A
2012_9	PCB	Aroclor 1260	5	J	ug/Kg	10	2.8	8082A
2012_9	Semivolatile Organic Coumpound/PAH	2-Methylphenol	38	U	ug/Kg	38	8.1	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	4-Methylphenol	38	U	ug/Kg	38	8.7	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Anthracene	0.77	J	ug/Kg	10	0.76	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	2	J	ug/Kg	10	0.76	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	1.5	J	ug/Kg	10	1.4	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2012_9	Semivolatile Organic Coumpound/PAH	Fluoranthene	5.9	J	ug/Kg	10	0.98	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	93	U	ug/Kg	93	7.6	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Phenanthrene	2.1	J	ug/Kg	10	1.4	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Phenol	59	J	ug/Kg	1900	19	8270D SIM
2012_9	Semivolatile Organic Coumpound/PAH	Pyrene	8.5	J	ug/Kg	10	1	8270D SIM
2012_9	Total Solids	Total Solids	11		%	.	.	Freeze Dry
2013_28	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.98	J	ng/Kg	2.38	0.0641	8290A
2013_28	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.22	J	ng/Kg	2.38	0.042	8290A
2013_28	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	2.38	U	ng/Kg	2.38	0.0475	8290A
2013_28	Dioxin/Furan	1,2,3,4,7,8-HxCDD	2.38	U	ng/Kg	2.38	0.078	8290A
2013_28	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.09	JK	ng/Kg	2.38	0.0389	8290A
2013_28	Dioxin/Furan	1,2,3,6,7,8-HxCDD	2.38	U	ng/Kg	2.38	0.0845	8290A
2013_28	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.08	J	ng/Kg	2.38	0.0384	8290A
2013_28	Dioxin/Furan	1,2,3,7,8,9-HxCDD	2.38	U	ng/Kg	2.38	0.0745	8290A
2013_28	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.12	JK	ng/Kg	2.38	0.0505	8290A
2013_28	Dioxin/Furan	1,2,3,7,8-PeCDD	2.38	U	ng/Kg	2.38	0.0691	8290A
2013_28	Dioxin/Furan	1,2,3,7,8-PeCDF	2.38	U	ng/Kg	2.38	0.0599	8290A
2013_28	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.11	JK	ng/Kg	2.38	0.0406	8290A
2013_28	Dioxin/Furan	2,3,4,7,8-PeCDF	2.38	U	ng/Kg	2.38	0.0577	8290A
2013_28	Dioxin/Furan	2,3,7,8-TCDD	0.22	J	ng/Kg	0.48	0.109	8290A
2013_28	Dioxin/Furan	2,3,7,8-TCDF	0.55	K	ng/Kg	0.48	0.116	8290A
2013_28	Dioxin/Furan	OCDD	8.57		ng/Kg	4.76	0.151	8290A
2013_28	Dioxin/Furan	OCDF	0.49	J	ng/Kg	4.76	0.167	8290A
2013_28	Dioxin/Furan	Total Hepta-Dioxins	2.36	J	ng/Kg	2.38	0.0641	8290A
2013_28	Dioxin/Furan	Total Hepta-Furans	0.47	J	ng/Kg	2.38	0.0446	8290A
2013_28	Dioxin/Furan	Total Hexa-Dioxins	0.32	J	ng/Kg	2.38	0.0788	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2013_28	Dioxin/Furan	Total Hexa-Furans	0.32	J	ng/Kg	2.38	0.0416	8290A
2013_28	Dioxin/Furan	Total Penta-Dioxins	2.38	U	ng/Kg	2.38	0.0691	8290A
2013_28	Dioxin/Furan	Total Penta-Furans	2.38	U	ng/Kg	2.38	0.0587	8290A
2013_28	Dioxin/Furan	Total Tetra-Dioxins	0.62		ng/Kg	0.48	0.109	8290A
2013_28	Dioxin/Furan	Total Tetra-Furans	1.1		ng/Kg	0.48	0.116	8290A
2013_28	Lipid	Lipids, Total	0.39		%	0.02	.	NOAA LIPID
2013_28	Metal	Aluminum	81.7		mg/Kg	1.9	0.2	6020A
2013_28	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
2013_28	Metal	Arsenic	9.64		mg/Kg	0.48	0.02	6020A
2013_28	Metal	Barium	2.11		mg/Kg	0.05	0.005	6020A
2013_28	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
2013_28	Metal	Cadmium	1.49		mg/Kg	0.02	0.004	6020A
2013_28	Metal	Calcium	7900		mg/Kg	1.9	1.9	6010C
2013_28	Metal	Chromium	0.69		mg/Kg	0.19	0.02	6020A
2013_28	Metal	Cobalt	2.15		mg/Kg	0.02	0.003	6020A
2013_28	Metal	Copper	14.3		mg/Kg	0.1	0.02	6020A
2013_28	Metal	Iron	215	N	mg/Kg	3.9	1	6010C
2013_28	Metal	Lead	2.55		mg/Kg	0.02	0.0005	6020A
2013_28	Metal	Magnesium	7180		mg/Kg	1	0.6	6010C
2013_28	Metal	Manganese	234		mg/Kg	0.05	0.01	6020A
2013_28	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
2013_28	Metal	Nickel	8		mg/Kg	0.19	0.02	6020A
2013_28	Metal	Potassium	13300		mg/Kg	39	8.7	6010C
2013_28	Metal	Selenium	2.3		mg/Kg	1	0.2	6020A
2013_28	Metal	Silver	3.21		mg/Kg	0.02	0.006	6020A
2013_28	Metal	Sodium	50200		mg/Kg	387	19.4	6010C
2013_28	Metal	Strontium	104		mg/Kg	0.1	0.03	6010C
2013_28	Metal	Tin	0.07		mg/Kg	0.05	0.029	6020A
2013_28	Metal	Titanium	2.31	*	mg/Kg	0.19	0.08	6010C
2013_28	Metal	Vanadium	0.63		mg/Kg	0.19	0.007	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2013_28	Metal	Zinc	263		mg/Kg	0.48	0.06	6020A
2013_28	Organochloride Pesticide	4,4'-DDD	2		ug/Kg	1	0.55	8081B
2013_28	Organochloride Pesticide	4,4'-DDE	1.4	Ui	ug/Kg	1.4	1.4	8081B
2013_28	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.69	8081B
2013_28	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
2013_28	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
2013_28	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
2013_28	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
2013_28	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
2013_28	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
2013_28	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
2013_28	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
2013_28	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
2013_28	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
2013_28	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
2013_28	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
2013_28	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
2013_28	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.66	8081B
2013_28	Organochloride Pesticide	beta-BHC	1	Ui	ug/Kg	1	0.52	8081B
2013_28	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
2013_28	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
2013_28	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.5	8081B
2013_28	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
2013_28	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
2013_28	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
2013_28	PCB	Aroclor 1242	7.9	J	ug/Kg	10	2.8	8082A
2013_28	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
2013_28	PCB	Aroclor 1254	13		ug/Kg	10	2.8	8082A
2013_28	PCB	Aroclor 1260	4.2	J	ug/Kg	10	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2013_28	Semivolatile Organic Coumpound/PAH	2-Methylphenol	38	U	ug/Kg	38	8.1	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	4-Methylphenol	38	U	ug/Kg	38	8.7	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	10	0.76	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	1.4	J	ug/Kg	10	1.4	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Fluoranthene	5.6	J	ug/Kg	10	0.98	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	95	U	ug/Kg	95	7.6	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Phenanthrene	2	J	ug/Kg	10	1.4	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Phenol	58	J	ug/Kg	1900	19	8270D SIM
2013_28	Semivolatile Organic Coumpound/PAH	Pyrene	7.9	J	ug/Kg	10	1	8270D SIM
2013_28	Total Solids	Total Solids	10.7		%	.	.	Freeze Dry
2014_19	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.85	J	ng/Kg	2.48	0.0408	8290A
2014_19	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.29	J	ng/Kg	2.48	0.0272	8290A
2014_19	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.09	JK	ng/Kg	2.48	0.0308	8290A
2014_19	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.08	J	ng/Kg	2.48	0.0335	8290A
2014_19	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.11	J	ng/Kg	2.48	0.0329	8290A
2014_19	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.17	J	ng/Kg	2.48	0.0359	8290A
2014_19	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.07	JK	ng/Kg	2.48	0.0319	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2014_19	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.11	J	ng/Kg	2.48	0.0319	8290A
2014_19	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.09	JK	ng/Kg	2.48	0.0401	8290A
2014_19	Dioxin/Furan	1,2,3,7,8-PeCDD	0.08	J	ng/Kg	2.48	0.0395	8290A
2014_19	Dioxin/Furan	1,2,3,7,8-PeCDF	0.1	JK	ng/Kg	2.48	0.0549	8290A
2014_19	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.1	JK	ng/Kg	2.48	0.0338	8290A
2014_19	Dioxin/Furan	2,3,4,7,8-PeCDF	0.15	JK	ng/Kg	2.48	0.0552	8290A
2014_19	Dioxin/Furan	2,3,7,8-TCDD	0.18	JK	ng/Kg	0.5	0.0766	8290A
2014_19	Dioxin/Furan	2,3,7,8-TCDF	0.57	K	ng/Kg	0.5	0.0501	8290A
2014_19	Dioxin/Furan	OCDD	8.29		ng/Kg	4.97	0.0943	8290A
2014_19	Dioxin/Furan	OCDF	0.51	J	ng/Kg	4.97	0.104	8290A
2014_19	Dioxin/Furan	Total Hepta-Dioxins	1.89	J	ng/Kg	2.48	0.0408	8290A
2014_19	Dioxin/Furan	Total Hepta-Furans	0.29	J	ng/Kg	2.48	0.0289	8290A
2014_19	Dioxin/Furan	Total Hexa-Dioxins	0.64	J	ng/Kg	2.48	0.0336	8290A
2014_19	Dioxin/Furan	Total Hexa-Furans	0.35	J	ng/Kg	2.48	0.0343	8290A
2014_19	Dioxin/Furan	Total Penta-Dioxins	0.08	J	ng/Kg	2.48	0.0395	8290A
2014_19	Dioxin/Furan	Total Penta-Furans	0.25	J	ng/Kg	2.48	0.055	8290A
2014_19	Dioxin/Furan	Total Tetra-Dioxins	0.16	J	ng/Kg	0.5	0.0766	8290A
2014_19	Dioxin/Furan	Total Tetra-Furans	1.6		ng/Kg	0.5	0.0501	8290A
2014_19	Lipid	Lipids, Total	0.36		%	0.02	.	NOAA LIPID
2014_19	Metal	Aluminum	114		mg/Kg	2	0.2	6020A
2014_19	Metal	Antimony	0.02	J	mg/Kg	0.05	0.002	6020A
2014_19	Metal	Arsenic	11.1		mg/Kg	0.49	0.02	6020A
2014_19	Metal	Barium	2.17		mg/Kg	0.05	0.005	6020A
2014_19	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
2014_19	Metal	Cadmium	1.46		mg/Kg	0.02	0.004	6020A
2014_19	Metal	Calcium	8640		mg/Kg	2	2	6010C
2014_19	Metal	Chromium	0.86		mg/Kg	0.2	0.02	6020A
2014_19	Metal	Cobalt	1.78		mg/Kg	0.02	0.003	6020A
2014_19	Metal	Copper	16.2		mg/Kg	0.1	0.02	6020A
2014_19	Metal	Iron	276	N	mg/Kg	3.9	1	6010C

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2014_19	Metal	Lead	3.51		mg/Kg	0.02	0.0005	6020A
2014_19	Metal	Magnesium	7000		mg/Kg	1	0.6	6010C
2014_19	Metal	Manganese	276		mg/Kg	0.05	0.01	6020A
2014_19	Metal	Mercury	0.06		mg/Kg	0.02	0.004	7471B
2014_19	Metal	Nickel	5.66		mg/Kg	0.2	0.02	6020A
2014_19	Metal	Potassium	13900		mg/Kg	39	8.8	6010C
2014_19	Metal	Selenium	2.5		mg/Kg	1	0.2	6020A
2014_19	Metal	Silver	3.38		mg/Kg	0.02	0.006	6020A
2014_19	Metal	Sodium	48800		mg/Kg	391	19.5	6010C
2014_19	Metal	Strontium	110		mg/Kg	0.1	0.03	6010C
2014_19	Metal	Tin	0.1		mg/Kg	0.05	0.029	6020A
2014_19	Metal	Titanium	3.78	*	mg/Kg	0.2	0.08	6010C
2014_19	Metal	Vanadium	0.76		mg/Kg	0.2	0.007	6020A
2014_19	Metal	Zinc	268		mg/Kg	0.49	0.06	6020A
2014_19	Organochloride Pesticide	4,4'-DDD	1.6		ug/Kg	1	0.55	8081B
2014_19	Organochloride Pesticide	4,4'-DDE	1.3	Ui	ug/Kg	1.3	1.3	8081B
2014_19	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.64	8081B
2014_19	Organochloride Pesticide	Aldrin	1	Ui	ug/Kg	1	0.76	8081B
2014_19	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
2014_19	Organochloride Pesticide	Endosulfan I	1	Ui	ug/Kg	1	0.29	8081B
2014_19	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
2014_19	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
2014_19	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
2014_19	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
2014_19	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
2014_19	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
2014_19	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
2014_19	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
2014_19	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
2014_19	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2014_19	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.71	8081B
2014_19	Organochloride Pesticide	beta-BHC	1	Ui	ug/Kg	1	0.48	8081B
2014_19	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
2014_19	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
2014_19	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
2014_19	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
2014_19	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
2014_19	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
2014_19	PCB	Aroclor 1242	6.9	J	ug/Kg	10	2.8	8082A
2014_19	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
2014_19	PCB	Aroclor 1254	11		ug/Kg	10	2.8	8082A
2014_19	PCB	Aroclor 1260	4.7	J	ug/Kg	10	2.8	8082A
2014_19	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Anthracene	0.92	J	ug/Kg	9.9	0.75	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	2.5	J	ug/Kg	9.9	0.75	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	1.8	J	ug/Kg	9.9	1.3	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Chrysene	1.6	J	ug/Kg	9.9	1.1	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Fluoranthene	7.4	J	ug/Kg	9.9	0.97	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2014_19	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	99	U	ug/Kg	99	7.6	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Phenanthrene	2.8	J	ug/Kg	9.9	1.3	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Phenol	62	J	ug/Kg	2000	19	8270D SIM
2014_19	Semivolatile Organic Coumpound/PAH	Pyrene	9.3	J	ug/Kg	9.9	0.99	8270D SIM
2014_19	Total Solids	Total Solids	10.9		%	.	.	Freeze Dry
2071_12	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.7	J	ng/Kg	2.4	0.0325	8290A
2071_12	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.24	JK	ng/Kg	2.4	0.0318	8290A
2071_12	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.07	J	ng/Kg	2.4	0.0361	8290A
2071_12	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.06	JK	ng/Kg	2.4	0.0405	8290A
2071_12	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.09	JK	ng/Kg	2.4	0.032	8290A
2071_12	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.15	J	ng/Kg	2.4	0.0436	8290A
2071_12	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.06	J	ng/Kg	2.4	0.0303	8290A
2071_12	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.08	J	ng/Kg	2.4	0.0386	8290A
2071_12	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.07	JK	ng/Kg	2.4	0.0399	8290A
2071_12	Dioxin/Furan	1,2,3,7,8-PeCDD	2.4	U	ng/Kg	2.4	0.0575	8290A
2071_12	Dioxin/Furan	1,2,3,7,8-PeCDF	0.14	JK	ng/Kg	2.4	0.0477	8290A
2071_12	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.08	J	ng/Kg	2.4	0.0339	8290A
2071_12	Dioxin/Furan	2,3,4,7,8-PeCDF	0.15	J	ng/Kg	2.4	0.0465	8290A
2071_12	Dioxin/Furan	2,3,7,8-TCDD	0.23	J	ng/Kg	0.48	0.109	8290A
2071_12	Dioxin/Furan	2,3,7,8-TCDF	0.66		ng/Kg	0.48	0.0903	8290A
2071_12	Dioxin/Furan	OCDD	6.52		ng/Kg	4.79	0.105	8290A
2071_12	Dioxin/Furan	OCDF	0.54	J	ng/Kg	4.79	0.116	8290A
2071_12	Dioxin/Furan	Total Hepta-Dioxins	1.6	J	ng/Kg	2.4	0.0325	8290A
2071_12	Dioxin/Furan	Total Hepta-Furans	0.07	J	ng/Kg	2.4	0.0339	8290A
2071_12	Dioxin/Furan	Total Hexa-Dioxins	0.23	J	ng/Kg	2.4	0.0408	8290A
2071_12	Dioxin/Furan	Total Hexa-Furans	0.46	J	ng/Kg	2.4	0.0336	8290A
2071_12	Dioxin/Furan	Total Penta-Dioxins	0.1	J	ng/Kg	2.4	0.0575	8290A
2071_12	Dioxin/Furan	Total Penta-Furans	0.73	J	ng/Kg	2.4	0.0472	8290A
2071_12	Dioxin/Furan	Total Tetra-Dioxins	0.57		ng/Kg	0.48	0.109	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2071_12	Dioxin/Furan	Total Tetra-Furans	2.4		ng/Kg	0.48	0.0903	8290A
2071_12	Lipid	Lipids, Total	0.58		%	0.02	.	NOAA LIPID
2071_12	Metal	Aluminum	51.9		mg/Kg	1.9	0.2	6020A
2071_12	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
2071_12	Metal	Arsenic	11.3		mg/Kg	0.48	0.02	6020A
2071_12	Metal	Barium	1.5		mg/Kg	0.05	0.005	6020A
2071_12	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
2071_12	Metal	Cadmium	1.05		mg/Kg	0.02	0.004	6020A
2071_12	Metal	Calcium	7030		mg/Kg	1.9	1.9	6010C
2071_12	Metal	Chromium	0.63		mg/Kg	0.19	0.02	6020A
2071_12	Metal	Cobalt	1.26		mg/Kg	0.02	0.003	6020A
2071_12	Metal	Copper	15.3		mg/Kg	0.1	0.02	6020A
2071_12	Metal	Iron	167	N	mg/Kg	3.8	1	6010C
2071_12	Metal	Lead	2.33		mg/Kg	0.02	0.0005	6020A
2071_12	Metal	Magnesium	6010		mg/Kg	1	0.6	6010C
2071_12	Metal	Manganese	140		mg/Kg	0.05	0.01	6020A
2071_12	Metal	Mercury	0.05		mg/Kg	0.02	0.004	7471B
2071_12	Metal	Nickel	4.99		mg/Kg	0.19	0.02	6020A
2071_12	Metal	Potassium	12000		mg/Kg	38	8.6	6010C
2071_12	Metal	Selenium	2.5		mg/Kg	1	0.2	6020A
2071_12	Metal	Silver	2.76		mg/Kg	0.02	0.006	6020A
2071_12	Metal	Sodium	44000		mg/Kg	383	19.2	6010C
2071_12	Metal	Strontium	89.9		mg/Kg	0.1	0.03	6010C
2071_12	Metal	Tin	0.06		mg/Kg	0.05	0.029	6020A
2071_12	Metal	Titanium	1.51	*	mg/Kg	0.19	0.08	6010C
2071_12	Metal	Vanadium	0.53		mg/Kg	0.19	0.007	6020A
2071_12	Metal	Zinc	195		mg/Kg	0.48	0.06	6020A
2071_12	Organochloride Pesticide	4,4'-DDD	2		ug/Kg	0.99	0.55	8081B
2071_12	Organochloride Pesticide	4,4'-DDE	1.5	Ui	ug/Kg	1.5	1.5	8081B
2071_12	Organochloride Pesticide	4,4'-DDT	0.99	Ui	ug/Kg	0.99	0.79	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2071_12	Organochloride Pesticide	Aldrin	1.1	Ui	ug/Kg	1.1	1.1	8081B
2071_12	Organochloride Pesticide	Dieldrin	0.99	U	ug/Kg	0.99	0.2	8081B
2071_12	Organochloride Pesticide	Endosulfan I	0.99	U	ug/Kg	0.99	0.22	8081B
2071_12	Organochloride Pesticide	Endosulfan II	0.99	U	ug/Kg	0.99	0.24	8081B
2071_12	Organochloride Pesticide	Endosulfan Sulfate	0.99	U	ug/Kg	0.99	0.53	8081B
2071_12	Organochloride Pesticide	Endrin	0.99	U	ug/Kg	0.99	0.28	8081B
2071_12	Organochloride Pesticide	Endrin Aldehyde	0.99	U	ug/Kg	0.99	0.62	8081B
2071_12	Organochloride Pesticide	Endrin Ketone	0.99	U	ug/Kg	0.99	0.39	8081B
2071_12	Organochloride Pesticide	Heptachlor	0.99	U	ug/Kg	0.99	0.27	8081B
2071_12	Organochloride Pesticide	Heptachlor Epoxide	0.99	U	ug/Kg	0.99	0.18	8081B
2071_12	Organochloride Pesticide	Methoxychlor	0.99	U	ug/Kg	0.99	0.48	8081B
2071_12	Organochloride Pesticide	Toxaphene	50	Ui	ug/Kg	50	15	8081B
2071_12	Organochloride Pesticide	alpha-BHC	0.99	U	ug/Kg	0.99	0.16	8081B
2071_12	Organochloride Pesticide	alpha-Chlordane	0.99	Ui	ug/Kg	0.99	0.8	8081B
2071_12	Organochloride Pesticide	beta-BHC	0.99	Ui	ug/Kg	0.99	0.45	8081B
2071_12	Organochloride Pesticide	delta-BHC	0.99	U	ug/Kg	0.99	0.2	8081B
2071_12	Organochloride Pesticide	gamma-BHC (Lindane)	0.99	U	ug/Kg	0.99	0.21	8081B
2071_12	Organochloride Pesticide	gamma-Chlordane	0.99	Ui	ug/Kg	0.99	0.29	8081B
2071_12	PCB	Aroclor 1016	9.9	U	ug/Kg	9.9	2.8	8082A
2071_12	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
2071_12	PCB	Aroclor 1232	9.9	U	ug/Kg	9.9	2.8	8082A
2071_12	PCB	Aroclor 1242	7.4	J	ug/Kg	9.9	2.8	8082A
2071_12	PCB	Aroclor 1248	9.9	U	ug/Kg	9.9	2.8	8082A
2071_12	PCB	Aroclor 1254	16		ug/Kg	9.9	2.8	8082A
2071_12	PCB	Aroclor 1260	5.1	J	ug/Kg	9.9	2.8	8082A
2071_12	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2071_12	Semivolatile Organic Coumpound/PAH	Anthracene	0.8	J	ug/Kg	10	0.76	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.8	J	ug/Kg	10	0.76	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	1.4	J	ug/Kg	10	1.4	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Fluoranthene	5.5	J	ug/Kg	10	0.98	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	99	U	ug/Kg	99	7.6	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Phenanthrene	2.1	J	ug/Kg	10	1.4	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Phenol	53	J	ug/Kg	2000	19	8270D SIM
2071_12	Semivolatile Organic Coumpound/PAH	Pyrene	7.8	J	ug/Kg	10	1	8270D SIM
2071_12	Total Solids	Total Solids	11.7		%	.	.	Freeze Dry
2146_25	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.66	J	ng/Kg	3.16	0.0489	8290A
2146_25	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.42	BJ	ng/Kg	3.16	0.0728	8290A
2146_25	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.39	JK	ng/Kg	3.16	0.0947	8290A
2146_25	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.3	J	ng/Kg	3.16	0.0812	8290A
2146_25	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.31	JK	ng/Kg	3.16	0.0545	8290A
2146_25	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.35	J	ng/Kg	3.16	0.0847	8290A
2146_25	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.3	J	ng/Kg	3.16	0.0514	8290A
2146_25	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.3	J	ng/Kg	3.16	0.0767	8290A
2146_25	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.42	JK	ng/Kg	3.16	0.0698	8290A
2146_25	Dioxin/Furan	1,2,3,7,8-PeCDD	0.3	J	ng/Kg	3.16	0.0947	8290A
2146_25	Dioxin/Furan	1,2,3,7,8-PeCDF	0.32	J	ng/Kg	3.16	0.114	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2146_25	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.3	J	ng/Kg	3.16	0.0574	8290A
2146_25	Dioxin/Furan	2,3,4,7,8-PeCDF	0.35	J	ng/Kg	3.16	0.117	8290A
2146_25	Dioxin/Furan	2,3,7,8-TCDD	0.35	JK	ng/Kg	0.63	0.106	8290A
2146_25	Dioxin/Furan	2,3,7,8-TCDF	0.56	J	ng/Kg	0.63	0.103	8290A
2146_25	Dioxin/Furan	OCDD	2.66	BJ	ng/Kg	6.33	0.205	8290A
2146_25	Dioxin/Furan	OCDF	0.78	BJ	ng/Kg	6.33	0.162	8290A
2146_25	Dioxin/Furan	Total Hepta-Dioxins	1.11	J	ng/Kg	3.16	0.0489	8290A
2146_25	Dioxin/Furan	Total Hepta-Furans	3.16	U	ng/Kg	3.16	0.0829	8290A
2146_25	Dioxin/Furan	Total Hexa-Dioxins	1.32	J	ng/Kg	3.16	0.0808	8290A
2146_25	Dioxin/Furan	Total Hexa-Furans	0.81	J	ng/Kg	3.16	0.0576	8290A
2146_25	Dioxin/Furan	Total Penta-Dioxins	0.3	J	ng/Kg	3.16	0.0947	8290A
2146_25	Dioxin/Furan	Total Penta-Furans	0.95	J	ng/Kg	3.16	0.115	8290A
2146_25	Dioxin/Furan	Total Tetra-Dioxins	0.63	U	ng/Kg	0.63	0.106	8290A
2146_25	Dioxin/Furan	Total Tetra-Furans	1.59		ng/Kg	0.63	0.103	8290A
2146_25	Lipid	Lipids, Total	0.27		%	0.01	.	NOAA LIPID
2146_25	Metal	Aluminum	19.4		mg/Kg	1.9	0.2	6020A
2146_25	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
2146_25	Metal	Arsenic	11.2		mg/Kg	0.48	0.02	6020A
2146_25	Metal	Barium	0.99		mg/Kg	0.05	0.005	6020A
2146_25	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
2146_25	Metal	Cadmium	0.93		mg/Kg	0.02	0.004	6020A
2146_25	Metal	Calcium	6350		mg/Kg	1.9	1.9	6010C
2146_25	Metal	Chromium	0.43		mg/Kg	0.19	0.02	6020A
2146_25	Metal	Cobalt	1.08		mg/Kg	0.02	0.003	6020A
2146_25	Metal	Copper	11.1		mg/Kg	0.1	0.02	6020A
2146_25	Metal	Iron	92		mg/Kg	3.8	1	6010C
2146_25	Metal	Lead	0.83	*	mg/Kg	0.02	0.0005	6020A
2146_25	Metal	Magnesium	5430		mg/Kg	1	0.6	6010C
2146_25	Metal	Manganese	94.4		mg/Kg	0.05	0.01	6020A
2146_25	Metal	Mercury	0.06		mg/Kg	0.02	0.004	7471B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2146_25	Metal	Nickel	3.84		mg/Kg	0.19	0.02	6020A
2146_25	Metal	Potassium	12700		mg/Kg	38	8.6	6010C
2146_25	Metal	Selenium	1.8		mg/Kg	1	0.2	6020A
2146_25	Metal	Silver	1.24		mg/Kg	0.02	0.006	6020A
2146_25	Metal	Sodium	38700		mg/Kg	381	19	6010C
2146_25	Metal	Strontium	79.3		mg/Kg	0.1	0.03	6010C
2146_25	Metal	Tin	0.04	J	mg/Kg	0.05	0.029	6020A
2146_25	Metal	Titanium	0.38		mg/Kg	0.19	0.08	6010C
2146_25	Metal	Vanadium	0.55		mg/Kg	0.19	0.007	6020A
2146_25	Metal	Zinc	147		mg/Kg	0.48	0.06	6020A
2146_25	Organochloride Pesticide	4,4'-DDD	1.4		ug/Kg	1	0.55	8081B
2146_25	Organochloride Pesticide	4,4'-DDE	1.2	Ui	ug/Kg	1.2	1.2	8081B
2146_25	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.6	8081B
2146_25	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
2146_25	Organochloride Pesticide	Dieldrin	1.5	Ui	ug/Kg	1.5	1.5	8081B
2146_25	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
2146_25	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
2146_25	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
2146_25	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
2146_25	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
2146_25	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
2146_25	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
2146_25	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
2146_25	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
2146_25	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
2146_25	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
2146_25	Organochloride Pesticide	alpha-Chlordane	0.32	JP	ug/Kg	1	0.25	8081B
2146_25	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
2146_25	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2146_25	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
2146_25	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
2146_25	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
2146_25	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
2146_25	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
2146_25	PCB	Aroclor 1242	7.3	J	ug/Kg	10	2.8	8082A
2146_25	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
2146_25	PCB	Aroclor 1254	11		ug/Kg	10	2.8	8082A
2146_25	PCB	Aroclor 1260	10	U	ug/Kg	10	2.8	8082A
2146_25	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Acenaphthene	1.2	J	ug/Kg	9.9	0.93	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Acenaphthylene	1	J	ug/Kg	9.9	0.92	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Anthracene	0.83	J	ug/Kg	9.9	0.76	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.5	J	ug/Kg	9.9	0.76	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Chrysene	1.7	J	ug/Kg	9.9	1.1	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.8	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.9	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.5	J	ug/Kg	9.9	0.97	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	99	U	ug/Kg	99	7.6	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.5	J	ug/Kg	9.9	1.4	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2146_25	Semivolatile Organic Coumpound/PAH	Phenol	69	J	ug/Kg	2000	19	8270D SIM
2146_25	Semivolatile Organic Coumpound/PAH	Pyrene	4.4	J	ug/Kg	9.9	0.99	8270D SIM
2146_25	Total Solids	Total Solids	12.6		%	.	.	Freeze Dry
654_9	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.57	J	ng/Kg	3.53	0.0482	8290A
654_9	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.29	BJ	ng/Kg	3.53	0.0329	8290A
654_9	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.14	J	ng/Kg	3.53	0.0322	8290A
654_9	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.15	J	ng/Kg	3.53	0.0335	8290A
654_9	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.18	JK	ng/Kg	3.53	0.0342	8290A
654_9	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.12	J	ng/Kg	3.53	0.0328	8290A
654_9	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.14	J	ng/Kg	3.53	0.0308	8290A
654_9	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.14	J	ng/Kg	3.53	0.0411	8290A
654_9	Dioxin/Furan	1,2,3,7,8-PeCDD	0.14	J	ng/Kg	3.53	0.0501	8290A
654_9	Dioxin/Furan	1,2,3,7,8-PeCDF	0.15	J	ng/Kg	3.53	0.0493	8290A
654_9	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.14	JK	ng/Kg	3.53	0.0348	8290A
654_9	Dioxin/Furan	2,3,4,7,8-PeCDF	0.21	J	ng/Kg	3.53	0.0513	8290A
654_9	Dioxin/Furan	2,3,7,8-TCDD	0.16	JK	ng/Kg	0.71	0.0391	8290A
654_9	Dioxin/Furan	2,3,7,8-TCDF	0.39	J	ng/Kg	0.71	0.0388	8290A
654_9	Dioxin/Furan	OCDD	3.85	BJ	ng/Kg	7.05	0.0958	8290A
654_9	Dioxin/Furan	OCDF	1.26	BJ	ng/Kg	7.05	0.0813	8290A
654_9	Dioxin/Furan	Total Hepta-Dioxins	1.07	J	ng/Kg	3.53	0.0482	8290A
654_9	Dioxin/Furan	Total Hepta-Furans	0.44	J	ng/Kg	3.53	0.0384	8290A
654_9	Dioxin/Furan	Total Hexa-Dioxins	0.48	J	ng/Kg	3.53	0.0324	8290A
654_9	Dioxin/Furan	Total Hexa-Furans	0.43	J	ng/Kg	3.53	0.0353	8290A
654_9	Dioxin/Furan	Total Penta-Dioxins	0.23	J	ng/Kg	3.53	0.0501	8290A
654_9	Dioxin/Furan	Total Penta-Furans	0.75	J	ng/Kg	3.53	0.0503	8290A
654_9	Dioxin/Furan	Total Tetra-Dioxins	0.3	J	ng/Kg	0.71	0.0391	8290A
654_9	Dioxin/Furan	Total Tetra-Furans	1.25		ng/Kg	0.71	0.0388	8290A
654_9	Lipid	Lipids, Total	0.31		%	0.01	.	NOAA LIPID
654_9	Metal	Aluminum	37.7		mg/Kg	1.8	0.2	6020A
654_9	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
654_9	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.15	J	ng/Kg	3.53	0.0452	8290A
654_9	Metal	Arsenic	9.85		mg/Kg	0.46	0.02	6020A
654_9	Metal	Barium	1.42		mg/Kg	0.05	0.005	6020A
654_9	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
654_9	Metal	Cadmium	1.09		mg/Kg	0.02	0.004	6020A
654_9	Metal	Calcium	6250		mg/Kg	1.8	1.8	6010C
654_9	Metal	Chromium	0.51		mg/Kg	0.18	0.02	6020A
654_9	Metal	Cobalt	1.85		mg/Kg	0.02	0.003	6020A
654_9	Metal	Copper	10.6		mg/Kg	0.09	0.02	6020A
654_9	Metal	Iron	184		mg/Kg	3.7	0.9	6010C
654_9	Metal	Lead	1.4	*	mg/Kg	0.02	0.0005	6020A
654_9	Metal	Magnesium	5760		mg/Kg	0.9	0.5	6010C
654_9	Metal	Manganese	221		mg/Kg	0.05	0.01	6020A
654_9	Metal	Mercury	0.05		mg/Kg	0.02	0.004	7471B
654_9	Metal	Nickel	7.21		mg/Kg	0.18	0.02	6020A
654_9	Metal	Potassium	13400		mg/Kg	37	8.2	6010C
654_9	Metal	Selenium	1.9		mg/Kg	0.9	0.2	6020A
654_9	Metal	Silver	1.62		mg/Kg	0.02	0.005	6020A
654_9	Metal	Sodium	40500		mg/Kg	366	18.3	6010C
654_9	Metal	Strontium	82.4		mg/Kg	0.09	0.03	6010C
654_9	Metal	Tin	0.05		mg/Kg	0.05	0.027	6020A
654_9	Metal	Titanium	1.1		mg/Kg	0.18	0.07	6010C
654_9	Metal	Vanadium	0.45		mg/Kg	0.18	0.006	6020A
654_9	Metal	Zinc	189		mg/Kg	0.46	0.06	6020A
654_9	Organochloride Pesticide	4,4'-DDD	1.3		ug/Kg	1	0.55	8081B
654_9	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
654_9	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B
654_9	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
654_9	Organochloride Pesticide	Dieldrin	1	Ui	ug/Kg	1	0.77	8081B
654_9	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
654_9	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
654_9	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
654_9	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
654_9	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
654_9	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
654_9	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
654_9	Organochloride Pesticide	Heptachlor Epoxide	1	Ui	ug/Kg	1	0.21	8081B
654_9	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
654_9	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
654_9	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
654_9	Organochloride Pesticide	alpha-Chlordane	0.49	J	ug/Kg	1	0.25	8081B
654_9	Organochloride Pesticide	beta-BHC	2.3		ug/Kg	1	0.41	8081B
654_9	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
654_9	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
654_9	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.41	8081B
654_9	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
654_9	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
654_9	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
654_9	PCB	Aroclor 1242	5.4	J	ug/Kg	10	2.8	8082A
654_9	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
654_9	PCB	Aroclor 1254	8.9	J	ug/Kg	10	2.8	8082A
654_9	PCB	Aroclor 1260	3.1	J	ug/Kg	10	2.8	8082A
654_9	Semivolatile Organic Coumpound/PAH	2-Methylphenol	39	U	ug/Kg	39	8.1	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	4-Methylphenol	39	U	ug/Kg	39	8.7	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Acenaphthene	1	J	ug/Kg	10	0.94	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Acenaphthylene	1.1	J	ug/Kg	10	0.92	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.5	J	ug/Kg	10	0.76	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
654_9	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.3	J	ug/Kg	10	0.98	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Fluorene	1.2	J	ug/Kg	10	1.1	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	97	U	ug/Kg	97	7.6	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.5	J	ug/Kg	10	1.4	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Phenol	74	J	ug/Kg	2000	19	8270D SIM
654_9	Semivolatile Organic Coumpound/PAH	Pyrene	3.8	J	ug/Kg	10	1	8270D SIM
654_9	Total Solids	Total Solids	12.8		%	.	.	Freeze Dry
659_7	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.63	J	ng/Kg	3.52	0.0305	8290A
659_7	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.32	BJ	ng/Kg	3.52	0.0319	8290A
659_7	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.19	J	ng/Kg	3.52	0.0428	8290A
659_7	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.13	JK	ng/Kg	3.52	0.034	8290A
659_7	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.17	JK	ng/Kg	3.52	0.0342	8290A
659_7	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.17	J	ng/Kg	3.52	0.0356	8290A
659_7	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.14	J	ng/Kg	3.52	0.0323	8290A
659_7	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.13	J	ng/Kg	3.52	0.0322	8290A
659_7	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.16	JK	ng/Kg	3.52	0.044	8290A
659_7	Dioxin/Furan	1,2,3,7,8-PeCDD	0.12	JK	ng/Kg	3.52	0.0385	8290A
659_7	Dioxin/Furan	1,2,3,7,8-PeCDF	0.16	JK	ng/Kg	3.52	0.0574	8290A
659_7	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.16	J	ng/Kg	3.52	0.0367	8290A
659_7	Dioxin/Furan	2,3,4,7,8-PeCDF	0.23	J	ng/Kg	3.52	0.0599	8290A
659_7	Dioxin/Furan	2,3,7,8-TCDD	0.18	JK	ng/Kg	0.71	0.0381	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
659_7	Dioxin/Furan	2,3,7,8-TCDF	0.44	J	ng/Kg	0.71	0.0406	8290A
659_7	Dioxin/Furan	OCDD	4.59	BJ	ng/Kg	7.05	0.135	8290A
659_7	Dioxin/Furan	OCDF	0.73	BJ	ng/Kg	7.05	0.0952	8290A
659_7	Dioxin/Furan	Total Hepta-Dioxins	1.27	J	ng/Kg	3.52	0.0305	8290A
659_7	Dioxin/Furan	Total Hepta-Furans	0.51	J	ng/Kg	3.52	0.0368	8290A
659_7	Dioxin/Furan	Total Hexa-Dioxins	0.48	J	ng/Kg	3.52	0.0339	8290A
659_7	Dioxin/Furan	Total Hexa-Furans	0.16	J	ng/Kg	3.52	0.0364	8290A
659_7	Dioxin/Furan	Total Penta-Dioxins	3.52	U	ng/Kg	3.52	0.0385	8290A
659_7	Dioxin/Furan	Total Penta-Furans	0.83	J	ng/Kg	3.52	0.0587	8290A
659_7	Dioxin/Furan	Total Tetra-Dioxins	0.42	J	ng/Kg	0.71	0.0381	8290A
659_7	Dioxin/Furan	Total Tetra-Furans	1.74		ng/Kg	0.71	0.0406	8290A
659_7	Lipid	Lipids, Total	0.31		%	0.01	.	NOAA LIPID
659_7	Metal	Aluminum	32.6		mg/Kg	1.9	0.2	6020A
659_7	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
659_7	Metal	Arsenic	11.2		mg/Kg	0.48	0.02	6020A
659_7	Metal	Barium	1.44		mg/Kg	0.05	0.005	6020A
659_7	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
659_7	Metal	Cadmium	1.17		mg/Kg	0.02	0.004	6020A
659_7	Metal	Calcium	6070		mg/Kg	1.9	1.9	6010C
659_7	Metal	Chromium	0.76		mg/Kg	0.19	0.02	6020A
659_7	Metal	Cobalt	1.66		mg/Kg	0.02	0.003	6020A
659_7	Metal	Copper	15		mg/Kg	0.1	0.02	6020A
659_7	Metal	Iron	180		mg/Kg	3.8	1	6010C
659_7	Metal	Lead	2.53	*	mg/Kg	0.02	0.0005	6020A
659_7	Metal	Magnesium	6050		mg/Kg	1	0.6	6010C
659_7	Metal	Manganese	288		mg/Kg	0.05	0.01	6020A
659_7	Metal	Mercury	0.09		mg/Kg	0.02	0.004	7471B
659_7	Metal	Nickel	4.63		mg/Kg	0.19	0.02	6020A
659_7	Metal	Potassium	13600		mg/Kg	38	8.6	6010C
659_7	Metal	Selenium	2.9		mg/Kg	1	0.2	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
659_7	Metal	Silver	4.78		mg/Kg	0.02	0.006	6020A
659_7	Metal	Sodium	43200		mg/Kg	381	19	6010C
659_7	Metal	Strontium	80.9		mg/Kg	0.1	0.03	6010C
659_7	Metal	Tin	0.05		mg/Kg	0.05	0.029	6020A
659_7	Metal	Titanium	0.87		mg/Kg	0.19	0.08	6010C
659_7	Metal	Vanadium	0.55		mg/Kg	0.19	0.007	6020A
659_7	Metal	Zinc	235		mg/Kg	0.48	0.06	6020A
659_7	Organochloride Pesticide	4,4'-DDD	1.8	P	ug/Kg	1	0.55	8081B
659_7	Organochloride Pesticide	4,4'-DDE	1.4	Ui	ug/Kg	1.4	1.4	8081B
659_7	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.83	8081B
659_7	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
659_7	Organochloride Pesticide	Dieldrin	4	Ui	ug/Kg	4	4	8081B
659_7	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
659_7	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
659_7	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
659_7	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
659_7	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
659_7	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
659_7	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
659_7	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
659_7	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
659_7	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
659_7	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
659_7	Organochloride Pesticide	alpha-Chlordane	1	U	ug/Kg	1	0.25	8081B
659_7	Organochloride Pesticide	beta-BHC	1.2	Ui	ug/Kg	1.2	1.2	8081B
659_7	Organochloride Pesticide	delta-BHC	1	Ui	ug/Kg	1	0.29	8081B
659_7	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
659_7	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
659_7	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
659_7	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
659_7	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
659_7	PCB	Aroclor 1242	6.9	J	ug/Kg	10	2.8	8082A
659_7	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
659_7	PCB	Aroclor 1254	10		ug/Kg	10	2.8	8082A
659_7	Semivolatile Organic Coumpound/PAH	2-Methylphenol	39	U	ug/Kg	39	8.1	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	4-Methylphenol	39	U	ug/Kg	39	8.7	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Acenaphthene	0.97	J	ug/Kg	10	0.94	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Anthracene	0.8	J	ug/Kg	10	0.76	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	3.9	J	ug/Kg	10	0.76	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.5	J	ug/Kg	10	0.98	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	97	U	ug/Kg	97	7.6	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.8	J	ug/Kg	10	1.4	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Phenol	84	J	ug/Kg	2000	19	8270D SIM
659_7	Semivolatile Organic Coumpound/PAH	Pyrene	5.6	J	ug/Kg	10	1	8270D SIM
659_7	Total Solids	Total Solids	12		%	.	.	Freeze Dry
714_40	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.53	J	ng/Kg	3.38	0.0244	8290A
714_40	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.28	BJ	ng/Kg	3.38	0.0388	8290A
659_7	PCB	Aroclor 1260	4.1	J	ug/Kg	10	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
714_40	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.25	J	ng/Kg	3.38	0.0486	8290A
714_40	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.13	JK	ng/Kg	3.38	0.0388	8290A
714_40	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.16	JK	ng/Kg	3.38	0.0253	8290A
714_40	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.16	J	ng/Kg	3.38	0.04	8290A
714_40	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.12	J	ng/Kg	3.38	0.0248	8290A
714_40	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.18	J	ng/Kg	3.38	0.0365	8290A
714_40	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.24	J	ng/Kg	3.38	0.0327	8290A
714_40	Dioxin/Furan	1,2,3,7,8-PeCDD	0.14	J	ng/Kg	3.38	0.0545	8290A
714_40	Dioxin/Furan	1,2,3,7,8-PeCDF	0.14	J	ng/Kg	3.38	0.0537	8290A
714_40	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.16	J	ng/Kg	3.38	0.0261	8290A
714_40	Dioxin/Furan	2,3,4,7,8-PeCDF	0.16	J	ng/Kg	3.38	0.0557	8290A
714_40	Dioxin/Furan	2,3,7,8-TCDD	0.2	JK	ng/Kg	0.68	0.0541	8290A
714_40	Dioxin/Furan	2,3,7,8-TCDF	0.38	J	ng/Kg	0.68	0.0409	8290A
714_40	Dioxin/Furan	OCDD	4.14	BJ	ng/Kg	6.76	0.0788	8290A
714_40	Dioxin/Furan	OCDF	0.56	BJ	ng/Kg	6.76	0.0664	8290A
714_40	Dioxin/Furan	Total Hepta-Dioxins	1.08	J	ng/Kg	3.38	0.0244	8290A
714_40	Dioxin/Furan	Total Hepta-Furans	0.52	J	ng/Kg	3.38	0.0433	8290A
714_40	Dioxin/Furan	Total Hexa-Dioxins	0.41	J	ng/Kg	3.38	0.0384	8290A
714_40	Dioxin/Furan	Total Hexa-Furans	0.55	J	ng/Kg	3.38	0.0269	8290A
714_40	Dioxin/Furan	Total Penta-Dioxins	0.25	J	ng/Kg	3.38	0.0545	8290A
714_40	Dioxin/Furan	Total Penta-Furans	0.68	J	ng/Kg	3.38	0.0548	8290A
714_40	Dioxin/Furan	Total Tetra-Dioxins	0.26	J	ng/Kg	0.68	0.0541	8290A
714_40	Dioxin/Furan	Total Tetra-Furans	0.74		ng/Kg	0.68	0.0409	8290A
714_40	Lipid	Lipids, Total	0.32		%	0.01	.	NOAA LIPID
714_40	Metal	Aluminum	36.2		mg/Kg	1.9	0.2	6020A
714_40	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
714_40	Metal	Arsenic	7.53		mg/Kg	0.48	0.02	6020A
714_40	Metal	Barium	1.49		mg/Kg	0.05	0.005	6020A
714_40	Metal	Beryllium	0.02	J	mg/Kg	0.02	0.003	6020A
714_40	Metal	Cadmium	1.18		mg/Kg	0.02	0.004	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
714_40	Metal	Calcium	6670		mg/Kg	1.9	1.9	6010C
714_40	Metal	Chromium	0.38		mg/Kg	0.19	0.02	6020A
714_40	Metal	Cobalt	0.88		mg/Kg	0.02	0.003	6020A
714_40	Metal	Copper	12.4		mg/Kg	0.1	0.02	6020A
714_40	Metal	Iron	151		mg/Kg	3.9	1	6010C
714_40	Metal	Lead	1.6	*	mg/Kg	0.02	0.0005	6020A
714_40	Metal	Magnesium	5470		mg/Kg	1	0.6	6010C
714_40	Metal	Manganese	292		mg/Kg	0.05	0.01	6020A
714_40	Metal	Mercury	0.04		mg/Kg	0.02	0.004	7471B
714_40	Metal	Nickel	2.62		mg/Kg	0.19	0.02	6020A
714_40	Metal	Potassium	14100		mg/Kg	38	8.7	6010C
714_40	Metal	Selenium	1.7		mg/Kg	1	0.2	6020A
714_40	Metal	Silver	1.52		mg/Kg	0.02	0.006	6020A
714_40	Metal	Sodium	36400		mg/Kg	385	19.2	6010C
714_40	Metal	Strontium	81.7		mg/Kg	0.1	0.03	6010C
714_40	Metal	Tin	0.04	J	mg/Kg	0.05	0.029	6020A
714_40	Metal	Titanium	0.94		mg/Kg	0.19	0.08	6010C
714_40	Metal	Vanadium	0.4		mg/Kg	0.19	0.007	6020A
714_40	Metal	Zinc	222		mg/Kg	0.48	0.06	6020A
714_40	Organochloride Pesticide	4,4'-DDD	1.2		ug/Kg	1	0.55	8081B
714_40	Organochloride Pesticide	4,4'-DDE	1	P	ug/Kg	1	0.45	8081B
714_40	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B
714_40	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
714_40	Organochloride Pesticide	Dieldrin	1	Ui	ug/Kg	1	0.28	8081B
714_40	Organochloride Pesticide	Endosulfan I	1	Ui	ug/Kg	1	0.43	8081B
714_40	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
714_40	Organochloride Pesticide	Endosulfan Sulfate	1	Ui	ug/Kg	1	0.82	8081B
714_40	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
714_40	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
714_40	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B

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Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
714_40	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
714_40	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
714_40	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
714_40	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
714_40	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
714_40	Organochloride Pesticide	alpha-Chlordane	1	U	ug/Kg	1	0.25	8081B
714_40	Organochloride Pesticide	beta-BHC	1	Ui	ug/Kg	1	0.74	8081B
714_40	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
714_40	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
714_40	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.34	8081B
714_40	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
714_40	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
714_40	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
714_40	PCB	Aroclor 1242	5.9	J	ug/Kg	10	2.8	8082A
714_40	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
714_40	PCB	Aroclor 1254	8	J	ug/Kg	10	2.8	8082A
714_40	PCB	Aroclor 1260	2.9	J	ug/Kg	10	2.8	8082A
714_40	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.76	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.3	J	ug/Kg	9.9	0.76	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Chrysene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
717_59	Dioxin/Furan	Total Tetra-Dioxins	0.29	J	ng/Kg	0.49	0.0688	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
714_40	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.8	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Fluoranthene	2.5	J	ug/Kg	9.9	0.97	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	99	U	ug/Kg	99	7.6	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Phenanthrene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Phenol	88	J	ug/Kg	2000	19	8270D SIM
714_40	Semivolatile Organic Coumpound/PAH	Pyrene	3.2	J	ug/Kg	9.9	0.99	8270D SIM
714_40	Total Solids	Total Solids	12.6		%	.	.	Freeze Dry
717_59	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	1.01	J	ng/Kg	2.45	0.0042	8290A
717_59	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.16	JK	ng/Kg	2.45	0.0157	8290A
717_59	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.05	JK	ng/Kg	2.45	0.0178	8290A
717_59	Dioxin/Furan	1,2,3,4,7,8-HxCDD	2.45	U	ng/Kg	2.45	0.0282	8290A
717_59	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.07	JK	ng/Kg	2.45	0.0208	8290A
717_59	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.08	JK	ng/Kg	2.45	0.0303	8290A
717_59	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.05	J	ng/Kg	2.45	0.0197	8290A
717_59	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.06	JK	ng/Kg	2.45	0.0269	8290A
717_59	Dioxin/Furan	1,2,3,7,8,9-HxCDF	2.45	U	ng/Kg	2.45	0.0259	8290A
717_59	Dioxin/Furan	1,2,3,7,8-PeCDD	2.45	U	ng/Kg	2.45	0.033	8290A
717_59	Dioxin/Furan	1,2,3,7,8-PeCDF	0.07	J	ng/Kg	2.45	0.0272	8290A
717_59	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.06	J	ng/Kg	2.45	0.0215	8290A
717_59	Dioxin/Furan	2,3,4,7,8-PeCDF	0.09	JK	ng/Kg	2.45	0.0269	8290A
717_59	Dioxin/Furan	2,3,7,8-TCDD	0.49	U	ng/Kg	0.49	0.0688	8290A
717_59	Dioxin/Furan	2,3,7,8-TCDF	0.4	J	ng/Kg	0.49	0.0521	8290A
717_59	Dioxin/Furan	OCDD	7.24		ng/Kg	4.91	0.0318	8290A
717_59	Dioxin/Furan	OCDF	0.42	JK	ng/Kg	4.91	0.0691	8290A
717_59	Dioxin/Furan	Total Tetra-Dioxins	0.29	J	ng/Kg	0.49	0.0688	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
717_59	Dioxin/Furan	Total Hepta-Dioxins	2.1	J	ng/Kg	2.45	0.0042	8290A
717_59	Dioxin/Furan	Total Hepta-Furans	0.16	J	ng/Kg	2.45	0.0167	8290A
717_59	Dioxin/Furan	Total Hexa-Dioxins	2.45	U	ng/Kg	2.45	0.0284	8290A
717_59	Dioxin/Furan	Total Hexa-Furans	0.1	J	ng/Kg	2.45	0.0216	8290A
717_59	Dioxin/Furan	Total Penta-Dioxins	0.05	J	ng/Kg	2.45	0.033	8290A
717_59	Dioxin/Furan	Total Penta-Furans	0.32	J	ng/Kg	2.45	0.0271	8290A
717_59	Dioxin/Furan	Total Tetra-Furans	1.28		ng/Kg	0.49	0.0521	8290A
717_59	Lipid	Lipids, Total	0.31		%	0.01	.	NOAA LIPID
717_59	Metal	Aluminum	38		mg/Kg	2	0.2	6020A
717_59	Metal	Antimony	0.02	J	mg/Kg	0.05	0.002	6020A
717_59	Metal	Arsenic	10.2		mg/Kg	0.49	0.02	6020A
717_59	Metal	Barium	1.24		mg/Kg	0.05	0.005	6020A
717_59	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
717_59	Metal	Cadmium	1.09		mg/Kg	0.02	0.004	6020A
717_59	Metal	Calcium	7190		mg/Kg	2	2	6010C
717_59	Metal	Chromium	0.52		mg/Kg	0.2	0.02	6020A
717_59	Metal	Cobalt	1.16		mg/Kg	0.02	0.003	6020A
717_59	Metal	Copper	12.5		mg/Kg	0.1	0.02	6020A
717_59	Metal	Iron	158		mg/Kg	3.9	1	6010C
717_59	Metal	Lead	1.53	*	mg/Kg	0.02	0.0005	6020A
717_59	Metal	Magnesium	5510		mg/Kg	1	0.6	6010C
717_59	Metal	Manganese	261		mg/Kg	0.05	0.01	6020A
717_59	Metal	Mercury	0.05		mg/Kg	0.02	0.004	7471B
717_59	Metal	Nickel	3.37		mg/Kg	0.2	0.02	6020A
717_59	Metal	Potassium	13400		mg/Kg	39	8.8	6010C
717_59	Metal	Selenium	2		mg/Kg	1	0.2	6020A
717_59	Metal	Silver	2.32		mg/Kg	0.02	0.006	6020A
717_59	Metal	Sodium	40000		mg/Kg	392	19.6	6010C
717_59	Metal	Strontium	83.4		mg/Kg	0.1	0.03	6010C
717_59	Dioxin/Furan	Total Tetra-Dioxins	0.29	J	ng/Kg	0.49	0.0688	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
717_59	Metal	Tin	0.04	J	mg/Kg	0.05	0.029	6020A
717_59	Metal	Titanium	1.05		mg/Kg	0.2	0.08	6010C
717_59	Metal	Vanadium	0.44		mg/Kg	0.2	0.007	6020A
717_59	Metal	Zinc	158		mg/Kg	0.49	0.06	6020A
717_59	Organochloride Pesticide	4,4'-DDD	1.5		ug/Kg	1	0.55	8081B
717_59	Organochloride Pesticide	4,4'-DDE	1	Ui	ug/Kg	1	0.86	8081B
717_59	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B
717_59	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
717_59	Organochloride Pesticide	Dieldrin	1	Ui	ug/Kg	1	0.71	8081B
717_59	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
717_59	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
717_59	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
717_59	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
717_59	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
717_59	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
717_59	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
717_59	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
717_59	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
717_59	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
717_59	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
717_59	Organochloride Pesticide	alpha-Chlordane	0.44	J	ug/Kg	1	0.25	8081B
717_59	Organochloride Pesticide	beta-BHC	1.1	P	ug/Kg	1	0.41	8081B
717_59	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
717_59	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
717_59	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
717_59	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
717_59	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
717_59	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
717_59	PCB	Aroclor 1242	5.9	J	ug/Kg	10	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
717_59	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
717_59	PCB	Aroclor 1254	8.6	J	ug/Kg	10	2.8	8082A
717_59	PCB	Aroclor 1260	10	U	ug/Kg	10	2.8	8082A
717_59	Semivolatile Organic Coumpound/PAH	2-Methylphenol	37	U	ug/Kg	37	8.1	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	4-Methylphenol	37	U	ug/Kg	37	8.7	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.4	J	ug/Kg	10	0.76	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Fluoranthene	2.6	J	ug/Kg	10	0.98	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	92	U	ug/Kg	92	7.6	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Phenanthrene	10	U	ug/Kg	10	1.4	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Phenol	49	J	ug/Kg	1900	19	8270D SIM
717_59	Semivolatile Organic Coumpound/PAH	Pyrene	3	J	ug/Kg	10	1	8270D SIM
717_59	Total Solids	Total Solids	12.5		%	.	.	Freeze Dry
720_16	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.39	J	ng/Kg	3.43	0.0898	8290A
720_16	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.19	BJ	ng/Kg	3.43	0.0744	8290A
720_16	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	3.43	U	ng/Kg	3.43	0.102	8290A
720_16	Dioxin/Furan	1,2,3,4,7,8-HxCDD	3.43	U	ng/Kg	3.43	0.0899	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
720_16	Dioxin/Furan	1,2,3,4,7,8-HxCDF	3.43	U	ng/Kg	3.43	0.0644	8290A
720_16	Dioxin/Furan	1,2,3,6,7,8-HxCDD	3.43	U	ng/Kg	3.43	0.0928	8290A
720_16	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.1	J	ng/Kg	3.43	0.0586	8290A
720_16	Dioxin/Furan	1,2,3,7,8,9-HxCDD	3.43	U	ng/Kg	3.43	0.0847	8290A
720_16	Dioxin/Furan	1,2,3,7,8,9-HxCDF	3.43	U	ng/Kg	3.43	0.0844	8290A
720_16	Dioxin/Furan	1,2,3,7,8-PeCDD	3.43	U	ng/Kg	3.43	0.137	8290A
720_16	Dioxin/Furan	1,2,3,7,8-PeCDF	3.43	U	ng/Kg	3.43	0.172	8290A
720_16	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.12	J	ng/Kg	3.43	0.0663	8290A
720_16	Dioxin/Furan	2,3,4,7,8-PeCDF	3.43	U	ng/Kg	3.43	0.174	8290A
720_16	Dioxin/Furan	2,3,7,8-TCDD	0.69	U	ng/Kg	0.69	0.161	8290A
720_16	Dioxin/Furan	2,3,7,8-TCDF	0.38	J	ng/Kg	0.69	0.15	8290A
720_16	Dioxin/Furan	OCDD	2.4	BJ	ng/Kg	6.86	0.3	8290A
720_16	Dioxin/Furan	OCDF	0.56	BJ	ng/Kg	6.86	0.244	8290A
720_16	Dioxin/Furan	Total Hepta-Dioxins	0.39	J	ng/Kg	3.43	0.0898	8290A
720_16	Dioxin/Furan	Total Hepta-Furans	3.43	U	ng/Kg	3.43	0.0869	8290A
720_16	Dioxin/Furan	Total Hexa-Dioxins	3.43	U	ng/Kg	3.43	0.0891	8290A
720_16	Dioxin/Furan	Total Hexa-Furans	0.12	J	ng/Kg	3.43	0.0674	8290A
720_16	Dioxin/Furan	Total Penta-Dioxins	3.43	U	ng/Kg	3.43	0.137	8290A
720_16	Dioxin/Furan	Total Penta-Furans	3.43	U	ng/Kg	3.43	0.173	8290A
720_16	Dioxin/Furan	Total Tetra-Dioxins	0.69	U	ng/Kg	0.69	0.161	8290A
720_16	Dioxin/Furan	Total Tetra-Furans	0.38	J	ng/Kg	0.69	0.15	8290A
720_16	Lipid	Lipids, Total	0.3		%	0.01	.	NOAA LIPID
720_16	Metal	Aluminum	18.6		mg/Kg	1.8	0.2	6020A
720_16	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
720_16	Metal	Arsenic	11.4		mg/Kg	0.46	0.02	6020A
720_16	Metal	Barium	1.42		mg/Kg	0.05	0.005	6020A
720_16	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
720_16	Metal	Cadmium	1.44		mg/Kg	0.02	0.004	6020A
720_16	Metal	Calcium	7140		mg/Kg	1.8	1.8	6010C
720_16	Metal	Chromium	0.54		mg/Kg	0.18	0.02	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
720_16	Metal	Cobalt	1.36		mg/Kg	0.02	0.003	6020A
720_16	Metal	Copper	11.9		mg/Kg	0.09	0.02	6020A
720_16	Metal	Iron	119		mg/Kg	3.7	0.9	6010C
720_16	Metal	Lead	1.31	*	mg/Kg	0.02	0.0005	6020A
720_16	Metal	Magnesium	6400		mg/Kg	0.9	0.6	6010C
720_16	Metal	Manganese	241		mg/Kg	0.05	0.01	6020A
720_16	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
720_16	Metal	Nickel	5.43		mg/Kg	0.18	0.02	6020A
720_16	Metal	Potassium	13100		mg/Kg	37	8.3	6010C
720_16	Metal	Selenium	2.3		mg/Kg	0.9	0.2	6020A
720_16	Metal	Silver	1.59		mg/Kg	0.02	0.006	6020A
720_16	Metal	Sodium	47400		mg/Kg	368	18.4	6010C
720_16	Metal	Strontium	92.2		mg/Kg	0.09	0.03	6010C
720_16	Metal	Tin	0.08		mg/Kg	0.05	0.028	6020A
720_16	Metal	Titanium	0.31		mg/Kg	0.18	0.07	6010C
720_16	Metal	Vanadium	0.52		mg/Kg	0.18	0.006	6020A
720_16	Metal	Zinc	207		mg/Kg	0.46	0.06	6020A
720_16	Organochloride Pesticide	4,4'-DDD	1.4	P	ug/Kg	1	0.55	8081B
720_16	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
720_16	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.98	8081B
720_16	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
720_16	Organochloride Pesticide	Dieldrin	1.2	Ui	ug/Kg	1.2	1.2	8081B
720_16	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
720_16	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
720_16	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
720_16	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
720_16	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
720_16	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
720_16	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
720_16	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
720_16	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
720_16	Organochloride Pesticide	Toxaphene	50	Ui	ug/Kg	50	15	8081B
720_16	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
720_16	Organochloride Pesticide	alpha-Chlordane	0.54	J	ug/Kg	1	0.25	8081B
720_16	Organochloride Pesticide	beta-BHC	1.4		ug/Kg	1	0.41	8081B
720_16	Organochloride Pesticide	delta-BHC	1	Ui	ug/Kg	1	0.25	8081B
720_16	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
720_16	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.29	8081B
720_16	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
720_16	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
720_16	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
720_16	PCB	Aroclor 1242	6.5	J	ug/Kg	10	2.8	8082A
720_16	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
720_16	PCB	Aroclor 1254	9.6	J	ug/Kg	10	2.8	8082A
720_16	PCB	Aroclor 1260	3.1	J	ug/Kg	10	2.8	8082A
720_16	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.75	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.3	J	ug/Kg	9.9	0.75	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.3	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Chrysene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.3	J	ug/Kg	9.9	0.97	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
720_16	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	99	U	ug/Kg	99	7.6	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Phenanthrene	9.9	U	ug/Kg	9.9	1.3	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Phenol	110	J	ug/Kg	2000	19	8270D SIM
720_16	Semivolatile Organic Coumpound/PAH	Pyrene	3.9	J	ug/Kg	9.9	0.99	8270D SIM
720_16	Total Solids	Total Solids	11.6		%	.	.	Freeze Dry
986_26	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.45	J	ng/Kg	3.29	0.0337	8290A
986_26	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	3.29	U	ng/Kg	3.29	0.0606	8290A
986_26	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.16	JK	ng/Kg	3.29	0.0792	8290A
986_26	Dioxin/Furan	1,2,3,4,7,8-HxCDD	3.29	U	ng/Kg	3.29	0.0938	8290A
986_26	Dioxin/Furan	1,2,3,4,7,8-HxCDF	3.29	U	ng/Kg	3.29	0.0873	8290A
986_26	Dioxin/Furan	1,2,3,6,7,8-HxCDD	3.29	U	ng/Kg	3.29	0.0951	8290A
986_26	Dioxin/Furan	1,2,3,6,7,8-HxCDF	3.29	U	ng/Kg	3.29	0.0835	8290A
986_26	Dioxin/Furan	1,2,3,7,8,9-HxCDD	3.29	U	ng/Kg	3.29	0.0854	8290A
986_26	Dioxin/Furan	1,2,3,7,8,9-HxCDF	3.29	U	ng/Kg	3.29	0.117	8290A
986_26	Dioxin/Furan	1,2,3,7,8-PeCDD	3.29	U	ng/Kg	3.29	0.157	8290A
986_26	Dioxin/Furan	1,2,3,7,8-PeCDF	3.29	U	ng/Kg	3.29	0.213	8290A
986_26	Dioxin/Furan	2,3,4,6,7,8-HxCDF	3.29	U	ng/Kg	3.29	0.0927	8290A
986_26	Dioxin/Furan	2,3,4,7,8-PeCDF	3.29	U	ng/Kg	3.29	0.217	8290A
986_26	Dioxin/Furan	2,3,7,8-TCDD	0.66	U	ng/Kg	0.66	0.235	8290A
986_26	Dioxin/Furan	2,3,7,8-TCDF	0.66	U	ng/Kg	0.66	0.352	8290A
986_26	Dioxin/Furan	OCDD	2.53	BJ	ng/Kg	6.57	0.171	8290A
986_26	Dioxin/Furan	OCDF	6.57	U	ng/Kg	6.57	0.226	8290A
986_26	Dioxin/Furan	Total Hepta-Dioxins	0.45	J	ng/Kg	3.29	0.0337	8290A
986_26	Dioxin/Furan	Total Hepta-Furans	3.29	U	ng/Kg	3.29	0.0695	8290A
986_26	Dioxin/Furan	Total Hexa-Dioxins	3.29	U	ng/Kg	3.29	0.0913	8290A
986_26	Dioxin/Furan	Total Hexa-Furans	3.29	U	ng/Kg	3.29	0.0938	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
986_26	Dioxin/Furan	Total Penta-Dioxins	3.29	U	ng/Kg	3.29	0.157	8290A
986_26	Dioxin/Furan	Total Penta-Furans	3.29	U	ng/Kg	3.29	0.215	8290A
986_26	Dioxin/Furan	Total Tetra-Dioxins	0.66	U	ng/Kg	0.66	0.235	8290A
986_26	Dioxin/Furan	Total Tetra-Furans	0.66	U	ng/Kg	0.66	0.352	8290A
986_26	Lipid	Lipids, Total	0.27		%	0.01	.	NOAA LIPID
986_26	Metal	Aluminum	33.4		mg/Kg	1.9	0.2	6020A
986_26	Metal	Antimony	0.02	J	mg/Kg	0.05	0.002	6020A
986_26	Metal	Arsenic	17.4		mg/Kg	0.49	0.02	6020A
986_26	Metal	Barium	1.66		mg/Kg	0.05	0.005	6020A
986_26	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
986_26	Metal	Cadmium	1.05		mg/Kg	0.02	0.004	6020A
986_26	Metal	Calcium	6780		mg/Kg	1.9	1.9	6010C
986_26	Metal	Chromium	0.76		mg/Kg	0.19	0.02	6020A
986_26	Metal	Cobalt	1.33		mg/Kg	0.02	0.003	6020A
986_26	Metal	Copper	14.1		mg/Kg	0.1	0.02	6020A
986_26	Metal	Iron	222		mg/Kg	3.9	1	6010C
986_26	Metal	Lead	3.33	*	mg/Kg	0.02	0.0005	6020A
986_26	Metal	Magnesium	6370		mg/Kg	1	0.6	6010C
986_26	Metal	Manganese	374		mg/Kg	0.05	0.01	6020A
986_26	Metal	Mercury	0.13		mg/Kg	0.02	0.004	7471B
986_26	Metal	Nickel	4.44		mg/Kg	0.19	0.02	6020A
986_26	Metal	Potassium	13500		mg/Kg	39	8.7	6010C
986_26	Metal	Selenium	4.7		mg/Kg	1	0.2	6020A
986_26	Metal	Silver	7.66		mg/Kg	0.02	0.006	6020A
986_26	Metal	Sodium	46900		mg/Kg	388	19.4	6010C
986_26	Metal	Strontium	90.5		mg/Kg	0.1	0.03	6010C
986_26	Metal	Tin	0.09		mg/Kg	0.05	0.029	6020A
986_26	Metal	Titanium	0.6		mg/Kg	0.19	0.08	6010C
986_26	Metal	Vanadium	0.76		mg/Kg	0.19	0.007	6020A
986_26	Metal	Zinc	244		mg/Kg	0.49	0.06	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
986_26	Organochloride Pesticide	4,4'-DDD	1.4		ug/Kg	0.96	0.55	8081B
986_26	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
986_26	Organochloride Pesticide	4,4'-DDT	0.96	Ui	ug/Kg	0.96	0.64	8081B
986_26	Organochloride Pesticide	Aldrin	0.96	U	ug/Kg	0.96	0.74	8081B
986_26	Organochloride Pesticide	Dieldrin	1.1		ug/Kg	0.96	0.2	8081B
986_26	Organochloride Pesticide	Endosulfan I	0.96	U	ug/Kg	0.96	0.22	8081B
986_26	Organochloride Pesticide	Endosulfan II	0.96	U	ug/Kg	0.96	0.24	8081B
986_26	Organochloride Pesticide	Endosulfan Sulfate	0.96	U	ug/Kg	0.96	0.53	8081B
986_26	Organochloride Pesticide	Endrin	0.96	U	ug/Kg	0.96	0.28	8081B
986_26	Organochloride Pesticide	Endrin Aldehyde	0.96	U	ug/Kg	0.96	0.62	8081B
986_26	Organochloride Pesticide	Endrin Ketone	0.96	U	ug/Kg	0.96	0.39	8081B
986_26	Organochloride Pesticide	Heptachlor	0.96	U	ug/Kg	0.96	0.27	8081B
986_26	Organochloride Pesticide	Heptachlor Epoxide	0.96	U	ug/Kg	0.96	0.18	8081B
986_26	Organochloride Pesticide	Methoxychlor	0.96	U	ug/Kg	0.96	0.48	8081B
986_26	Organochloride Pesticide	Toxaphene	48	Ui	ug/Kg	48	19	8081B
986_26	Organochloride Pesticide	alpha-BHC	0.96	U	ug/Kg	0.96	0.16	8081B
986_26	Organochloride Pesticide	alpha-Chlordane	0.3	JP	ug/Kg	0.96	0.25	8081B
986_26	Organochloride Pesticide	beta-BHC	0.47	JP	ug/Kg	0.96	0.41	8081B
986_26	Organochloride Pesticide	delta-BHC	0.96	U	ug/Kg	0.96	0.2	8081B
986_26	Organochloride Pesticide	gamma-BHC (Lindane)	0.96	U	ug/Kg	0.96	0.21	8081B
986_26	Organochloride Pesticide	gamma-Chlordane	0.96	U	ug/Kg	0.96	0.26	8081B
986_26	PCB	Aroclor 1016	9.6	U	ug/Kg	9.6	2.8	8082A
986_26	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
986_26	PCB	Aroclor 1232	9.6	U	ug/Kg	9.6	2.8	8082A
986_26	PCB	Aroclor 1242	6.6	J	ug/Kg	9.6	2.8	8082A
986_26	PCB	Aroclor 1248	9.6	U	ug/Kg	9.6	2.8	8082A
986_26	PCB	Aroclor 1254	9.7		ug/Kg	9.6	2.8	8082A
986_26	PCB	Aroclor 1260	2.8	J	ug/Kg	9.6	2.8	8082A
986_26	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
986_26	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.7	U	ug/Kg	9.7	0.92	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.7	U	ug/Kg	9.7	0.9	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Anthracene	9.7	U	ug/Kg	9.7	0.74	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	9.7	0.74	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.7	U	ug/Kg	9.7	1.5	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.7	U	ug/Kg	9.7	1.3	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.7	U	ug/Kg	9.7	1.9	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.7	U	ug/Kg	9.7	1.2	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Chrysene	1.9	J	ug/Kg	9.7	1.1	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.7	U	ug/Kg	9.7	1.7	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.7	U	ug/Kg	9.7	0.88	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.7	J	ug/Kg	9.7	0.95	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Fluorene	9.7	U	ug/Kg	9.7	1.1	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.7	U	ug/Kg	9.7	1.9	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Naphthalene	9.7	U	ug/Kg	9.7	3	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	98	U	ug/Kg	98	7.6	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.4	J	ug/Kg	9.7	1.3	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Phenol	65	J	ug/Kg	2000	19	8270D SIM
986_26	Semivolatile Organic Coumpound/PAH	Pyrene	4.2	J	ug/Kg	9.7	0.97	8270D SIM
986_26	Total Solids	Total Solids	11.2		%	.	.	Freeze Dry
HB02_1	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.78	J	ng/Kg	2.39	0.0272	8290A
HB02_1	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.32	J	ng/Kg	2.39	0.0254	8290A
HB02_1	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.09	JK	ng/Kg	2.39	0.0299	8290A
HB02_1	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.06	JK	ng/Kg	2.39	0.023	8290A
HB02_1	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.1	JK	ng/Kg	2.39	0.0135	8290A
HB02_1	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.13	J	ng/Kg	2.39	0.0254	8290A
HB02_1	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.07	JK	ng/Kg	2.39	0.0133	8290A
HB02_1	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.07	J	ng/Kg	2.39	0.0223	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_1	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.08	J	ng/Kg	2.39	0.0175	8290A
HB02_1	Dioxin/Furan	1,2,3,7,8-PeCDD	2.39	U	ng/Kg	2.39	0.038	8290A
HB02_1	Dioxin/Furan	1,2,3,7,8-PeCDF	2.39	U	ng/Kg	2.39	0.0489	8290A
HB02_1	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.12	JK	ng/Kg	2.39	0.0142	8290A
HB02_1	Dioxin/Furan	2,3,4,7,8-PeCDF	0.16	JK	ng/Kg	2.39	0.0472	8290A
HB02_1	Dioxin/Furan	2,3,7,8-TCDD	0.16	JK	ng/Kg	0.48	0.0713	8290A
HB02_1	Dioxin/Furan	2,3,7,8-TCDF	0.46	J	ng/Kg	0.48	0.0685	8290A
HB02_1	Dioxin/Furan	OCDD	7.61		ng/Kg	4.79	0.119	8290A
HB02_1	Dioxin/Furan	OCDF	0.63	J	ng/Kg	4.79	0.11	8290A
HB02_1	Dioxin/Furan	Total Hepta-Dioxins	1.56	J	ng/Kg	2.39	0.0272	8290A
HB02_1	Dioxin/Furan	Total Hepta-Furans	0.32	J	ng/Kg	2.39	0.0275	8290A
HB02_1	Dioxin/Furan	Total Hexa-Dioxins	0.75	J	ng/Kg	2.39	0.0235	8290A
HB02_1	Dioxin/Furan	Total Hexa-Furans	0.29	J	ng/Kg	2.39	0.0144	8290A
HB02_1	Dioxin/Furan	Total Penta-Dioxins	2.39	U	ng/Kg	2.39	0.038	8290A
HB02_1	Dioxin/Furan	Total Penta-Furans	2.39	U	ng/Kg	2.39	0.048	8290A
HB02_1	Dioxin/Furan	Total Tetra-Dioxins	0.5		ng/Kg	0.48	0.0713	8290A
HB02_1	Dioxin/Furan	Total Tetra-Furans	1.99		ng/Kg	0.48	0.0685	8290A
HB02_1	Lipid	Lipids, Total	0.21		%	0.02	.	NOAA LIPID
HB02_1	Metal	Aluminum	112		mg/Kg	1.9	0.2	6020A
HB02_1	Metal	Antimony	0.02	J	mg/Kg	0.05	0.002	6020A
HB02_1	Metal	Arsenic	13		mg/Kg	0.48	0.02	6020A
HB02_1	Metal	Barium	2.08		mg/Kg	0.05	0.005	6020A
HB02_1	Metal	Beryllium	0.04		mg/Kg	0.02	0.003	6020A
HB02_1	Metal	Cadmium	1.41		mg/Kg	0.02	0.004	6020A
HB02_1	Metal	Calcium	7000		mg/Kg	1.9	1.9	6010C
HB02_1	Metal	Chromium	0.91		mg/Kg	0.19	0.02	6020A
HB02_1	Metal	Cobalt	1.54		mg/Kg	0.02	0.003	6020A
HB02_1	Metal	Copper	14.3		mg/Kg	0.1	0.02	6020A
HB02_1	Metal	Iron	286	N	mg/Kg	3.8	1	6010C
HB02_1	Metal	Lead	2.21		mg/Kg	0.02	0.0005	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_1	Metal	Magnesium	6700		mg/Kg	1	0.6	6010C
HB02_1	Metal	Manganese	211		mg/Kg	0.05	0.01	6020A
HB02_1	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
HB02_1	Metal	Nickel	5.4		mg/Kg	0.19	0.02	6020A
HB02_1	Metal	Potassium	13800		mg/Kg	38	8.6	6010C
HB02_1	Metal	Selenium	2.8		mg/Kg	1	0.2	6020A
HB02_1	Metal	Silver	3.74		mg/Kg	0.02	0.006	6020A
HB02_1	Metal	Sodium	47500		mg/Kg	381	19	6010C
HB02_1	Metal	Strontium	97.2		mg/Kg	0.1	0.03	6010C
HB02_1	Metal	Tin	0.08		mg/Kg	0.05	0.029	6020A
HB02_1	Metal	Titanium	3.73	*	mg/Kg	0.19	0.08	6010C
HB02_1	Metal	Vanadium	0.84		mg/Kg	0.19	0.007	6020A
HB02_1	Metal	Zinc	235		mg/Kg	0.48	0.06	6020A
HB02_1	Organochloride Pesticide	4,4'-DDD	1.9		ug/Kg	1	0.55	8081B
HB02_1	Organochloride Pesticide	4,4'-DDE	1.2	Ui	ug/Kg	1.2	1.2	8081B
HB02_1	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.64	8081B
HB02_1	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB02_1	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB02_1	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
HB02_1	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB02_1	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
HB02_1	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB02_1	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB02_1	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB02_1	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
HB02_1	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB02_1	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB02_1	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
HB02_1	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
HB02_1	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.92	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_1	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
HB02_1	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
HB02_1	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB02_1	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
HB02_1	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB02_1	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB02_1	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
HB02_1	PCB	Aroclor 1242	7	J	ug/Kg	10	2.8	8082A
HB02_1	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB02_1	PCB	Aroclor 1254	11		ug/Kg	10	2.8	8082A
HB02_1	PCB	Aroclor 1260	5	J	ug/Kg	10	2.8	8082A
HB02_1	Semivolatile Organic Coumpound/PAH	2-Methylphenol	37	U	ug/Kg	37	8.1	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	4-Methylphenol	37	U	ug/Kg	37	8.7	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.4	J	ug/Kg	10	0.76	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Chrysene	2.5	J	ug/Kg	10	1.1	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Fluoranthene	3.8	J	ug/Kg	10	0.98	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_1	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	92	U	ug/Kg	92	7.6	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Phenanthrene	10	U	ug/Kg	10	1.4	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Phenol	44	J	ug/Kg	1900	19	8270D SIM
HB02_1	Semivolatile Organic Coumpound/PAH	Pyrene	6.7	J	ug/Kg	10	1	8270D SIM
HB02_1	Total Solids	Total Solids	10.9		%	.	.	Freeze Dry
HB02_2	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.82	J	ng/Kg	2.45	0.0157	8290A
HB02_2	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.3	JK	ng/Kg	2.45	0.0253	8290A
HB02_2	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.15	J	ng/Kg	2.45	0.0273	8290A
HB02_2	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.1	JK	ng/Kg	2.45	0.0277	8290A
HB02_2	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.12	JK	ng/Kg	2.45	0.0305	8290A
HB02_2	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.15	J	ng/Kg	2.45	0.0303	8290A
HB02_2	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.09	JK	ng/Kg	2.45	0.0285	8290A
HB02_2	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.12	J	ng/Kg	2.45	0.0266	8290A
HB02_2	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.17	JK	ng/Kg	2.45	0.037	8290A
HB02_2	Dioxin/Furan	1,2,3,7,8-PeCDD	0.12	JK	ng/Kg	2.45	0.0458	8290A
HB02_2	Dioxin/Furan	1,2,3,7,8-PeCDF	0.13	J	ng/Kg	2.45	0.0517	8290A
HB02_2	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.11	J	ng/Kg	2.45	0.032	8290A
HB02_2	Dioxin/Furan	2,3,4,7,8-PeCDF	0.17	J	ng/Kg	2.45	0.0494	8290A
HB02_2	Dioxin/Furan	2,3,7,8-TCDD	0.21	JK	ng/Kg	0.49	0.0674	8290A
HB02_2	Dioxin/Furan	2,3,7,8-TCDF	0.5		ng/Kg	0.49	0.0474	8290A
HB02_2	Dioxin/Furan	OCDD	7.72		ng/Kg	4.91	0.0498	8290A
HB02_2	Dioxin/Furan	OCDF	0.61	JK	ng/Kg	4.91	0.0829	8290A
HB02_2	Dioxin/Furan	Total Hepta-Dioxins	1.71	J	ng/Kg	2.45	0.0157	8290A
HB02_2	Dioxin/Furan	Total Hepta-Furans	0.33	J	ng/Kg	2.45	0.0263	8290A
HB02_2	Dioxin/Furan	Total Hexa-Dioxins	0.27	J	ng/Kg	2.45	0.0281	8290A
HB02_2	Dioxin/Furan	Total Hexa-Furans	0.18	J	ng/Kg	2.45	0.0317	8290A
HB02_2	Dioxin/Furan	Total Penta-Dioxins	0.13	J	ng/Kg	2.45	0.0458	8290A
HB02_2	Dioxin/Furan	Total Penta-Furans	0.69	J	ng/Kg	2.45	0.0505	8290A
HB02_2	Dioxin/Furan	Total Tetra-Dioxins	0.12	J	ng/Kg	0.49	0.0674	8290A
HB02_2	Dioxin/Furan	Total Tetra-Furans	2.25		ng/Kg	0.49	0.0474	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_2	Lipid	Lipids, Total	0.19		%	0.02	.	NOAA LIPID
HB02_2	Metal	Aluminum	123		mg/Kg	1.8	0.2	6020A
HB02_2	Metal	Antimony	0.02	J	mg/Kg	0.05	0.002	6020A
HB02_2	Metal	Arsenic	14.5		mg/Kg	0.46	0.02	6020A
HB02_2	Metal	Barium	1.62		mg/Kg	0.05	0.005	6020A
HB02_2	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
HB02_2	Metal	Cadmium	1.11		mg/Kg	0.02	0.004	6020A
HB02_2	Metal	Calcium	7240		mg/Kg	1.8	1.8	6010C
HB02_2	Metal	Chromium	0.93		mg/Kg	0.18	0.02	6020A
HB02_2	Metal	Cobalt	1.48		mg/Kg	0.02	0.003	6020A
HB02_2	Metal	Copper	13.9		mg/Kg	0.09	0.02	6020A
HB02_2	Metal	Iron	261	N	mg/Kg	3.7	0.9	6010C
HB02_2	Metal	Lead	1.99		mg/Kg	0.02	0.0005	6020A
HB02_2	Metal	Magnesium	6420		mg/Kg	0.9	0.6	6010C
HB02_2	Metal	Manganese	147		mg/Kg	0.05	0.01	6020A
HB02_2	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
HB02_2	Metal	Nickel	4.49		mg/Kg	0.18	0.02	6020A
HB02_2	Metal	Potassium	13800		mg/Kg	37	8.3	6010C
HB02_2	Metal	Selenium	2.4		mg/Kg	0.9	0.2	6020A
HB02_2	Metal	Silver	3.28		mg/Kg	0.02	0.006	6020A
HB02_2	Metal	Sodium	46100		mg/Kg	368	18.4	6010C
HB02_2	Metal	Strontium	93.6		mg/Kg	0.09	0.03	6010C
HB02_2	Metal	Tin	0.07		mg/Kg	0.05	0.028	6020A
HB02_2	Metal	Titanium	3.47	*	mg/Kg	0.18	0.07	6010C
HB02_2	Metal	Vanadium	0.86		mg/Kg	0.18	0.006	6020A
HB02_2	Metal	Zinc	174		mg/Kg	0.46	0.06	6020A
HB02_2	Organochloride Pesticide	4,4'-DDD	1.8		ug/Kg	1	0.55	8081B
HB02_2	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
HB02_2	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.54	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_2	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB02_2	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB02_2	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
HB02_2	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB02_2	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
HB02_2	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB02_2	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB02_2	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB02_2	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
HB02_2	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB02_2	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB02_2	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
HB02_2	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
HB02_2	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.79	8081B
HB02_2	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
HB02_2	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
HB02_2	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB02_2	Organochloride Pesticide	gamma-Chlordane	1	Ui	ug/Kg	1	0.44	8081B
HB02_2	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB02_2	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB02_2	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
HB02_2	PCB	Aroclor 1242	7.2	J	ug/Kg	10	2.8	8082A
HB02_2	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB02_2	PCB	Aroclor 1254	10		ug/Kg	10	2.8	8082A
HB02_2	PCB	Aroclor 1260	4	J	ug/Kg	10	2.8	8082A
HB02_2	Semivolatile Organic Coumpound/PAH	2-Methylphenol	39	U	ug/Kg	39	8.1	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	4-Methylphenol	39	U	ug/Kg	39	8.7	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Anthracene	0.85	J	ug/Kg	9.9	0.75	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_2	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	9.9	0.75	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.3	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Chrysene	2.5	J	ug/Kg	9.9	1.1	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.1	J	ug/Kg	9.9	0.97	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	97	U	ug/Kg	97	7.6	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Phenanthrene	1.5	J	ug/Kg	9.9	1.3	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Phenol	42	J	ug/Kg	2000	19	8270D SIM
HB02_2	Semivolatile Organic Coumpound/PAH	Pyrene	6.2	J	ug/Kg	9.9	0.99	8270D SIM
HB02_2	Total Solids	Total Solids	11.3		%	.	.	Freeze Dry
HB04_6	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.65	J	ng/Kg	2.43	0.0373	8290A
HB04_6	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.26	J	ng/Kg	2.43	0.0297	8290A
HB04_6	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.17	J	ng/Kg	2.43	0.033	8290A
HB04_6	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.13	JK	ng/Kg	2.43	0.026	8290A
HB04_6	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.14	JK	ng/Kg	2.43	0.026	8290A
HB04_6	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.18	JK	ng/Kg	2.43	0.0285	8290A
HB04_6	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.13	J	ng/Kg	2.43	0.0255	8290A
HB04_6	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.14	JK	ng/Kg	2.43	0.025	8290A
HB04_6	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.18	J	ng/Kg	2.43	0.033	8290A
HB04_6	Dioxin/Furan	1,2,3,7,8-PeCDD	0.15	J	ng/Kg	2.43	0.0487	8290A
HB04_6	Dioxin/Furan	1,2,3,7,8-PeCDF	0.15	JK	ng/Kg	2.43	0.0404	8290A
HB04_6	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.15	J	ng/Kg	2.43	0.028	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_6	Dioxin/Furan	2,3,4,7,8-PeCDF	0.17	JK	ng/Kg	2.43	0.039	8290A
HB04_6	Dioxin/Furan	2,3,7,8-TCDD	0.18	JK	ng/Kg	0.49	0.0564	8290A
HB04_6	Dioxin/Furan	2,3,7,8-TCDF	0.36	J	ng/Kg	0.49	0.0578	8290A
HB04_6	Dioxin/Furan	OCDD	5.39		ng/Kg	4.86	0.106	8290A
HB04_6	Dioxin/Furan	OCDF	0.63	J	ng/Kg	4.86	0.0727	8290A
HB04_6	Dioxin/Furan	Total Hepta-Dioxins	0.65	J	ng/Kg	2.43	0.0373	8290A
HB04_6	Dioxin/Furan	Total Hepta-Furans	0.59	J	ng/Kg	2.43	0.0314	8290A
HB04_6	Dioxin/Furan	Total Hexa-Dioxins	0.3	J	ng/Kg	2.43	0.0265	8290A
HB04_6	Dioxin/Furan	Total Hexa-Furans	0.46	J	ng/Kg	2.43	0.0279	8290A
HB04_6	Dioxin/Furan	Total Penta-Dioxins	0.15	J	ng/Kg	2.43	0.0487	8290A
HB04_6	Dioxin/Furan	Total Penta-Furans	2.43	U	ng/Kg	2.43	0.0397	8290A
HB04_6	Dioxin/Furan	Total Tetra-Dioxins	0.49	U	ng/Kg	0.49	0.0564	8290A
HB04_6	Dioxin/Furan	Total Tetra-Furans	1.13		ng/Kg	0.49	0.0578	8290A
HB04_6	Lipid	Lipids, Total	0.44		%	0.02	.	NOAA LIPID
HB04_6	Metal	Aluminum	20.6		mg/Kg	2	0.2	6020A
HB04_6	Metal	Antimony	0.03	J	mg/Kg	0.05	0.002	6020A
HB04_6	Metal	Arsenic	16.7		mg/Kg	0.49	0.02	6020A
HB04_6	Metal	Barium	1.58		mg/Kg	0.05	0.005	6020A
HB04_6	Metal	Beryllium	0.04		mg/Kg	0.02	0.003	6020A
HB04_6	Metal	Cadmium	1.31		mg/Kg	0.02	0.004	6020A
HB04_6	Metal	Calcium	7850		mg/Kg	2	2	6010C
HB04_6	Metal	Chromium	0.91		mg/Kg	0.2	0.02	6020A
HB04_6	Metal	Cobalt	2.35		mg/Kg	0.02	0.003	6020A
HB04_6	Metal	Copper	16.7		mg/Kg	0.1	0.02	6020A
HB04_6	Metal	Iron	94	N	mg/Kg	3.9	1	6010C
HB04_6	Metal	Lead	1.58		mg/Kg	0.02	0.0005	6020A
HB04_6	Metal	Magnesium	6940		mg/Kg	1	0.6	6010C
HB04_6	Metal	Manganese	221		mg/Kg	0.05	0.01	6020A
HB04_6	Metal	Mercury	0.12		mg/Kg	0.02	0.004	7471B
HB04_6	Metal	Nickel	5.6		mg/Kg	0.2	0.02	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_6	Metal	Potassium	13600		mg/Kg	39	8.8	6010C
HB04_6	Metal	Selenium	3.3		mg/Kg	1	0.2	6020A
HB04_6	Metal	Silver	8.22		mg/Kg	0.02	0.006	6020A
HB04_6	Metal	Sodium	51800		mg/Kg	391	19.5	6010C
HB04_6	Metal	Strontium	103		mg/Kg	0.1	0.03	6010C
HB04_6	Metal	Tin	0.08		mg/Kg	0.05	0.029	6020A
HB04_6	Metal	Titanium	0.37	*	mg/Kg	0.2	0.08	6010C
HB04_6	Metal	Vanadium	0.78		mg/Kg	0.2	0.007	6020A
HB04_6	Metal	Zinc	246		mg/Kg	0.49	0.06	6020A
HB04_6	Organochloride Pesticide	4,4'-DDD	0.73	J	ug/Kg	0.96	0.55	8081B
HB04_6	Organochloride Pesticide	4,4'-DDE	0.96	Ui	ug/Kg	0.96	0.6	8081B
HB04_6	Organochloride Pesticide	4,4'-DDT	0.96	U	ug/Kg	0.96	0.49	8081B
HB04_6	Organochloride Pesticide	Aldrin	0.96	U	ug/Kg	0.96	0.74	8081B
HB04_6	Organochloride Pesticide	Dieldrin	0.96	U	ug/Kg	0.96	0.2	8081B
HB04_6	Organochloride Pesticide	Endosulfan I	0.96	U	ug/Kg	0.96	0.22	8081B
HB04_6	Organochloride Pesticide	Endosulfan II	0.96	U	ug/Kg	0.96	0.24	8081B
HB04_6	Organochloride Pesticide	Endosulfan Sulfate	0.96	U	ug/Kg	0.96	0.53	8081B
HB04_6	Organochloride Pesticide	Endrin	0.96	U	ug/Kg	0.96	0.28	8081B
HB04_6	Organochloride Pesticide	Endrin Aldehyde	0.96	U	ug/Kg	0.96	0.62	8081B
HB04_6	Organochloride Pesticide	Endrin Ketone	0.96	U	ug/Kg	0.96	0.39	8081B
HB04_6	Organochloride Pesticide	Heptachlor	0.96	U	ug/Kg	0.96	0.27	8081B
HB04_6	Organochloride Pesticide	Heptachlor Epoxide	0.96	U	ug/Kg	0.96	0.18	8081B
HB04_6	Organochloride Pesticide	Methoxychlor	0.96	U	ug/Kg	0.96	0.48	8081B
HB04_6	Organochloride Pesticide	Toxaphene	48	U	ug/Kg	48	13	8081B
HB04_6	Organochloride Pesticide	alpha-BHC	0.96	U	ug/Kg	0.96	0.16	8081B
HB04_6	Organochloride Pesticide	alpha-Chlordane	0.96	Ui	ug/Kg	0.96	0.6	8081B
HB04_6	Organochloride Pesticide	beta-BHC	0.96	U	ug/Kg	0.96	0.41	8081B
HB04_6	Organochloride Pesticide	delta-BHC	0.96	U	ug/Kg	0.96	0.2	8081B
HB04_6	Organochloride Pesticide	gamma-BHC (Lindane)	0.96	U	ug/Kg	0.96	0.21	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_6	Organochloride Pesticide	gamma-Chlordane	0.96	U	ug/Kg	0.96	0.26	8081B
HB04_6	PCB	Aroclor 1016	9.6	U	ug/Kg	9.6	2.8	8082A
HB04_6	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB04_6	PCB	Aroclor 1232	9.6	U	ug/Kg	9.6	2.8	8082A
HB04_6	PCB	Aroclor 1242	5.5	J	ug/Kg	9.6	2.8	8082A
HB04_6	PCB	Aroclor 1254	5.1	J	ug/Kg	9.6	2.8	8082A
HB04_6	PCB	Aroclor 1260	3.7	J	ug/Kg	9.6	2.8	8082A
HB04_6	Semivolatile Organic Coumpound/PAH	2-Methylphenol	37	U	ug/Kg	37	8.1	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	4-Methylphenol	37	U	ug/Kg	37	8.7	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Fluoranthene	10	U	ug/Kg	10	0.98	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	92	U	ug/Kg	92	7.6	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Phenanthrene	10	U	ug/Kg	10	1.4	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Phenol	42	J	ug/Kg	1900	19	8270D SIM
HB04_6	Semivolatile Organic Coumpound/PAH	Pyrene	10	U	ug/Kg	10	1	8270D SIM
HB04_6	PCB	Aroclor 1248	9.6	U	ug/Kg	9.6	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_6	Total Solids	Total Solids	11.3		%	.	.	Freeze Dry
HB04_7	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.65	J	ng/Kg	2.49	0.0218	8290A
HB04_7	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.22	J	ng/Kg	2.49	0.0225	8290A
HB04_7	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.07	J	ng/Kg	2.49	0.0245	8290A
HB04_7	Dioxin/Furan	1,2,3,4,7,8-HxCDD	2.49	U	ng/Kg	2.49	0.0454	8290A
HB04_7	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.09	JK	ng/Kg	2.49	0.0158	8290A
HB04_7	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.12	JK	ng/Kg	2.49	0.0478	8290A
HB04_7	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.08	J	ng/Kg	2.49	0.0151	8290A
HB04_7	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.12	J	ng/Kg	2.49	0.0427	8290A
HB04_7	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.09	JK	ng/Kg	2.49	0.0183	8290A
HB04_7	Dioxin/Furan	1,2,3,7,8-PeCDD	0.09	JK	ng/Kg	2.49	0.0372	8290A
HB04_7	Dioxin/Furan	1,2,3,7,8-PeCDF	0.14	JK	ng/Kg	2.49	0.0294	8290A
HB04_7	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.14	JK	ng/Kg	2.49	0.0163	8290A
HB04_7	Dioxin/Furan	2,3,4,7,8-PeCDF	0.1	JK	ng/Kg	2.49	0.0281	8290A
HB04_7	Dioxin/Furan	2,3,7,8-TCDD	0.13	JK	ng/Kg	0.5	0.0666	8290A
HB04_7	Dioxin/Furan	2,3,7,8-TCDF	0.27	J	ng/Kg	0.5	0.0591	8290A
HB04_7	Dioxin/Furan	OCDD	5.45		ng/Kg	4.98	0.107	8290A
HB04_7	Dioxin/Furan	OCDF	0.49	J	ng/Kg	4.98	0.0912	8290A
HB04_7	Dioxin/Furan	Total Hepta-Dioxins	1.25	J	ng/Kg	2.49	0.0218	8290A
HB04_7	Dioxin/Furan	Total Hepta-Furans	0.45	J	ng/Kg	2.49	0.0235	8290A
HB04_7	Dioxin/Furan	Total Hexa-Dioxins	0.23	J	ng/Kg	2.49	0.0452	8290A
HB04_7	Dioxin/Furan	Total Hexa-Furans	0.12	J	ng/Kg	2.49	0.0162	8290A
HB04_7	Dioxin/Furan	Total Penta-Dioxins	2.49	U	ng/Kg	2.49	0.0372	8290A
HB04_7	Dioxin/Furan	Total Penta-Furans	0.13	J	ng/Kg	2.49	0.0287	8290A
HB04_7	Dioxin/Furan	Total Tetra-Dioxins	0.5	U	ng/Kg	0.5	0.0666	8290A
HB04_7	Dioxin/Furan	Total Tetra-Furans	0.73		ng/Kg	0.5	0.0591	8290A
HB04_7	Lipid	Lipids, Total	0.17		%	0.02	.	NOAA LIPID
HB04_7	Metal	Aluminum	22.2		mg/Kg	1.9	0.2	6020A
HB04_7	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
HB04_7	Metal	Arsenic	12.4		mg/Kg	0.49	0.02	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_7	Metal	Barium	1.36		mg/Kg	0.05	0.005	6020A
HB04_7	Metal	Beryllium	0.03		mg/Kg	0.02	0.003	6020A
HB04_7	Metal	Cadmium	0.95		mg/Kg	0.02	0.004	6020A
HB04_7	Metal	Calcium	6660		mg/Kg	1.9	1.9	6010C
HB04_7	Metal	Chromium	0.63		mg/Kg	0.19	0.02	6020A
HB04_7	Metal	Cobalt	1.5		mg/Kg	0.02	0.003	6020A
HB04_7	Metal	Copper	12.3		mg/Kg	0.1	0.02	6020A
HB04_7	Metal	Iron	97	N	mg/Kg	3.9	1	6010C
HB04_7	Metal	Lead	1.21		mg/Kg	0.02	0.0005	6020A
HB04_7	Metal	Magnesium	6540		mg/Kg	1	0.6	6010C
HB04_7	Metal	Manganese	148		mg/Kg	0.05	0.01	6020A
HB04_7	Metal	Mercury	0.05		mg/Kg	0.02	0.004	7471B
HB04_7	Metal	Nickel	4.12		mg/Kg	0.19	0.02	6020A
HB04_7	Metal	Potassium	14000		mg/Kg	39	8.7	6010C
HB04_7	Metal	Selenium	2.2		mg/Kg	1	0.2	6020A
HB04_7	Metal	Silver	2.85		mg/Kg	0.02	0.006	6020A
HB04_7	Metal	Sodium	50000		mg/Kg	388	19.4	6010C
HB04_7	Metal	Strontium	87.5		mg/Kg	0.1	0.03	6010C
HB04_7	Metal	Tin	0.05	U	mg/Kg	0.05	0.029	6020A
HB04_7	Metal	Titanium	0.29	*	mg/Kg	0.19	0.08	6010C
HB04_7	Metal	Vanadium	0.48		mg/Kg	0.19	0.007	6020A
HB04_7	Metal	Zinc	169		mg/Kg	0.49	0.06	6020A
HB04_7	Organochloride Pesticide	4,4'-DDD	1	U	ug/Kg	1	0.55	8081B
HB04_7	Organochloride Pesticide	4,4'-DDE	1	U	ug/Kg	1	0.45	8081B
HB04_7	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B
HB04_7	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB04_7	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB04_7	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
HB04_7	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB04_7	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_7	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB04_7	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB04_7	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB04_7	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
HB04_7	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB04_7	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB04_7	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
HB04_7	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
HB04_7	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.49	8081B
HB04_7	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
HB04_7	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
HB04_7	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB04_7	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
HB04_7	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB04_7	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB04_7	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
HB04_7	PCB	Aroclor 1242	3	J	ug/Kg	10	2.8	8082A
HB04_7	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB04_7	PCB	Aroclor 1254	5.6	J	ug/Kg	10	2.8	8082A
HB04_7	PCB	Aroclor 1260	10	U	ug/Kg	10	2.8	8082A
HB04_7	Semivolatile Organic Coumpound/PAH	2-Methylphenol	37	U	ug/Kg	37	8.1	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	4-Methylphenol	37	U	ug/Kg	37	8.7	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_7	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Fluoranthene	10	U	ug/Kg	10	0.98	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	92	U	ug/Kg	92	7.6	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Phenanthrene	10	U	ug/Kg	10	1.4	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Phenol	53	J	ug/Kg	1900	19	8270D SIM
HB04_7	Semivolatile Organic Coumpound/PAH	Pyrene	10	U	ug/Kg	10	1	8270D SIM
HB04_7	Total Solids	Total Solids	11		%	.	.	Freeze Dry
HB05_8	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.65	J	ng/Kg	2.44	0.0289	8290A
HB05_8	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.29	JK	ng/Kg	2.44	0.019	8290A
HB05_8	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.2	J	ng/Kg	2.44	0.0219	8290A
HB05_8	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.13	J	ng/Kg	2.44	0.022	8290A
HB05_8	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.13	J	ng/Kg	2.44	0.025	8290A
HB05_8	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.17	JK	ng/Kg	2.44	0.0236	8290A
HB05_8	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.15	J	ng/Kg	2.44	0.0246	8290A
HB05_8	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.18	JK	ng/Kg	2.44	0.0209	8290A
HB05_8	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.17	J	ng/Kg	2.44	0.0307	8290A
HB05_8	Dioxin/Furan	1,2,3,7,8-PeCDD	0.17	JK	ng/Kg	2.44	0.0416	8290A
HB05_8	Dioxin/Furan	1,2,3,7,8-PeCDF	0.17	J	ng/Kg	2.44	0.0234	8290A
HB05_8	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.15	J	ng/Kg	2.44	0.0268	8290A
HB05_8	Dioxin/Furan	2,3,4,7,8-PeCDF	0.17	J	ng/Kg	2.44	0.0227	8290A
HB05_8	Dioxin/Furan	2,3,7,8-TCDD	0.49	U	ng/Kg	0.49	0.0896	8290A
HB05_8	Dioxin/Furan	2,3,7,8-TCDF	0.38	J	ng/Kg	0.49	0.0515	8290A
HB05_8	Dioxin/Furan	OCDD	5.25		ng/Kg	4.88	0.108	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_8	Dioxin/Furan	OCDF	0.71	J	ng/Kg	4.88	0.0846	8290A
HB05_8	Dioxin/Furan	Total Hepta-Dioxins	0.65	J	ng/Kg	2.44	0.0289	8290A
HB05_8	Dioxin/Furan	Total Hepta-Furans	0.35	J	ng/Kg	2.44	0.0203	8290A
HB05_8	Dioxin/Furan	Total Hexa-Dioxins	0.29	J	ng/Kg	2.44	0.0222	8290A
HB05_8	Dioxin/Furan	Total Hexa-Furans	0.65	J	ng/Kg	2.44	0.0265	8290A
HB05_8	Dioxin/Furan	Total Penta-Dioxins	2.44	U	ng/Kg	2.44	0.0416	8290A
HB05_8	Dioxin/Furan	Total Penta-Furans	0.34	J	ng/Kg	2.44	0.023	8290A
HB05_8	Dioxin/Furan	Total Tetra-Dioxins	0.22	J	ng/Kg	0.49	0.0896	8290A
HB05_8	Dioxin/Furan	Total Tetra-Furans	0.7		ng/Kg	0.49	0.0515	8290A
HB05_8	Lipid	Lipids, Total	0.22		%	0.02	.	NOAA LIPID
HB05_8	Metal	Aluminum	19.1		mg/Kg	2	0.2	6020A
HB05_8	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
HB05_8	Metal	Arsenic	12.1		mg/Kg	0.49	0.02	6020A
HB05_8	Metal	Barium	1.35		mg/Kg	0.05	0.005	6020A
HB05_8	Metal	Beryllium	0.04		mg/Kg	0.02	0.003	6020A
HB05_8	Metal	Cadmium	0.95		mg/Kg	0.02	0.004	6020A
HB05_8	Metal	Calcium	6490		mg/Kg	2	2	6010C
HB05_8	Metal	Chromium	0.64		mg/Kg	0.2	0.02	6020A
HB05_8	Metal	Cobalt	1.58		mg/Kg	0.02	0.003	6020A
HB05_8	Metal	Copper	12.4		mg/Kg	0.1	0.02	6020A
HB05_8	Metal	Iron	89	N	mg/Kg	4	1	6010C
HB05_8	Metal	Lead	1.17		mg/Kg	0.02	0.0005	6020A
HB05_8	Metal	Magnesium	6630		mg/Kg	1	0.6	6010C
HB05_8	Metal	Manganese	134		mg/Kg	0.05	0.01	6020A
HB05_8	Metal	Mercury	0.05		mg/Kg	0.02	0.004	7471B
HB05_8	Metal	Nickel	4.21		mg/Kg	0.2	0.02	6020A
HB05_8	Metal	Potassium	14100		mg/Kg	39	8.9	6010C
HB05_8	Metal	Selenium	1.9		mg/Kg	1	0.2	6020A
HB05_8	Metal	Silver	2.27		mg/Kg	0.02	0.006	6020A
HB05_8	Metal	Sodium	48900		mg/Kg	395	19.7	6010C

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_8	Metal	Strontium	85.1		mg/Kg	0.1	0.03	6010C
HB05_8	Metal	Tin	0.05	U	mg/Kg	0.05	0.03	6020A
HB05_8	Metal	Titanium	0.33	*	mg/Kg	0.2	0.08	6010C
HB05_8	Metal	Vanadium	0.47		mg/Kg	0.2	0.007	6020A
HB05_8	Metal	Zinc	168		mg/Kg	0.49	0.06	6020A
HB05_8	Organochloride Pesticide	4,4'-DDD	0.61	J	ug/Kg	1	0.55	8081B
HB05_8	Organochloride Pesticide	4,4'-DDE	1	Ui	ug/Kg	1	0.59	8081B
HB05_8	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B
HB05_8	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB05_8	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB05_8	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
HB05_8	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB05_8	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
HB05_8	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB05_8	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB05_8	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB05_8	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
HB05_8	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB05_8	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB05_8	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
HB05_8	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
HB05_8	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.52	8081B
HB05_8	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
HB05_8	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
HB05_8	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB05_8	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
HB05_8	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB05_8	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB05_8	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_8	PCB	Aroclor 1242	4.5	J	ug/Kg	10	2.8	8082A
HB05_8	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB05_8	PCB	Aroclor 1254	4.6	JP	ug/Kg	10	2.8	8082A
HB05_8	PCB	Aroclor 1260	3.3	J	ug/Kg	10	2.8	8082A
HB05_8	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.76	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	9.9	U	ug/Kg	9.9	0.76	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Chrysene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.8	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.9	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Fluoranthene	9.9	U	ug/Kg	9.9	0.97	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	99	U	ug/Kg	99	7.6	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Phenanthrene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Phenol	32	J	ug/Kg	2000	19	8270D SIM
HB05_8	Semivolatile Organic Coumpound/PAH	Pyrene	9.9	U	ug/Kg	9.9	0.99	8270D SIM
HB05_8	Total Solids	Total Solids	11		%	.	.	Freeze Dry
HB05_9	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	1.43	J	ng/Kg	2.47	0.03	8290A
HB05_9	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.65	J	ng/Kg	2.47	0.0254	8290A
HB05_9	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.5	J	ng/Kg	2.47	0.0289	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_9	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.39	J	ng/Kg	2.47	0.0347	8290A
HB05_9	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.38	J	ng/Kg	2.47	0.0374	8290A
HB05_9	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.41	J	ng/Kg	2.47	0.0373	8290A
HB05_9	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.35	J	ng/Kg	2.47	0.0344	8290A
HB05_9	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.42	JK	ng/Kg	2.47	0.0331	8290A
HB05_9	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.44	J	ng/Kg	2.47	0.0455	8290A
HB05_9	Dioxin/Furan	1,2,3,7,8-PeCDD	0.37	J	ng/Kg	2.47	0.0283	8290A
HB05_9	Dioxin/Furan	1,2,3,7,8-PeCDF	0.35	J	ng/Kg	2.47	0.0357	8290A
HB05_9	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.39	J	ng/Kg	2.47	0.039	8290A
HB05_9	Dioxin/Furan	2,3,4,7,8-PeCDF	0.43	J	ng/Kg	2.47	0.0353	8290A
HB05_9	Dioxin/Furan	2,3,7,8-TCDD	0.25	JK	ng/Kg	0.49	0.0677	8290A
HB05_9	Dioxin/Furan	2,3,7,8-TCDF	0.67		ng/Kg	0.49	0.0532	8290A
HB05_9	Dioxin/Furan	OCDD	10		ng/Kg	4.94	0.0581	8290A
HB05_9	Dioxin/Furan	OCDF	1.76	J	ng/Kg	4.94	0.0913	8290A
HB05_9	Dioxin/Furan	Total Hepta-Dioxins	2.48		ng/Kg	2.47	0.03	8290A
HB05_9	Dioxin/Furan	Total Hepta-Furans	1.37	J	ng/Kg	2.47	0.027	8290A
HB05_9	Dioxin/Furan	Total Hexa-Dioxins	0.8	J	ng/Kg	2.47	0.0349	8290A
HB05_9	Dioxin/Furan	Total Hexa-Furans	1.62	J	ng/Kg	2.47	0.0386	8290A
HB05_9	Dioxin/Furan	Total Penta-Dioxins	0.37	J	ng/Kg	2.47	0.0283	8290A
HB05_9	Dioxin/Furan	Total Penta-Furans	0.87	J	ng/Kg	2.47	0.0355	8290A
HB05_9	Dioxin/Furan	Total Tetra-Dioxins	0.3	J	ng/Kg	0.49	0.0677	8290A
HB05_9	Dioxin/Furan	Total Tetra-Furans	2.29		ng/Kg	0.49	0.0532	8290A
HB05_9	Lipid	Lipids, Total	0.24		%	0.02	.	NOAA LIPID
HB05_9	Metal	Aluminum	109		mg/Kg	2	0.2	6020A
HB05_9	Metal	Antimony	0.03	J	mg/Kg	0.05	0.002	6020A
HB05_9	Metal	Arsenic	22.1		mg/Kg	0.49	0.02	6020A
HB05_9	Metal	Barium	1.93		mg/Kg	0.05	0.005	6020A
HB05_9	Metal	Beryllium	0.04		mg/Kg	0.02	0.003	6020A
HB05_9	Metal	Cadmium	1.28		mg/Kg	0.02	0.004	6020A
HB05_9	Metal	Calcium	7790		mg/Kg	2	2	6010C

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_9	Metal	Chromium	1.28		mg/Kg	0.2	0.02	6020A
HB05_9	Metal	Cobalt	1.68		mg/Kg	0.02	0.003	6020A
HB05_9	Metal	Copper	14.8		mg/Kg	0.1	0.02	6020A
HB05_9	Metal	Iron	269	N	mg/Kg	3.9	1	6010C
HB05_9	Metal	Lead	2.06		mg/Kg	0.02	0.0005	6020A
HB05_9	Metal	Magnesium	6920		mg/Kg	1	0.6	6010C
HB05_9	Metal	Manganese	354		mg/Kg	0.05	0.01	6020A
HB05_9	Metal	Mercury	0.12		mg/Kg	0.02	0.004	7471B
HB05_9	Metal	Nickel	5.25		mg/Kg	0.2	0.02	6020A
HB05_9	Metal	Potassium	13900		mg/Kg	39	8.8	6010C
HB05_9	Metal	Selenium	3.2		mg/Kg	1	0.2	6020A
HB05_9	Metal	Silver	4.71		mg/Kg	0.02	0.006	6020A
HB05_9	Metal	Sodium	47100		mg/Kg	390	19.5	6010C
HB05_9	Metal	Strontium	98.8		mg/Kg	0.1	0.03	6010C
HB05_9	Metal	Tin	0.1		mg/Kg	0.05	0.029	6020A
HB05_9	Metal	Titanium	2.89	*	mg/Kg	0.2	0.08	6010C
HB05_9	Metal	Vanadium	1.2		mg/Kg	0.2	0.007	6020A
HB05_9	Metal	Zinc	207		mg/Kg	0.49	0.06	6020A
HB05_9	Organochloride Pesticide	4,4'-DDD	1.4		ug/Kg	1	0.55	8081B
HB05_9	Organochloride Pesticide	4,4'-DDE	1	Ui	ug/Kg	1	0.94	8081B
HB05_9	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B
HB05_9	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB05_9	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB05_9	Organochloride Pesticide	Endosulfan I	1	Ui	ug/Kg	1	0.23	8081B
HB05_9	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB05_9	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
HB05_9	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB05_9	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB05_9	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB05_9	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_9	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB05_9	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB05_9	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
HB05_9	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
HB05_9	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.67	8081B
HB05_9	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
HB05_9	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB05_9	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
HB05_9	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB05_9	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB05_9	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
HB05_9	PCB	Aroclor 1242	6.6	J	ug/Kg	10	2.8	8082A
HB05_9	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB05_9	PCB	Aroclor 1254	6	J	ug/Kg	10	2.8	8082A
HB05_9	PCB	Aroclor 1260	4	J	ug/Kg	10	2.8	8082A
HB05_9	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	10	U	ug/Kg	10	1.4	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Fluoranthene	10	U	ug/Kg	10	0.98	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_9	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
HB05_9	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	7.9	J	ug/Kg	98	7.6	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Phenanthrene	10	U	ug/Kg	10	1.4	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Phenol	55	J	ug/Kg	2000	19	8270D SIM
HB05_9	Semivolatile Organic Coumpound/PAH	Pyrene	10	U	ug/Kg	10	1	8270D SIM
HB05_9	Total Solids	Total Solids	10.9		%	.	.	Freeze Dry
HB06_11	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.68	JK	ng/Kg	2.49	0.0171	8290A
HB06_11	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.28	JK	ng/Kg	2.49	0.0244	8290A
HB06_11	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.14	J	ng/Kg	2.49	0.0278	8290A
HB06_11	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.1	J	ng/Kg	2.49	0.0499	8290A
HB06_11	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.12	J	ng/Kg	2.49	0.0277	8290A
HB06_11	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.2	J	ng/Kg	2.49	0.0532	8290A
HB06_11	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.1	JK	ng/Kg	2.49	0.0268	8290A
HB06_11	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.15	JK	ng/Kg	2.49	0.0473	8290A
HB06_11	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.16	J	ng/Kg	2.49	0.035	8290A
HB06_11	Dioxin/Furan	1,2,3,7,8-PeCDD	0.12	J	ng/Kg	2.49	0.0595	8290A
HB06_11	Dioxin/Furan	1,2,3,7,8-PeCDF	2.49	U	ng/Kg	2.49	0.0832	8290A
HB06_11	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.14	J	ng/Kg	2.49	0.0286	8290A
HB06_11	Dioxin/Furan	2,3,4,7,8-PeCDF	2.49	U	ng/Kg	2.49	0.0786	8290A
HB06_11	Dioxin/Furan	2,3,7,8-TCDD	0.5	U	ng/Kg	0.5	0.131	8290A
HB06_11	Dioxin/Furan	2,3,7,8-TCDF	0.48	J	ng/Kg	0.5	0.11	8290A
HB06_11	Dioxin/Furan	OCDD	5.88		ng/Kg	4.97	0.167	8290A
HB06_11	Dioxin/Furan	OCDF	0.65	JK	ng/Kg	4.97	0.146	8290A
HB06_11	Dioxin/Furan	Total Hepta-Dioxins	0.78	J	ng/Kg	2.49	0.0171	8290A
HB06_11	Dioxin/Furan	Total Hepta-Furans	0.14	J	ng/Kg	2.49	0.026	8290A
HB06_11	Dioxin/Furan	Total Hexa-Dioxins	0.51	J	ng/Kg	2.49	0.05	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_11	Dioxin/Furan	Total Hexa-Furans	0.39	J	ng/Kg	2.49	0.0291	8290A
HB06_11	Dioxin/Furan	Total Penta-Dioxins	0.25	J	ng/Kg	2.49	0.0595	8290A
HB06_11	Dioxin/Furan	Total Penta-Furans	0.44	J	ng/Kg	2.49	0.0809	8290A
HB06_11	Dioxin/Furan	Total Tetra-Dioxins	0.34	J	ng/Kg	0.5	0.131	8290A
HB06_11	Dioxin/Furan	Total Tetra-Furans	1.27		ng/Kg	0.5	0.11	8290A
HB06_11	Lipid	Lipids, Total	0.17		%	0.02	.	NOAA LIPID
HB06_11	Metal	Aluminum	53.5		mg/Kg	2	0.2	6020A
HB06_11	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
HB06_11	Metal	Arsenic	13.5		mg/Kg	0.5	0.02	6020A
HB06_11	Metal	Barium	1.71		mg/Kg	0.05	0.005	6020A
HB06_11	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
HB06_11	Metal	Cadmium	1.11		mg/Kg	0.02	0.004	6020A
HB06_11	Metal	Calcium	9160		mg/Kg	2	2	6010C
HB06_11	Metal	Chromium	0.68		mg/Kg	0.2	0.02	6020A
HB06_11	Metal	Cobalt	1.54		mg/Kg	0.02	0.003	6020A
HB06_11	Metal	Copper	16.6		mg/Kg	0.1	0.02	6020A
HB06_11	Metal	Iron	220	N	mg/Kg	4	1	6010C
HB06_11	Metal	Lead	4.32		mg/Kg	0.02	0.0005	6020A
HB06_11	Metal	Magnesium	7970		mg/Kg	1	0.6	6010C
HB06_11	Metal	Manganese	248		mg/Kg	0.05	0.01	6020A
HB06_11	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
HB06_11	Metal	Nickel	5.83		mg/Kg	0.2	0.02	6020A
HB06_11	Metal	Potassium	15100		mg/Kg	40	9	6010C
HB06_11	Metal	Selenium	2.7		mg/Kg	1	0.2	6020A
HB06_11	Metal	Silver	3.35		mg/Kg	0.02	0.006	6020A
HB06_11	Metal	Sodium	57300		mg/Kg	400	20	6010C
HB06_11	Metal	Strontium	111		mg/Kg	0.1	0.03	6010C
HB06_11	Metal	Tin	0.07		mg/Kg	0.05	0.03	6020A
HB06_11	Metal	Titanium	1.84	*	mg/Kg	0.2	0.08	6010C
HB06_11	Metal	Vanadium	0.65		mg/Kg	0.2	0.007	6020A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_11	Metal	Zinc	250		mg/Kg	0.5	0.06	6020A
HB06_11	Organochloride Pesticide	4,4'-DDD	1.7		ug/Kg	0.98	0.55	8081B
HB06_11	Organochloride Pesticide	4,4'-DDE	1.4	P	ug/Kg	0.98	0.45	8081B
HB06_11	Organochloride Pesticide	4,4'-DDT	0.98	Ui	ug/Kg	0.98	0.66	8081B
HB06_11	Organochloride Pesticide	Aldrin	0.98	U	ug/Kg	0.98	0.74	8081B
HB06_11	Organochloride Pesticide	Dieldrin	0.98	Ui	ug/Kg	0.98	0.37	8081B
HB06_11	Organochloride Pesticide	Endosulfan I	0.98	U	ug/Kg	0.98	0.22	8081B
HB06_11	Organochloride Pesticide	Endosulfan II	0.98	U	ug/Kg	0.98	0.24	8081B
HB06_11	Organochloride Pesticide	Endosulfan Sulfate	0.98	U	ug/Kg	0.98	0.53	8081B
HB06_11	Organochloride Pesticide	Endrin	0.98	U	ug/Kg	0.98	0.28	8081B
HB06_11	Organochloride Pesticide	Endrin Aldehyde	0.98	U	ug/Kg	0.98	0.62	8081B
HB06_11	Organochloride Pesticide	Endrin Ketone	0.98	U	ug/Kg	0.98	0.39	8081B
HB06_11	Organochloride Pesticide	Heptachlor	0.98	U	ug/Kg	0.98	0.27	8081B
HB06_11	Organochloride Pesticide	Heptachlor Epoxide	0.98	U	ug/Kg	0.98	0.18	8081B
HB06_11	Organochloride Pesticide	Methoxychlor	0.98	U	ug/Kg	0.98	0.48	8081B
HB06_11	Organochloride Pesticide	Toxaphene	49	U	ug/Kg	49	13	8081B
HB06_11	Organochloride Pesticide	alpha-BHC	0.98	U	ug/Kg	0.98	0.16	8081B
HB06_11	Organochloride Pesticide	alpha-Chlordane	1.3	Ui	ug/Kg	1.3	1.3	8081B
HB06_11	Organochloride Pesticide	beta-BHC	0.98	U	ug/Kg	0.98	0.41	8081B
HB06_11	Organochloride Pesticide	delta-BHC	0.98	U	ug/Kg	0.98	0.2	8081B
HB06_11	Organochloride Pesticide	gamma-BHC (Lindane)	0.98	U	ug/Kg	0.98	0.21	8081B
HB06_11	Organochloride Pesticide	gamma-Chlordane	0.47	J	ug/Kg	0.98	0.26	8081B
HB06_11	PCB	Aroclor 1016	9.8	U	ug/Kg	9.8	2.8	8082A
HB06_11	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB06_11	PCB	Aroclor 1232	9.8	U	ug/Kg	9.8	2.8	8082A
HB06_11	PCB	Aroclor 1242	6.6	J	ug/Kg	9.8	2.8	8082A
HB06_11	PCB	Aroclor 1248	9.8	U	ug/Kg	9.8	2.8	8082A
HB06_11	PCB	Aroclor 1254	12		ug/Kg	9.8	2.8	8082A
HB06_11	PCB	Aroclor 1260	5.6	J	ug/Kg	9.8	2.8	8082A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_11	Semivolatile Organic Coumpound/PAH	2-Methylphenol	37	U	ug/Kg	37	8.1	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	4-Methylphenol	37	U	ug/Kg	37	8.7	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Acenaphthene	10	U	ug/Kg	10	0.94	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Acenaphthylene	10	U	ug/Kg	10	0.92	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Anthracene	10	U	ug/Kg	10	0.76	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.9	J	ug/Kg	10	0.76	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	10	U	ug/Kg	10	1.5	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	2.1	J	ug/Kg	10	1.4	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	10	U	ug/Kg	10	1.9	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	10	U	ug/Kg	10	1.2	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Chrysene	10	U	ug/Kg	10	1.1	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	10	U	ug/Kg	10	1.8	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Dibenzofuran	10	U	ug/Kg	10	0.9	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Fluoranthene	4.3	J	ug/Kg	10	0.98	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Fluorene	10	U	ug/Kg	10	1.1	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	10	U	ug/Kg	10	2	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Naphthalene	10	U	ug/Kg	10	3	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	92	U	ug/Kg	92	7.6	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Phenanthrene	10	U	ug/Kg	10	1.4	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Phenol	46	J	ug/Kg	1900	19	8270D SIM
HB06_11	Semivolatile Organic Coumpound/PAH	Pyrene	8.7	J	ug/Kg	10	1	8270D SIM
HB06_11	Total Solids	Total Solids	9.84		%	.	.	Freeze Dry
HB06_12	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	3.3		ng/Kg	2.43	0.0426	8290A
HB06_12	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.6	J	ng/Kg	2.43	0.0462	8290A
HB06_12	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.37	J	ng/Kg	2.43	0.0759	8290A
HB06_12	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.21	JK	ng/Kg	2.43	0.0677	8290A
HB06_12	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.13	J	ng/Kg	2.43	0.055	8290A
HB06_12	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.41	JK	ng/Kg	2.43	0.0695	8290A
HB06_12	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.12	JK	ng/Kg	2.43	0.0496	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_12	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.32	J	ng/Kg	2.43	0.0629	8290A
HB06_12	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.21	J	ng/Kg	2.43	0.0916	8290A
HB06_12	Dioxin/Furan	1,2,3,7,8-PeCDD	0.18	J	ng/Kg	2.43	0.0637	8290A
HB06_12	Dioxin/Furan	1,2,3,7,8-PeCDF	0.17	J	ng/Kg	2.43	0.0504	8290A
HB06_12	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.17	JK	ng/Kg	2.43	0.0607	8290A
HB06_12	Dioxin/Furan	2,3,4,7,8-PeCDF	0.24	JK	ng/Kg	2.43	0.0561	8290A
HB06_12	Dioxin/Furan	2,3,7,8-TCDD	0.25	JK	ng/Kg	0.49	0.0824	8290A
HB06_12	Dioxin/Furan	2,3,7,8-TCDF	0.53		ng/Kg	0.49	0.0977	8290A
HB06_12	Dioxin/Furan	OCDD	21.5		ng/Kg	4.87	0.151	8290A
HB06_12	Dioxin/Furan	OCDF	1.49	JK	ng/Kg	4.87	0.233	8290A
HB06_12	Dioxin/Furan	Total Hepta-Dioxins	9.99		ng/Kg	2.43	0.0426	8290A
HB06_12	Dioxin/Furan	Total Hepta-Furans	1.6	J	ng/Kg	2.43	0.058	8290A
HB06_12	Dioxin/Furan	Total Hexa-Dioxins	7.15		ng/Kg	2.43	0.0666	8290A
HB06_12	Dioxin/Furan	Total Hexa-Furans	0.54	J	ng/Kg	2.43	0.0606	8290A
HB06_12	Dioxin/Furan	Total Penta-Dioxins	2.16	J	ng/Kg	2.43	0.0637	8290A
HB06_12	Dioxin/Furan	Total Penta-Furans	0.82	J	ng/Kg	2.43	0.0531	8290A
HB06_12	Dioxin/Furan	Total Tetra-Dioxins	2.54		ng/Kg	0.49	0.0824	8290A
HB06_12	Dioxin/Furan	Total Tetra-Furans	2.29		ng/Kg	0.49	0.0977	8290A
HB06_12	Lipid	Lipids, Total	0.39		%	0.02	.	NOAA LIPID
HB06_12	Metal	Aluminum	54.6		mg/Kg	1.9	0.2	6020A
HB06_12	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
HB06_12	Metal	Arsenic	13.8		mg/Kg	0.49	0.02	6020A
HB06_12	Metal	Barium	1.61		mg/Kg	0.05	0.005	6020A
HB06_12	Metal	Beryllium	0.02	J	mg/Kg	0.02	0.003	6020A
HB06_12	Metal	Cadmium	1		mg/Kg	0.02	0.004	6020A
HB06_12	Metal	Calcium	7880		mg/Kg	1.9	1.9	6010C
HB06_12	Metal	Chromium	1.23		mg/Kg	0.19	0.02	6020A
HB06_12	Metal	Cobalt	1.45		mg/Kg	0.02	0.003	6020A
HB06_12	Metal	Copper	17.1		mg/Kg	0.1	0.02	6020A
HB06_12	Metal	Iron	260	N	mg/Kg	3.9	1	6010C

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_12	Metal	Lead	4.03		mg/Kg	0.02	0.0005	6020A
HB06_12	Metal	Magnesium	7090		mg/Kg	1	0.6	6010C
HB06_12	Metal	Manganese	208		mg/Kg	0.05	0.01	6020A
HB06_12	Metal	Mercury	0.06		mg/Kg	0.02	0.004	7471B
HB06_12	Metal	Nickel	4.46		mg/Kg	0.19	0.02	6020A
HB06_12	Metal	Potassium	14600		mg/Kg	39	8.7	6010C
HB06_12	Metal	Selenium	2.5		mg/Kg	1	0.2	6020A
HB06_12	Metal	Silver	2.32		mg/Kg	0.02	0.006	6020A
HB06_12	Metal	Sodium	49100		mg/Kg	388	19.4	6010C
HB06_12	Metal	Strontium	101		mg/Kg	0.1	0.03	6010C
HB06_12	Metal	Tin	0.07		mg/Kg	0.05	0.029	6020A
HB06_12	Metal	Titanium	1.98	*	mg/Kg	0.19	0.08	6010C
HB06_12	Metal	Vanadium	0.53		mg/Kg	0.19	0.007	6020A
HB06_12	Metal	Zinc	216		mg/Kg	0.49	0.06	6020A
HB06_12	Organochloride Pesticide	4,4'-DDD	1.6		ug/Kg	1	0.55	8081B
HB06_12	Organochloride Pesticide	4,4'-DDE	1.4	P	ug/Kg	1	0.45	8081B
HB06_12	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.75	8081B
HB06_12	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB06_12	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB06_12	Organochloride Pesticide	Endosulfan I	1	Ui	ug/Kg	1	0.24	8081B
HB06_12	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB06_12	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
HB06_12	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB06_12	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB06_12	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB06_12	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
HB06_12	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB06_12	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB06_12	Organochloride Pesticide	Toxaphene	50	Ui	ug/Kg	50	14	8081B
HB06_12	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_12	Organochloride Pesticide	alpha-Chlordane	1.3	Ui	ug/Kg	1.3	1.3	8081B
HB06_12	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
HB06_12	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
HB06_12	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB06_12	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
HB06_12	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB06_12	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB06_12	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
HB06_12	PCB	Aroclor 1242	7.7	J	ug/Kg	10	2.8	8082A
HB06_12	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB06_12	PCB	Aroclor 1254	15		ug/Kg	10	2.8	8082A
HB06_12	PCB	Aroclor 1260	5.7	J	ug/Kg	10	2.8	8082A
HB06_12	Semivolatile Organic Coumpound/PAH	2-Methylphenol	40	U	ug/Kg	40	8.1	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	4-Methylphenol	40	U	ug/Kg	40	8.7	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.75	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.6	J	ug/Kg	9.9	0.75	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	1.6	J	ug/Kg	9.9	1.3	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Chrysene	3.1	J	ug/Kg	9.9	1.1	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Fluoranthene	4	J	ug/Kg	9.9	0.97	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_12	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	98	U	ug/Kg	98	7.6	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Phenanthrene	9.9	U	ug/Kg	9.9	1.3	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Phenol	52	J	ug/Kg	2000	19	8270D SIM
HB06_12	Semivolatile Organic Coumpound/PAH	Pyrene	7.2	J	ug/Kg	9.9	0.99	8270D SIM
HB06_12	Total Solids	Total Solids	10.6		%	.	.	Freeze Dry
HB07_13	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	2.07	J	ng/Kg	2.47	0.091	8290A
HB07_13	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.5	J	ng/Kg	2.47	0.0618	8290A
HB07_13	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.22	JK	ng/Kg	2.47	0.0695	8290A
HB07_13	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.2	JK	ng/Kg	2.47	0.0943	8290A
HB07_13	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.19	J	ng/Kg	2.47	0.0468	8290A
HB07_13	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.35	J	ng/Kg	2.47	0.102	8290A
HB07_13	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.22	J	ng/Kg	2.47	0.0449	8290A
HB07_13	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.23	JK	ng/Kg	2.47	0.0897	8290A
HB07_13	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.24	JK	ng/Kg	2.47	0.0593	8290A
HB07_13	Dioxin/Furan	1,2,3,7,8-PeCDD	0.27	J	ng/Kg	2.47	0.124	8290A
HB07_13	Dioxin/Furan	1,2,3,7,8-PeCDF	2.47	U	ng/Kg	2.47	0.167	8290A
HB07_13	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.22	JK	ng/Kg	2.47	0.0497	8290A
HB07_13	Dioxin/Furan	2,3,4,7,8-PeCDF	2.47	U	ng/Kg	2.47	0.159	8290A
HB07_13	Dioxin/Furan	2,3,7,8-TCDD	0.49	U	ng/Kg	0.49	0.237	8290A
HB07_13	Dioxin/Furan	2,3,7,8-TCDF	0.58		ng/Kg	0.49	0.151	8290A
HB07_13	Dioxin/Furan	OCDD	15.5		ng/Kg	4.94	0.326	8290A
HB07_13	Dioxin/Furan	OCDF	1.06	JK	ng/Kg	4.94	0.321	8290A
HB07_13	Dioxin/Furan	Total Hepta-Dioxins	4.05		ng/Kg	2.47	0.091	8290A
HB07_13	Dioxin/Furan	Total Hepta-Furans	0.5	J	ng/Kg	2.47	0.0654	8290A
HB07_13	Dioxin/Furan	Total Hexa-Dioxins	0.35	J	ng/Kg	2.47	0.095	8290A
HB07_13	Dioxin/Furan	Total Hexa-Furans	0.41	J	ng/Kg	2.47	0.0496	8290A
HB07_13	Dioxin/Furan	Total Penta-Dioxins	0.27	J	ng/Kg	2.47	0.124	8290A
HB07_13	Dioxin/Furan	Total Penta-Furans	2.47	U	ng/Kg	2.47	0.163	8290A
HB07_13	Dioxin/Furan	Total Tetra-Dioxins	0.49	U	ng/Kg	0.49	0.237	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_13	Dioxin/Furan	Total Tetra-Furans	0.49	U	ng/Kg	0.49	0.151	8290A
HB07_13	Lipid	Lipids, Total	0.25		%	0.02	.	NOAA LIPID
HB07_13	Metal	Aluminum	24.4		mg/Kg	2	0.2	6020A
HB07_13	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
HB07_13	Metal	Arsenic	11.4		mg/Kg	0.49	0.02	6020A
HB07_13	Metal	Barium	1.72		mg/Kg	0.05	0.005	6020A
HB07_13	Metal	Beryllium	0.02		mg/Kg	0.02	0.003	6020A
HB07_13	Metal	Cadmium	1.42		mg/Kg	0.02	0.004	6020A
HB07_13	Metal	Calcium	7010		mg/Kg	2	2	6010C
HB07_13	Metal	Chromium	0.49		mg/Kg	0.2	0.02	6020A
HB07_13	Metal	Cobalt	2.07		mg/Kg	0.02	0.003	6020A
HB07_13	Metal	Copper	16.6		mg/Kg	0.1	0.02	6020A
HB07_13	Metal	Iron	155	N	mg/Kg	3.9	1	6010C
HB07_13	Metal	Lead	3.89		mg/Kg	0.02	0.0005	6020A
HB07_13	Metal	Magnesium	7050		mg/Kg	1	0.6	6010C
HB07_13	Metal	Manganese	388		mg/Kg	0.05	0.01	6020A
HB07_13	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
HB07_13	Metal	Nickel	5.65		mg/Kg	0.2	0.02	6020A
HB07_13	Metal	Potassium	14700		mg/Kg	39	8.8	6010C
HB07_13	Metal	Selenium	2.9		mg/Kg	1	0.2	6020A
HB07_13	Metal	Silver	3.83		mg/Kg	0.02	0.006	6020A
HB07_13	Metal	Sodium	49500		mg/Kg	390	19.5	6010C
HB07_13	Metal	Strontium	99.2		mg/Kg	0.1	0.03	6010C
HB07_13	Metal	Tin	0.05	J	mg/Kg	0.05	0.029	6020A
HB07_13	Metal	Titanium	0.52	*	mg/Kg	0.2	0.08	6010C
HB07_13	Metal	Vanadium	0.54		mg/Kg	0.2	0.007	6020A
HB07_13	Metal	Zinc	310		mg/Kg	0.49	0.06	6020A
HB07_13	Organochloride Pesticide	4,4'-DDD	1.6		ug/Kg	1	0.55	8081B
HB07_13	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
HB07_13	Organochloride Pesticide	4,4'-DDT	1	U	ug/Kg	1	0.49	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_13	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB07_13	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB07_13	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
HB07_13	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB07_13	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
HB07_13	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB07_13	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB07_13	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB07_13	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
HB07_13	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB07_13	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB07_13	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
HB07_13	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
HB07_13	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.83	8081B
HB07_13	Organochloride Pesticide	beta-BHC	0.43	JP	ug/Kg	1	0.41	8081B
HB07_13	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B
HB07_13	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB07_13	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
HB07_13	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB07_13	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB07_13	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
HB07_13	PCB	Aroclor 1242	7.2	J	ug/Kg	10	2.8	8082A
HB07_13	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB07_13	PCB	Aroclor 1254	5.6	JP	ug/Kg	10	2.8	8082A
HB07_13	PCB	Aroclor 1260	4.8	J	ug/Kg	10	2.8	8082A
HB07_13	Semivolatile Organic Coumpound/PAH	2-Methylphenol	38	U	ug/Kg	38	8.1	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	4-Methylphenol	38	U	ug/Kg	38	8.7	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.91	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_13	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.75	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.3	J	ug/Kg	9.9	0.75	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.3	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Chrysene	1.7	J	ug/Kg	9.9	1.1	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.7	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.89	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Fluoranthene	2.8	J	ug/Kg	9.9	0.97	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	93	U	ug/Kg	93	7.6	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Phenanthrene	9.9	U	ug/Kg	9.9	1.3	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Phenol	37	J	ug/Kg	1900	19	8270D SIM
HB07_13	Semivolatile Organic Coumpound/PAH	Pyrene	4.6	J	ug/Kg	9.9	0.99	8270D SIM
HB07_13	Total Solids	Total Solids	11.1		%	.	.	Freeze Dry
HB07_14	Dioxin/Furan	1,2,3,4,6,7,8-HpCDD	0.87	J	ng/Kg	2.48	0.0279	8290A
HB07_14	Dioxin/Furan	1,2,3,4,6,7,8-HpCDF	0.26	J	ng/Kg	2.48	0.0304	8290A
HB07_14	Dioxin/Furan	1,2,3,4,7,8,9-HpCDF	0.07	JK	ng/Kg	2.48	0.0352	8290A
HB07_14	Dioxin/Furan	1,2,3,4,7,8-HxCDD	0.07	JK	ng/Kg	2.48	0.0525	8290A
HB07_14	Dioxin/Furan	1,2,3,4,7,8-HxCDF	0.1	J	ng/Kg	2.48	0.0343	8290A
HB07_14	Dioxin/Furan	1,2,3,6,7,8-HxCDD	0.15	JK	ng/Kg	2.48	0.0562	8290A
HB07_14	Dioxin/Furan	1,2,3,6,7,8-HxCDF	0.1	J	ng/Kg	2.48	0.0325	8290A
HB07_14	Dioxin/Furan	1,2,3,7,8,9-HxCDD	0.12	JK	ng/Kg	2.48	0.05	8290A
HB07_14	Dioxin/Furan	1,2,3,7,8,9-HxCDF	0.11	J	ng/Kg	2.48	0.0427	8290A
HB07_14	Dioxin/Furan	1,2,3,7,8-PeCDD	2.48	U	ng/Kg	2.48	0.071	8290A
HB07_14	Dioxin/Furan	1,2,3,7,8-PeCDF	2.48	U	ng/Kg	2.48	0.0672	8290A

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_14	Dioxin/Furan	2,3,4,6,7,8-HxCDF	0.1	JK	ng/Kg	2.48	0.035	8290A
HB07_14	Dioxin/Furan	2,3,4,7,8-PeCDF	0.15	JK	ng/Kg	2.48	0.0661	8290A
HB07_14	Dioxin/Furan	2,3,7,8-TCDD	0.5	U	ng/Kg	0.5	0.0915	8290A
HB07_14	Dioxin/Furan	2,3,7,8-TCDF	0.38	JK	ng/Kg	0.5	0.1	8290A
HB07_14	Dioxin/Furan	OCDD	5.79		ng/Kg	4.95	0.0812	8290A
HB07_14	Dioxin/Furan	OCDF	0.47	JK	ng/Kg	4.95	0.111	8290A
HB07_14	Dioxin/Furan	Total Hepta-Dioxins	1.82	J	ng/Kg	2.48	0.0279	8290A
HB07_14	Dioxin/Furan	Total Hepta-Furans	0.45	J	ng/Kg	2.48	0.0326	8290A
HB07_14	Dioxin/Furan	Total Hexa-Dioxins	0.24	J	ng/Kg	2.48	0.0528	8290A
HB07_14	Dioxin/Furan	Total Hexa-Furans	0.42	J	ng/Kg	2.48	0.0357	8290A
HB07_14	Dioxin/Furan	Total Penta-Dioxins	2.48	U	ng/Kg	2.48	0.071	8290A
HB07_14	Dioxin/Furan	Total Penta-Furans	2.48	U	ng/Kg	2.48	0.0666	8290A
HB07_14	Dioxin/Furan	Total Tetra-Dioxins	0.26	J	ng/Kg	0.5	0.0915	8290A
HB07_14	Dioxin/Furan	Total Tetra-Furans	0.44	J	ng/Kg	0.5	0.1	8290A
HB07_14	Lipid	Lipids, Total	0.2		%	0.02	.	NOAA LIPID
HB07_14	Metal	Aluminum	30.9		mg/Kg	1.9	0.2	6020A
HB07_14	Metal	Antimony	0.01	J	mg/Kg	0.05	0.002	6020A
HB07_14	Metal	Arsenic	10.3		mg/Kg	0.49	0.02	6020A
HB07_14	Metal	Barium	1.98		mg/Kg	0.05	0.005	6020A
HB07_14	Metal	Beryllium	0.02	J	mg/Kg	0.02	0.003	6020A
HB07_14	Metal	Cadmium	1.01		mg/Kg	0.02	0.004	6020A
HB07_14	Metal	Calcium	7240		mg/Kg	1.9	1.9	6010C
HB07_14	Metal	Chromium	0.56		mg/Kg	0.19	0.02	6020A
HB07_14	Metal	Cobalt	1.79		mg/Kg	0.02	0.003	6020A
HB07_14	Metal	Copper	17.2		mg/Kg	0.1	0.02	6020A
HB07_14	Metal	Iron	161	N	mg/Kg	3.9	1	6010C
HB07_14	Metal	Lead	2.97		mg/Kg	0.02	0.0005	6020A
HB07_14	Metal	Magnesium	7080		mg/Kg	1	0.6	6010C
HB07_14	Metal	Manganese	277		mg/Kg	0.05	0.01	6020A

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_14	Metal	Mercury	0.07		mg/Kg	0.02	0.004	7471B
HB07_14	Metal	Nickel	6.43		mg/Kg	0.19	0.02	6020A
HB07_14	Metal	Potassium	13800		mg/Kg	39	8.7	6010C
HB07_14	Metal	Selenium	2.2		mg/Kg	1	0.2	6020A
HB07_14	Metal	Silver	3.26		mg/Kg	0.02	0.006	6020A
HB07_14	Metal	Sodium	47000		mg/Kg	388	19.4	6010C
HB07_14	Metal	Strontium	103		mg/Kg	0.1	0.03	6010C
HB07_14	Metal	Tin	0.06		mg/Kg	0.05	0.029	6020A
HB07_14	Metal	Titanium	0.67	*	mg/Kg	0.19	0.08	6010C
HB07_14	Metal	Vanadium	0.55		mg/Kg	0.19	0.007	6020A
HB07_14	Metal	Zinc	302		mg/Kg	0.49	0.06	6020A
HB07_14	Organochloride Pesticide	4,4'-DDD	1.4		ug/Kg	1	0.55	8081B
HB07_14	Organochloride Pesticide	4,4'-DDE	1.1	Ui	ug/Kg	1.1	1.1	8081B
HB07_14	Organochloride Pesticide	4,4'-DDT	1	Ui	ug/Kg	1	0.51	8081B
HB07_14	Organochloride Pesticide	Aldrin	1	U	ug/Kg	1	0.74	8081B
HB07_14	Organochloride Pesticide	Dieldrin	1	U	ug/Kg	1	0.2	8081B
HB07_14	Organochloride Pesticide	Endosulfan I	1	U	ug/Kg	1	0.22	8081B
HB07_14	Organochloride Pesticide	Endosulfan II	1	U	ug/Kg	1	0.24	8081B
HB07_14	Organochloride Pesticide	Endosulfan Sulfate	1	U	ug/Kg	1	0.53	8081B
HB07_14	Organochloride Pesticide	Endrin	1	U	ug/Kg	1	0.28	8081B
HB07_14	Organochloride Pesticide	Endrin Aldehyde	1	U	ug/Kg	1	0.62	8081B
HB07_14	Organochloride Pesticide	Endrin Ketone	1	U	ug/Kg	1	0.39	8081B
HB07_14	Organochloride Pesticide	Heptachlor	1	U	ug/Kg	1	0.27	8081B
HB07_14	Organochloride Pesticide	Heptachlor Epoxide	1	U	ug/Kg	1	0.18	8081B
HB07_14	Organochloride Pesticide	Methoxychlor	1	U	ug/Kg	1	0.48	8081B
HB07_14	Organochloride Pesticide	Toxaphene	50	U	ug/Kg	50	13	8081B
HB07_14	Organochloride Pesticide	alpha-BHC	1	U	ug/Kg	1	0.16	8081B
HB07_14	Organochloride Pesticide	alpha-Chlordane	1	Ui	ug/Kg	1	0.68	8081B
HB07_14	Organochloride Pesticide	beta-BHC	1	U	ug/Kg	1	0.41	8081B
HB07_14	Organochloride Pesticide	delta-BHC	1	U	ug/Kg	1	0.2	8081B

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_14	Organochloride Pesticide	gamma-BHC (Lindane)	1	U	ug/Kg	1	0.21	8081B
HB07_14	Organochloride Pesticide	gamma-Chlordane	1	U	ug/Kg	1	0.26	8081B
HB07_14	PCB	Aroclor 1016	10	U	ug/Kg	10	2.8	8082A
HB07_14	PCB	Aroclor 1221	20	U	ug/Kg	20	2.8	8082A
HB07_14	PCB	Aroclor 1232	10	U	ug/Kg	10	2.8	8082A
HB07_14	PCB	Aroclor 1242	5.3	J	ug/Kg	10	2.8	8082A
HB07_14	PCB	Aroclor 1248	10	U	ug/Kg	10	2.8	8082A
HB07_14	PCB	Aroclor 1254	8.1	J	ug/Kg	10	2.8	8082A
HB07_14	PCB	Aroclor 1260	4.1	J	ug/Kg	10	2.8	8082A
HB07_14	Semivolatile Organic Coumpound/PAH	2-Methylphenol	37	U	ug/Kg	37	8.1	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	4-Methylphenol	37	U	ug/Kg	37	8.7	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Acenaphthene	9.9	U	ug/Kg	9.9	0.93	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Acenaphthylene	9.9	U	ug/Kg	9.9	0.92	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Anthracene	9.9	U	ug/Kg	9.9	0.76	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Benz(a)anthracene	1.3	J	ug/Kg	9.9	0.76	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Benzo(a)pyrene	9.9	U	ug/Kg	9.9	1.5	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Benzo(b)fluoranthene	9.9	U	ug/Kg	9.9	1.4	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Benzo(g,h,i)perylene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Benzo(k)fluoranthene	9.9	U	ug/Kg	9.9	1.2	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Chrysene	1.8	J	ug/Kg	9.9	1.1	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Dibenz(a,h)anthracene	9.9	U	ug/Kg	9.9	1.8	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Dibenzofuran	9.9	U	ug/Kg	9.9	0.9	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Fluoranthene	2.9	J	ug/Kg	9.9	0.97	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Fluorene	9.9	U	ug/Kg	9.9	1.1	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Indeno(1,2,3-cd)pyrene	9.9	U	ug/Kg	9.9	1.9	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Naphthalene	9.9	U	ug/Kg	9.9	3	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Pentachlorophenol	92	U	ug/Kg	92	7.6	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Phenanthrene	9.9	U	ug/Kg	9.9	1.4	8270D SIM

(continued)

Appendix Table G-10. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_14	Semivolatile Organic Coumpound/PAH	Phenol	41	J	ug/Kg	1900	19	8270D SIM
HB07_14	Semivolatile Organic Coumpound/PAH	Pyrene	4.8	J	ug/Kg	9.9	0.99	8270D SIM
HB07_14	Total Solids	Total Solids	11		%	.	.	Freeze Dry

Appendix Table G-11. Data Listing by Sample for Sediment Chesmistry Data Collected during the September 2015 Benthic Study.

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1129_20	Metal	Arsenic, Total	2.3		mg/kg	1.4	0.47	SW846 6020A
1129_20	Metal	Barium, Total	2.6		mg/kg	2.4	0.76	SW846 6020A
1129_20	Metal	Beryllium, Total	0.47	U	mg/kg	0.47	0.16	SW846 6020A
1129_20	Metal	Cadmium, Total	0.47	U	mg/kg	0.47	0.16	SW846 6020A
1129_20	Metal	Chromium, Total	6.3		mg/kg	0.95	0.31	SW846 6020A
1129_20	Metal	Copper, Total	8.5		mg/kg	2.4	0.76	SW846 6020A
1129_20	Metal	Cyanide, Total	0.34	U	mg/kg	0.34	0.12	SW846 9012B
1129_20	Metal	Hexavalent Chromium	2.5	U	mg/kg	2.5	0.49	SW846 7196A
1129_20	Metal	Lead, Total	11.4		mg/kg	0.95	0.31	SW846 6020A
1129_20	Metal	Manganese, Total	43.1		mg/kg	2.4	0.76	SW846 6020A
1129_20	Metal	Mercury, Total	0.064		mg/kg	0.062	0.02	SW846 7471B
1129_20	Metal	Nickel, Total	3.4		mg/kg	2.4	0.76	SW846 6020A
1129_20	Metal	Selenium, Total	2.4	U	mg/kg	2.4	0.76	SW846 6020A
1129_20	Metal	Silver, Total	0.95	U	mg/kg	0.95	0.31	SW846 6020A
1129_20	Metal	Trivalent Chromium	6.3		mg/kg	2.6	2.6	Calculation
1129_20	Metal	Zinc, Total	30.2		mg/kg	2.4	0.76	SW846 6020A
1129_20	Other	Moisture	23.5		%	0.1	0.01	S2540G-11
1129_20	Other	Total Solids	76.5		%	0.1	0.01	S2540G-11
1129_20	PCB/Pesticide	2,4,5-TP	85.9	U	ug/kg	85.9	39.7	SW846 8151A
1129_20	PCB/Pesticide	4,4'-DDD	20.5	U	ug/kg	20.5	1.7	SW846 8081B
1129_20	PCB/Pesticide	4,4'-DDE	20.5	U	ug/kg	20.5	2.8	SW846 8081B
1129_20	PCB/Pesticide	4,4'-DDT	20.5	U	ug/kg	20.5	2.4	SW846 8081B
1129_20	PCB/Pesticide	Aldrin	10.6	U	ug/kg	10.6	3.4	SW846 8081B
1129_20	PCB/Pesticide	Aroclor-1016	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1129_20	PCB/Pesticide	Aroclor-1221	0.041	U	mg/kg	0.041	0.0037	SW846 8082A
1129_20	PCB/Pesticide	Aroclor-1232	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1129_20	PCB/Pesticide	Aroclor-1242	0.041	U	mg/kg	0.041	0.011	SW846 8082A
1129_20	PCB/Pesticide	Aroclor-1248	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1129_20	PCB/Pesticide	Aroclor-1254	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1129_20	PCB/Pesticide	Aroclor-1260	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1129_20	PCB/Pesticide	Dibenzofuran	123	U	ug/kg	123	13.5	SW846 8270D
1129_20	PCB/Pesticide	Dieldrin	20.5	U	ug/kg	20.5	2.4	SW846 8081B
1129_20	PCB/Pesticide	Endosulfan I	10.6	U	ug/kg	10.6	1.3	SW846 8081B
1129_20	PCB/Pesticide	Endosulfan II	20.5	U	ug/kg	20.5	4.3	SW846 8081B
1129_20	PCB/Pesticide	Endosulfan Sulfate	20.5	U	ug/kg	20.5	1.4	SW846 8081B
1129_20	PCB/Pesticide	Endrin	20.5	U	ug/kg	20.5	1.5	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1129_20	PCB/Pesticide	Heptachlor	10.6	U	ug/kg	10.6	1.1	SW846 8081B
1129_20	PCB/Pesticide	Total Polychlorinated Biphenyl	0.041	U	mg/kg	0.041	0.041	SW846 8082A
1129_20	PCB/Pesticide	alpha-BHC	10.6	U	ug/kg	10.6	0.93	SW846 8081B
1129_20	PCB/Pesticide	alpha-Chlordane	10.6	U	ug/kg	10.6	1.1	SW846 8081B
1129_20	PCB/Pesticide	beta-BHC	10.6	U	ug/kg	10.6	1.1	SW846 8081B
1129_20	PCB/Pesticide	delta-BHC	10.6	U	ug/kg	10.6	0.81	SW846 8081B
1129_20	PCB/Pesticide	gamma-BHC	10.6	U	ug/kg	10.6	0.87	SW846 8081B
1129_20	Semivolatile	Acenaphthene	123	U	ug/kg	123	18.4	SW846 8270D
1129_20	Semivolatile	Acenaphthylene	123	U	ug/kg	123	13.5	SW846 8270D
1129_20	Semivolatile	Anthracene	123	U	ug/kg	123	12.3	SW846 8270D
1129_20	Semivolatile	Benzo(a)anthracene	123	U	ug/kg	123	18.4	SW846 8270D
1129_20	Semivolatile	Benzo(a)pyrene	123	U	ug/kg	123	19.6	SW846 8270D
1129_20	Semivolatile	Benzo(b)fluoranthene	42.1	J	ug/kg	123	29.4	SW846 8270D
1129_20	Semivolatile	Benzo(g,h,i)perylene	123	U	ug/kg	123	25.7	SW846 8270D
1129_20	Semivolatile	Benzo(k)fluoranthene	123	U	ug/kg	123	23.3	SW846 8270D
1129_20	Semivolatile	Chrysene	123	U	ug/kg	123	15.9	SW846 8270D
1129_20	Semivolatile	Dibenzo(a,h)anthracene	123	U	ug/kg	123	14.7	SW846 8270D
1129_20	Semivolatile	Fluoranthene	46.7	J	ug/kg	123	23.3	SW846 8270D
1129_20	Semivolatile	Fluorene	123	U	ug/kg	123	24.5	SW846 8270D
1129_20	Semivolatile	Indeno(1,2,3-cd)pyrene	123	U	ug/kg	123	22.1	SW846 8270D
1129_20	Semivolatile	Naphthalene	123	U	ug/kg	123	29.4	SW846 8270D
1129_20	Semivolatile	Pentachlorophenol	245	U	ug/kg	245	44.1	SW846 8270D
1129_20	Semivolatile	Phenanthrene	123	U	ug/kg	123	17.2	SW846 8270D
1129_20	Semivolatile	Phenol	331	U	ug/kg	331	18.4	SW846 8270D
1129_20	Semivolatile	Pyrene	123	U	ug/kg	123	22.1	SW846 8270D
1129_20	Semivolatile	mp-Cresol	331	U	ug/kg	331	18.4	SW846 8270D
1129_20	Semivolatile	o-Cresol	331	U	ug/kg	331	27	SW846 8270D
1129_20	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.82	SW846 8260C
1129_20	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.69	SW846 8260C
1129_20	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1129_20	Volatile	1,4-Dioxane	99.1	U	ug/kg	99.1	23.5	SW846 8260C
1129_20	Volatile	2-Butanone	13.2	U	ug/kg	13.2	4.2	SW846 8260C
1129_20	Volatile	Acetone	13.2	U	ug/kg	13.2	6.1	SW846 8260C
1129_20	Volatile	Benzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.67	SW846 8260C
1129_20	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
1129_20	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.7	SW846 8260C
1129_20	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.9	SW846 8260C
1129_20	Volatile	Hexachlorobenzene	123	U	ug/kg	123	23.3	SW846 8270D
1129_20	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	Methylene Chloride	12.4		ug/kg	2.6	1	SW846 8260C
1129_20	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.79	SW846 8260C
1129_20	Volatile	Toluene	2.6	U	ug/kg	2.6	0.89	SW846 8260C
1129_20	Volatile	Total Xylenes	7.9	U	ug/kg	7.9	1.8	SW846 8260C
1129_20	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1129_20	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.73	SW846 8260C
1129_20	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.69	SW846 8260C
1217_42	Metal	Arsenic, Total	2.6		mg/kg	1.8	0.59	SW846 6020A
1217_42	Metal	Barium, Total	6.3		mg/kg	3	0.95	SW846 6020A
1217_42	Metal	Beryllium, Total	0.59	U	mg/kg	0.59	0.2	SW846 6020A
1217_42	Metal	Cadmium, Total	0.59	U	mg/kg	0.59	0.2	SW846 6020A
1217_42	Metal	Chromium, Total	8.9		mg/kg	1.2	0.39	SW846 6020A
1217_42	Metal	Copper, Total	10		mg/kg	3	0.95	SW846 6020A
1217_42	Metal	Cyanide, Total	0.33	U	mg/kg	0.33	0.12	SW846 9012B
1217_42	Metal	Hexavalent Chromium	2.6	U	mg/kg	2.6	0.5	SW846 7196A
1217_42	Metal	Lead, Total	13.3		mg/kg	1.2	0.39	SW846 6020A
1217_42	Metal	Manganese, Total	96.6		mg/kg	3	0.95	SW846 6020A
1217_42	Metal	Mercury, Total	0.05	J	mg/kg	0.063	0.02	SW846 7471B
1217_42	Metal	Nickel, Total	5.5		mg/kg	3	0.95	SW846 6020A
1217_42	Metal	Selenium, Total	3	U	mg/kg	3	0.95	SW846 6020A
1217_42	Metal	Silver, Total	1.2	U	mg/kg	1.2	0.39	SW846 6020A
1217_42	Metal	Trivalent Chromium	8.9		mg/kg	2.6	2.6	Calculation

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1217_42	Metal	Zinc, Total	40.2		mg/kg	3	0.95	SW846 6020A
1217_42	Other	Moisture	23.5		%	0.1	0.01	S2540G-11
1217_42	Other	Total Solids	76.5		%	0.1	0.01	S2540G-11
1217_42	PCB/Pesticide	2,4,5-TP	87	U	ug/kg	87	40.2	SW846 8151A
1217_42	PCB/Pesticide	4,4'-DDD	21	U	ug/kg	21	1.7	SW846 8081B
1217_42	PCB/Pesticide	4,4'-DDE	21	U	ug/kg	21	2.9	SW846 8081B
1217_42	PCB/Pesticide	4,4'-DDT	21	U	ug/kg	21	2.4	SW846 8081B
1217_42	PCB/Pesticide	Aldrin	10.8	U	ug/kg	10.8	3.5	SW846 8081B
1217_42	PCB/Pesticide	Aroclor-1016	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1217_42	PCB/Pesticide	Aroclor-1221	0.042	U	mg/kg	0.042	0.0038	SW846 8082A
1217_42	PCB/Pesticide	Aroclor-1232	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1217_42	PCB/Pesticide	Aroclor-1242	0.042	U	mg/kg	0.042	0.011	SW846 8082A
1217_42	PCB/Pesticide	Aroclor-1248	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1217_42	PCB/Pesticide	Aroclor-1254	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1217_42	PCB/Pesticide	Aroclor-1260	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1217_42	PCB/Pesticide	Dibenzofuran	126	U	ug/kg	126	13.8	SW846 8270D
1217_42	PCB/Pesticide	Dieldrin	21	U	ug/kg	21	2.4	SW846 8081B
1217_42	PCB/Pesticide	Endosulfan I	10.8	U	ug/kg	10.8	1.3	SW846 8081B
1217_42	PCB/Pesticide	Endosulfan II	21	U	ug/kg	21	4.4	SW846 8081B
1217_42	PCB/Pesticide	Endosulfan Sulfate	21	U	ug/kg	21	1.4	SW846 8081B
1217_42	PCB/Pesticide	Endrin	21	U	ug/kg	21	1.5	SW846 8081B
1217_42	PCB/Pesticide	Heptachlor	10.8	U	ug/kg	10.8	1.1	SW846 8081B
1217_42	PCB/Pesticide	Total Polychlorinated Biphenyl	0.042	U	mg/kg	0.042	0.042	SW846 8082A
1217_42	PCB/Pesticide	alpha-BHC	10.8	U	ug/kg	10.8	0.95	SW846 8081B
1217_42	PCB/Pesticide	alpha-Chlordane	10.8	U	ug/kg	10.8	1.1	SW846 8081B
1217_42	PCB/Pesticide	beta-BHC	10.8	U	ug/kg	10.8	1.1	SW846 8081B
1217_42	PCB/Pesticide	delta-BHC	10.8	U	ug/kg	10.8	0.83	SW846 8081B
1217_42	PCB/Pesticide	gamma-BHC	10.8	U	ug/kg	10.8	0.89	SW846 8081B
1217_42	Semivolatile	Acenaphthene	126	U	ug/kg	126	18.9	SW846 8270D
1217_42	Semivolatile	Acenaphthylene	126	U	ug/kg	126	13.8	SW846 8270D
1217_42	Semivolatile	Anthracene	126	U	ug/kg	126	12.6	SW846 8270D
1217_42	Semivolatile	Benzo(a)anthracene	126	U	ug/kg	126	18.9	SW846 8270D
1217_42	Semivolatile	Benzo(a)pyrene	126	U	ug/kg	126	20.1	SW846 8270D
1217_42	Semivolatile	Benzo(b)fluoranthene	43.5	J	ug/kg	126	30.2	SW846 8270D
1217_42	Semivolatile	Benzo(g,h,i)perylene	126	U	ug/kg	126	26.4	SW846 8270D
1217_42	Semivolatile	Benzo(k)fluoranthene	126	U	ug/kg	126	23.9	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1217_42	Semivolatile	Chrysene	126	U	ug/kg	126	16.3	SW846 8270D
1217_42	Semivolatile	Dibenzo(a,h)anthracene	126	U	ug/kg	126	15.1	SW846 8270D
1217_42	Semivolatile	Fluoranthene	47.9	J	ug/kg	126	23.9	SW846 8270D
1217_42	Semivolatile	Fluorene	126	U	ug/kg	126	25.1	SW846 8270D
1217_42	Semivolatile	Indeno(1,2,3-cd)pyrene	126	U	ug/kg	126	22.6	SW846 8270D
1217_42	Semivolatile	Naphthalene	126	U	ug/kg	126	30.2	SW846 8270D
1217_42	Semivolatile	Pentachlorophenol	251	U	ug/kg	251	45.2	SW846 8270D
1217_42	Semivolatile	Phenanthrene	126	U	ug/kg	126	17.6	SW846 8270D
1217_42	Semivolatile	Phenol	339	U	ug/kg	339	18.9	SW846 8270D
1217_42	Semivolatile	Pyrene	126	U	ug/kg	126	22.6	SW846 8270D
1217_42	Semivolatile	mp-Cresol	339	U	ug/kg	339	18.9	SW846 8270D
1217_42	Semivolatile	o-Cresol	339	U	ug/kg	339	27.6	SW846 8270D
1217_42	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.82	SW846 8260C
1217_42	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.69	SW846 8260C
1217_42	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	1,4-Dioxane	99	U	ug/kg	99	23.5	SW846 8260C
1217_42	Volatile	2-Butanone	13.2	U	ug/kg	13.2	4.2	SW846 8260C
1217_42	Volatile	Acetone	8.1	J	ug/kg	13.2	6.1	SW846 8260C
1217_42	Volatile	Benzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.67	SW846 8260C
1217_42	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
1217_42	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.7	SW846 8260C
1217_42	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.9	SW846 8260C
1217_42	Volatile	Hexachlorobenzene	126	U	ug/kg	126	23.9	SW846 8270D
1217_42	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	Methylene Chloride	7.9		ug/kg	2.6	1	SW846 8260C
1217_42	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.79	SW846 8260C
1217_42	Volatile	Toluene	2.6	U	ug/kg	2.6	0.88	SW846 8260C
1217_42	Volatile	Total Xylenes	7.9	U	ug/kg	7.9	1.8	SW846 8260C
1217_42	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1217_42	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1217_42	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.73	SW846 8260C
1217_42	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.69	SW846 8260C
1363_24	Metal	Arsenic, Total	3.5		mg/kg	2.1	0.69	SW846 6020A
1363_24	Metal	Barium, Total	7.3		mg/kg	3.5	1.1	SW846 6020A
1363_24	Metal	Beryllium, Total	0.69	U	mg/kg	0.69	0.23	SW846 6020A
1363_24	Metal	Cadmium, Total	0.69	U	mg/kg	0.69	0.23	SW846 6020A
1363_24	Metal	Chromium, Total	9.5		mg/kg	1.4	0.46	SW846 6020A
1363_24	Metal	Copper, Total	8.6		mg/kg	3.5	1.1	SW846 6020A
1363_24	Metal	Cyanide, Total	0.36	U	mg/kg	0.36	0.13	SW846 9012B
1363_24	Metal	Hexavalent Chromium	2.7	U	mg/kg	2.7	0.52	SW846 7196A
1363_24	Metal	Lead, Total	14		mg/kg	1.4	0.46	SW846 6020A
1363_24	Metal	Manganese, Total	168		mg/kg	3.5	1.1	SW846 6020A
1363_24	Metal	Mercury, Total	0.069	J	mg/kg	0.069	0.022	SW846 7471B
1363_24	Metal	Nickel, Total	7.1		mg/kg	3.5	1.1	SW846 6020A
1363_24	Metal	Selenium, Total	3.5	U	mg/kg	3.5	1.1	SW846 6020A
1363_24	Metal	Silver, Total	1.4	U	mg/kg	1.4	0.46	SW846 6020A
1363_24	Metal	Trivalent Chromium	9.5		mg/kg	2.8	2.8	Calculation
1363_24	Metal	Zinc, Total	41.4		mg/kg	3.5	1.1	SW846 6020A
1363_24	Other	Moisture	27.9		%	0.1	0.01	S2540G-11
1363_24	Other	Total Solids	72.1		%	0.1	0.01	S2540G-11
1363_24	PCB/Pesticide	2,4,5-TP	88.7	U	ug/kg	88.7	41.1	SW846 8151A
1363_24	PCB/Pesticide	4,4'-DDD	22.7	U	ug/kg	22.7	1.9	SW846 8081B
1363_24	PCB/Pesticide	4,4'-DDE	22.7	U	ug/kg	22.7	3.1	SW846 8081B
1363_24	PCB/Pesticide	4,4'-DDT	22.7	U	ug/kg	22.7	2.6	SW846 8081B
1363_24	PCB/Pesticide	Aldrin	11.7	U	ug/kg	11.7	3.8	SW846 8081B
1363_24	PCB/Pesticide	Aroclor-1016	0.045	U	mg/kg	0.045	0.0083	SW846 8082A
1363_24	PCB/Pesticide	Aroclor-1221	0.045	U	mg/kg	0.045	0.0041	SW846 8082A
1363_24	PCB/Pesticide	Aroclor-1232	0.045	U	mg/kg	0.045	0.0083	SW846 8082A
1363_24	PCB/Pesticide	Aroclor-1242	0.045	U	mg/kg	0.045	0.012	SW846 8082A
1363_24	PCB/Pesticide	Aroclor-1248	0.045	U	mg/kg	0.045	0.0083	SW846 8082A
1363_24	PCB/Pesticide	Aroclor-1254	0.045	U	mg/kg	0.045	0.0083	SW846 8082A
1363_24	PCB/Pesticide	Aroclor-1260	0.045	U	mg/kg	0.045	0.0083	SW846 8082A
1363_24	PCB/Pesticide	Dibenzofuran	132	U	ug/kg	132	14.6	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1363_24	PCB/Pesticide	Dieldrin	22.7	U	ug/kg	22.7	2.6	SW846 8081B
1363_24	PCB/Pesticide	Endosulfan I	11.7	U	ug/kg	11.7	1.4	SW846 8081B
1363_24	PCB/Pesticide	Endosulfan II	22.7	U	ug/kg	22.7	4.8	SW846 8081B
1363_24	PCB/Pesticide	Endosulfan Sulfate	22.7	U	ug/kg	22.7	1.5	SW846 8081B
1363_24	PCB/Pesticide	Endrin	22.7	U	ug/kg	22.7	1.7	SW846 8081B
1363_24	PCB/Pesticide	Heptachlor	11.7	U	ug/kg	11.7	1.2	SW846 8081B
1363_24	PCB/Pesticide	Total Polychlorinated Biphenyl	0.045	U	mg/kg	0.045	0.045	SW846 8082A
1363_24	PCB/Pesticide	alpha-BHC	11.7	U	ug/kg	11.7	1	SW846 8081B
1363_24	PCB/Pesticide	alpha-Chlordane	11.7	U	ug/kg	11.7	1.2	SW846 8081B
1363_24	PCB/Pesticide	beta-BHC	11.7	U	ug/kg	11.7	1.2	SW846 8081B
1363_24	PCB/Pesticide	delta-BHC	11.7	U	ug/kg	11.7	0.9	SW846 8081B
1363_24	PCB/Pesticide	gamma-BHC	11.7	U	ug/kg	11.7	0.96	SW846 8081B
1363_24	Semivolatile	Acenaphthene	132	U	ug/kg	132	19.9	SW846 8270D
1363_24	Semivolatile	Acenaphthylene	132	U	ug/kg	132	14.6	SW846 8270D
1363_24	Semivolatile	Anthracene	132	U	ug/kg	132	13.2	SW846 8270D
1363_24	Semivolatile	Benzo(a)anthracene	132	U	ug/kg	132	19.9	SW846 8270D
1363_24	Semivolatile	Benzo(a)pyrene	132	U	ug/kg	132	21.2	SW846 8270D
1363_24	Semivolatile	Benzo(b)fluoranthene	132	U	ug/kg	132	31.8	SW846 8270D
1363_24	Semivolatile	Benzo(g,h,i)perylene	132	U	ug/kg	132	27.8	SW846 8270D
1363_24	Semivolatile	Benzo(k)fluoranthene	132	U	ug/kg	132	25.2	SW846 8270D
1363_24	Semivolatile	Chrysene	132	U	ug/kg	132	17.2	SW846 8270D
1363_24	Semivolatile	Dibenzo(a,h)anthracene	132	U	ug/kg	132	15.9	SW846 8270D
1363_24	Semivolatile	Fluoranthene	132	U	ug/kg	132	25.2	SW846 8270D
1363_24	Semivolatile	Fluorene	132	U	ug/kg	132	26.5	SW846 8270D
1363_24	Semivolatile	Indeno(1,2,3-cd)pyrene	132	U	ug/kg	132	23.8	SW846 8270D
1363_24	Semivolatile	Naphthalene	132	U	ug/kg	132	31.8	SW846 8270D
1363_24	Semivolatile	Pentachlorophenol	265	U	ug/kg	265	47.7	SW846 8270D
1363_24	Semivolatile	Phenanthrene	132	U	ug/kg	132	18.5	SW846 8270D
1363_24	Semivolatile	Phenol	358	U	ug/kg	358	19.9	SW846 8270D
1363_24	Semivolatile	Pyrene	132	U	ug/kg	132	23.8	SW846 8270D
1363_24	Semivolatile	mp-Cresol	358	U	ug/kg	358	19.9	SW846 8270D
1363_24	Semivolatile	o-Cresol	358	U	ug/kg	358	29.1	SW846 8270D
1363_24	Volatile	1,1,1-Trichloroethane	2	U	ug/kg	2	0.61	SW846 8260C
1363_24	Volatile	1,1-Dichloroethane	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	1,1-Dichloroethene	2	U	ug/kg	2	0.51	SW846 8260C
1363_24	Volatile	1,2,4-Trimethylbenzene	2	U	ug/kg	2	0.5	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1363_24	Volatile	1,2-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	1,2-Dichloroethane	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	1,3,5-Trimethylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	1,3-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	1,4-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	1,4-Dioxane	74.3	U	ug/kg	74.3	17.6	SW846 8260C
1363_24	Volatile	2-Butanone	9.9	U	ug/kg	9.9	3.2	SW846 8260C
1363_24	Volatile	Acetone	9.9	U	ug/kg	9.9	4.6	SW846 8260C
1363_24	Volatile	Benzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	Carbon Tetrachloride	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	Chlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	Chloroform	2	U	ug/kg	2	0.52	SW846 8260C
1363_24	Volatile	Ethylbenzene	2	U	ug/kg	2	0.67	SW846 8260C
1363_24	Volatile	Hexachlorobenzene	132	U	ug/kg	132	25.2	SW846 8270D
1363_24	Volatile	Methyl t-Butyl Ether	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	Methylene Chloride	19.9		ug/kg	2	0.77	SW846 8260C
1363_24	Volatile	Tetrachloroethene	2	U	ug/kg	2	0.59	SW846 8260C
1363_24	Volatile	Toluene	2	U	ug/kg	2	0.66	SW846 8260C
1363_24	Volatile	Total Xylenes	5.9	U	ug/kg	5.9	1.4	SW846 8260C
1363_24	Volatile	Trichloroethene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	Vinyl Chloride	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	cis-1,2-Dichloroethene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	n-Butylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	n-Propylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	sec-Butylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
1363_24	Volatile	tert-Butylbenzene	2	U	ug/kg	2	0.54	SW846 8260C
1363_24	Volatile	trans-1,2-Dichloroethene	2	U	ug/kg	2	0.51	SW846 8260C
1364_6	Metal	Arsenic, Total	2.3		mg/kg	1.7	0.56	SW846 6020A
1364_6	Metal	Barium, Total	5.1		mg/kg	2.8	0.89	SW846 6020A
1364_6	Metal	Beryllium, Total	0.56	U	mg/kg	0.56	0.18	SW846 6020A
1364_6	Metal	Cadmium, Total	0.56	U	mg/kg	0.56	0.18	SW846 6020A
1364_6	Metal	Chromium, Total	8.8		mg/kg	1.1	0.37	SW846 6020A
1364_6	Metal	Copper, Total	8.8		mg/kg	2.8	0.89	SW846 6020A
1364_6	Metal	Cyanide, Total	0.35	U	mg/kg	0.35	0.13	SW846 9012B
1364_6	Metal	Hexavalent Chromium	2.7	U	mg/kg	2.7	0.51	SW846 7196A
1364_6	Metal	Lead, Total	11.5		mg/kg	1.1	0.37	SW846 6020A
1364_6	Metal	Manganese, Total	222		mg/kg	2.8	0.89	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1364_6	Metal	Mercury, Total	0.048	J	mg/kg	0.059	0.019	SW846 7471B
1364_6	Metal	Nickel, Total	5.6		mg/kg	2.8	0.89	SW846 6020A
1364_6	Metal	Selenium, Total	2.8	U	mg/kg	2.8	0.89	SW846 6020A
1364_6	Metal	Silver, Total	1.1	U	mg/kg	1.1	0.37	SW846 6020A
1364_6	Metal	Trivalent Chromium	8.8		mg/kg	2.7	2.7	Calculation
1364_6	Metal	Zinc, Total	38.6		mg/kg	2.8	0.89	SW846 6020A
1364_6	Other	Moisture	25.5		%	0.1	0.01	S2540G-11
1364_6	Other	Total Solids	74.5		%	0.1	0.01	S2540G-11
1364_6	PCB/Pesticide	2,4,5-TP	87	U	ug/kg	87	40.3	SW846 8151A
1364_6	PCB/Pesticide	4,4'-DDD	21	U	ug/kg	21	1.7	SW846 8081B
1364_6	PCB/Pesticide	4,4'-DDE	21	U	ug/kg	21	2.9	SW846 8081B
1364_6	PCB/Pesticide	4,4'-DDT	21	U	ug/kg	21	2.4	SW846 8081B
1364_6	PCB/Pesticide	Aldrin	10.8	U	ug/kg	10.8	3.5	SW846 8081B
1364_6	PCB/Pesticide	Aroclor-1016	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1364_6	PCB/Pesticide	Aroclor-1221	0.042	U	mg/kg	0.042	0.0038	SW846 8082A
1364_6	PCB/Pesticide	Aroclor-1232	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1364_6	PCB/Pesticide	Aroclor-1242	0.042	U	mg/kg	0.042	0.011	SW846 8082A
1364_6	PCB/Pesticide	Aroclor-1248	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1364_6	PCB/Pesticide	Aroclor-1254	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1364_6	PCB/Pesticide	Aroclor-1260	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
1364_6	PCB/Pesticide	Dibenzofuran	134	U	ug/kg	134	14.8	SW846 8270D
1364_6	PCB/Pesticide	Dieldrin	21	U	ug/kg	21	2.4	SW846 8081B
1364_6	PCB/Pesticide	Endosulfan I	10.8	U	ug/kg	10.8	1.3	SW846 8081B
1364_6	PCB/Pesticide	Endosulfan II	21	U	ug/kg	21	4.4	SW846 8081B
1364_6	PCB/Pesticide	Endosulfan Sulfate	21	U	ug/kg	21	1.4	SW846 8081B
1364_6	PCB/Pesticide	Endrin	21	U	ug/kg	21	1.5	SW846 8081B
1364_6	PCB/Pesticide	Heptachlor	10.8	U	ug/kg	10.8	1.1	SW846 8081B
1364_6	PCB/Pesticide	Total Polychlorinated Biphenyl	0.042	U	mg/kg	0.042	0.042	SW846 8082A
1364_6	PCB/Pesticide	alpha-BHC	10.8	U	ug/kg	10.8	0.96	SW846 8081B
1364_6	PCB/Pesticide	alpha-Chlordane	10.8	U	ug/kg	10.8	1.1	SW846 8081B
1364_6	PCB/Pesticide	beta-BHC	10.8	U	ug/kg	10.8	1.1	SW846 8081B
1364_6	PCB/Pesticide	delta-BHC	10.8	U	ug/kg	10.8	0.83	SW846 8081B
1364_6	PCB/Pesticide	gamma-BHC	10.8	U	ug/kg	10.8	0.89	SW846 8081B
1364_6	Semivolatile	Acenaphthene	134	U	ug/kg	134	20.1	SW846 8270D
1364_6	Semivolatile	Acenaphthylene	134	U	ug/kg	134	14.8	SW846 8270D
1364_6	Semivolatile	Anthracene	134	U	ug/kg	134	13.4	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1364_6	Semivolatile	Benzo(a)anthracene	134	U	ug/kg	134	20.1	SW846 8270D
1364_6	Semivolatile	Benzo(a)pyrene	134	U	ug/kg	134	21.5	SW846 8270D
1364_6	Semivolatile	Benzo(b)fluoranthene	134	U	ug/kg	134	32.2	SW846 8270D
1364_6	Semivolatile	Benzo(g,h,i)perylene	134	U	ug/kg	134	28.2	SW846 8270D
1364_6	Semivolatile	Benzo(k)fluoranthene	134	U	ug/kg	134	25.5	SW846 8270D
1364_6	Semivolatile	Chrysene	134	U	ug/kg	134	17.4	SW846 8270D
1364_6	Semivolatile	Dibenzo(a,h)anthracene	134	U	ug/kg	134	16.1	SW846 8270D
1364_6	Semivolatile	Fluoranthene	134	U	ug/kg	134	25.5	SW846 8270D
1364_6	Semivolatile	Fluorene	134	U	ug/kg	134	26.8	SW846 8270D
1364_6	Semivolatile	Indeno(1,2,3-cd)pyrene	134	U	ug/kg	134	24.2	SW846 8270D
1364_6	Semivolatile	Naphthalene	134	U	ug/kg	134	32.2	SW846 8270D
1364_6	Semivolatile	Pentachlorophenol	268	U	ug/kg	268	48.3	SW846 8270D
1364_6	Semivolatile	Phenanthrene	134	U	ug/kg	134	18.8	SW846 8270D
1364_6	Semivolatile	Phenol	362	U	ug/kg	362	20.1	SW846 8270D
1364_6	Semivolatile	Pyrene	134	U	ug/kg	134	24.2	SW846 8270D
1364_6	Semivolatile	mp-Cresol	362	U	ug/kg	362	20.1	SW846 8270D
1364_6	Semivolatile	o-Cresol	362	U	ug/kg	362	29.5	SW846 8270D
1364_6	Volatile	1,1,1-Trichloroethane	2.7	U	ug/kg	2.7	0.84	SW846 8260C
1364_6	Volatile	1,1-Dichloroethane	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	1,1-Dichloroethene	2.7	U	ug/kg	2.7	0.7	SW846 8260C
1364_6	Volatile	1,2,4-Trimethylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	1,2-Dichlorobenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	1,2-Dichloroethane	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	1,3,5-Trimethylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	1,3-Dichlorobenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	1,4-Dichlorobenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	1,4-Dioxane	101	U	ug/kg	101	24	SW846 8260C
1364_6	Volatile	2-Butanone	13.5	U	ug/kg	13.5	4.3	SW846 8260C
1364_6	Volatile	Acetone	13.5	U	ug/kg	13.5	6.2	SW846 8260C
1364_6	Volatile	Benzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	Carbon Tetrachloride	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1364_6	Volatile	Chlorobenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1364_6	Volatile	Chloroform	2.7	U	ug/kg	2.7	0.71	SW846 8260C
1364_6	Volatile	Ethylbenzene	2.7	U	ug/kg	2.7	0.92	SW846 8260C
1364_6	Volatile	Hexachlorobenzene	134	U	ug/kg	134	25.5	SW846 8270D
1364_6	Volatile	Methyl t-Butyl Ether	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	Methylene Chloride	15.3		ug/kg	2.7	1.1	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1364_6	Volatile	Tetrachloroethene	2.7	U	ug/kg	2.7	0.81	SW846 8260C
1364_6	Volatile	Toluene	2.7	U	ug/kg	2.7	0.9	SW846 8260C
1364_6	Volatile	Total Xylenes	8.1	U	ug/kg	8.1	1.9	SW846 8260C
1364_6	Volatile	Trichloroethene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	Vinyl Chloride	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	cis-1,2-Dichloroethene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	n-Butylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	n-Propylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	sec-Butylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
1364_6	Volatile	tert-Butylbenzene	2.7	U	ug/kg	2.7	0.74	SW846 8260C
1364_6	Volatile	trans-1,2-Dichloroethene	2.7	U	ug/kg	2.7	0.7	SW846 8260C
1374_22	Metal	Arsenic, Total	1.6	J	mg/kg	1.6	0.54	SW846 6020A
1374_22	Metal	Barium, Total	2.6	J	mg/kg	2.7	0.86	SW846 6020A
1374_22	Metal	Beryllium, Total	0.54	U	mg/kg	0.54	0.18	SW846 6020A
1374_22	Metal	Cadmium, Total	0.54	U	mg/kg	0.54	0.18	SW846 6020A
1374_22	Metal	Chromium, Total	4.4		mg/kg	1.1	0.36	SW846 6020A
1374_22	Metal	Copper, Total	5		mg/kg	2.7	0.86	SW846 6020A
1374_22	Metal	Cyanide, Total	0.33	U	mg/kg	0.33	0.12	SW846 9012B
1374_22	Metal	Hexavalent Chromium	2.6	U	mg/kg	2.6	0.5	SW846 7196A
1374_22	Metal	Lead, Total	4		mg/kg	1.1	0.36	SW846 6020A
1374_22	Metal	Manganese, Total	45.4		mg/kg	2.7	0.86	SW846 6020A
1374_22	Metal	Mercury, Total	0.065	U	mg/kg	0.065	0.021	SW846 7471B
1374_22	Metal	Nickel, Total	3.7		mg/kg	2.7	0.86	SW846 6020A
1374_22	Metal	Selenium, Total	2.7	U	mg/kg	2.7	0.86	SW846 6020A
1374_22	Metal	Silver, Total	1.1	U	mg/kg	1.1	0.36	SW846 6020A
1374_22	Metal	Trivalent Chromium	4.4		mg/kg	2.6	2.6	Calculation
1374_22	Metal	Zinc, Total	16.4		mg/kg	2.7	0.86	SW846 6020A
1374_22	Other	Moisture	22.6		%	0.1	0.01	S2540G-11
1374_22	Other	Total Solids	77.4		%	0.1	0.01	S2540G-11
1374_22	PCB/Pesticide	2,4,5-TP	85.5	U	ug/kg	85.5	39.5	SW846 8151A
1374_22	PCB/Pesticide	4,4'-DDD	20	U	ug/kg	20	1.6	SW846 8081B
1374_22	PCB/Pesticide	4,4'-DDE	20	U	ug/kg	20	2.7	SW846 8081B
1374_22	PCB/Pesticide	4,4'-DDT	20	U	ug/kg	20	2.3	SW846 8081B
1374_22	PCB/Pesticide	Aldrin	10.3	U	ug/kg	10.3	3.3	SW846 8081B
1374_22	PCB/Pesticide	Aroclor-1016	0.04	U	mg/kg	0.04	0.0073	SW846 8082A
1374_22	PCB/Pesticide	Aroclor-1221	0.04	U	mg/kg	0.04	0.0036	SW846 8082A
1374_22	PCB/Pesticide	Aroclor-1232	0.04	U	mg/kg	0.04	0.0073	SW846 8082A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1374_22	PCB/Pesticide	Aroclor-1242	0.04	U	mg/kg	0.04	0.011	SW846 8082A
1374_22	PCB/Pesticide	Aroclor-1248	0.04	U	mg/kg	0.04	0.0073	SW846 8082A
1374_22	PCB/Pesticide	Aroclor-1254	0.04	U	mg/kg	0.04	0.0073	SW846 8082A
1374_22	PCB/Pesticide	Aroclor-1260	0.04	U	mg/kg	0.04	0.0073	SW846 8082A
1374_22	PCB/Pesticide	Dibenzofuran	123	U	ug/kg	123	13.5	SW846 8270D
1374_22	PCB/Pesticide	Dieldrin	20	U	ug/kg	20	2.3	SW846 8081B
1374_22	PCB/Pesticide	Endosulfan I	10.3	U	ug/kg	10.3	1.3	SW846 8081B
1374_22	PCB/Pesticide	Endosulfan II	20	U	ug/kg	20	4.2	SW846 8081B
1374_22	PCB/Pesticide	Endosulfan Sulfate	20	U	ug/kg	20	1.3	SW846 8081B
1374_22	PCB/Pesticide	Endrin	20	U	ug/kg	20	1.5	SW846 8081B
1374_22	PCB/Pesticide	Heptachlor	10.3	U	ug/kg	10.3	1	SW846 8081B
1374_22	PCB/Pesticide	Total Polychlorinated Biphenyl	0.04	U	mg/kg	0.04	0.04	SW846 8082A
1374_22	PCB/Pesticide	alpha-BHC	10.3	U	ug/kg	10.3	0.91	SW846 8081B
1374_22	PCB/Pesticide	alpha-Chlordane	10.3	U	ug/kg	10.3	1.1	SW846 8081B
1374_22	PCB/Pesticide	beta-BHC	10.3	U	ug/kg	10.3	1.1	SW846 8081B
1374_22	PCB/Pesticide	delta-BHC	10.3	U	ug/kg	10.3	0.79	SW846 8081B
1374_22	PCB/Pesticide	gamma-BHC	10.3	U	ug/kg	10.3	0.85	SW846 8081B
1374_22	Semivolatile	Acenaphthene	123	U	ug/kg	123	18.4	SW846 8270D
1374_22	Semivolatile	Acenaphthylene	123	U	ug/kg	123	13.5	SW846 8270D
1374_22	Semivolatile	Anthracene	62.7	J	ug/kg	123	12.3	SW846 8270D
1374_22	Semivolatile	Benzo(a)anthracene	103	J	ug/kg	123	18.4	SW846 8270D
1374_22	Semivolatile	Benzo(a)pyrene	81.6	J	ug/kg	123	19.6	SW846 8270D
1374_22	Semivolatile	Benzo(b)fluoranthene	97.6	J	ug/kg	123	29.4	SW846 8270D
1374_22	Semivolatile	Benzo(g,h,i)perylene	51	J	ug/kg	123	25.8	SW846 8270D
1374_22	Semivolatile	Benzo(k)fluoranthene	123	U	ug/kg	123	23.3	SW846 8270D
1374_22	Semivolatile	Chrysene	79.9	J	ug/kg	123	16	SW846 8270D
1374_22	Semivolatile	Dibenzo(a,h)anthracene	123	U	ug/kg	123	14.7	SW846 8270D
1374_22	Semivolatile	Fluoranthene	245		ug/kg	123	23.3	SW846 8270D
1374_22	Semivolatile	Fluorene	123	U	ug/kg	123	24.5	SW846 8270D
1374_22	Semivolatile	Indeno(1,2,3-cd)pyrene	53.3	J	ug/kg	123	22.1	SW846 8270D
1374_22	Semivolatile	Naphthalene	123	U	ug/kg	123	29.4	SW846 8270D
1374_22	Semivolatile	Pentachlorophenol	245	U	ug/kg	245	44.2	SW846 8270D
1374_22	Semivolatile	Phenanthrene	235		ug/kg	123	17.2	SW846 8270D
1374_22	Semivolatile	Phenol	331	U	ug/kg	331	18.4	SW846 8270D
1374_22	Semivolatile	Pyrene	198		ug/kg	123	22.1	SW846 8270D
1374_22	Semivolatile	mp-Cresol	331	U	ug/kg	331	18.4	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1374_22	Semivolatile	o-Cresol	331	U	ug/kg	331	27	SW846 8270D
1374_22	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.8	SW846 8260C
1374_22	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
1374_22	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	1,4-Dioxane	97.1	U	ug/kg	97.1	23.1	SW846 8260C
1374_22	Volatile	2-Butanone	13	U	ug/kg	13	4.1	SW846 8260C
1374_22	Volatile	Acetone	13	U	ug/kg	13	6	SW846 8260C
1374_22	Volatile	Benzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1374_22	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1374_22	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.69	SW846 8260C
1374_22	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.88	SW846 8260C
1374_22	Volatile	Hexachlorobenzene	123	U	ug/kg	123	23.3	SW846 8270D
1374_22	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	Methylene Chloride	9.4		ug/kg	2.6	1	SW846 8260C
1374_22	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.78	SW846 8260C
1374_22	Volatile	Toluene	2.6	U	ug/kg	2.6	0.87	SW846 8260C
1374_22	Volatile	Total Xylenes	7.8	U	ug/kg	7.8	1.8	SW846 8260C
1374_22	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1374_22	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.71	SW846 8260C
1374_22	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
1438_23	Metal	Arsenic, Total	4.4		mg/kg	2.5	0.82	SW846 6020A
1438_23	Metal	Barium, Total	18.6		mg/kg	4.1	1.3	SW846 6020A
1438_23	Metal	Beryllium, Total	0.29	J	mg/kg	0.82	0.27	SW846 6020A
1438_23	Metal	Cadmium, Total	0.57	J	mg/kg	0.82	0.27	SW846 6020A
1438_23	Metal	Chromium, Total	19.3		mg/kg	1.6	0.54	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1438_23	Metal	Copper, Total	34.5		mg/kg	4.1	1.3	SW846 6020A
1438_23	Metal	Cyanide, Total	0.41	U	mg/kg	0.41	0.15	SW846 9012B
1438_23	Metal	Hexavalent Chromium	3.5	U	mg/kg	3.5	0.67	SW846 7196A
1438_23	Metal	Lead, Total	37		mg/kg	1.6	0.54	SW846 6020A
1438_23	Metal	Manganese, Total	108		mg/kg	4.1	1.3	SW846 6020A
1438_23	Metal	Mercury, Total	0.48		mg/kg	0.076	0.024	SW846 7471B
1438_23	Metal	Nickel, Total	10.2		mg/kg	4.1	1.3	SW846 6020A
1438_23	Metal	Selenium, Total	4.1	U	mg/kg	4.1	1.3	SW846 6020A
1438_23	Metal	Silver, Total	1.6	U	mg/kg	1.6	0.54	SW846 6020A
1438_23	Metal	Trivalent Chromium	19.3		mg/kg	3.4	3.4	Calculation
1438_23	Metal	Zinc, Total	97.3		mg/kg	4.1	1.3	SW846 6020A
1438_23	Other	Moisture	41.6		%	0.1	0.01	S2540G-11
1438_23	Other	Total Solids	58.4		%	0.1	0.01	S2540G-11
1438_23	PCB/Pesticide	2,4,5-TP	114	U	ug/kg	114	52.6	SW846 8151A
1438_23	PCB/Pesticide	4,4'-DDD	26.5	U	ug/kg	26.5	2.2	SW846 8081B
1438_23	PCB/Pesticide	4,4'-DDE	26.5	U	ug/kg	26.5	3.6	SW846 8081B
1438_23	PCB/Pesticide	4,4'-DDT	26.5	U	ug/kg	26.5	3.1	SW846 8081B
1438_23	PCB/Pesticide	Aldrin	13.6	U	ug/kg	13.6	4.4	SW846 8081B
1438_23	PCB/Pesticide	Aroclor-1016	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
1438_23	PCB/Pesticide	Aroclor-1221	0.053	U	mg/kg	0.053	0.0048	SW846 8082A
1438_23	PCB/Pesticide	Aroclor-1232	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
1438_23	PCB/Pesticide	Aroclor-1242	0.053	U	mg/kg	0.053	0.014	SW846 8082A
1438_23	PCB/Pesticide	Aroclor-1248	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
1438_23	PCB/Pesticide	Aroclor-1254	0.026	J	mg/kg	0.053	0.0096	SW846 8082A
1438_23	PCB/Pesticide	Aroclor-1260	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
1438_23	PCB/Pesticide	Dibenzofuran	168	U	ug/kg	168	18.5	SW846 8270D
1438_23	PCB/Pesticide	Dieldrin	26.5	U	ug/kg	26.5	3.1	SW846 8081B
1438_23	PCB/Pesticide	Endosulfan I	13.6	U	ug/kg	13.6	1.7	SW846 8081B
1438_23	PCB/Pesticide	Endosulfan II	26.5	U	ug/kg	26.5	5.5	SW846 8081B
1438_23	PCB/Pesticide	Endosulfan Sulfate	26.5	U	ug/kg	26.5	1.8	SW846 8081B
1438_23	PCB/Pesticide	Endrin	26.5	U	ug/kg	26.5	1.9	SW846 8081B
1438_23	PCB/Pesticide	Heptachlor	13.6	U	ug/kg	13.6	1.4	SW846 8081B
1438_23	PCB/Pesticide	Total Polychlorinated Biphenyl	0.053	U	mg/kg	0.053	0.053	SW846 8082A
1438_23	PCB/Pesticide	alpha-BHC	13.6	U	ug/kg	13.6	1.2	SW846 8081B
1438_23	PCB/Pesticide	alpha-Chlordane	13.6	U	ug/kg	13.6	1.4	SW846 8081B
1438_23	PCB/Pesticide	beta-BHC	13.6	U	ug/kg	13.6	1.4	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1438_23	PCB/Pesticide	delta-BHC	13.6	U	ug/kg	13.6	1	SW846 8081B
1438_23	PCB/Pesticide	gamma-BHC	13.6	U	ug/kg	13.6	1.1	SW846 8081B
1438_23	Semivolatile	Acenaphthene	168	U	ug/kg	168	25.2	SW846 8270D
1438_23	Semivolatile	Acenaphthylene	65.5	J	ug/kg	168	18.5	SW846 8270D
1438_23	Semivolatile	Anthracene	104	J	ug/kg	168	16.8	SW846 8270D
1438_23	Semivolatile	Benzo(a)anthracene	357		ug/kg	168	25.2	SW846 8270D
1438_23	Semivolatile	Benzo(a)pyrene	394		ug/kg	168	26.9	SW846 8270D
1438_23	Semivolatile	Benzo(b)fluoranthene	494		ug/kg	168	40.3	SW846 8270D
1438_23	Semivolatile	Benzo(g,h,i)perylene	244		ug/kg	168	35.3	SW846 8270D
1438_23	Semivolatile	Benzo(k)fluoranthene	178		ug/kg	168	31.9	SW846 8270D
1438_23	Semivolatile	Chrysene	375		ug/kg	168	21.8	SW846 8270D
1438_23	Semivolatile	Dibenzo(a,h)anthracene	62.8	J	ug/kg	168	20.1	SW846 8270D
1438_23	Semivolatile	Fluoranthene	663		ug/kg	168	31.9	SW846 8270D
1438_23	Semivolatile	Fluorene	168	U	ug/kg	168	33.6	SW846 8270D
1438_23	Semivolatile	Indeno(1,2,3-cd)pyrene	268		ug/kg	168	30.2	SW846 8270D
1438_23	Semivolatile	Naphthalene	168	U	ug/kg	168	40.3	SW846 8270D
1438_23	Semivolatile	Pentachlorophenol	336	U	ug/kg	336	60.4	SW846 8270D
1438_23	Semivolatile	Phenanthrene	302		ug/kg	168	23.5	SW846 8270D
1438_23	Semivolatile	Phenol	453	U	ug/kg	453	25.2	SW846 8270D
1438_23	Semivolatile	Pyrene	592		ug/kg	168	30.2	SW846 8270D
1438_23	Semivolatile	mp-Cresol	453	U	ug/kg	453	25.2	SW846 8270D
1438_23	Semivolatile	o-Cresol	453	U	ug/kg	453	36.9	SW846 8270D
1438_23	Volatile	1,1,1-Trichloroethane	2.3	U	ug/kg	2.3	0.72	SW846 8260C
1438_23	Volatile	1,1-Dichloroethane	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	1,1-Dichloroethene	2.3	U	ug/kg	2.3	0.6	SW846 8260C
1438_23	Volatile	1,2,4-Trimethylbenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	1,2-Dichlorobenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	1,2-Dichloroethane	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	1,3,5-Trimethylbenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	1,3-Dichlorobenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	1,4-Dichlorobenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	1,4-Dioxane	87.3	U	ug/kg	87.3	20.7	SW846 8260C
1438_23	Volatile	2-Butanone	11.6	U	ug/kg	11.6	3.7	SW846 8260C
1438_23	Volatile	Acetone	7.4	J	ug/kg	11.6	5.4	SW846 8260C
1438_23	Volatile	Benzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	Carbon Tetrachloride	2.3	U	ug/kg	2.3	0.59	SW846 8260C
1438_23	Volatile	Chlorobenzene	2.3	U	ug/kg	2.3	0.59	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1438_23	Volatile	Chloroform	2.3	U	ug/kg	2.3	0.62	SW846 8260C
1438_23	Volatile	Ethylbenzene	2.3	U	ug/kg	2.3	0.79	SW846 8260C
1438_23	Volatile	Hexachlorobenzene	168	U	ug/kg	168	31.9	SW846 8270D
1438_23	Volatile	Methyl t-Butyl Ether	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	Methylene Chloride	19.2		ug/kg	2.3	0.91	SW846 8260C
1438_23	Volatile	Tetrachloroethene	2.3	U	ug/kg	2.3	0.7	SW846 8260C
1438_23	Volatile	Toluene	2.3	U	ug/kg	2.3	0.78	SW846 8260C
1438_23	Volatile	Total Xylenes	7	U	ug/kg	7	1.6	SW846 8260C
1438_23	Volatile	Trichloroethene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	Vinyl Chloride	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	cis-1,2-Dichloroethene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	n-Butylbenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	n-Propylbenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	sec-Butylbenzene	2.3	U	ug/kg	2.3	0.58	SW846 8260C
1438_23	Volatile	tert-Butylbenzene	2.3	U	ug/kg	2.3	0.64	SW846 8260C
1438_23	Volatile	trans-1,2-Dichloroethene	2.3	U	ug/kg	2.3	0.6	SW846 8260C
1439_20	Metal	Arsenic, Total	1.5		mg/kg	1.3	0.43	SW846 6020A
1439_20	Metal	Barium, Total	2.8		mg/kg	2.2	0.69	SW846 6020A
1439_20	Metal	Beryllium, Total	0.43	U	mg/kg	0.43	0.14	SW846 6020A
1439_20	Metal	Cadmium, Total	0.43	U	mg/kg	0.43	0.14	SW846 6020A
1439_20	Metal	Chromium, Total	6		mg/kg	0.87	0.29	SW846 6020A
1439_20	Metal	Copper, Total	5.9		mg/kg	2.2	0.69	SW846 6020A
1439_20	Metal	Cyanide, Total	0.32	U	mg/kg	0.32	0.12	SW846 9012B
1439_20	Metal	Hexavalent Chromium	2.5	U	mg/kg	2.5	0.49	SW846 7196A
1439_20	Metal	Lead, Total	7.7		mg/kg	0.87	0.29	SW846 6020A
1439_20	Metal	Manganese, Total	66.1		mg/kg	2.2	0.69	SW846 6020A
1439_20	Metal	Mercury, Total	0.058		mg/kg	0.055	0.018	SW846 7471B
1439_20	Metal	Nickel, Total	3.2		mg/kg	2.2	0.69	SW846 6020A
1439_20	Metal	Selenium, Total	2.2	U	mg/kg	2.2	0.69	SW846 6020A
1439_20	Metal	Silver, Total	0.87	U	mg/kg	0.87	0.29	SW846 6020A
1439_20	Metal	Trivalent Chromium	6		mg/kg	2.6	2.6	Calculation
1439_20	Metal	Zinc, Total	23.6		mg/kg	2.2	0.69	SW846 6020A
1439_20	Other	Moisture	22.2		%	0.1	0.01	S2540G-11
1439_20	Other	Total Solids	77.8		%	0.1	0.01	S2540G-11
1439_20	PCB/Pesticide	2,4,5-TP	83.9	U	ug/kg	83.9	38.8	SW846 8151A
1439_20	PCB/Pesticide	4,4'-DDD	20.4	U	ug/kg	20.4	1.7	SW846 8081B
1439_20	PCB/Pesticide	4,4'-DDE	20.4	U	ug/kg	20.4	2.8	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1439_20	PCB/Pesticide	4,4'-DDT	20.4	U	ug/kg	20.4	2.3	SW846 8081B
1439_20	PCB/Pesticide	Aldrin	10.5	U	ug/kg	10.5	3.4	SW846 8081B
1439_20	PCB/Pesticide	Aroclor-1016	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1439_20	PCB/Pesticide	Aroclor-1221	0.041	U	mg/kg	0.041	0.0037	SW846 8082A
1439_20	PCB/Pesticide	Aroclor-1232	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1439_20	PCB/Pesticide	Aroclor-1242	0.041	U	mg/kg	0.041	0.011	SW846 8082A
1439_20	PCB/Pesticide	Aroclor-1248	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1439_20	PCB/Pesticide	Aroclor-1254	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1439_20	PCB/Pesticide	Aroclor-1260	0.041	U	mg/kg	0.041	0.0074	SW846 8082A
1439_20	PCB/Pesticide	Dibenzofuran	128	U	ug/kg	128	14	SW846 8270D
1439_20	PCB/Pesticide	Dieldrin	20.4	U	ug/kg	20.4	2.3	SW846 8081B
1439_20	PCB/Pesticide	Endosulfan I	10.5	U	ug/kg	10.5	1.3	SW846 8081B
1439_20	PCB/Pesticide	Endosulfan II	20.4	U	ug/kg	20.4	4.3	SW846 8081B
1439_20	PCB/Pesticide	Endosulfan Sulfate	20.4	U	ug/kg	20.4	1.4	SW846 8081B
1439_20	PCB/Pesticide	Endrin	20.4	U	ug/kg	20.4	1.5	SW846 8081B
1439_20	PCB/Pesticide	Heptachlor	10.5	U	ug/kg	10.5	1.1	SW846 8081B
1439_20	PCB/Pesticide	Total Polychlorinated Biphenyl	0.041	U	mg/kg	0.041	0.041	SW846 8082A
1439_20	PCB/Pesticide	alpha-BHC	10.5	U	ug/kg	10.5	0.93	SW846 8081B
1439_20	PCB/Pesticide	alpha-Chlordane	10.5	U	ug/kg	10.5	1.1	SW846 8081B
1439_20	PCB/Pesticide	beta-BHC	10.5	U	ug/kg	10.5	1.1	SW846 8081B
1439_20	PCB/Pesticide	delta-BHC	10.5	U	ug/kg	10.5	0.8	SW846 8081B
1439_20	PCB/Pesticide	gamma-BHC	10.5	U	ug/kg	10.5	0.87	SW846 8081B
1439_20	Semivolatile	Acenaphthene	128	U	ug/kg	128	19.2	SW846 8270D
1439_20	Semivolatile	Acenaphthylene	128	U	ug/kg	128	14	SW846 8270D
1439_20	Semivolatile	Anthracene	128	U	ug/kg	128	12.8	SW846 8270D
1439_20	Semivolatile	Benzo(a)anthracene	128	U	ug/kg	128	19.2	SW846 8270D
1439_20	Semivolatile	Benzo(a)pyrene	128	U	ug/kg	128	20.4	SW846 8270D
1439_20	Semivolatile	Benzo(b)fluoranthene	128	U	ug/kg	128	30.6	SW846 8270D
1439_20	Semivolatile	Benzo(g,h,i)perylene	128	U	ug/kg	128	26.8	SW846 8270D
1439_20	Semivolatile	Benzo(k)fluoranthene	128	U	ug/kg	128	24.3	SW846 8270D
1439_20	Semivolatile	Chrysene	128	U	ug/kg	128	16.6	SW846 8270D
1439_20	Semivolatile	Dibenzo(a,h)anthracene	128	U	ug/kg	128	15.3	SW846 8270D
1439_20	Semivolatile	Fluoranthene	128	U	ug/kg	128	24.3	SW846 8270D
1439_20	Semivolatile	Fluorene	128	U	ug/kg	128	25.5	SW846 8270D
1439_20	Semivolatile	Indeno(1,2,3-cd)pyrene	128	U	ug/kg	128	23	SW846 8270D
1439_20	Semivolatile	Naphthalene	128	U	ug/kg	128	30.6	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1439_20	Semivolatile	Pentachlorophenol	255	U	ug/kg	255	46	SW846 8270D
1439_20	Semivolatile	Phenanthrene	128	U	ug/kg	128	17.9	SW846 8270D
1439_20	Semivolatile	Phenol	345	U	ug/kg	345	19.2	SW846 8270D
1439_20	Semivolatile	Pyrene	128	U	ug/kg	128	23	SW846 8270D
1439_20	Semivolatile	mp-Cresol	345	U	ug/kg	345	19.2	SW846 8270D
1439_20	Semivolatile	o-Cresol	345	U	ug/kg	345	28.1	SW846 8270D
1439_20	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.8	SW846 8260C
1439_20	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
1439_20	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	1,4-Dioxane	97	U	ug/kg	97	23	SW846 8260C
1439_20	Volatile	2-Butanone	12.9	U	ug/kg	12.9	4.1	SW846 8260C
1439_20	Volatile	Acetone	7	J	ug/kg	12.9	5.9	SW846 8260C
1439_20	Volatile	Benzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1439_20	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
1439_20	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.69	SW846 8260C
1439_20	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.88	SW846 8260C
1439_20	Volatile	Hexachlorobenzene	128	U	ug/kg	128	24.3	SW846 8270D
1439_20	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	Methylene Chloride	9.7		ug/kg	2.6	1	SW846 8260C
1439_20	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.78	SW846 8260C
1439_20	Volatile	Toluene	2.6	U	ug/kg	2.6	0.87	SW846 8260C
1439_20	Volatile	Total Xylenes	7.8	U	ug/kg	7.8	1.8	SW846 8260C
1439_20	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
1439_20	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.71	SW846 8260C
1439_20	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1440_8	Metal	Arsenic, Total	3		mg/kg	2	0.67	SW846 6020A
1440_8	Metal	Barium, Total	5.4		mg/kg	3.3	1.1	SW846 6020A
1440_8	Metal	Beryllium, Total	0.67	U	mg/kg	0.67	0.22	SW846 6020A
1440_8	Metal	Cadmium, Total	0.67	U	mg/kg	0.67	0.22	SW846 6020A
1440_8	Metal	Chromium, Total	10.1		mg/kg	1.3	0.44	SW846 6020A
1440_8	Metal	Copper, Total	10.5		mg/kg	3.3	1.1	SW846 6020A
1440_8	Metal	Cyanide, Total	0.34	U	mg/kg	0.34	0.12	SW846 9012B
1440_8	Metal	Hexavalent Chromium	2.7	U	mg/kg	2.7	0.53	SW846 7196A
1440_8	Metal	Lead, Total	13.8		mg/kg	1.3	0.44	SW846 6020A
1440_8	Metal	Manganese, Total	215		mg/kg	3.3	1.1	SW846 6020A
1440_8	Metal	Mercury, Total	0.055	J	mg/kg	0.06	0.019	SW846 7471B
1440_8	Metal	Nickel, Total	5.5		mg/kg	3.3	1.1	SW846 6020A
1440_8	Metal	Selenium, Total	3.3	U	mg/kg	3.3	1.1	SW846 6020A
1440_8	Metal	Silver, Total	1.3	U	mg/kg	1.3	0.44	SW846 6020A
1440_8	Metal	Trivalent Chromium	10.1		mg/kg	2.7	2.7	Calculation
1440_8	Metal	Zinc, Total	41.8		mg/kg	3.3	1.1	SW846 6020A
1440_8	Other	Moisture	26.4		%	0.1	0.01	S2540G-11
1440_8	Other	Total Solids	73.6		%	0.1	0.01	S2540G-11
1440_8	PCB/Pesticide	2,4,5-TP	90.8	U	ug/kg	90.8	42	SW846 8151A
1440_8	PCB/Pesticide	4,4'-DDD	21.3	U	ug/kg	21.3	1.7	SW846 8081B
1440_8	PCB/Pesticide	4,4'-DDE	21.3	U	ug/kg	21.3	2.9	SW846 8081B
1440_8	PCB/Pesticide	4,4'-DDT	21.3	U	ug/kg	21.3	2.5	SW846 8081B
1440_8	PCB/Pesticide	Aldrin	11	U	ug/kg	11	3.5	SW846 8081B
1440_8	PCB/Pesticide	Aroclor-1016	0.043	U	mg/kg	0.043	0.0077	SW846 8082A
1440_8	PCB/Pesticide	Aroclor-1221	0.043	U	mg/kg	0.043	0.0039	SW846 8082A
1440_8	PCB/Pesticide	Aroclor-1232	0.043	U	mg/kg	0.043	0.0077	SW846 8082A
1440_8	PCB/Pesticide	Aroclor-1242	0.043	U	mg/kg	0.043	0.012	SW846 8082A
1440_8	PCB/Pesticide	Aroclor-1248	0.043	U	mg/kg	0.043	0.0077	SW846 8082A
1440_8	PCB/Pesticide	Aroclor-1254	0.043	U	mg/kg	0.043	0.0077	SW846 8082A
1440_8	PCB/Pesticide	Aroclor-1260	0.043	U	mg/kg	0.043	0.0077	SW846 8082A
1440_8	PCB/Pesticide	Dibenzofuran	132	U	ug/kg	132	14.6	SW846 8270D
1440_8	PCB/Pesticide	Dieldrin	21.3	U	ug/kg	21.3	2.5	SW846 8081B
1440_8	PCB/Pesticide	Endosulfan I	11	U	ug/kg	11	1.4	SW846 8081B
1440_8	PCB/Pesticide	Endosulfan II	21.3	U	ug/kg	21.3	4.5	SW846 8081B
1440_8	PCB/Pesticide	Endosulfan Sulfate	21.3	U	ug/kg	21.3	1.4	SW846 8081B
1440_8	PCB/Pesticide	Endrin	21.3	U	ug/kg	21.3	1.5	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1440_8	PCB/Pesticide	Heptachlor	11	U	ug/kg	11	1.1	SW846 8081B
1440_8	PCB/Pesticide	Total Polychlorinated Biphenyl	0.043	U	mg/kg	0.043	0.043	SW846 8082A
1440_8	PCB/Pesticide	alpha-BHC	11	U	ug/kg	11	0.97	SW846 8081B
1440_8	PCB/Pesticide	alpha-Chlordane	11	U	ug/kg	11	1.2	SW846 8081B
1440_8	PCB/Pesticide	beta-BHC	11	U	ug/kg	11	1.2	SW846 8081B
1440_8	PCB/Pesticide	delta-BHC	11	U	ug/kg	11	0.84	SW846 8081B
1440_8	PCB/Pesticide	gamma-BHC	11	U	ug/kg	11	0.9	SW846 8081B
1440_8	Semivolatile	Acenaphthene	132	U	ug/kg	132	19.9	SW846 8270D
1440_8	Semivolatile	Acenaphthylene	132	U	ug/kg	132	14.6	SW846 8270D
1440_8	Semivolatile	Anthracene	132	U	ug/kg	132	13.2	SW846 8270D
1440_8	Semivolatile	Benzo(a)anthracene	132	U	ug/kg	132	19.9	SW846 8270D
1440_8	Semivolatile	Benzo(a)pyrene	132	U	ug/kg	132	21.2	SW846 8270D
1440_8	Semivolatile	Benzo(b)fluoranthene	132	U	ug/kg	132	31.8	SW846 8270D
1440_8	Semivolatile	Benzo(g,h,i)perylene	132	U	ug/kg	132	27.8	SW846 8270D
1440_8	Semivolatile	Benzo(k)fluoranthene	132	U	ug/kg	132	25.2	SW846 8270D
1440_8	Semivolatile	Chrysene	132	U	ug/kg	132	17.2	SW846 8270D
1440_8	Semivolatile	Dibenzo(a,h)anthracene	132	U	ug/kg	132	15.9	SW846 8270D
1440_8	Semivolatile	Fluoranthene	132	U	ug/kg	132	25.2	SW846 8270D
1440_8	Semivolatile	Fluorene	132	U	ug/kg	132	26.5	SW846 8270D
1440_8	Semivolatile	Indeno(1,2,3-cd)pyrene	132	U	ug/kg	132	23.8	SW846 8270D
1440_8	Semivolatile	Naphthalene	132	U	ug/kg	132	31.8	SW846 8270D
1440_8	Semivolatile	Pentachlorophenol	265	U	ug/kg	265	47.7	SW846 8270D
1440_8	Semivolatile	Phenanthrene	132	U	ug/kg	132	18.5	SW846 8270D
1440_8	Semivolatile	Phenol	358	U	ug/kg	358	19.9	SW846 8270D
1440_8	Semivolatile	Pyrene	132	U	ug/kg	132	23.8	SW846 8270D
1440_8	Semivolatile	mp-Cresol	358	U	ug/kg	358	19.9	SW846 8270D
1440_8	Semivolatile	o-Cresol	358	U	ug/kg	358	29.1	SW846 8270D
1440_8	Volatile	1,1,1-Trichloroethane	2.7	U	ug/kg	2.7	0.85	SW846 8260C
1440_8	Volatile	1,1-Dichloroethane	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	1,1-Dichloroethene	2.7	U	ug/kg	2.7	0.71	SW846 8260C
1440_8	Volatile	1,2,4-Trimethylbenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	1,2-Dichlorobenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	1,2-Dichloroethane	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	1,3,5-Trimethylbenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	1,3-Dichlorobenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	1,4-Dichlorobenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1440_8	Volatile	1,4-Dioxane	103	U	ug/kg	103	24.4	SW846 8260C
1440_8	Volatile	2-Butanone	13.7	U	ug/kg	13.7	4.4	SW846 8260C
1440_8	Volatile	Acetone	13.7	U	ug/kg	13.7	6.3	SW846 8260C
1440_8	Volatile	Benzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	Carbon Tetrachloride	2.7	U	ug/kg	2.7	0.7	SW846 8260C
1440_8	Volatile	Chlorobenzene	2.7	U	ug/kg	2.7	0.7	SW846 8260C
1440_8	Volatile	Chloroform	2.7	U	ug/kg	2.7	0.73	SW846 8260C
1440_8	Volatile	Ethylbenzene	2.7	U	ug/kg	2.7	0.93	SW846 8260C
1440_8	Volatile	Hexachlorobenzene	132	U	ug/kg	132	25.2	SW846 8270D
1440_8	Volatile	Methyl t-Butyl Ether	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	Methylene Chloride	14.5		ug/kg	2.7	1.1	SW846 8260C
1440_8	Volatile	Tetrachloroethene	2.7	U	ug/kg	2.7	0.82	SW846 8260C
1440_8	Volatile	Toluene	2.7	U	ug/kg	2.7	0.92	SW846 8260C
1440_8	Volatile	Total Xylenes	8.2	U	ug/kg	8.2	1.9	SW846 8260C
1440_8	Volatile	Trichloroethene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	Vinyl Chloride	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	cis-1,2-Dichloroethene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	n-Butylbenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	n-Propylbenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	sec-Butylbenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
1440_8	Volatile	tert-Butylbenzene	2.7	U	ug/kg	2.7	0.75	SW846 8260C
1440_8	Volatile	trans-1,2-Dichloroethene	2.7	U	ug/kg	2.7	0.71	SW846 8260C
1787_44	Metal	Arsenic, Total	2.2		mg/kg	2	0.66	SW846 6020A
1787_44	Metal	Barium, Total	6.4		mg/kg	3.3	1.1	SW846 6020A
1787_44	Metal	Beryllium, Total	0.66	U	mg/kg	0.66	0.22	SW846 6020A
1787_44	Metal	Cadmium, Total	0.66	U	mg/kg	0.66	0.22	SW846 6020A
1787_44	Metal	Chromium, Total	9.5		mg/kg	1.3	0.44	SW846 6020A
1787_44	Metal	Copper, Total	8.9		mg/kg	3.3	1.1	SW846 6020A
1787_44	Metal	Cyanide, Total	0.35	U	mg/kg	0.35	0.13	SW846 9012B
1787_44	Metal	Hexavalent Chromium	2.8	U	mg/kg	2.8	0.55	SW846 7196A
1787_44	Metal	Lead, Total	12.7		mg/kg	1.3	0.44	SW846 6020A
1787_44	Metal	Manganese, Total	125		mg/kg	3.3	1.1	SW846 6020A
1787_44	Metal	Mercury, Total	0.056	J	mg/kg	0.071	0.023	SW846 7471B
1787_44	Metal	Nickel, Total	5.6		mg/kg	3.3	1.1	SW846 6020A
1787_44	Metal	Selenium, Total	3.3	U	mg/kg	3.3	1.1	SW846 6020A
1787_44	Metal	Silver, Total	1.3	U	mg/kg	1.3	0.44	SW846 6020A
1787_44	Metal	Trivalent Chromium	9.5		mg/kg	2.9	2.9	Calculation

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1787_44	Metal	Zinc, Total	39.1		mg/kg	3.3	1.1	SW846 6020A
1787_44	Other	Moisture	30		%	0.1	0.01	S2540G-11
1787_44	Other	Total Solids	70		%	0.1	0.01	S2540G-11
1787_44	PCB/Pesticide	2,4,5-TP	94.8	U	ug/kg	94.8	43.8	SW846 8151A
1787_44	PCB/Pesticide	4,4'-DDD	22.7	U	ug/kg	22.7	1.9	SW846 8081B
1787_44	PCB/Pesticide	4,4'-DDE	22.7	U	ug/kg	22.7	3.1	SW846 8081B
1787_44	PCB/Pesticide	4,4'-DDT	22.7	U	ug/kg	22.7	2.6	SW846 8081B
1787_44	PCB/Pesticide	Aldrin	11.7	U	ug/kg	11.7	3.8	SW846 8081B
1787_44	PCB/Pesticide	Aroclor-1016	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
1787_44	PCB/Pesticide	Aroclor-1221	0.045	U	mg/kg	0.045	0.0041	SW846 8082A
1787_44	PCB/Pesticide	Aroclor-1232	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
1787_44	PCB/Pesticide	Aroclor-1242	0.045	U	mg/kg	0.045	0.012	SW846 8082A
1787_44	PCB/Pesticide	Aroclor-1248	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
1787_44	PCB/Pesticide	Aroclor-1254	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
1787_44	PCB/Pesticide	Aroclor-1260	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
1787_44	PCB/Pesticide	Dibenzofuran	140	U	ug/kg	140	15.4	SW846 8270D
1787_44	PCB/Pesticide	Dieldrin	22.7	U	ug/kg	22.7	2.6	SW846 8081B
1787_44	PCB/Pesticide	Endosulfan I	11.7	U	ug/kg	11.7	1.4	SW846 8081B
1787_44	PCB/Pesticide	Endosulfan II	22.7	U	ug/kg	22.7	4.7	SW846 8081B
1787_44	PCB/Pesticide	Endosulfan Sulfate	22.7	U	ug/kg	22.7	1.5	SW846 8081B
1787_44	PCB/Pesticide	Endrin	22.7	U	ug/kg	22.7	1.6	SW846 8081B
1787_44	PCB/Pesticide	Heptachlor	11.7	U	ug/kg	11.7	1.2	SW846 8081B
1787_44	PCB/Pesticide	Total Polychlorinated Biphenyl	0.045	U	mg/kg	0.045	0.045	SW846 8082A
1787_44	PCB/Pesticide	alpha-BHC	11.7	U	ug/kg	11.7	1	SW846 8081B
1787_44	PCB/Pesticide	alpha-Chlordane	11.7	U	ug/kg	11.7	1.2	SW846 8081B
1787_44	PCB/Pesticide	beta-BHC	11.7	U	ug/kg	11.7	1.2	SW846 8081B
1787_44	PCB/Pesticide	delta-BHC	11.7	U	ug/kg	11.7	0.89	SW846 8081B
1787_44	PCB/Pesticide	gamma-BHC	11.7	U	ug/kg	11.7	0.96	SW846 8081B
1787_44	Semivolatile	Acenaphthene	140	U	ug/kg	140	21	SW846 8270D
1787_44	Semivolatile	Acenaphthylene	140	U	ug/kg	140	15.4	SW846 8270D
1787_44	Semivolatile	Anthracene	140	U	ug/kg	140	14	SW846 8270D
1787_44	Semivolatile	Benzo(a)anthracene	140	U	ug/kg	140	21	SW846 8270D
1787_44	Semivolatile	Benzo(a)pyrene	140	U	ug/kg	140	22.4	SW846 8270D
1787_44	Semivolatile	Benzo(b)fluoranthene	140	U	ug/kg	140	33.6	SW846 8270D
1787_44	Semivolatile	Benzo(g,h,i)perylene	140	U	ug/kg	140	29.4	SW846 8270D
1787_44	Semivolatile	Benzo(k)fluoranthene	140	U	ug/kg	140	26.6	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1787_44	Semivolatile	Chrysene	140	U	ug/kg	140	18.2	SW846 8270D
1787_44	Semivolatile	Dibenzo(a,h)anthracene	140	U	ug/kg	140	16.8	SW846 8270D
1787_44	Semivolatile	Fluoranthene	53.4	J	ug/kg	140	26.6	SW846 8270D
1787_44	Semivolatile	Fluorene	140	U	ug/kg	140	28	SW846 8270D
1787_44	Semivolatile	Indeno(1,2,3-cd)pyrene	140	U	ug/kg	140	25.2	SW846 8270D
1787_44	Semivolatile	Naphthalene	140	U	ug/kg	140	33.6	SW846 8270D
1787_44	Semivolatile	Pentachlorophenol	280	U	ug/kg	280	50.4	SW846 8270D
1787_44	Semivolatile	Phenanthrene	140	U	ug/kg	140	19.6	SW846 8270D
1787_44	Semivolatile	Phenol	378	U	ug/kg	378	21	SW846 8270D
1787_44	Semivolatile	Pyrene	54.3	J	ug/kg	140	25.2	SW846 8270D
1787_44	Semivolatile	mp-Cresol	378	U	ug/kg	378	21	SW846 8270D
1787_44	Semivolatile	o-Cresol	378	U	ug/kg	378	30.8	SW846 8270D
1787_44	Volatile	1,1,1-Trichloroethane	2.9	U	ug/kg	2.9	0.89	SW846 8260C
1787_44	Volatile	1,1-Dichloroethane	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	1,1-Dichloroethene	2.9	U	ug/kg	2.9	0.75	SW846 8260C
1787_44	Volatile	1,2,4-Trimethylbenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	1,2-Dichlorobenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	1,2-Dichloroethane	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	1,3,5-Trimethylbenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	1,3-Dichlorobenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	1,4-Dichlorobenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	1,4-Dioxane	108	U	ug/kg	108	25.6	SW846 8260C
1787_44	Volatile	2-Butanone	14.4	U	ug/kg	14.4	4.6	SW846 8260C
1787_44	Volatile	Acetone	8.9	J	ug/kg	14.4	6.6	SW846 8260C
1787_44	Volatile	Benzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	Carbon Tetrachloride	2.9	U	ug/kg	2.9	0.73	SW846 8260C
1787_44	Volatile	Chlorobenzene	2.9	U	ug/kg	2.9	0.73	SW846 8260C
1787_44	Volatile	Chloroform	2.9	U	ug/kg	2.9	0.76	SW846 8260C
1787_44	Volatile	Ethylbenzene	2.9	U	ug/kg	2.9	0.98	SW846 8260C
1787_44	Volatile	Hexachlorobenzene	140	U	ug/kg	140	26.6	SW846 8270D
1787_44	Volatile	Methyl t-Butyl Ether	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	Methylene Chloride	14.6		ug/kg	2.9	1.1	SW846 8260C
1787_44	Volatile	Tetrachloroethene	2.9	U	ug/kg	2.9	0.86	SW846 8260C
1787_44	Volatile	Toluene	2.9	U	ug/kg	2.9	0.96	SW846 8260C
1787_44	Volatile	Total Xylenes	8.6	U	ug/kg	8.6	2	SW846 8260C
1787_44	Volatile	Trichloroethene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	Vinyl Chloride	2.9	U	ug/kg	2.9	0.72	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
1787_44	Volatile	cis-1,2-Dichloroethene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	n-Butylbenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	n-Propylbenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	sec-Butylbenzene	2.9	U	ug/kg	2.9	0.72	SW846 8260C
1787_44	Volatile	tert-Butylbenzene	2.9	U	ug/kg	2.9	0.79	SW846 8260C
1787_44	Volatile	trans-1,2-Dichloroethene	2.9	U	ug/kg	2.9	0.75	SW846 8260C
2012_9	Metal	Arsenic, Total	4.1		mg/kg	2.4	0.8	SW846 6020A
2012_9	Metal	Barium, Total	14		mg/kg	4	1.3	SW846 6020A
2012_9	Metal	Beryllium, Total	0.8	U	mg/kg	0.8	0.26	SW846 6020A
2012_9	Metal	Cadmium, Total	0.42	J	mg/kg	0.8	0.26	SW846 6020A
2012_9	Metal	Chromium, Total	15.7		mg/kg	1.6	0.53	SW846 6020A
2012_9	Metal	Copper, Total	28.9		mg/kg	4	1.3	SW846 6020A
2012_9	Metal	Cyanide, Total	0.43	U	mg/kg	0.43	0.15	SW846 9012B
2012_9	Metal	Hexavalent Chromium	3.5	U	mg/kg	3.5	0.68	SW846 7196A
2012_9	Metal	Lead, Total	30.7		mg/kg	1.6	0.53	SW846 6020A
2012_9	Metal	Manganese, Total	102		mg/kg	4	1.3	SW846 6020A
2012_9	Metal	Mercury, Total	0.4		mg/kg	0.085	0.027	SW846 7471B
2012_9	Metal	Nickel, Total	8.3		mg/kg	4	1.3	SW846 6020A
2012_9	Metal	Selenium, Total	4	U	mg/kg	4	1.3	SW846 6020A
2012_9	Metal	Silver, Total	1.6	U	mg/kg	1.6	0.53	SW846 6020A
2012_9	Metal	Trivalent Chromium	15.7		mg/kg	3.6	3.6	Calculation
2012_9	Metal	Zinc, Total	77.8		mg/kg	4	1.3	SW846 6020A
2012_9	Other	Moisture	44.2		%	0.1	0.01	S2540G-11
2012_9	Other	Total Solids	55.8		%	0.1	0.01	S2540G-11
2012_9	PCB/Pesticide	2,4,5-TP	120	U	ug/kg	120	55.5	SW846 8151A
2012_9	PCB/Pesticide	4,4'-DDD	27.7	U	ug/kg	27.7	2.3	SW846 8081B
2012_9	PCB/Pesticide	4,4'-DDE	27.7	U	ug/kg	27.7	3.8	SW846 8081B
2012_9	PCB/Pesticide	4,4'-DDT	27.7	U	ug/kg	27.7	3.2	SW846 8081B
2012_9	PCB/Pesticide	Aldrin	14.3	U	ug/kg	14.3	4.6	SW846 8081B
2012_9	PCB/Pesticide	Aroclor-1016	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2012_9	PCB/Pesticide	Aroclor-1221	0.055	U	mg/kg	0.055	0.005	SW846 8082A
2012_9	PCB/Pesticide	Aroclor-1232	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2012_9	PCB/Pesticide	Aroclor-1242	0.055	U	mg/kg	0.055	0.015	SW846 8082A
2012_9	PCB/Pesticide	Aroclor-1248	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2012_9	PCB/Pesticide	Aroclor-1254	0.029	J	mg/kg	0.055	0.01	SW846 8082A
2012_9	PCB/Pesticide	Aroclor-1260	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2012_9	PCB/Pesticide	Dibenzofuran	175	U	ug/kg	175	19.2	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2012_9	PCB/Pesticide	Dieldrin	27.7	U	ug/kg	27.7	3.2	SW846 8081B
2012_9	PCB/Pesticide	Endosulfan I	14.3	U	ug/kg	14.3	1.8	SW846 8081B
2012_9	PCB/Pesticide	Endosulfan II	27.7	U	ug/kg	27.7	5.8	SW846 8081B
2012_9	PCB/Pesticide	Endosulfan Sulfate	27.7	U	ug/kg	27.7	1.8	SW846 8081B
2012_9	PCB/Pesticide	Endrin	27.7	U	ug/kg	27.7	2	SW846 8081B
2012_9	PCB/Pesticide	Heptachlor	14.3	U	ug/kg	14.3	1.4	SW846 8081B
2012_9	PCB/Pesticide	Total Polychlorinated Biphenyl	0.055	U	mg/kg	0.055	0.055	SW846 8082A
2012_9	PCB/Pesticide	alpha-BHC	14.3	U	ug/kg	14.3	1.3	SW846 8081B
2012_9	PCB/Pesticide	alpha-Chlordane	14.3	U	ug/kg	14.3	1.5	SW846 8081B
2012_9	PCB/Pesticide	beta-BHC	14.3	U	ug/kg	14.3	1.5	SW846 8081B
2012_9	PCB/Pesticide	delta-BHC	14.3	U	ug/kg	14.3	1.1	SW846 8081B
2012_9	PCB/Pesticide	gamma-BHC	14.3	U	ug/kg	14.3	1.2	SW846 8081B
2012_9	Semivolatile	Acenaphthene	175	U	ug/kg	175	26.2	SW846 8270D
2012_9	Semivolatile	Acenaphthylene	52.9	J	ug/kg	175	19.2	SW846 8270D
2012_9	Semivolatile	Anthracene	119	J	ug/kg	175	17.5	SW846 8270D
2012_9	Semivolatile	Benzo(a)anthracene	211		ug/kg	175	26.2	SW846 8270D
2012_9	Semivolatile	Benzo(a)pyrene	237		ug/kg	175	27.9	SW846 8270D
2012_9	Semivolatile	Benzo(b)fluoranthene	303		ug/kg	175	41.9	SW846 8270D
2012_9	Semivolatile	Benzo(g,h,i)perylene	151	J	ug/kg	175	36.7	SW846 8270D
2012_9	Semivolatile	Benzo(k)fluoranthene	115	J	ug/kg	175	33.2	SW846 8270D
2012_9	Semivolatile	Chrysene	218		ug/kg	175	22.7	SW846 8270D
2012_9	Semivolatile	Dibenzo(a,h)anthracene	175	U	ug/kg	175	20.9	SW846 8270D
2012_9	Semivolatile	Fluoranthene	327		ug/kg	175	33.2	SW846 8270D
2012_9	Semivolatile	Fluorene	175	U	ug/kg	175	34.9	SW846 8270D
2012_9	Semivolatile	Indeno(1,2,3-cd)pyrene	176		ug/kg	175	31.4	SW846 8270D
2012_9	Semivolatile	Naphthalene	175	U	ug/kg	175	41.9	SW846 8270D
2012_9	Semivolatile	Pentachlorophenol	349	U	ug/kg	349	62.8	SW846 8270D
2012_9	Semivolatile	Phenanthrene	116	J	ug/kg	175	24.4	SW846 8270D
2012_9	Semivolatile	Phenol	471	U	ug/kg	471	26.2	SW846 8270D
2012_9	Semivolatile	Pyrene	305		ug/kg	175	31.4	SW846 8270D
2012_9	Semivolatile	mp-Cresol	471	U	ug/kg	471	26.2	SW846 8270D
2012_9	Semivolatile	o-Cresol	471	U	ug/kg	471	38.4	SW846 8270D
2012_9	Volatile	1,1,1-Trichloroethane	3.3	U	ug/kg	3.3	1	SW846 8260C
2012_9	Volatile	1,1-Dichloroethane	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	1,1-Dichloroethene	3.3	U	ug/kg	3.3	0.87	SW846 8260C
2012_9	Volatile	1,2,4-Trimethylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2012_9	Volatile	1,2-Dichlorobenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	1,2-Dichloroethane	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	1,3,5-Trimethylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	1,3-Dichlorobenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	1,4-Dichlorobenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	1,4-Dioxane	125	U	ug/kg	125	29.7	SW846 8260C
2012_9	Volatile	2-Butanone	16.7	U	ug/kg	16.7	5.3	SW846 8260C
2012_9	Volatile	Acetone	10.5	J	ug/kg	16.7	7.7	SW846 8260C
2012_9	Volatile	Benzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	Carbon Tetrachloride	3.3	U	ug/kg	3.3	0.85	SW846 8260C
2012_9	Volatile	Chlorobenzene	3.3	U	ug/kg	3.3	0.85	SW846 8260C
2012_9	Volatile	Chloroform	3.3	U	ug/kg	3.3	0.88	SW846 8260C
2012_9	Volatile	Ethylbenzene	3.3	U	ug/kg	3.3	1.1	SW846 8260C
2012_9	Volatile	Hexachlorobenzene	175	U	ug/kg	175	33.2	SW846 8270D
2012_9	Volatile	Methyl t-Butyl Ether	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	Methylene Chloride	32.6		ug/kg	3.3	1.3	SW846 8260C
2012_9	Volatile	Tetrachloroethene	3.3	U	ug/kg	3.3	1	SW846 8260C
2012_9	Volatile	Toluene	3.3	U	ug/kg	3.3	1.1	SW846 8260C
2012_9	Volatile	Total Xylenes	10	U	ug/kg	10	2.3	SW846 8260C
2012_9	Volatile	Trichloroethene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	Vinyl Chloride	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	cis-1,2-Dichloroethene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	n-Butylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	n-Propylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	sec-Butylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2012_9	Volatile	tert-Butylbenzene	3.3	U	ug/kg	3.3	0.92	SW846 8260C
2012_9	Volatile	trans-1,2-Dichloroethene	3.3	U	ug/kg	3.3	0.87	SW846 8260C
2013_28	Metal	Arsenic, Total	4.9		mg/kg	2.4	0.8	SW846 6020A
2013_28	Metal	Barium, Total	18.3		mg/kg	4	1.3	SW846 6020A
2013_28	Metal	Beryllium, Total	0.3	J	mg/kg	0.8	0.26	SW846 6020A
2013_28	Metal	Cadmium, Total	0.48	J	mg/kg	0.8	0.26	SW846 6020A
2013_28	Metal	Chromium, Total	18.4		mg/kg	1.6	0.53	SW846 6020A
2013_28	Metal	Copper, Total	32.8		mg/kg	4	1.3	SW846 6020A
2013_28	Metal	Cyanide, Total	0.43	U	mg/kg	0.43	0.15	SW846 9012B
2013_28	Metal	Hexavalent Chromium	3.4	U	mg/kg	3.4	0.65	SW846 7196A
2013_28	Metal	Lead, Total	33.6		mg/kg	1.6	0.53	SW846 6020A
2013_28	Metal	Manganese, Total	119		mg/kg	4	1.3	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2013_28	Metal	Mercury, Total	0.36		mg/kg	0.085	0.027	SW846 7471B
2013_28	Metal	Nickel, Total	9.7		mg/kg	4	1.3	SW846 6020A
2013_28	Metal	Selenium, Total	4	U	mg/kg	4	1.3	SW846 6020A
2013_28	Metal	Silver, Total	1.6	U	mg/kg	1.6	0.53	SW846 6020A
2013_28	Metal	Trivalent Chromium	18.4		mg/kg	3.4	3.4	Calculation
2013_28	Metal	Zinc, Total	85.3		mg/kg	4	1.3	SW846 6020A
2013_28	Other	Moisture	40.9		%	0.1	0.01	S2540G-11
2013_28	Other	Total Solids	59.1		%	0.1	0.01	S2540G-11
2013_28	PCB/Pesticide	2,4,5-TP	111	U	ug/kg	111	51.4	SW846 8151A
2013_28	PCB/Pesticide	4,4'-DDD	27.4	U	ug/kg	27.4	2.2	SW846 8081B
2013_28	PCB/Pesticide	4,4'-DDE	27.4	U	ug/kg	27.4	3.7	SW846 8081B
2013_28	PCB/Pesticide	4,4'-DDT	27.4	U	ug/kg	27.4	3.2	SW846 8081B
2013_28	PCB/Pesticide	Aldrin	14.1	U	ug/kg	14.1	4.6	SW846 8081B
2013_28	PCB/Pesticide	Aroclor-1016	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2013_28	PCB/Pesticide	Aroclor-1221	0.055	U	mg/kg	0.055	0.005	SW846 8082A
2013_28	PCB/Pesticide	Aroclor-1232	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2013_28	PCB/Pesticide	Aroclor-1242	0.055	U	mg/kg	0.055	0.015	SW846 8082A
2013_28	PCB/Pesticide	Aroclor-1248	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2013_28	PCB/Pesticide	Aroclor-1254	0.024	J	mg/kg	0.055	0.01	SW846 8082A
2013_28	PCB/Pesticide	Aroclor-1260	0.055	U	mg/kg	0.055	0.01	SW846 8082A
2013_28	PCB/Pesticide	Dibenzofuran	164	U	ug/kg	164	18	SW846 8270D
2013_28	PCB/Pesticide	Dieldrin	27.4	U	ug/kg	27.4	3.2	SW846 8081B
2013_28	PCB/Pesticide	Endosulfan I	14.1	U	ug/kg	14.1	1.7	SW846 8081B
2013_28	PCB/Pesticide	Endosulfan II	27.4	U	ug/kg	27.4	5.7	SW846 8081B
2013_28	PCB/Pesticide	Endosulfan Sulfate	27.4	U	ug/kg	27.4	1.8	SW846 8081B
2013_28	PCB/Pesticide	Endrin	27.4	U	ug/kg	27.4	2	SW846 8081B
2013_28	PCB/Pesticide	Heptachlor	14.1	U	ug/kg	14.1	1.4	SW846 8081B
2013_28	PCB/Pesticide	Total Polychlorinated Biphenyl	0.055	U	mg/kg	0.055	0.055	SW846 8082A
2013_28	PCB/Pesticide	alpha-BHC	14.1	U	ug/kg	14.1	1.2	SW846 8081B
2013_28	PCB/Pesticide	alpha-Chlordane	14.1	U	ug/kg	14.1	1.5	SW846 8081B
2013_28	PCB/Pesticide	beta-BHC	14.1	U	ug/kg	14.1	1.5	SW846 8081B
2013_28	PCB/Pesticide	delta-BHC	14.1	U	ug/kg	14.1	1.1	SW846 8081B
2013_28	PCB/Pesticide	gamma-BHC	14.1	U	ug/kg	14.1	1.2	SW846 8081B
2013_28	Semivolatile	Acenaphthene	164	U	ug/kg	164	24.6	SW846 8270D
2013_28	Semivolatile	Acenaphthylene	45	J	ug/kg	164	18	SW846 8270D
2013_28	Semivolatile	Anthracene	84.7	J	ug/kg	164	16.4	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2013_28	Semivolatile	Benzo(a)anthracene	316		ug/kg	164	24.6	SW846 8270D
2013_28	Semivolatile	Benzo(a)pyrene	348		ug/kg	164	26.2	SW846 8270D
2013_28	Semivolatile	Benzo(b)fluoranthene	454		ug/kg	164	39.3	SW846 8270D
2013_28	Semivolatile	Benzo(g,h,i)perylene	234		ug/kg	164	34.4	SW846 8270D
2013_28	Semivolatile	Benzo(k)fluoranthene	164	U	ug/kg	164	31.1	SW846 8270D
2013_28	Semivolatile	Chrysene	334		ug/kg	164	21.3	SW846 8270D
2013_28	Semivolatile	Dibenzo(a,h)anthracene	64.7	J	ug/kg	164	19.6	SW846 8270D
2013_28	Semivolatile	Fluoranthene	602		ug/kg	164	31.1	SW846 8270D
2013_28	Semivolatile	Fluorene	164	U	ug/kg	164	32.7	SW846 8270D
2013_28	Semivolatile	Indeno(1,2,3-cd)pyrene	274		ug/kg	164	29.5	SW846 8270D
2013_28	Semivolatile	Naphthalene	164	U	ug/kg	164	39.3	SW846 8270D
2013_28	Semivolatile	Pentachlorophenol	327	U	ug/kg	327	58.9	SW846 8270D
2013_28	Semivolatile	Phenanthrene	258		ug/kg	164	22.9	SW846 8270D
2013_28	Semivolatile	Phenol	442	U	ug/kg	442	24.6	SW846 8270D
2013_28	Semivolatile	Pyrene	488		ug/kg	164	29.5	SW846 8270D
2013_28	Semivolatile	mp-Cresol	442	U	ug/kg	442	24.6	SW846 8270D
2013_28	Semivolatile	o-Cresol	442	U	ug/kg	442	36	SW846 8270D
2013_28	Volatile	1,1,1-Trichloroethane	3.3	U	ug/kg	3.3	1	SW846 8260C
2013_28	Volatile	1,1-Dichloroethane	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	1,1-Dichloroethene	3.3	U	ug/kg	3.3	0.87	SW846 8260C
2013_28	Volatile	1,2,4-Trimethylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	1,2-Dichlorobenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	1,2-Dichloroethane	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	1,3,5-Trimethylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	1,3-Dichlorobenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	1,4-Dichlorobenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	1,4-Dioxane	125	U	ug/kg	125	29.7	SW846 8260C
2013_28	Volatile	2-Butanone	16.7	U	ug/kg	16.7	5.3	SW846 8260C
2013_28	Volatile	Acetone	16.7	U	ug/kg	16.7	7.7	SW846 8260C
2013_28	Volatile	Benzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	Carbon Tetrachloride	3.3	U	ug/kg	3.3	0.85	SW846 8260C
2013_28	Volatile	Chlorobenzene	3.3	U	ug/kg	3.3	0.85	SW846 8260C
2013_28	Volatile	Chloroform	3.3	U	ug/kg	3.3	0.88	SW846 8260C
2013_28	Volatile	Ethylbenzene	3.3	U	ug/kg	3.3	1.1	SW846 8260C
2013_28	Volatile	Hexachlorobenzene	164	U	ug/kg	164	31.1	SW846 8270D
2013_28	Volatile	Methyl t-Butyl Ether	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	Methylene Chloride	29.5		ug/kg	3.3	1.3	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2013_28	Volatile	Tetrachloroethene	3.3	U	ug/kg	3.3	1	SW846 8260C
2013_28	Volatile	Toluene	3.3	U	ug/kg	3.3	1.1	SW846 8260C
2013_28	Volatile	Total Xylenes	10	U	ug/kg	10	2.3	SW846 8260C
2013_28	Volatile	Trichloroethene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	Vinyl Chloride	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	cis-1,2-Dichloroethene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	n-Butylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	n-Propylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	sec-Butylbenzene	3.3	U	ug/kg	3.3	0.83	SW846 8260C
2013_28	Volatile	tert-Butylbenzene	3.3	U	ug/kg	3.3	0.92	SW846 8260C
2013_28	Volatile	trans-1,2-Dichloroethene	3.3	U	ug/kg	3.3	0.87	SW846 8260C
2014_19	Metal	Arsenic, Total	15.5		mg/kg	2.3	0.78	SW846 6020A
2014_19	Metal	Barium, Total	20.6		mg/kg	3.9	1.3	SW846 6020A
2014_19	Metal	Beryllium, Total	0.38	J	mg/kg	0.78	0.26	SW846 6020A
2014_19	Metal	Cadmium, Total	1		mg/kg	0.78	0.26	SW846 6020A
2014_19	Metal	Chromium, Total	28.5		mg/kg	1.6	0.52	SW846 6020A
2014_19	Metal	Copper, Total	56.8		mg/kg	3.9	1.3	SW846 6020A
2014_19	Metal	Cyanide, Total	0.4	U	mg/kg	0.4	0.14	SW846 9012B
2014_19	Metal	Hexavalent Chromium	3.2	U	mg/kg	3.2	0.62	SW846 7196A
2014_19	Metal	Lead, Total	54		mg/kg	1.6	0.52	SW846 6020A
2014_19	Metal	Manganese, Total	200		mg/kg	3.9	1.3	SW846 6020A
2014_19	Metal	Mercury, Total	0.46		mg/kg	0.073	0.023	SW846 7471B
2014_19	Metal	Nickel, Total	14.7		mg/kg	3.9	1.3	SW846 6020A
2014_19	Metal	Selenium, Total	1.3	J	mg/kg	3.9	1.3	SW846 6020A
2014_19	Metal	Silver, Total	0.83	J	mg/kg	1.6	0.52	SW846 6020A
2014_19	Metal	Trivalent Chromium	28.5		mg/kg	3.3	3.3	Calculation
2014_19	Metal	Zinc, Total	136		mg/kg	3.9	1.3	SW846 6020A
2014_19	Other	Moisture	38.6		%	0.1	0.01	S2540G-11
2014_19	Other	Total Solids	61.4		%	0.1	0.01	S2540G-11
2014_19	PCB/Pesticide	2,4,5-TP	109	U	ug/kg	109	50.5	SW846 8151A
2014_19	PCB/Pesticide	4,4'-DDD	25.5	U	ug/kg	25.5	2.1	SW846 8081B
2014_19	PCB/Pesticide	4,4'-DDE	25.5	U	ug/kg	25.5	3.5	SW846 8081B
2014_19	PCB/Pesticide	4,4'-DDT	25.5	U	ug/kg	25.5	2.9	SW846 8081B
2014_19	PCB/Pesticide	Aldrin	13.1	U	ug/kg	13.1	4.2	SW846 8081B
2014_19	PCB/Pesticide	Aroclor-1016	0.051	U	mg/kg	0.051	0.0093	SW846 8082A
2014_19	PCB/Pesticide	Aroclor-1221	0.051	U	mg/kg	0.051	0.0046	SW846 8082A
2014_19	PCB/Pesticide	Aroclor-1232	0.051	U	mg/kg	0.051	0.0093	SW846 8082A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2014_19	PCB/Pesticide	Aroclor-1242	0.051	U	mg/kg	0.051	0.014	SW846 8082A
2014_19	PCB/Pesticide	Aroclor-1248	0.051	U	mg/kg	0.051	0.0093	SW846 8082A
2014_19	PCB/Pesticide	Aroclor-1254	0.024	J	mg/kg	0.051	0.0093	SW846 8082A
2014_19	PCB/Pesticide	Aroclor-1260	0.051	U	mg/kg	0.051	0.0093	SW846 8082A
2014_19	PCB/Pesticide	Dibenzofuran	161	U	ug/kg	161	17.7	SW846 8270D
2014_19	PCB/Pesticide	Dieldrin	25.5	U	ug/kg	25.5	2.9	SW846 8081B
2014_19	PCB/Pesticide	Endosulfan I	13.1	U	ug/kg	13.1	1.6	SW846 8081B
2014_19	PCB/Pesticide	Endosulfan II	25.5	U	ug/kg	25.5	5.3	SW846 8081B
2014_19	PCB/Pesticide	Endosulfan Sulfate	25.5	U	ug/kg	25.5	1.7	SW846 8081B
2014_19	PCB/Pesticide	Endrin	25.5	U	ug/kg	25.5	1.9	SW846 8081B
2014_19	PCB/Pesticide	Heptachlor	13.1	U	ug/kg	13.1	1.3	SW846 8081B
2014_19	PCB/Pesticide	Total Polychlorinated Biphenyl	0.051	U	mg/kg	0.051	0.051	SW846 8082A
2014_19	PCB/Pesticide	alpha-BHC	13.1	U	ug/kg	13.1	1.2	SW846 8081B
2014_19	PCB/Pesticide	alpha-Chlordane	13.1	U	ug/kg	13.1	1.4	SW846 8081B
2014_19	PCB/Pesticide	beta-BHC	13.1	U	ug/kg	13.1	1.4	SW846 8081B
2014_19	PCB/Pesticide	delta-BHC	13.1	U	ug/kg	13.1	1	SW846 8081B
2014_19	PCB/Pesticide	gamma-BHC	13.1	U	ug/kg	13.1	1.1	SW846 8081B
2014_19	Semivolatile	Acenaphthene	161	U	ug/kg	161	24.1	SW846 8270D
2014_19	Semivolatile	Acenaphthylene	161	U	ug/kg	161	17.7	SW846 8270D
2014_19	Semivolatile	Anthracene	84.4	J	ug/kg	161	16.1	SW846 8270D
2014_19	Semivolatile	Benzo(a)anthracene	142	J	ug/kg	161	24.1	SW846 8270D
2014_19	Semivolatile	Benzo(a)pyrene	177		ug/kg	161	25.7	SW846 8270D
2014_19	Semivolatile	Benzo(b)fluoranthene	203		ug/kg	161	38.5	SW846 8270D
2014_19	Semivolatile	Benzo(g,h,i)perylene	108	J	ug/kg	161	33.7	SW846 8270D
2014_19	Semivolatile	Benzo(k)fluoranthene	84.9	J	ug/kg	161	30.5	SW846 8270D
2014_19	Semivolatile	Chrysene	124	J	ug/kg	161	20.9	SW846 8270D
2014_19	Semivolatile	Dibenzo(a,h)anthracene	161	U	ug/kg	161	19.3	SW846 8270D
2014_19	Semivolatile	Fluoranthene	219		ug/kg	161	30.5	SW846 8270D
2014_19	Semivolatile	Fluorene	161	U	ug/kg	161	32.1	SW846 8270D
2014_19	Semivolatile	Indeno(1,2,3-cd)pyrene	115	J	ug/kg	161	28.9	SW846 8270D
2014_19	Semivolatile	Naphthalene	161	U	ug/kg	161	38.5	SW846 8270D
2014_19	Semivolatile	Pentachlorophenol	321	U	ug/kg	321	57.8	SW846 8270D
2014_19	Semivolatile	Phenanthrene	83.4	J	ug/kg	161	22.5	SW846 8270D
2014_19	Semivolatile	Phenol	434	U	ug/kg	434	24.1	SW846 8270D
2014_19	Semivolatile	Pyrene	237		ug/kg	161	28.9	SW846 8270D
2014_19	Semivolatile	mp-Cresol	434	U	ug/kg	434	24.1	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2014_19	Semivolatile	o-Cresol	434	U	ug/kg	434	35.3	SW846 8270D
2014_19	Volatile	1,1,1-Trichloroethane	3.1	U	ug/kg	3.1	0.97	SW846 8260C
2014_19	Volatile	1,1-Dichloroethane	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	1,1-Dichloroethene	3.1	U	ug/kg	3.1	0.82	SW846 8260C
2014_19	Volatile	1,2,4-Trimethylbenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	1,2-Dichlorobenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	1,2-Dichloroethane	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	1,3,5-Trimethylbenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	1,3-Dichlorobenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	1,4-Dichlorobenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	1,4-Dioxane	118	U	ug/kg	118	28	SW846 8260C
2014_19	Volatile	2-Butanone	15.7	U	ug/kg	15.7	5	SW846 8260C
2014_19	Volatile	Acetone	11.9	J	ug/kg	15.7	7.2	SW846 8260C
2014_19	Volatile	Benzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	Carbon Tetrachloride	3.1	U	ug/kg	3.1	0.8	SW846 8260C
2014_19	Volatile	Chlorobenzene	3.1	U	ug/kg	3.1	0.8	SW846 8260C
2014_19	Volatile	Chloroform	3.1	U	ug/kg	3.1	0.83	SW846 8260C
2014_19	Volatile	Ethylbenzene	3.1	U	ug/kg	3.1	1.1	SW846 8260C
2014_19	Volatile	Hexachlorobenzene	161	U	ug/kg	161	30.5	SW846 8270D
2014_19	Volatile	Methyl t-Butyl Ether	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	Methylene Chloride	29.8		ug/kg	3.1	1.2	SW846 8260C
2014_19	Volatile	Tetrachloroethene	3.1	U	ug/kg	3.1	0.94	SW846 8260C
2014_19	Volatile	Toluene	3.1	U	ug/kg	3.1	1.1	SW846 8260C
2014_19	Volatile	Total Xylenes	9.4	U	ug/kg	9.4	2.2	SW846 8260C
2014_19	Volatile	Trichloroethene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	Vinyl Chloride	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	cis-1,2-Dichloroethene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	n-Butylbenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	n-Propylbenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	sec-Butylbenzene	3.1	U	ug/kg	3.1	0.79	SW846 8260C
2014_19	Volatile	tert-Butylbenzene	3.1	U	ug/kg	3.1	0.86	SW846 8260C
2014_19	Volatile	trans-1,2-Dichloroethene	3.1	U	ug/kg	3.1	0.82	SW846 8260C
2071_12	Metal	Arsenic, Total	4.2		mg/kg	2.4	0.79	SW846 6020A
2071_12	Metal	Barium, Total	16.6		mg/kg	3.9	1.3	SW846 6020A
2071_12	Metal	Beryllium, Total	0.27	J	mg/kg	0.79	0.26	SW846 6020A
2071_12	Metal	Cadmium, Total	0.44	J	mg/kg	0.79	0.26	SW846 6020A
2071_12	Metal	Chromium, Total	16.2		mg/kg	1.6	0.52	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2071_12	Metal	Copper, Total	27.6		mg/kg	3.9	1.3	SW846 6020A
2071_12	Metal	Cyanide, Total	0.43	U	mg/kg	0.43	0.15	SW846 9012B
2071_12	Metal	Hexavalent Chromium	3.4	U	mg/kg	3.4	0.65	SW846 7196A
2071_12	Metal	Lead, Total	30.6		mg/kg	1.6	0.52	SW846 6020A
2071_12	Metal	Manganese, Total	111		mg/kg	3.9	1.3	SW846 6020A
2071_12	Metal	Mercury, Total	0.38		mg/kg	0.077	0.025	SW846 7471B
2071_12	Metal	Nickel, Total	8.5		mg/kg	3.9	1.3	SW846 6020A
2071_12	Metal	Selenium, Total	3.9	U	mg/kg	3.9	1.3	SW846 6020A
2071_12	Metal	Silver, Total	1.6	U	mg/kg	1.6	0.52	SW846 6020A
2071_12	Metal	Trivalent Chromium	16.2		mg/kg	3.5	3.5	Calculation
2071_12	Metal	Zinc, Total	79		mg/kg	3.9	1.3	SW846 6020A
2071_12	Other	Moisture	42.2		%	0.1	0.01	S2540G-11
2071_12	Other	Total Solids	57.8		%	0.1	0.01	S2540G-11
2071_12	PCB/Pesticide	2,4,5-TP	112	U	ug/kg	112	51.8	SW846 8151A
2071_12	PCB/Pesticide	4,4'-DDD	26.9	U	ug/kg	26.9	2.2	SW846 8081B
2071_12	PCB/Pesticide	4,4'-DDE	26.9	U	ug/kg	26.9	3.7	SW846 8081B
2071_12	PCB/Pesticide	4,4'-DDT	26.9	U	ug/kg	26.9	3.1	SW846 8081B
2071_12	PCB/Pesticide	Aldrin	13.9	U	ug/kg	13.9	4.5	SW846 8081B
2071_12	PCB/Pesticide	Aroclor-1016	0.054	U	mg/kg	0.054	0.0098	SW846 8082A
2071_12	PCB/Pesticide	Aroclor-1221	0.054	U	mg/kg	0.054	0.0049	SW846 8082A
2071_12	PCB/Pesticide	Aroclor-1232	0.054	U	mg/kg	0.054	0.0098	SW846 8082A
2071_12	PCB/Pesticide	Aroclor-1242	0.054	U	mg/kg	0.054	0.015	SW846 8082A
2071_12	PCB/Pesticide	Aroclor-1248	0.054	U	mg/kg	0.054	0.0098	SW846 8082A
2071_12	PCB/Pesticide	Aroclor-1254	0.021	J	mg/kg	0.054	0.0098	SW846 8082A
2071_12	PCB/Pesticide	Aroclor-1260	0.054	U	mg/kg	0.054	0.0098	SW846 8082A
2071_12	PCB/Pesticide	Dibenzofuran	171	U	ug/kg	171	18.8	SW846 8270D
2071_12	PCB/Pesticide	Dieldrin	26.9	U	ug/kg	26.9	3.1	SW846 8081B
2071_12	PCB/Pesticide	Endosulfan I	13.9	U	ug/kg	13.9	1.7	SW846 8081B
2071_12	PCB/Pesticide	Endosulfan II	26.9	U	ug/kg	26.9	5.6	SW846 8081B
2071_12	PCB/Pesticide	Endosulfan Sulfate	26.9	U	ug/kg	26.9	1.8	SW846 8081B
2071_12	PCB/Pesticide	Endrin	26.9	U	ug/kg	26.9	2	SW846 8081B
2071_12	PCB/Pesticide	Heptachlor	13.9	U	ug/kg	13.9	1.4	SW846 8081B
2071_12	PCB/Pesticide	Total Polychlorinated Biphenyl	0.054	U	mg/kg	0.054	0.054	SW846 8082A
2071_12	PCB/Pesticide	alpha-BHC	13.9	U	ug/kg	13.9	1.2	SW846 8081B
2071_12	PCB/Pesticide	alpha-Chlordane	13.9	U	ug/kg	13.9	1.5	SW846 8081B
2071_12	PCB/Pesticide	beta-BHC	13.9	U	ug/kg	13.9	1.5	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2071_12	PCB/Pesticide	delta-BHC	13.9	U	ug/kg	13.9	1.1	SW846 8081B
2071_12	PCB/Pesticide	gamma-BHC	13.9	U	ug/kg	13.9	1.1	SW846 8081B
2071_12	Semivolatile	Acenaphthene	171	U	ug/kg	171	25.6	SW846 8270D
2071_12	Semivolatile	Acenaphthylene	171	U	ug/kg	171	18.8	SW846 8270D
2071_12	Semivolatile	Anthracene	115	J	ug/kg	171	17.1	SW846 8270D
2071_12	Semivolatile	Benzo(a)anthracene	143	J	ug/kg	171	25.6	SW846 8270D
2071_12	Semivolatile	Benzo(a)pyrene	162	J	ug/kg	171	27.3	SW846 8270D
2071_12	Semivolatile	Benzo(b)fluoranthene	215		ug/kg	171	41	SW846 8270D
2071_12	Semivolatile	Benzo(g,h,i)perylene	112	J	ug/kg	171	35.9	SW846 8270D
2071_12	Semivolatile	Benzo(k)fluoranthene	171	U	ug/kg	171	32.5	SW846 8270D
2071_12	Semivolatile	Chrysene	154	J	ug/kg	171	22.2	SW846 8270D
2071_12	Semivolatile	Dibenzo(a,h)anthracene	171	U	ug/kg	171	20.5	SW846 8270D
2071_12	Semivolatile	Fluoranthene	247		ug/kg	171	32.5	SW846 8270D
2071_12	Semivolatile	Fluorene	171	U	ug/kg	171	34.2	SW846 8270D
2071_12	Semivolatile	Indeno(1,2,3-cd)pyrene	120	J	ug/kg	171	30.8	SW846 8270D
2071_12	Semivolatile	Naphthalene	171	U	ug/kg	171	41	SW846 8270D
2071_12	Semivolatile	Pentachlorophenol	342	U	ug/kg	342	61.5	SW846 8270D
2071_12	Semivolatile	Phenanthrene	113	J	ug/kg	171	23.9	SW846 8270D
2071_12	Semivolatile	Phenol	461	U	ug/kg	461	25.6	SW846 8270D
2071_12	Semivolatile	Pyrene	230		ug/kg	171	30.8	SW846 8270D
2071_12	Semivolatile	mp-Cresol	461	U	ug/kg	461	25.6	SW846 8270D
2071_12	Semivolatile	o-Cresol	461	U	ug/kg	461	37.6	SW846 8270D
2071_12	Volatile	1,1,1-Trichloroethane	3	U	ug/kg	3	0.92	SW846 8260C
2071_12	Volatile	1,1-Dichloroethane	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	1,1-Dichloroethene	3	U	ug/kg	3	0.77	SW846 8260C
2071_12	Volatile	1,2,4-Trimethylbenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	1,2-Dichlorobenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	1,2-Dichloroethane	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	1,3,5-Trimethylbenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	1,3-Dichlorobenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	1,4-Dichlorobenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	1,4-Dioxane	112	U	ug/kg	112	26.5	SW846 8260C
2071_12	Volatile	2-Butanone	14.9	U	ug/kg	14.9	4.8	SW846 8260C
2071_12	Volatile	Acetone	15.3		ug/kg	14.9	6.8	SW846 8260C
2071_12	Volatile	Benzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	Carbon Tetrachloride	3	U	ug/kg	3	0.76	SW846 8260C
2071_12	Volatile	Chlorobenzene	3	U	ug/kg	3	0.76	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2071_12	Volatile	Chloroform	3	U	ug/kg	3	0.79	SW846 8260C
2071_12	Volatile	Ethylbenzene	3	U	ug/kg	3	1	SW846 8260C
2071_12	Volatile	Hexachlorobenzene	171	U	ug/kg	171	32.5	SW846 8270D
2071_12	Volatile	Methyl t-Butyl Ether	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	Methylene Chloride	24.5		ug/kg	3	1.2	SW846 8260C
2071_12	Volatile	Tetrachloroethene	3	U	ug/kg	3	0.89	SW846 8260C
2071_12	Volatile	Toluene	3	U	ug/kg	3	1	SW846 8260C
2071_12	Volatile	Total Xylenes	8.9	U	ug/kg	8.9	2.1	SW846 8260C
2071_12	Volatile	Trichloroethene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	Vinyl Chloride	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	cis-1,2-Dichloroethene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	n-Butylbenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	n-Propylbenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	sec-Butylbenzene	3	U	ug/kg	3	0.74	SW846 8260C
2071_12	Volatile	tert-Butylbenzene	3	U	ug/kg	3	0.82	SW846 8260C
2071_12	Volatile	trans-1,2-Dichloroethene	3	U	ug/kg	3	0.77	SW846 8260C
2146_25	Metal	Arsenic, Total	3.3		mg/kg	1.8	0.61	SW846 6020A
2146_25	Metal	Barium, Total	5.1		mg/kg	3	0.97	SW846 6020A
2146_25	Metal	Beryllium, Total	0.28	J	mg/kg	0.61	0.2	SW846 6020A
2146_25	Metal	Cadmium, Total	0.61	U	mg/kg	0.61	0.2	SW846 6020A
2146_25	Metal	Chromium, Total	11.2		mg/kg	1.2	0.4	SW846 6020A
2146_25	Metal	Copper, Total	11.3		mg/kg	3	0.97	SW846 6020A
2146_25	Metal	Cyanide, Total	0.34	U	mg/kg	0.34	0.12	SW846 9012B
2146_25	Metal	Hexavalent Chromium	2.7	U	mg/kg	2.7	0.51	SW846 7196A
2146_25	Metal	Lead, Total	8.8		mg/kg	1.2	0.4	SW846 6020A
2146_25	Metal	Manganese, Total	130		mg/kg	3	0.97	SW846 6020A
2146_25	Metal	Mercury, Total	0.027	J	mg/kg	0.067	0.021	SW846 7471B
2146_25	Metal	Nickel, Total	9.7		mg/kg	3	0.97	SW846 6020A
2146_25	Metal	Selenium, Total	1.1	J	mg/kg	3	0.97	SW846 6020A
2146_25	Metal	Silver, Total	1.2	U	mg/kg	1.2	0.4	SW846 6020A
2146_25	Metal	Trivalent Chromium	11.2		mg/kg	2.7	2.7	Calculation
2146_25	Metal	Zinc, Total	37.1		mg/kg	3	0.97	SW846 6020A
2146_25	Other	Moisture	25		%	0.1	0.01	S2540G-11
2146_25	Other	Total Solids	75		%	0.1	0.01	S2540G-11
2146_25	PCB/Pesticide	2,4,5-TP	87.5	U	ug/kg	87.5	40.5	SW846 8151A
2146_25	PCB/Pesticide	4,4'-DDD	21.4	U	ug/kg	21.4	1.8	SW846 8081B
2146_25	PCB/Pesticide	4,4'-DDE	21.4	U	ug/kg	21.4	2.9	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2146_25	PCB/Pesticide	4,4'-DDT	21.4	U	ug/kg	21.4	2.5	SW846 8081B
2146_25	PCB/Pesticide	Aldrin	11	U	ug/kg	11	3.6	SW846 8081B
2146_25	PCB/Pesticide	Aroclor-1016	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
2146_25	PCB/Pesticide	Aroclor-1221	0.043	U	mg/kg	0.043	0.0039	SW846 8082A
2146_25	PCB/Pesticide	Aroclor-1232	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
2146_25	PCB/Pesticide	Aroclor-1242	0.043	U	mg/kg	0.043	0.012	SW846 8082A
2146_25	PCB/Pesticide	Aroclor-1248	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
2146_25	PCB/Pesticide	Aroclor-1254	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
2146_25	PCB/Pesticide	Aroclor-1260	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
2146_25	PCB/Pesticide	Dibenzofuran	133	U	ug/kg	133	14.7	SW846 8270D
2146_25	PCB/Pesticide	Dieldrin	21.4	U	ug/kg	21.4	2.5	SW846 8081B
2146_25	PCB/Pesticide	Endosulfan I	11	U	ug/kg	11	1.4	SW846 8081B
2146_25	PCB/Pesticide	Endosulfan II	21.4	U	ug/kg	21.4	4.5	SW846 8081B
2146_25	PCB/Pesticide	Endosulfan Sulfate	21.4	U	ug/kg	21.4	1.4	SW846 8081B
2146_25	PCB/Pesticide	Endrin	21.4	U	ug/kg	21.4	1.6	SW846 8081B
2146_25	PCB/Pesticide	Heptachlor	11	U	ug/kg	11	1.1	SW846 8081B
2146_25	PCB/Pesticide	Total Polychlorinated Biphenyl	0.043	U	mg/kg	0.043	0.043	SW846 8082A
2146_25	PCB/Pesticide	alpha-BHC	11	U	ug/kg	11	0.97	SW846 8081B
2146_25	PCB/Pesticide	alpha-Chlordane	11	U	ug/kg	11	1.2	SW846 8081B
2146_25	PCB/Pesticide	beta-BHC	11	U	ug/kg	11	1.2	SW846 8081B
2146_25	PCB/Pesticide	delta-BHC	11	U	ug/kg	11	0.84	SW846 8081B
2146_25	PCB/Pesticide	gamma-BHC	11	U	ug/kg	11	0.91	SW846 8081B
2146_25	Semivolatile	Acenaphthene	133	U	ug/kg	133	20	SW846 8270D
2146_25	Semivolatile	Acenaphthylene	133	U	ug/kg	133	14.7	SW846 8270D
2146_25	Semivolatile	Anthracene	133	U	ug/kg	133	13.3	SW846 8270D
2146_25	Semivolatile	Benzo(a)anthracene	133	U	ug/kg	133	20	SW846 8270D
2146_25	Semivolatile	Benzo(a)pyrene	133	U	ug/kg	133	21.3	SW846 8270D
2146_25	Semivolatile	Benzo(b)fluoranthene	133	U	ug/kg	133	32	SW846 8270D
2146_25	Semivolatile	Benzo(g,h,i)perylene	133	U	ug/kg	133	28	SW846 8270D
2146_25	Semivolatile	Benzo(k)fluoranthene	133	U	ug/kg	133	25.3	SW846 8270D
2146_25	Semivolatile	Chrysene	133	U	ug/kg	133	17.3	SW846 8270D
2146_25	Semivolatile	Dibenzo(a,h)anthracene	133	U	ug/kg	133	16	SW846 8270D
2146_25	Semivolatile	Fluoranthene	133	U	ug/kg	133	25.3	SW846 8270D
2146_25	Semivolatile	Fluorene	133	U	ug/kg	133	26.7	SW846 8270D
2146_25	Semivolatile	Indeno(1,2,3-cd)pyrene	133	U	ug/kg	133	24	SW846 8270D
2146_25	Semivolatile	Naphthalene	133	U	ug/kg	133	32	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
2146_25	Semivolatile	Pentachlorophenol	267	U	ug/kg	267	48	SW846 8270D
2146_25	Semivolatile	Phenanthrene	133	U	ug/kg	133	18.7	SW846 8270D
2146_25	Semivolatile	Phenol	360	U	ug/kg	360	20	SW846 8270D
2146_25	Semivolatile	Pyrene	133	U	ug/kg	133	24	SW846 8270D
2146_25	Semivolatile	mp-Cresol	360	U	ug/kg	360	20	SW846 8270D
2146_25	Semivolatile	o-Cresol	360	U	ug/kg	360	29.3	SW846 8270D
2146_25	Volatile	1,1,1-Trichloroethane	2.7	U	ug/kg	2.7	0.84	SW846 8260C
2146_25	Volatile	1,1-Dichloroethane	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	1,1-Dichloroethene	2.7	U	ug/kg	2.7	0.7	SW846 8260C
2146_25	Volatile	1,2,4-Trimethylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	1,2-Dichlorobenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	1,2-Dichloroethane	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	1,3,5-Trimethylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	1,3-Dichlorobenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	1,4-Dichlorobenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	1,4-Dioxane	101	U	ug/kg	101	24	SW846 8260C
2146_25	Volatile	2-Butanone	13.5	U	ug/kg	13.5	4.3	SW846 8260C
2146_25	Volatile	Acetone	13.5	U	ug/kg	13.5	6.2	SW846 8260C
2146_25	Volatile	Benzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	Carbon Tetrachloride	2.7	U	ug/kg	2.7	0.69	SW846 8260C
2146_25	Volatile	Chlorobenzene	2.7	U	ug/kg	2.7	0.69	SW846 8260C
2146_25	Volatile	Chloroform	2.7	U	ug/kg	2.7	0.71	SW846 8260C
2146_25	Volatile	Ethylbenzene	2.7	U	ug/kg	2.7	0.92	SW846 8260C
2146_25	Volatile	Hexachlorobenzene	133	U	ug/kg	133	25.3	SW846 8270D
2146_25	Volatile	Methyl t-Butyl Ether	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	Methylene Chloride	12.3		ug/kg	2.7	1.1	SW846 8260C
2146_25	Volatile	Tetrachloroethene	2.7	U	ug/kg	2.7	0.81	SW846 8260C
2146_25	Volatile	Toluene	2.7	U	ug/kg	2.7	0.9	SW846 8260C
2146_25	Volatile	Total Xylenes	8.1	U	ug/kg	8.1	1.9	SW846 8260C
2146_25	Volatile	Trichloroethene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	Vinyl Chloride	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	cis-1,2-Dichloroethene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	n-Butylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	n-Propylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	sec-Butylbenzene	2.7	U	ug/kg	2.7	0.67	SW846 8260C
2146_25	Volatile	tert-Butylbenzene	2.7	U	ug/kg	2.7	0.74	SW846 8260C
2146_25	Volatile	trans-1,2-Dichloroethene	2.7	U	ug/kg	2.7	0.7	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
654_9	Metal	Arsenic, Total	2.8		mg/kg	1.6	0.55	SW846 6020A
654_9	Metal	Barium, Total	9.5		mg/kg	2.7	0.88	SW846 6020A
654_9	Metal	Beryllium, Total	0.24	J	mg/kg	0.55	0.18	SW846 6020A
654_9	Metal	Cadmium, Total	0.55	U	mg/kg	0.55	0.18	SW846 6020A
654_9	Metal	Chromium, Total	9.6		mg/kg	1.1	0.36	SW846 6020A
654_9	Metal	Copper, Total	9.8		mg/kg	2.7	0.88	SW846 6020A
654_9	Metal	Cyanide, Total	0.31	U	mg/kg	0.31	0.11	SW846 9012B
654_9	Metal	Hexavalent Chromium	2.6	U	mg/kg	2.6	0.5	SW846 7196A
654_9	Metal	Lead, Total	10.7		mg/kg	1.1	0.36	SW846 6020A
654_9	Metal	Manganese, Total	124		mg/kg	2.7	0.88	SW846 6020A
654_9	Metal	Mercury, Total	0.037	J	mg/kg	0.062	0.02	SW846 7471B
654_9	Metal	Nickel, Total	7.5		mg/kg	2.7	0.88	SW846 6020A
654_9	Metal	Selenium, Total	2.7	U	mg/kg	2.7	0.88	SW846 6020A
654_9	Metal	Silver, Total	1.1	U	mg/kg	1.1	0.36	SW846 6020A
654_9	Metal	Trivalent Chromium	9.6		mg/kg	2.6	2.6	Calculation
654_9	Metal	Zinc, Total	38.5		mg/kg	2.7	0.88	SW846 6020A
654_9	Other	Moisture	22.6		%	0.1	0.01	S2540G-11
654_9	Other	Total Solids	77.4		%	0.1	0.01	S2540G-11
654_9	PCB/Pesticide	2,4,5-TP	83.8	U	ug/kg	83.8	38.8	SW846 8151A
654_9	PCB/Pesticide	4,4'-DDD	21.3	U	ug/kg	21.3	1.7	SW846 8081B
654_9	PCB/Pesticide	4,4'-DDE	21.3	U	ug/kg	21.3	2.9	SW846 8081B
654_9	PCB/Pesticide	4,4'-DDT	21.3	U	ug/kg	21.3	2.5	SW846 8081B
654_9	PCB/Pesticide	Aldrin	11	U	ug/kg	11	3.6	SW846 8081B
654_9	PCB/Pesticide	Aroclor-1016	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
654_9	PCB/Pesticide	Aroclor-1221	0.043	U	mg/kg	0.043	0.0039	SW846 8082A
654_9	PCB/Pesticide	Aroclor-1232	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
654_9	PCB/Pesticide	Aroclor-1242	0.043	U	mg/kg	0.043	0.012	SW846 8082A
654_9	PCB/Pesticide	Aroclor-1248	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
654_9	PCB/Pesticide	Aroclor-1254	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
654_9	PCB/Pesticide	Aroclor-1260	0.043	U	mg/kg	0.043	0.0078	SW846 8082A
654_9	PCB/Pesticide	Dibenzofuran	124	U	ug/kg	124	13.7	SW846 8270D
654_9	PCB/Pesticide	Dieldrin	21.3	U	ug/kg	21.3	2.5	SW846 8081B
654_9	PCB/Pesticide	Endosulfan I	11	U	ug/kg	11	1.4	SW846 8081B
654_9	PCB/Pesticide	Endosulfan II	21.3	U	ug/kg	21.3	4.5	SW846 8081B
654_9	PCB/Pesticide	Endosulfan Sulfate	21.3	U	ug/kg	21.3	1.4	SW846 8081B
654_9	PCB/Pesticide	Endrin	21.3	U	ug/kg	21.3	1.6	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
654_9	PCB/Pesticide	Heptachlor	11	U	ug/kg	11	1.1	SW846 8081B
654_9	PCB/Pesticide	Total Polychlorinated Biphenyl	0.043	U	mg/kg	0.043	0.043	SW846 8082A
654_9	PCB/Pesticide	alpha-BHC	11	U	ug/kg	11	0.97	SW846 8081B
654_9	PCB/Pesticide	alpha-Chlordane	11	U	ug/kg	11	1.2	SW846 8081B
654_9	PCB/Pesticide	beta-BHC	11	U	ug/kg	11	1.2	SW846 8081B
654_9	PCB/Pesticide	delta-BHC	11	U	ug/kg	11	0.84	SW846 8081B
654_9	PCB/Pesticide	gamma-BHC	11	U	ug/kg	11	0.9	SW846 8081B
654_9	Semivolatile	Acenaphthene	124	U	ug/kg	124	18.6	SW846 8270D
654_9	Semivolatile	Acenaphthylene	124	U	ug/kg	124	13.7	SW846 8270D
654_9	Semivolatile	Anthracene	124	U	ug/kg	124	12.4	SW846 8270D
654_9	Semivolatile	Benzo(a)anthracene	124	U	ug/kg	124	18.6	SW846 8270D
654_9	Semivolatile	Benzo(a)pyrene	124	U	ug/kg	124	19.9	SW846 8270D
654_9	Semivolatile	Benzo(b)fluoranthene	124	U	ug/kg	124	29.8	SW846 8270D
654_9	Semivolatile	Benzo(g,h,i)perylene	124	U	ug/kg	124	26.1	SW846 8270D
654_9	Semivolatile	Benzo(k)fluoranthene	124	U	ug/kg	124	23.6	SW846 8270D
654_9	Semivolatile	Chrysene	124	U	ug/kg	124	16.2	SW846 8270D
654_9	Semivolatile	Dibenzo(a,h)anthracene	124	U	ug/kg	124	14.9	SW846 8270D
654_9	Semivolatile	Fluoranthene	124	U	ug/kg	124	23.6	SW846 8270D
654_9	Semivolatile	Fluorene	124	U	ug/kg	124	24.9	SW846 8270D
654_9	Semivolatile	Indeno(1,2,3-cd)pyrene	124	U	ug/kg	124	22.4	SW846 8270D
654_9	Semivolatile	Naphthalene	124	U	ug/kg	124	29.8	SW846 8270D
654_9	Semivolatile	Pentachlorophenol	249	U	ug/kg	249	44.7	SW846 8270D
654_9	Semivolatile	Phenanthrene	124	U	ug/kg	124	17.4	SW846 8270D
654_9	Semivolatile	Phenol	336	U	ug/kg	336	18.6	SW846 8270D
654_9	Semivolatile	Pyrene	124	U	ug/kg	124	22.4	SW846 8270D
654_9	Semivolatile	mp-Cresol	336	U	ug/kg	336	18.6	SW846 8270D
654_9	Semivolatile	o-Cresol	336	U	ug/kg	336	27.3	SW846 8270D
654_9	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.8	SW846 8260C
654_9	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
654_9	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
654_9	Volatile	1,4-Dioxane	97	U	ug/kg	97	23	SW846 8260C
654_9	Volatile	2-Butanone	12.9	U	ug/kg	12.9	4.1	SW846 8260C
654_9	Volatile	Acetone	12.9	U	ug/kg	12.9	5.9	SW846 8260C
654_9	Volatile	Benzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
654_9	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
654_9	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.69	SW846 8260C
654_9	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.88	SW846 8260C
654_9	Volatile	Hexachlorobenzene	124	U	ug/kg	124	23.6	SW846 8270D
654_9	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	Methylene Chloride	10.9		ug/kg	2.6	1	SW846 8260C
654_9	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.78	SW846 8260C
654_9	Volatile	Toluene	2.6	U	ug/kg	2.6	0.87	SW846 8260C
654_9	Volatile	Total Xylenes	7.8	U	ug/kg	7.8	1.8	SW846 8260C
654_9	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
654_9	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.71	SW846 8260C
654_9	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
659_7	Metal	Arsenic, Total	3.5		mg/kg	1.7	0.56	SW846 6020A
659_7	Metal	Barium, Total	9		mg/kg	2.8	0.9	SW846 6020A
659_7	Metal	Beryllium, Total	0.34	J	mg/kg	0.56	0.19	SW846 6020A
659_7	Metal	Cadmium, Total	0.56	U	mg/kg	0.56	0.19	SW846 6020A
659_7	Metal	Chromium, Total	11.8		mg/kg	1.1	0.37	SW846 6020A
659_7	Metal	Copper, Total	12.9		mg/kg	2.8	0.9	SW846 6020A
659_7	Metal	Cyanide, Total	0.31	U	mg/kg	0.31	0.11	SW846 9012B
659_7	Metal	Hexavalent Chromium	2.5	U	mg/kg	2.5	0.49	SW846 7196A
659_7	Metal	Lead, Total	11.5		mg/kg	1.1	0.37	SW846 6020A
659_7	Metal	Manganese, Total	131		mg/kg	2.8	0.9	SW846 6020A
659_7	Metal	Mercury, Total	0.028	J	mg/kg	0.062	0.02	SW846 7471B
659_7	Metal	Nickel, Total	8.9		mg/kg	2.8	0.9	SW846 6020A
659_7	Metal	Selenium, Total	1.1	J	mg/kg	2.8	0.9	SW846 6020A
659_7	Metal	Silver, Total	1.1	U	mg/kg	1.1	0.37	SW846 6020A
659_7	Metal	Trivalent Chromium	11.8		mg/kg	2.6	2.6	Calculation

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
659_7	Metal	Zinc, Total	40.8		mg/kg	2.8	0.9	SW846 6020A
659_7	Other	Moisture	22.2		%	0.1	0.01	S2540G-11
659_7	Other	Total Solids	77.8		%	0.1	0.01	S2540G-11
659_7	PCB/Pesticide	2,4,5-TP	84.7	U	ug/kg	84.7	39.2	SW846 8151A
659_7	PCB/Pesticide	4,4'-DDD	20.9	U	ug/kg	20.9	1.7	SW846 8081B
659_7	PCB/Pesticide	4,4'-DDE	20.9	U	ug/kg	20.9	2.9	SW846 8081B
659_7	PCB/Pesticide	4,4'-DDT	20.9	U	ug/kg	20.9	2.4	SW846 8081B
659_7	PCB/Pesticide	Aldrin	10.8	U	ug/kg	10.8	3.5	SW846 8081B
659_7	PCB/Pesticide	Aroclor-1016	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
659_7	PCB/Pesticide	Aroclor-1221	0.042	U	mg/kg	0.042	0.0038	SW846 8082A
659_7	PCB/Pesticide	Aroclor-1232	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
659_7	PCB/Pesticide	Aroclor-1242	0.042	U	mg/kg	0.042	0.011	SW846 8082A
659_7	PCB/Pesticide	Aroclor-1248	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
659_7	PCB/Pesticide	Aroclor-1254	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
659_7	PCB/Pesticide	Aroclor-1260	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
659_7	PCB/Pesticide	Dibenzofuran	128	U	ug/kg	128	14	SW846 8270D
659_7	PCB/Pesticide	Dieldrin	20.9	U	ug/kg	20.9	2.4	SW846 8081B
659_7	PCB/Pesticide	Endosulfan I	10.8	U	ug/kg	10.8	1.3	SW846 8081B
659_7	PCB/Pesticide	Endosulfan II	20.9	U	ug/kg	20.9	4.4	SW846 8081B
659_7	PCB/Pesticide	Endosulfan Sulfate	20.9	U	ug/kg	20.9	1.4	SW846 8081B
659_7	PCB/Pesticide	Endrin	20.9	U	ug/kg	20.9	1.5	SW846 8081B
659_7	PCB/Pesticide	Heptachlor	10.8	U	ug/kg	10.8	1.1	SW846 8081B
659_7	PCB/Pesticide	Total Polychlorinated Biphenyl	0.042	U	mg/kg	0.042	0.042	SW846 8082A
659_7	PCB/Pesticide	alpha-BHC	10.8	U	ug/kg	10.8	0.95	SW846 8081B
659_7	PCB/Pesticide	alpha-Chlordane	10.8	U	ug/kg	10.8	1.1	SW846 8081B
659_7	PCB/Pesticide	beta-BHC	10.8	U	ug/kg	10.8	1.1	SW846 8081B
659_7	PCB/Pesticide	delta-BHC	10.8	U	ug/kg	10.8	0.82	SW846 8081B
659_7	PCB/Pesticide	gamma-BHC	10.8	U	ug/kg	10.8	0.89	SW846 8081B
659_7	Semivolatile	Acenaphthene	128	U	ug/kg	128	19.1	SW846 8270D
659_7	Semivolatile	Acenaphthylene	128	U	ug/kg	128	14	SW846 8270D
659_7	Semivolatile	Anthracene	128	U	ug/kg	128	12.8	SW846 8270D
659_7	Semivolatile	Benzo(a)anthracene	128	U	ug/kg	128	19.1	SW846 8270D
659_7	Semivolatile	Benzo(a)pyrene	128	U	ug/kg	128	20.4	SW846 8270D
659_7	Semivolatile	Benzo(b)fluoranthene	128	U	ug/kg	128	30.6	SW846 8270D
659_7	Semivolatile	Benzo(g,h,i)perylene	128	U	ug/kg	128	26.8	SW846 8270D
659_7	Semivolatile	Benzo(k)fluoranthene	128	U	ug/kg	128	24.3	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
659_7	Semivolatile	Chrysene	128	U	ug/kg	128	16.6	SW846 8270D
659_7	Semivolatile	Dibenzo(a,h)anthracene	128	U	ug/kg	128	15.3	SW846 8270D
659_7	Semivolatile	Fluoranthene	128	U	ug/kg	128	24.3	SW846 8270D
659_7	Semivolatile	Fluorene	128	U	ug/kg	128	25.5	SW846 8270D
659_7	Semivolatile	Indeno(1,2,3-cd)pyrene	128	U	ug/kg	128	23	SW846 8270D
659_7	Semivolatile	Naphthalene	128	U	ug/kg	128	30.6	SW846 8270D
659_7	Semivolatile	Pentachlorophenol	255	U	ug/kg	255	46	SW846 8270D
659_7	Semivolatile	Phenanthrene	128	U	ug/kg	128	17.9	SW846 8270D
659_7	Semivolatile	Phenol	345	U	ug/kg	345	19.1	SW846 8270D
659_7	Semivolatile	Pyrene	128	U	ug/kg	128	23	SW846 8270D
659_7	Semivolatile	mp-Cresol	345	U	ug/kg	345	19.1	SW846 8270D
659_7	Semivolatile	o-Cresol	345	U	ug/kg	345	28.1	SW846 8270D
659_7	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.81	SW846 8260C
659_7	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.68	SW846 8260C
659_7	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	1,4-Dioxane	97.9	U	ug/kg	97.9	23.2	SW846 8260C
659_7	Volatile	2-Butanone	13.1	U	ug/kg	13.1	4.2	SW846 8260C
659_7	Volatile	Acetone	7.6	J	ug/kg	13.1	6	SW846 8260C
659_7	Volatile	Benzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.67	SW846 8260C
659_7	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
659_7	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.69	SW846 8260C
659_7	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.89	SW846 8260C
659_7	Volatile	Hexachlorobenzene	128	U	ug/kg	128	24.3	SW846 8270D
659_7	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	Methylene Chloride	13.4		ug/kg	2.6	1	SW846 8260C
659_7	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.78	SW846 8260C
659_7	Volatile	Toluene	2.6	U	ug/kg	2.6	0.87	SW846 8260C
659_7	Volatile	Total Xylenes	7.8	U	ug/kg	7.8	1.8	SW846 8260C
659_7	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.65	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
659_7	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
659_7	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.72	SW846 8260C
659_7	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.68	SW846 8260C
714_40	Metal	Arsenic, Total	1.9		mg/kg	1.4	0.47	SW846 6020A
714_40	Metal	Barium, Total	8.1		mg/kg	2.4	0.76	SW846 6020A
714_40	Metal	Beryllium, Total	0.2	J	mg/kg	0.47	0.16	SW846 6020A
714_40	Metal	Cadmium, Total	0.47	U	mg/kg	0.47	0.16	SW846 6020A
714_40	Metal	Chromium, Total	9.8		mg/kg	0.95	0.31	SW846 6020A
714_40	Metal	Copper, Total	9.4		mg/kg	2.4	0.76	SW846 6020A
714_40	Metal	Cyanide, Total	0.31	U	mg/kg	0.31	0.11	SW846 9012B
714_40	Metal	Hexavalent Chromium	2.4	U	mg/kg	2.4	0.47	SW846 7196A
714_40	Metal	Lead, Total	7.6		mg/kg	0.95	0.31	SW846 6020A
714_40	Metal	Manganese, Total	78.3		mg/kg	2.4	0.76	SW846 6020A
714_40	Metal	Mercury, Total	0.022	J	mg/kg	0.053	0.017	SW846 7471B
714_40	Metal	Nickel, Total	8.8		mg/kg	2.4	0.76	SW846 6020A
714_40	Metal	Selenium, Total	0.97	J	mg/kg	2.4	0.76	SW846 6020A
714_40	Metal	Silver, Total	0.95	U	mg/kg	0.95	0.31	SW846 6020A
714_40	Metal	Trivalent Chromium	9.8		mg/kg	2.5	2.5	Calculation
714_40	Metal	Zinc, Total	27.2		mg/kg	2.4	0.76	SW846 6020A
714_40	Other	Moisture	20.2		%	0.1	0.01	S2540G-11
714_40	Other	Total Solids	79.8		%	0.1	0.01	S2540G-11
714_40	PCB/Pesticide	2,4,5-TP	82	U	ug/kg	82	38	SW846 8151A
714_40	PCB/Pesticide	4,4'-DDD	19.8	U	ug/kg	19.8	1.6	SW846 8081B
714_40	PCB/Pesticide	4,4'-DDE	19.8	U	ug/kg	19.8	2.7	SW846 8081B
714_40	PCB/Pesticide	4,4'-DDT	19.8	U	ug/kg	19.8	2.3	SW846 8081B
714_40	PCB/Pesticide	Aldrin	10.2	U	ug/kg	10.2	3.3	SW846 8081B
714_40	PCB/Pesticide	Aroclor-1016	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
714_40	PCB/Pesticide	Aroclor-1221	0.04	U	mg/kg	0.04	0.0036	SW846 8082A
714_40	PCB/Pesticide	Aroclor-1232	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
714_40	PCB/Pesticide	Aroclor-1242	0.04	U	mg/kg	0.04	0.011	SW846 8082A
714_40	PCB/Pesticide	Aroclor-1248	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
714_40	PCB/Pesticide	Aroclor-1254	0.47		mg/kg	0.04	0.0072	SW846 8082A
714_40	PCB/Pesticide	Aroclor-1260	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
714_40	PCB/Pesticide	Dibenzofuran	120	U	ug/kg	120	13.2	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
714_40	PCB/Pesticide	Dieldrin	19.8	U	ug/kg	19.8	2.3	SW846 8081B
714_40	PCB/Pesticide	Endosulfan I	10.2	U	ug/kg	10.2	1.3	SW846 8081B
714_40	PCB/Pesticide	Endosulfan II	19.8	U	ug/kg	19.8	4.1	SW846 8081B
714_40	PCB/Pesticide	Endosulfan Sulfate	19.8	U	ug/kg	19.8	1.3	SW846 8081B
714_40	PCB/Pesticide	Endrin	19.8	U	ug/kg	19.8	1.4	SW846 8081B
714_40	PCB/Pesticide	Heptachlor	10.2	U	ug/kg	10.2	1	SW846 8081B
714_40	PCB/Pesticide	Total Polychlorinated Biphenyl	0.47		mg/kg	0.04	0.04	SW846 8082A
714_40	PCB/Pesticide	alpha-BHC	10.2	U	ug/kg	10.2	0.9	SW846 8081B
714_40	PCB/Pesticide	alpha-Chlordane	10.2	U	ug/kg	10.2	1.1	SW846 8081B
714_40	PCB/Pesticide	beta-BHC	10.2	U	ug/kg	10.2	1.1	SW846 8081B
714_40	PCB/Pesticide	delta-BHC	10.2	U	ug/kg	10.2	0.78	SW846 8081B
714_40	PCB/Pesticide	gamma-BHC	10.2	U	ug/kg	10.2	0.84	SW846 8081B
714_40	Semivolatile	Acenaphthene	120	U	ug/kg	120	18	SW846 8270D
714_40	Semivolatile	Acenaphthylene	120	U	ug/kg	120	13.2	SW846 8270D
714_40	Semivolatile	Anthracene	120	U	ug/kg	120	12	SW846 8270D
714_40	Semivolatile	Benzo(a)anthracene	120	U	ug/kg	120	18	SW846 8270D
714_40	Semivolatile	Benzo(a)pyrene	120	U	ug/kg	120	19.2	SW846 8270D
714_40	Semivolatile	Benzo(b)fluoranthene	120	U	ug/kg	120	28.7	SW846 8270D
714_40	Semivolatile	Benzo(g,h,i)perylene	120	U	ug/kg	120	25.1	SW846 8270D
714_40	Semivolatile	Benzo(k)fluoranthene	120	U	ug/kg	120	22.7	SW846 8270D
714_40	Semivolatile	Chrysene	120	U	ug/kg	120	15.6	SW846 8270D
714_40	Semivolatile	Dibenzo(a,h)anthracene	120	U	ug/kg	120	14.4	SW846 8270D
714_40	Semivolatile	Fluoranthene	120	U	ug/kg	120	22.7	SW846 8270D
714_40	Semivolatile	Fluorene	120	U	ug/kg	120	23.9	SW846 8270D
714_40	Semivolatile	Indeno(1,2,3-cd)pyrene	120	U	ug/kg	120	21.6	SW846 8270D
714_40	Semivolatile	Naphthalene	120	U	ug/kg	120	28.7	SW846 8270D
714_40	Semivolatile	Pentachlorophenol	239	U	ug/kg	239	43.1	SW846 8270D
714_40	Semivolatile	Phenanthrene	120	U	ug/kg	120	16.8	SW846 8270D
714_40	Semivolatile	Phenol	323	U	ug/kg	323	18	SW846 8270D
714_40	Semivolatile	Pyrene	120	U	ug/kg	120	21.6	SW846 8270D
714_40	Semivolatile	mp-Cresol	323	U	ug/kg	323	18	SW846 8270D
714_40	Semivolatile	o-Cresol	323	U	ug/kg	323	26.3	SW846 8270D
714_40	Volatile	1,1,1-Trichloroethane	2.5	U	ug/kg	2.5	0.79	SW846 8260C
714_40	Volatile	1,1-Dichloroethane	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	1,1-Dichloroethene	2.5	U	ug/kg	2.5	0.66	SW846 8260C
714_40	Volatile	1,2,4-Trimethylbenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
714_40	Volatile	1,2-Dichlorobenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	1,2-Dichloroethane	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	1,3,5-Trimethylbenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	1,3-Dichlorobenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	1,4-Dichlorobenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	1,4-Dioxane	95.3	U	ug/kg	95.3	22.6	SW846 8260C
714_40	Volatile	2-Butanone	12.7	U	ug/kg	12.7	4.1	SW846 8260C
714_40	Volatile	Acetone	6.2	J	ug/kg	12.7	5.8	SW846 8260C
714_40	Volatile	Benzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	Carbon Tetrachloride	2.5	U	ug/kg	2.5	0.65	SW846 8260C
714_40	Volatile	Chlorobenzene	2.5	U	ug/kg	2.5	0.65	SW846 8260C
714_40	Volatile	Chloroform	2.5	U	ug/kg	2.5	0.67	SW846 8260C
714_40	Volatile	Ethylbenzene	2.5	U	ug/kg	2.5	0.86	SW846 8260C
714_40	Volatile	Hexachlorobenzene	120	U	ug/kg	120	22.7	SW846 8270D
714_40	Volatile	Methyl t-Butyl Ether	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	Methylene Chloride	13.3		ug/kg	2.5	0.99	SW846 8260C
714_40	Volatile	Tetrachloroethene	2.5	U	ug/kg	2.5	0.76	SW846 8260C
714_40	Volatile	Toluene	2.5	U	ug/kg	2.5	0.85	SW846 8260C
714_40	Volatile	Total Xylenes	7.6	U	ug/kg	7.6	1.8	SW846 8260C
714_40	Volatile	Trichloroethene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	Vinyl Chloride	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	cis-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	n-Butylbenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	n-Propylbenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	sec-Butylbenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
714_40	Volatile	tert-Butylbenzene	2.5	U	ug/kg	2.5	0.7	SW846 8260C
714_40	Volatile	trans-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.66	SW846 8260C
717_59	Metal	Arsenic, Total	2		mg/kg	1.6	0.54	SW846 6020A
717_59	Metal	Barium, Total	4.6		mg/kg	2.7	0.86	SW846 6020A
717_59	Metal	Beryllium, Total	0.24	J	mg/kg	0.54	0.18	SW846 6020A
717_59	Metal	Cadmium, Total	0.54	U	mg/kg	0.54	0.18	SW846 6020A
717_59	Metal	Chromium, Total	11		mg/kg	1.1	0.36	SW846 6020A
717_59	Metal	Copper, Total	15.8		mg/kg	2.7	0.86	SW846 6020A
717_59	Metal	Cyanide, Total	0.31	U	mg/kg	0.31	0.11	SW846 9012B
717_59	Metal	Hexavalent Chromium	2.6	U	mg/kg	2.6	0.49	SW846 7196A
717_59	Metal	Lead, Total	7.1		mg/kg	1.1	0.36	SW846 6020A
717_59	Metal	Manganese, Total	80.8		mg/kg	2.7	0.86	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
717_59	Metal	Mercury, Total	0.055	U	mg/kg	0.055	0.018	SW846 7471B
717_59	Metal	Nickel, Total	7.7		mg/kg	2.7	0.86	SW846 6020A
717_59	Metal	Selenium, Total	0.98	J	mg/kg	2.7	0.86	SW846 6020A
717_59	Metal	Silver, Total	1.1	U	mg/kg	1.1	0.36	SW846 6020A
717_59	Metal	Trivalent Chromium	11		mg/kg	2.5	2.5	Calculation
717_59	Metal	Zinc, Total	28.3		mg/kg	2.7	0.86	SW846 6020A
717_59	Other	Moisture	21.4		%	0.1	0.01	S2540G-11
717_59	Other	Total Solids	78.6		%	0.1	0.01	S2540G-11
717_59	PCB/Pesticide	2,4,5-TP	82.8	U	ug/kg	82.8	38.3	SW846 8151A
717_59	PCB/Pesticide	4,4'-DDD	19.8	U	ug/kg	19.8	1.6	SW846 8081B
717_59	PCB/Pesticide	4,4'-DDE	19.8	U	ug/kg	19.8	2.7	SW846 8081B
717_59	PCB/Pesticide	4,4'-DDT	19.8	U	ug/kg	19.8	2.3	SW846 8081B
717_59	PCB/Pesticide	Aldrin	10.2	U	ug/kg	10.2	3.3	SW846 8081B
717_59	PCB/Pesticide	Aroclor-1016	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
717_59	PCB/Pesticide	Aroclor-1221	0.04	U	mg/kg	0.04	0.0036	SW846 8082A
717_59	PCB/Pesticide	Aroclor-1232	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
717_59	PCB/Pesticide	Aroclor-1242	0.04	U	mg/kg	0.04	0.011	SW846 8082A
717_59	PCB/Pesticide	Aroclor-1248	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
717_59	PCB/Pesticide	Aroclor-1254	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
717_59	PCB/Pesticide	Aroclor-1260	0.04	U	mg/kg	0.04	0.0072	SW846 8082A
717_59	PCB/Pesticide	Dibenzofuran	121	U	ug/kg	121	13.3	SW846 8270D
717_59	PCB/Pesticide	Dieldrin	19.8	U	ug/kg	19.8	2.3	SW846 8081B
717_59	PCB/Pesticide	Endosulfan I	10.2	U	ug/kg	10.2	1.3	SW846 8081B
717_59	PCB/Pesticide	Endosulfan II	19.8	U	ug/kg	19.8	4.1	SW846 8081B
717_59	PCB/Pesticide	Endosulfan Sulfate	19.8	U	ug/kg	19.8	1.3	SW846 8081B
717_59	PCB/Pesticide	Endrin	19.8	U	ug/kg	19.8	1.4	SW846 8081B
717_59	PCB/Pesticide	Heptachlor	10.2	U	ug/kg	10.2	1	SW846 8081B
717_59	PCB/Pesticide	Total Polychlorinated Biphenyl	0.04	U	mg/kg	0.04	0.04	SW846 8082A
717_59	PCB/Pesticide	alpha-BHC	10.2	U	ug/kg	10.2	0.9	SW846 8081B
717_59	PCB/Pesticide	alpha-Chlordane	10.2	U	ug/kg	10.2	1.1	SW846 8081B
717_59	PCB/Pesticide	beta-BHC	10.2	U	ug/kg	10.2	1.1	SW846 8081B
717_59	PCB/Pesticide	delta-BHC	10.2	U	ug/kg	10.2	0.78	SW846 8081B
717_59	PCB/Pesticide	gamma-BHC	10.2	U	ug/kg	10.2	0.84	SW846 8081B
717_59	Semivolatile	Acenaphthene	121	U	ug/kg	121	18.1	SW846 8270D
717_59	Semivolatile	Acenaphthylene	121	U	ug/kg	121	13.3	SW846 8270D
717_59	Semivolatile	Anthracene	121	U	ug/kg	121	12.1	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
717_59	Semivolatile	Benzo(a)anthracene	121	U	ug/kg	121	18.1	SW846 8270D
717_59	Semivolatile	Benzo(a)pyrene	121	U	ug/kg	121	19.3	SW846 8270D
717_59	Semivolatile	Benzo(b)fluoranthene	121	U	ug/kg	121	29	SW846 8270D
717_59	Semivolatile	Benzo(g,h,i)perylene	121	U	ug/kg	121	25.4	SW846 8270D
717_59	Semivolatile	Benzo(k)fluoranthene	121	U	ug/kg	121	23	SW846 8270D
717_59	Semivolatile	Chrysene	121	U	ug/kg	121	15.7	SW846 8270D
717_59	Semivolatile	Dibenzo(a,h)anthracene	121	U	ug/kg	121	14.5	SW846 8270D
717_59	Semivolatile	Fluoranthene	121	U	ug/kg	121	23	SW846 8270D
717_59	Semivolatile	Fluorene	121	U	ug/kg	121	24.2	SW846 8270D
717_59	Semivolatile	Indeno(1,2,3-cd)pyrene	121	U	ug/kg	121	21.8	SW846 8270D
717_59	Semivolatile	Naphthalene	121	U	ug/kg	121	29	SW846 8270D
717_59	Semivolatile	Pentachlorophenol	242	U	ug/kg	242	43.5	SW846 8270D
717_59	Semivolatile	Phenanthrene	121	U	ug/kg	121	16.9	SW846 8270D
717_59	Semivolatile	Phenol	326	U	ug/kg	326	18.1	SW846 8270D
717_59	Semivolatile	Pyrene	121	U	ug/kg	121	21.8	SW846 8270D
717_59	Semivolatile	mp-Cresol	326	U	ug/kg	326	18.1	SW846 8270D
717_59	Semivolatile	o-Cresol	326	U	ug/kg	326	26.6	SW846 8270D
717_59	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.8	SW846 8260C
717_59	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
717_59	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	1,4-Dioxane	96.4	U	ug/kg	96.4	22.9	SW846 8260C
717_59	Volatile	2-Butanone	12.9	U	ug/kg	12.9	4.1	SW846 8260C
717_59	Volatile	Acetone	8.5	J	ug/kg	12.9	5.9	SW846 8260C
717_59	Volatile	Benzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
717_59	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
717_59	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.68	SW846 8260C
717_59	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.87	SW846 8260C
717_59	Volatile	Hexachlorobenzene	121	U	ug/kg	121	23	SW846 8270D
717_59	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	Methylene Chloride	14.1		ug/kg	2.6	1	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
717_59	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.77	SW846 8260C
717_59	Volatile	Toluene	2.6	U	ug/kg	2.6	0.86	SW846 8260C
717_59	Volatile	Total Xylenes	7.7	U	ug/kg	7.7	1.8	SW846 8260C
717_59	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
717_59	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.71	SW846 8260C
717_59	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
720_16	Metal	Arsenic, Total	1.9		mg/kg	1.8	0.61	SW846 6020A
720_16	Metal	Barium, Total	5.8		mg/kg	3	0.97	SW846 6020A
720_16	Metal	Beryllium, Total	0.61	U	mg/kg	0.61	0.2	SW846 6020A
720_16	Metal	Cadmium, Total	0.61	U	mg/kg	0.61	0.2	SW846 6020A
720_16	Metal	Chromium, Total	7.5		mg/kg	1.2	0.4	SW846 6020A
720_16	Metal	Copper, Total	7.3		mg/kg	3	0.97	SW846 6020A
720_16	Metal	Cyanide, Total	0.34	U	mg/kg	0.34	0.12	SW846 9012B
720_16	Metal	Hexavalent Chromium	2.6	U	mg/kg	2.6	0.51	SW846 7196A
720_16	Metal	Lead, Total	8.2		mg/kg	1.2	0.4	SW846 6020A
720_16	Metal	Manganese, Total	84.3		mg/kg	3	0.97	SW846 6020A
720_16	Metal	Mercury, Total	0.028	J	mg/kg	0.064	0.021	SW846 7471B
720_16	Metal	Nickel, Total	5.9		mg/kg	3	0.97	SW846 6020A
720_16	Metal	Selenium, Total	3	U	mg/kg	3	0.97	SW846 6020A
720_16	Metal	Silver, Total	1.2	U	mg/kg	1.2	0.4	SW846 6020A
720_16	Metal	Trivalent Chromium	7.5		mg/kg	2.6	2.6	Calculation
720_16	Metal	Zinc, Total	29.7		mg/kg	3	0.97	SW846 6020A
720_16	Other	Moisture	23.6		%	0.1	0.01	S2540G-11
720_16	Other	Total Solids	76.4		%	0.1	0.01	S2540G-11
720_16	PCB/Pesticide	2,4,5-TP	87.6	U	ug/kg	87.6	40.6	SW846 8151A
720_16	PCB/Pesticide	4,4'-DDD	20.8	U	ug/kg	20.8	1.7	SW846 8081B
720_16	PCB/Pesticide	4,4'-DDE	20.8	U	ug/kg	20.8	2.8	SW846 8081B
720_16	PCB/Pesticide	4,4'-DDT	20.8	U	ug/kg	20.8	2.4	SW846 8081B
720_16	PCB/Pesticide	Aldrin	10.7	U	ug/kg	10.7	3.5	SW846 8081B
720_16	PCB/Pesticide	Aroclor-1016	0.042	U	mg/kg	0.042	0.0075	SW846 8082A
720_16	PCB/Pesticide	Aroclor-1221	0.042	U	mg/kg	0.042	0.0038	SW846 8082A
720_16	PCB/Pesticide	Aroclor-1232	0.042	U	mg/kg	0.042	0.0075	SW846 8082A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
720_16	PCB/Pesticide	Aroclor-1242	0.042	U	mg/kg	0.042	0.011	SW846 8082A
720_16	PCB/Pesticide	Aroclor-1248	0.042	U	mg/kg	0.042	0.0075	SW846 8082A
720_16	PCB/Pesticide	Aroclor-1254	0.042	U	mg/kg	0.042	0.0075	SW846 8082A
720_16	PCB/Pesticide	Aroclor-1260	0.042	U	mg/kg	0.042	0.0075	SW846 8082A
720_16	PCB/Pesticide	Dibenzofuran	128	U	ug/kg	128	14.1	SW846 8270D
720_16	PCB/Pesticide	Dieldrin	20.8	U	ug/kg	20.8	2.4	SW846 8081B
720_16	PCB/Pesticide	Endosulfan I	10.7	U	ug/kg	10.7	1.3	SW846 8081B
720_16	PCB/Pesticide	Endosulfan II	20.8	U	ug/kg	20.8	4.3	SW846 8081B
720_16	PCB/Pesticide	Endosulfan Sulfate	20.8	U	ug/kg	20.8	1.4	SW846 8081B
720_16	PCB/Pesticide	Endrin	20.8	U	ug/kg	20.8	1.5	SW846 8081B
720_16	PCB/Pesticide	Heptachlor	10.7	U	ug/kg	10.7	1.1	SW846 8081B
720_16	PCB/Pesticide	Total Polychlorinated Biphenyl	0.042	U	mg/kg	0.042	0.042	SW846 8082A
720_16	PCB/Pesticide	alpha-BHC	10.7	U	ug/kg	10.7	0.94	SW846 8081B
720_16	PCB/Pesticide	alpha-Chlordane	10.7	U	ug/kg	10.7	1.1	SW846 8081B
720_16	PCB/Pesticide	beta-BHC	10.7	U	ug/kg	10.7	1.1	SW846 8081B
720_16	PCB/Pesticide	delta-BHC	10.7	U	ug/kg	10.7	0.82	SW846 8081B
720_16	PCB/Pesticide	gamma-BHC	10.7	U	ug/kg	10.7	0.88	SW846 8081B
720_16	Semivolatile	Acenaphthene	128	U	ug/kg	128	19.2	SW846 8270D
720_16	Semivolatile	Acenaphthylene	128	U	ug/kg	128	14.1	SW846 8270D
720_16	Semivolatile	Anthracene	128	U	ug/kg	128	12.8	SW846 8270D
720_16	Semivolatile	Benzo(a)anthracene	128	U	ug/kg	128	19.2	SW846 8270D
720_16	Semivolatile	Benzo(a)pyrene	128	U	ug/kg	128	20.5	SW846 8270D
720_16	Semivolatile	Benzo(b)fluoranthene	128	U	ug/kg	128	30.8	SW846 8270D
720_16	Semivolatile	Benzo(g,h,i)perylene	128	U	ug/kg	128	26.9	SW846 8270D
720_16	Semivolatile	Benzo(k)fluoranthene	128	U	ug/kg	128	24.4	SW846 8270D
720_16	Semivolatile	Chrysene	128	U	ug/kg	128	16.7	SW846 8270D
720_16	Semivolatile	Dibenzo(a,h)anthracene	128	U	ug/kg	128	15.4	SW846 8270D
720_16	Semivolatile	Fluoranthene	128	U	ug/kg	128	24.4	SW846 8270D
720_16	Semivolatile	Fluorene	128	U	ug/kg	128	25.6	SW846 8270D
720_16	Semivolatile	Indeno(1,2,3-cd)pyrene	128	U	ug/kg	128	23.1	SW846 8270D
720_16	Semivolatile	Naphthalene	128	U	ug/kg	128	30.8	SW846 8270D
720_16	Semivolatile	Pentachlorophenol	256	U	ug/kg	256	46.2	SW846 8270D
720_16	Semivolatile	Phenanthrene	128	U	ug/kg	128	18	SW846 8270D
720_16	Semivolatile	Phenol	346	U	ug/kg	346	19.2	SW846 8270D
720_16	Semivolatile	Pyrene	128	U	ug/kg	128	23.1	SW846 8270D
720_16	Semivolatile	mp-Cresol	346	U	ug/kg	346	19.2	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
720_16	Semivolatile	o-Cresol	346	U	ug/kg	346	28.2	SW846 8270D
720_16	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.82	SW846 8260C
720_16	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.69	SW846 8260C
720_16	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	1,4-Dioxane	98.9	U	ug/kg	98.9	23.5	SW846 8260C
720_16	Volatile	2-Butanone	13.2	U	ug/kg	13.2	4.2	SW846 8260C
720_16	Volatile	Acetone	6.6	J	ug/kg	13.2	6.1	SW846 8260C
720_16	Volatile	Benzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.67	SW846 8260C
720_16	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
720_16	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.7	SW846 8260C
720_16	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.9	SW846 8260C
720_16	Volatile	Hexachlorobenzene	128	U	ug/kg	128	24.4	SW846 8270D
720_16	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	Methylene Chloride	10.7		ug/kg	2.6	1	SW846 8260C
720_16	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.79	SW846 8260C
720_16	Volatile	Toluene	2.6	U	ug/kg	2.6	0.88	SW846 8260C
720_16	Volatile	Total Xylenes	7.9	U	ug/kg	7.9	1.8	SW846 8260C
720_16	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
720_16	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.73	SW846 8260C
720_16	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.69	SW846 8260C
986_26	Metal	Arsenic, Total	4		mg/kg	1.3	0.42	SW846 6020A
986_26	Metal	Barium, Total	11.3		mg/kg	2.1	0.68	SW846 6020A
986_26	Metal	Beryllium, Total	0.23	J	mg/kg	0.42	0.14	SW846 6020A
986_26	Metal	Cadmium, Total	0.2	J	mg/kg	0.42	0.14	SW846 6020A
986_26	Metal	Chromium, Total	12.7		mg/kg	0.84	0.28	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
986_26	Metal	Copper, Total	12.9		mg/kg	2.1	0.68	SW846 6020A
986_26	Metal	Cyanide, Total	0.32	U	mg/kg	0.32	0.11	SW846 9012B
986_26	Metal	Hexavalent Chromium	2.6	U	mg/kg	2.6	0.5	SW846 7196A
986_26	Metal	Lead, Total	18.6		mg/kg	0.84	0.28	SW846 6020A
986_26	Metal	Manganese, Total	164		mg/kg	2.1	0.68	SW846 6020A
986_26	Metal	Mercury, Total	0.054	J	mg/kg	0.062	0.02	SW846 7471B
986_26	Metal	Nickel, Total	7.5		mg/kg	2.1	0.68	SW846 6020A
986_26	Metal	Selenium, Total	0.84	J	mg/kg	2.1	0.68	SW846 6020A
986_26	Metal	Silver, Total	0.84	U	mg/kg	0.84	0.28	SW846 6020A
986_26	Metal	Trivalent Chromium	12.7		mg/kg	2.6	2.6	Calculation
986_26	Metal	Zinc, Total	52.9		mg/kg	2.1	0.68	SW846 6020A
986_26	Other	Moisture	22.1		%	0.1	0.01	S2540G-11
986_26	Other	Total Solids	77.9		%	0.1	0.01	S2540G-11
986_26	PCB/Pesticide	2,4,5-TP	85.2	U	ug/kg	85.2	39.4	SW846 8151A
986_26	PCB/Pesticide	4,4'-DDD	20.8	U	ug/kg	20.8	1.7	SW846 8081B
986_26	PCB/Pesticide	4,4'-DDE	20.8	U	ug/kg	20.8	2.8	SW846 8081B
986_26	PCB/Pesticide	4,4'-DDT	20.8	U	ug/kg	20.8	2.4	SW846 8081B
986_26	PCB/Pesticide	Aldrin	10.7	U	ug/kg	10.7	3.5	SW846 8081B
986_26	PCB/Pesticide	Aroclor-1016	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
986_26	PCB/Pesticide	Aroclor-1221	0.042	U	mg/kg	0.042	0.0038	SW846 8082A
986_26	PCB/Pesticide	Aroclor-1232	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
986_26	PCB/Pesticide	Aroclor-1242	0.042	U	mg/kg	0.042	0.011	SW846 8082A
986_26	PCB/Pesticide	Aroclor-1248	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
986_26	PCB/Pesticide	Aroclor-1254	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
986_26	PCB/Pesticide	Aroclor-1260	0.042	U	mg/kg	0.042	0.0076	SW846 8082A
986_26	PCB/Pesticide	Dibenzofuran	127	U	ug/kg	127	13.9	SW846 8270D
986_26	PCB/Pesticide	Dieldrin	20.8	U	ug/kg	20.8	2.4	SW846 8081B
986_26	PCB/Pesticide	Endosulfan I	10.7	U	ug/kg	10.7	1.3	SW846 8081B
986_26	PCB/Pesticide	Endosulfan II	20.8	U	ug/kg	20.8	4.3	SW846 8081B
986_26	PCB/Pesticide	Endosulfan Sulfate	20.8	U	ug/kg	20.8	1.4	SW846 8081B
986_26	PCB/Pesticide	Endrin	20.8	U	ug/kg	20.8	1.5	SW846 8081B
986_26	PCB/Pesticide	Heptachlor	10.7	U	ug/kg	10.7	1.1	SW846 8081B
986_26	PCB/Pesticide	Total Polychlorinated Biphenyl	0.042	U	mg/kg	0.042	0.042	SW846 8082A
986_26	PCB/Pesticide	alpha-BHC	10.7	U	ug/kg	10.7	0.94	SW846 8081B
986_26	PCB/Pesticide	alpha-Chlordane	10.7	U	ug/kg	10.7	1.1	SW846 8081B
986_26	PCB/Pesticide	beta-BHC	10.7	U	ug/kg	10.7	1.1	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
986_26	PCB/Pesticide	delta-BHC	10.7	U	ug/kg	10.7	0.82	SW846 8081B
986_26	PCB/Pesticide	gamma-BHC	10.7	U	ug/kg	10.7	0.88	SW846 8081B
986_26	Semivolatile	Acenaphthene	127	U	ug/kg	127	19	SW846 8270D
986_26	Semivolatile	Acenaphthylene	127	U	ug/kg	127	13.9	SW846 8270D
986_26	Semivolatile	Anthracene	127	U	ug/kg	127	12.7	SW846 8270D
986_26	Semivolatile	Benzo(a)anthracene	127	U	ug/kg	127	19	SW846 8270D
986_26	Semivolatile	Benzo(a)pyrene	34.5	J	ug/kg	127	20.3	SW846 8270D
986_26	Semivolatile	Benzo(b)fluoranthene	49.1	J	ug/kg	127	30.4	SW846 8270D
986_26	Semivolatile	Benzo(g,h,i)perylene	127	U	ug/kg	127	26.6	SW846 8270D
986_26	Semivolatile	Benzo(k)fluoranthene	127	U	ug/kg	127	24.1	SW846 8270D
986_26	Semivolatile	Chrysene	127	U	ug/kg	127	16.5	SW846 8270D
986_26	Semivolatile	Dibenzo(a,h)anthracene	127	U	ug/kg	127	15.2	SW846 8270D
986_26	Semivolatile	Fluoranthene	52	J	ug/kg	127	24.1	SW846 8270D
986_26	Semivolatile	Fluorene	127	U	ug/kg	127	25.3	SW846 8270D
986_26	Semivolatile	Indeno(1,2,3-cd)pyrene	127	U	ug/kg	127	22.8	SW846 8270D
986_26	Semivolatile	Naphthalene	127	U	ug/kg	127	30.4	SW846 8270D
986_26	Semivolatile	Pentachlorophenol	253	U	ug/kg	253	45.6	SW846 8270D
986_26	Semivolatile	Phenanthrene	127	U	ug/kg	127	17.7	SW846 8270D
986_26	Semivolatile	Phenol	342	U	ug/kg	342	19	SW846 8270D
986_26	Semivolatile	Pyrene	48.4	J	ug/kg	127	22.8	SW846 8270D
986_26	Semivolatile	mp-Cresol	342	U	ug/kg	342	19	SW846 8270D
986_26	Semivolatile	o-Cresol	342	U	ug/kg	342	27.9	SW846 8270D
986_26	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.81	SW846 8260C
986_26	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.68	SW846 8260C
986_26	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	1,4-Dioxane	97.5	U	ug/kg	97.5	23.1	SW846 8260C
986_26	Volatile	2-Butanone	13	U	ug/kg	13	4.2	SW846 8260C
986_26	Volatile	Acetone	8.8	J	ug/kg	13	6	SW846 8260C
986_26	Volatile	Benzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
986_26	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
986_26	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.69	SW846 8260C
986_26	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.88	SW846 8260C
986_26	Volatile	Hexachlorobenzene	127	U	ug/kg	127	24.1	SW846 8270D
986_26	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	Methylene Chloride	10.9		ug/kg	2.6	1	SW846 8260C
986_26	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.78	SW846 8260C
986_26	Volatile	Toluene	2.6	U	ug/kg	2.6	0.87	SW846 8260C
986_26	Volatile	Total Xylenes	7.8	U	ug/kg	7.8	1.8	SW846 8260C
986_26	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.65	SW846 8260C
986_26	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.71	SW846 8260C
986_26	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.68	SW846 8260C
HB02_1	Metal	Arsenic, Total	2.5		mg/kg	1.7	0.57	SW846 6020A
HB02_1	Metal	Barium, Total	5.7		mg/kg	2.9	0.92	SW846 6020A
HB02_1	Metal	Beryllium, Total	0.57	U	mg/kg	0.57	0.19	SW846 6020A
HB02_1	Metal	Cadmium, Total	0.57	U	mg/kg	0.57	0.19	SW846 6020A
HB02_1	Metal	Chromium, Total	9.7		mg/kg	1.1	0.38	SW846 6020A
HB02_1	Metal	Copper, Total	7.9		mg/kg	2.9	0.92	SW846 6020A
HB02_1	Metal	Cyanide, Total	0.33	U	mg/kg	0.33	0.12	SW846 9012B
HB02_1	Metal	Hexavalent Chromium	2.8	U	mg/kg	2.8	0.54	SW846 7196A
HB02_1	Metal	Lead, Total	10.9		mg/kg	1.1	0.38	SW846 6020A
HB02_1	Metal	Manganese, Total	179		mg/kg	2.9	0.92	SW846 6020A
HB02_1	Metal	Mercury, Total	0.074		mg/kg	0.057	0.018	SW846 7471B
HB02_1	Metal	Nickel, Total	4.9		mg/kg	2.9	0.92	SW846 6020A
HB02_1	Metal	Selenium, Total	2.9	U	mg/kg	2.9	0.92	SW846 6020A
HB02_1	Metal	Silver, Total	1.1	U	mg/kg	1.1	0.38	SW846 6020A
HB02_1	Metal	Trivalent Chromium	9.7		mg/kg	2.8	2.8	Calculation
HB02_1	Metal	Zinc, Total	34.3		mg/kg	2.9	0.92	SW846 6020A
HB02_1	Other	Moisture	27.4		%	0.1	0.01	S2540G-11
HB02_1	Other	Total Solids	72.6		%	0.1	0.01	S2540G-11
HB02_1	PCB/Pesticide	2,4,5-TP	89.1	U	ug/kg	89.1	41.2	SW846 8151A
HB02_1	PCB/Pesticide	4,4'-DDD	22.4	U	ug/kg	22.4	1.8	SW846 8081B
HB02_1	PCB/Pesticide	4,4'-DDE	22.4	U	ug/kg	22.4	3.1	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_1	PCB/Pesticide	4,4'-DDT	22.4	U	ug/kg	22.4	2.6	SW846 8081B
HB02_1	PCB/Pesticide	Aldrin	11.6	U	ug/kg	11.6	3.7	SW846 8081B
HB02_1	PCB/Pesticide	Aroclor-1016	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB02_1	PCB/Pesticide	Aroclor-1221	0.045	U	mg/kg	0.045	0.0041	SW846 8082A
HB02_1	PCB/Pesticide	Aroclor-1232	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB02_1	PCB/Pesticide	Aroclor-1242	0.045	U	mg/kg	0.045	0.012	SW846 8082A
HB02_1	PCB/Pesticide	Aroclor-1248	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB02_1	PCB/Pesticide	Aroclor-1254	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB02_1	PCB/Pesticide	Aroclor-1260	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB02_1	PCB/Pesticide	Dibenzofuran	129	U	ug/kg	129	14.2	SW846 8270D
HB02_1	PCB/Pesticide	Dieldrin	22.4	U	ug/kg	22.4	2.6	SW846 8081B
HB02_1	PCB/Pesticide	Endosulfan I	11.6	U	ug/kg	11.6	1.4	SW846 8081B
HB02_1	PCB/Pesticide	Endosulfan II	22.4	U	ug/kg	22.4	4.7	SW846 8081B
HB02_1	PCB/Pesticide	Endosulfan Sulfate	22.4	U	ug/kg	22.4	1.5	SW846 8081B
HB02_1	PCB/Pesticide	Endrin	22.4	U	ug/kg	22.4	1.6	SW846 8081B
HB02_1	PCB/Pesticide	Heptachlor	11.6	U	ug/kg	11.6	1.2	SW846 8081B
HB02_1	PCB/Pesticide	Total Polychlorinated Biphenyl	0.045	U	mg/kg	0.045	0.045	SW846 8082A
HB02_1	PCB/Pesticide	alpha-BHC	11.6	U	ug/kg	11.6	1	SW846 8081B
HB02_1	PCB/Pesticide	alpha-Chlordane	11.6	U	ug/kg	11.6	1.2	SW846 8081B
HB02_1	PCB/Pesticide	beta-BHC	11.6	U	ug/kg	11.6	1.2	SW846 8081B
HB02_1	PCB/Pesticide	delta-BHC	11.6	U	ug/kg	11.6	0.88	SW846 8081B
HB02_1	PCB/Pesticide	gamma-BHC	11.6	U	ug/kg	11.6	0.95	SW846 8081B
HB02_1	Semivolatile	Acenaphthene	129	U	ug/kg	129	19.4	SW846 8270D
HB02_1	Semivolatile	Acenaphthylene	129	U	ug/kg	129	14.2	SW846 8270D
HB02_1	Semivolatile	Anthracene	129	U	ug/kg	129	12.9	SW846 8270D
HB02_1	Semivolatile	Benzo(a)anthracene	129	U	ug/kg	129	19.4	SW846 8270D
HB02_1	Semivolatile	Benzo(a)pyrene	129	U	ug/kg	129	20.7	SW846 8270D
HB02_1	Semivolatile	Benzo(b)fluoranthene	129	U	ug/kg	129	31	SW846 8270D
HB02_1	Semivolatile	Benzo(g,h,i)perylene	129	U	ug/kg	129	27.1	SW846 8270D
HB02_1	Semivolatile	Benzo(k)fluoranthene	129	U	ug/kg	129	24.5	SW846 8270D
HB02_1	Semivolatile	Chrysene	129	U	ug/kg	129	16.8	SW846 8270D
HB02_1	Semivolatile	Dibenzo(a,h)anthracene	129	U	ug/kg	129	15.5	SW846 8270D
HB02_1	Semivolatile	Fluoranthene	129	U	ug/kg	129	24.5	SW846 8270D
HB02_1	Semivolatile	Fluorene	129	U	ug/kg	129	25.8	SW846 8270D
HB02_1	Semivolatile	Indeno(1,2,3-cd)pyrene	129	U	ug/kg	129	23.3	SW846 8270D
HB02_1	Semivolatile	Naphthalene	129	U	ug/kg	129	31	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_1	Semivolatile	Pentachlorophenol	258	U	ug/kg	258	46.5	SW846 8270D
HB02_1	Semivolatile	Phenanthrene	129	U	ug/kg	129	18.1	SW846 8270D
HB02_1	Semivolatile	Phenol	349	U	ug/kg	349	19.4	SW846 8270D
HB02_1	Semivolatile	Pyrene	129	U	ug/kg	129	23.3	SW846 8270D
HB02_1	Semivolatile	mp-Cresol	349	U	ug/kg	349	19.4	SW846 8270D
HB02_1	Semivolatile	o-Cresol	349	U	ug/kg	349	28.4	SW846 8270D
HB02_1	Volatile	1,1,1-Trichloroethane	2.5	U	ug/kg	2.5	0.77	SW846 8260C
HB02_1	Volatile	1,1-Dichloroethane	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	1,1-Dichloroethene	2.5	U	ug/kg	2.5	0.65	SW846 8260C
HB02_1	Volatile	1,2,4-Trimethylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	1,2-Dichlorobenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	1,2-Dichloroethane	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	1,3,5-Trimethylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	1,3-Dichlorobenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	1,4-Dichlorobenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	1,4-Dioxane	93.1	U	ug/kg	93.1	22.1	SW846 8260C
HB02_1	Volatile	2-Butanone	12.4	U	ug/kg	12.4	4	SW846 8260C
HB02_1	Volatile	Acetone	12.4	U	ug/kg	12.4	5.7	SW846 8260C
HB02_1	Volatile	Benzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	Carbon Tetrachloride	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB02_1	Volatile	Chlorobenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB02_1	Volatile	Chloroform	2.5	U	ug/kg	2.5	0.66	SW846 8260C
HB02_1	Volatile	Ethylbenzene	2.5	U	ug/kg	2.5	0.84	SW846 8260C
HB02_1	Volatile	Hexachlorobenzene	129	U	ug/kg	129	24.5	SW846 8270D
HB02_1	Volatile	Methyl t-Butyl Ether	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	Methylene Chloride	26.5		ug/kg	2.5	0.97	SW846 8260C
HB02_1	Volatile	Tetrachloroethene	2.5	U	ug/kg	2.5	0.74	SW846 8260C
HB02_1	Volatile	Toluene	2.5	U	ug/kg	2.5	0.83	SW846 8260C
HB02_1	Volatile	Total Xylenes	7.4	U	ug/kg	7.4	1.7	SW846 8260C
HB02_1	Volatile	Trichloroethene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	Vinyl Chloride	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	cis-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	n-Butylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	n-Propylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	sec-Butylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_1	Volatile	tert-Butylbenzene	2.5	U	ug/kg	2.5	0.68	SW846 8260C
HB02_1	Volatile	trans-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.65	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_2	Metal	Arsenic, Total	2.1		mg/kg	2	0.67	SW846 6020A
HB02_2	Metal	Barium, Total	7		mg/kg	3.4	1.1	SW846 6020A
HB02_2	Metal	Beryllium, Total	0.67	U	mg/kg	0.67	0.22	SW846 6020A
HB02_2	Metal	Cadmium, Total	0.67	U	mg/kg	0.67	0.22	SW846 6020A
HB02_2	Metal	Chromium, Total	7.6		mg/kg	1.3	0.44	SW846 6020A
HB02_2	Metal	Copper, Total	7.4		mg/kg	3.4	1.1	SW846 6020A
HB02_2	Metal	Cyanide, Total	0.37	U	mg/kg	0.37	0.13	SW846 9012B
HB02_2	Metal	Hexavalent Chromium	2.9	U	mg/kg	2.9	0.55	SW846 7196A
HB02_2	Metal	Lead, Total	10.8		mg/kg	1.3	0.44	SW846 6020A
HB02_2	Metal	Manganese, Total	252		mg/kg	3.4	1.1	SW846 6020A
HB02_2	Metal	Mercury, Total	0.072		mg/kg	0.07	0.022	SW846 7471B
HB02_2	Metal	Nickel, Total	4.7		mg/kg	3.4	1.1	SW846 6020A
HB02_2	Metal	Selenium, Total	3.4	U	mg/kg	3.4	1.1	SW846 6020A
HB02_2	Metal	Silver, Total	1.3	U	mg/kg	1.3	0.44	SW846 6020A
HB02_2	Metal	Trivalent Chromium	7.6		mg/kg	2.8	2.8	Calculation
HB02_2	Metal	Zinc, Total	33.2		mg/kg	3.4	1.1	SW846 6020A
HB02_2	Other	Moisture	29.7		%	0.1	0.01	S2540G-11
HB02_2	Other	Total Solids	70.3		%	0.1	0.01	S2540G-11
HB02_2	PCB/Pesticide	2,4,5-TP	93.5	U	ug/kg	93.5	43.2	SW846 8151A
HB02_2	PCB/Pesticide	4,4'-DDD	22.9	U	ug/kg	22.9	1.9	SW846 8081B
HB02_2	PCB/Pesticide	4,4'-DDE	22.9	U	ug/kg	22.9	3.1	SW846 8081B
HB02_2	PCB/Pesticide	4,4'-DDT	22.9	U	ug/kg	22.9	2.6	SW846 8081B
HB02_2	PCB/Pesticide	Aldrin	11.8	U	ug/kg	11.8	3.8	SW846 8081B
HB02_2	PCB/Pesticide	Aroclor-1016	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB02_2	PCB/Pesticide	Aroclor-1221	0.046	U	mg/kg	0.046	0.0042	SW846 8082A
HB02_2	PCB/Pesticide	Aroclor-1232	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB02_2	PCB/Pesticide	Aroclor-1242	0.046	U	mg/kg	0.046	0.012	SW846 8082A
HB02_2	PCB/Pesticide	Aroclor-1248	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB02_2	PCB/Pesticide	Aroclor-1254	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB02_2	PCB/Pesticide	Aroclor-1260	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB02_2	PCB/Pesticide	Dibenzofuran	137	U	ug/kg	137	15	SW846 8270D
HB02_2	PCB/Pesticide	Dieldrin	22.9	U	ug/kg	22.9	2.6	SW846 8081B
HB02_2	PCB/Pesticide	Endosulfan I	11.8	U	ug/kg	11.8	1.5	SW846 8081B
HB02_2	PCB/Pesticide	Endosulfan II	22.9	U	ug/kg	22.9	4.8	SW846 8081B
HB02_2	PCB/Pesticide	Endosulfan Sulfate	22.9	U	ug/kg	22.9	1.5	SW846 8081B
HB02_2	PCB/Pesticide	Endrin	22.9	U	ug/kg	22.9	1.7	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_2	PCB/Pesticide	Heptachlor	11.8	U	ug/kg	11.8	1.2	SW846 8081B
HB02_2	PCB/Pesticide	Total Polychlorinated Biphenyl	0.046	U	mg/kg	0.046	0.046	SW846 8082A
HB02_2	PCB/Pesticide	alpha-BHC	11.8	U	ug/kg	11.8	1	SW846 8081B
HB02_2	PCB/Pesticide	alpha-Chlordane	11.8	U	ug/kg	11.8	1.2	SW846 8081B
HB02_2	PCB/Pesticide	beta-BHC	11.8	U	ug/kg	11.8	1.2	SW846 8081B
HB02_2	PCB/Pesticide	delta-BHC	11.8	U	ug/kg	11.8	0.9	SW846 8081B
HB02_2	PCB/Pesticide	gamma-BHC	11.8	U	ug/kg	11.8	0.97	SW846 8081B
HB02_2	Semivolatile	Acenaphthene	137	U	ug/kg	137	20.5	SW846 8270D
HB02_2	Semivolatile	Acenaphthylene	137	U	ug/kg	137	15	SW846 8270D
HB02_2	Semivolatile	Anthracene	137	U	ug/kg	137	13.7	SW846 8270D
HB02_2	Semivolatile	Benzo(a)anthracene	137	U	ug/kg	137	20.5	SW846 8270D
HB02_2	Semivolatile	Benzo(a)pyrene	137	U	ug/kg	137	21.9	SW846 8270D
HB02_2	Semivolatile	Benzo(b)fluoranthene	137	U	ug/kg	137	32.8	SW846 8270D
HB02_2	Semivolatile	Benzo(g,h,i)perylene	137	U	ug/kg	137	28.7	SW846 8270D
HB02_2	Semivolatile	Benzo(k)fluoranthene	137	U	ug/kg	137	26	SW846 8270D
HB02_2	Semivolatile	Chrysene	137	U	ug/kg	137	17.8	SW846 8270D
HB02_2	Semivolatile	Dibenzo(a,h)anthracene	137	U	ug/kg	137	16.4	SW846 8270D
HB02_2	Semivolatile	Fluoranthene	137	U	ug/kg	137	26	SW846 8270D
HB02_2	Semivolatile	Fluorene	137	U	ug/kg	137	27.4	SW846 8270D
HB02_2	Semivolatile	Indeno(1,2,3-cd)pyrene	137	U	ug/kg	137	24.6	SW846 8270D
HB02_2	Semivolatile	Naphthalene	137	U	ug/kg	137	32.8	SW846 8270D
HB02_2	Semivolatile	Pentachlorophenol	274	U	ug/kg	274	49.2	SW846 8270D
HB02_2	Semivolatile	Phenanthrene	137	U	ug/kg	137	19.2	SW846 8270D
HB02_2	Semivolatile	Phenol	369	U	ug/kg	369	20.5	SW846 8270D
HB02_2	Semivolatile	Pyrene	137	U	ug/kg	137	24.6	SW846 8270D
HB02_2	Semivolatile	mp-Cresol	369	U	ug/kg	369	20.5	SW846 8270D
HB02_2	Semivolatile	o-Cresol	369	U	ug/kg	369	30.1	SW846 8270D
HB02_2	Volatile	1,1,1-Trichloroethane	2.5	U	ug/kg	2.5	0.77	SW846 8260C
HB02_2	Volatile	1,1-Dichloroethane	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	1,1-Dichloroethene	2.5	U	ug/kg	2.5	0.65	SW846 8260C
HB02_2	Volatile	1,2,4-Trimethylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	1,2-Dichlorobenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	1,2-Dichloroethane	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	1,3,5-Trimethylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	1,3-Dichlorobenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	1,4-Dichlorobenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB02_2	Volatile	1,4-Dioxane	93.1	U	ug/kg	93.1	22.1	SW846 8260C
HB02_2	Volatile	2-Butanone	12.4	U	ug/kg	12.4	4	SW846 8260C
HB02_2	Volatile	Acetone	12.4	U	ug/kg	12.4	5.7	SW846 8260C
HB02_2	Volatile	Benzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	Carbon Tetrachloride	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB02_2	Volatile	Chlorobenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB02_2	Volatile	Chloroform	2.5	U	ug/kg	2.5	0.66	SW846 8260C
HB02_2	Volatile	Ethylbenzene	2.5	U	ug/kg	2.5	0.84	SW846 8260C
HB02_2	Volatile	Hexachlorobenzene	137	U	ug/kg	137	26	SW846 8270D
HB02_2	Volatile	Methyl t-Butyl Ether	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	Methylene Chloride	25.5		ug/kg	2.5	0.97	SW846 8260C
HB02_2	Volatile	Tetrachloroethene	2.5	U	ug/kg	2.5	0.74	SW846 8260C
HB02_2	Volatile	Toluene	2.5	U	ug/kg	2.5	0.83	SW846 8260C
HB02_2	Volatile	Total Xylenes	7.4	U	ug/kg	7.4	1.7	SW846 8260C
HB02_2	Volatile	Trichloroethene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	Vinyl Chloride	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	cis-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	n-Butylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	n-Propylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	sec-Butylbenzene	2.5	U	ug/kg	2.5	0.62	SW846 8260C
HB02_2	Volatile	tert-Butylbenzene	2.5	U	ug/kg	2.5	0.68	SW846 8260C
HB02_2	Volatile	trans-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.65	SW846 8260C
HB04_6	Metal	Arsenic, Total	3.8		mg/kg	2	0.66	SW846 6020A
HB04_6	Metal	Barium, Total	11.2		mg/kg	3.3	1.1	SW846 6020A
HB04_6	Metal	Beryllium, Total	0.66	U	mg/kg	0.66	0.22	SW846 6020A
HB04_6	Metal	Cadmium, Total	0.34	J	mg/kg	0.66	0.22	SW846 6020A
HB04_6	Metal	Chromium, Total	14.7		mg/kg	1.3	0.44	SW846 6020A
HB04_6	Metal	Copper, Total	20.1		mg/kg	3.3	1.1	SW846 6020A
HB04_6	Metal	Cyanide, Total	0.36	U	mg/kg	0.36	0.13	SW846 9012B
HB04_6	Metal	Hexavalent Chromium	2.8	U	mg/kg	2.8	0.55	SW846 7196A
HB04_6	Metal	Lead, Total	24.5		mg/kg	1.3	0.44	SW846 6020A
HB04_6	Metal	Manganese, Total	335		mg/kg	3.3	1.1	SW846 6020A
HB04_6	Metal	Mercury, Total	0.17		mg/kg	0.068	0.022	SW846 7471B
HB04_6	Metal	Nickel, Total	8.4		mg/kg	3.3	1.1	SW846 6020A
HB04_6	Metal	Selenium, Total	3.3	U	mg/kg	3.3	1.1	SW846 6020A
HB04_6	Metal	Silver, Total	1.3	U	mg/kg	1.3	0.44	SW846 6020A
HB04_6	Metal	Trivalent Chromium	14.7		mg/kg	2.9	2.9	Calculation

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_6	Metal	Zinc, Total	68.9		mg/kg	3.3	1.1	SW846 6020A
HB04_6	Other	Moisture	31.1		%	0.1	0.01	S2540G-11
HB04_6	Other	Total Solids	68.9		%	0.1	0.01	S2540G-11
HB04_6	PCB/Pesticide	2,4,5-TP	93.8	U	ug/kg	93.8	43.4	SW846 8151A
HB04_6	PCB/Pesticide	4,4'-DDD	22.9	U	ug/kg	22.9	1.9	SW846 8081B
HB04_6	PCB/Pesticide	4,4'-DDE	22.9	U	ug/kg	22.9	3.1	SW846 8081B
HB04_6	PCB/Pesticide	4,4'-DDT	22.9	U	ug/kg	22.9	2.6	SW846 8081B
HB04_6	PCB/Pesticide	Aldrin	11.8	U	ug/kg	11.8	3.8	SW846 8081B
HB04_6	PCB/Pesticide	Aroclor-1016	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB04_6	PCB/Pesticide	Aroclor-1221	0.046	U	mg/kg	0.046	0.0042	SW846 8082A
HB04_6	PCB/Pesticide	Aroclor-1232	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB04_6	PCB/Pesticide	Aroclor-1242	0.046	U	mg/kg	0.046	0.012	SW846 8082A
HB04_6	PCB/Pesticide	Aroclor-1248	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB04_6	PCB/Pesticide	Aroclor-1254	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB04_6	PCB/Pesticide	Aroclor-1260	0.046	U	mg/kg	0.046	0.0083	SW846 8082A
HB04_6	PCB/Pesticide	Dibenzofuran	141	U	ug/kg	141	15.5	SW846 8270D
HB04_6	PCB/Pesticide	Dieldrin	22.9	U	ug/kg	22.9	2.6	SW846 8081B
HB04_6	PCB/Pesticide	Endosulfan I	11.8	U	ug/kg	11.8	1.5	SW846 8081B
HB04_6	PCB/Pesticide	Endosulfan II	22.9	U	ug/kg	22.9	4.8	SW846 8081B
HB04_6	PCB/Pesticide	Endosulfan Sulfate	22.9	U	ug/kg	22.9	1.5	SW846 8081B
HB04_6	PCB/Pesticide	Endrin	22.9	U	ug/kg	22.9	1.7	SW846 8081B
HB04_6	PCB/Pesticide	Heptachlor	11.8	U	ug/kg	11.8	1.2	SW846 8081B
HB04_6	PCB/Pesticide	Total Polychlorinated Biphenyl	0.046	U	mg/kg	0.046	0.046	SW846 8082A
HB04_6	PCB/Pesticide	alpha-BHC	11.8	U	ug/kg	11.8	1	SW846 8081B
HB04_6	PCB/Pesticide	alpha-Chlordane	11.8	U	ug/kg	11.8	1.2	SW846 8081B
HB04_6	PCB/Pesticide	beta-BHC	11.8	U	ug/kg	11.8	1.2	SW846 8081B
HB04_6	PCB/Pesticide	delta-BHC	11.8	U	ug/kg	11.8	0.9	SW846 8081B
HB04_6	PCB/Pesticide	gamma-BHC	11.8	U	ug/kg	11.8	0.97	SW846 8081B
HB04_6	Semivolatile	Acenaphthene	141	U	ug/kg	141	21.1	SW846 8270D
HB04_6	Semivolatile	Acenaphthylene	141	U	ug/kg	141	15.5	SW846 8270D
HB04_6	Semivolatile	Anthracene	141	U	ug/kg	141	14.1	SW846 8270D
HB04_6	Semivolatile	Benzo(a)anthracene	141	U	ug/kg	141	21.1	SW846 8270D
HB04_6	Semivolatile	Benzo(a)pyrene	141	U	ug/kg	141	22.5	SW846 8270D
HB04_6	Semivolatile	Benzo(b)fluoranthene	141	U	ug/kg	141	33.7	SW846 8270D
HB04_6	Semivolatile	Benzo(g,h,i)perylene	141	U	ug/kg	141	29.5	SW846 8270D
HB04_6	Semivolatile	Benzo(k)fluoranthene	141	U	ug/kg	141	26.7	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_6	Semivolatile	Chrysene	141	U	ug/kg	141	18.3	SW846 8270D
HB04_6	Semivolatile	Dibenzo(a,h)anthracene	141	U	ug/kg	141	16.9	SW846 8270D
HB04_6	Semivolatile	Fluoranthene	141	U	ug/kg	141	26.7	SW846 8270D
HB04_6	Semivolatile	Fluorene	141	U	ug/kg	141	28.1	SW846 8270D
HB04_6	Semivolatile	Indeno(1,2,3-cd)pyrene	141	U	ug/kg	141	25.3	SW846 8270D
HB04_6	Semivolatile	Naphthalene	141	U	ug/kg	141	33.7	SW846 8270D
HB04_6	Semivolatile	Pentachlorophenol	281	U	ug/kg	281	50.6	SW846 8270D
HB04_6	Semivolatile	Phenanthrene	141	U	ug/kg	141	19.7	SW846 8270D
HB04_6	Semivolatile	Phenol	379	U	ug/kg	379	21.1	SW846 8270D
HB04_6	Semivolatile	Pyrene	141	U	ug/kg	141	25.3	SW846 8270D
HB04_6	Semivolatile	mp-Cresol	379	U	ug/kg	379	21.1	SW846 8270D
HB04_6	Semivolatile	o-Cresol	379	U	ug/kg	379	30.9	SW846 8270D
HB04_6	Volatile	1,1,1-Trichloroethane	2.5	U	ug/kg	2.5	0.78	SW846 8260C
HB04_6	Volatile	1,1-Dichloroethane	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	1,1-Dichloroethene	2.5	U	ug/kg	2.5	0.66	SW846 8260C
HB04_6	Volatile	1,2,4-Trimethylbenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	1,2-Dichlorobenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	1,2-Dichloroethane	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	1,3,5-Trimethylbenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	1,3-Dichlorobenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	1,4-Dichlorobenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	1,4-Dioxane	94.7	U	ug/kg	94.7	22.5	SW846 8260C
HB04_6	Volatile	2-Butanone	4.2	J	ug/kg	12.6	4	SW846 8260C
HB04_6	Volatile	Acetone	9.9	J	ug/kg	12.6	5.8	SW846 8260C
HB04_6	Volatile	Benzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	Carbon Tetrachloride	2.5	U	ug/kg	2.5	0.64	SW846 8260C
HB04_6	Volatile	Chlorobenzene	2.5	U	ug/kg	2.5	0.64	SW846 8260C
HB04_6	Volatile	Chloroform	2.5	U	ug/kg	2.5	0.67	SW846 8260C
HB04_6	Volatile	Ethylbenzene	2.5	U	ug/kg	2.5	0.86	SW846 8260C
HB04_6	Volatile	Hexachlorobenzene	141	U	ug/kg	141	26.7	SW846 8270D
HB04_6	Volatile	Methyl t-Butyl Ether	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	Methylene Chloride	26.1		ug/kg	2.5	0.98	SW846 8260C
HB04_6	Volatile	Tetrachloroethene	2.5	U	ug/kg	2.5	0.76	SW846 8260C
HB04_6	Volatile	Toluene	2.5	U	ug/kg	2.5	0.85	SW846 8260C
HB04_6	Volatile	Total Xylenes	7.6	U	ug/kg	7.6	1.8	SW846 8260C
HB04_6	Volatile	Trichloroethene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	Vinyl Chloride	2.5	U	ug/kg	2.5	0.63	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_6	Volatile	cis-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	n-Butylbenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	n-Propylbenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	sec-Butylbenzene	2.5	U	ug/kg	2.5	0.63	SW846 8260C
HB04_6	Volatile	tert-Butylbenzene	2.5	U	ug/kg	2.5	0.69	SW846 8260C
HB04_6	Volatile	trans-1,2-Dichloroethene	2.5	U	ug/kg	2.5	0.66	SW846 8260C
HB04_7	Metal	Arsenic, Total	5.8		mg/kg	2.2	0.75	SW846 6020A
HB04_7	Metal	Barium, Total	21.4		mg/kg	3.7	1.2	SW846 6020A
HB04_7	Metal	Beryllium, Total	0.3	J	mg/kg	0.75	0.25	SW846 6020A
HB04_7	Metal	Cadmium, Total	0.5	J	mg/kg	0.75	0.25	SW846 6020A
HB04_7	Metal	Chromium, Total	20.4		mg/kg	1.5	0.49	SW846 6020A
HB04_7	Metal	Copper, Total	25.2		mg/kg	3.7	1.2	SW846 6020A
HB04_7	Metal	Cyanide, Total	0.38	U	mg/kg	0.38	0.14	SW846 9012B
HB04_7	Metal	Hexavalent Chromium	2.8	U	mg/kg	2.8	0.55	SW846 7196A
HB04_7	Metal	Lead, Total	36.2		mg/kg	1.5	0.49	SW846 6020A
HB04_7	Metal	Manganese, Total	490		mg/kg	3.7	1.2	SW846 6020A
HB04_7	Metal	Mercury, Total	0.22		mg/kg	0.062	0.02	SW846 7471B
HB04_7	Metal	Nickel, Total	10.7		mg/kg	3.7	1.2	SW846 6020A
HB04_7	Metal	Selenium, Total	1.2	J	mg/kg	3.7	1.2	SW846 6020A
HB04_7	Metal	Silver, Total	1.5	U	mg/kg	1.5	0.49	SW846 6020A
HB04_7	Metal	Trivalent Chromium	20.4		mg/kg	3	3	Calculation
HB04_7	Metal	Zinc, Total	87.4		mg/kg	3.7	1.2	SW846 6020A
HB04_7	Other	Moisture	33		%	0.1	0.01	S2540G-11
HB04_7	Other	Total Solids	67		%	0.1	0.01	S2540G-11
HB04_7	PCB/Pesticide	2,4,5-TP	98.1	U	ug/kg	98.1	45.4	SW846 8151A
HB04_7	PCB/Pesticide	4,4'-DDD	23.7	U	ug/kg	23.7	1.9	SW846 8081B
HB04_7	PCB/Pesticide	4,4'-DDE	23.7	U	ug/kg	23.7	3.2	SW846 8081B
HB04_7	PCB/Pesticide	4,4'-DDT	23.7	U	ug/kg	23.7	2.7	SW846 8081B
HB04_7	PCB/Pesticide	Aldrin	12.2	U	ug/kg	12.2	3.9	SW846 8081B
HB04_7	PCB/Pesticide	Aroclor-1016	0.047	U	mg/kg	0.047	0.0086	SW846 8082A
HB04_7	PCB/Pesticide	Aroclor-1221	0.047	U	mg/kg	0.047	0.0043	SW846 8082A
HB04_7	PCB/Pesticide	Aroclor-1232	0.047	U	mg/kg	0.047	0.0086	SW846 8082A
HB04_7	PCB/Pesticide	Aroclor-1242	0.047	U	mg/kg	0.047	0.013	SW846 8082A
HB04_7	PCB/Pesticide	Aroclor-1248	0.047	U	mg/kg	0.047	0.0086	SW846 8082A
HB04_7	PCB/Pesticide	Aroclor-1254	0.047	U	mg/kg	0.047	0.0086	SW846 8082A
HB04_7	PCB/Pesticide	Aroclor-1260	0.047	U	mg/kg	0.047	0.0086	SW846 8082A
HB04_7	PCB/Pesticide	Dibenzofuran	149	U	ug/kg	149	16.4	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_7	PCB/Pesticide	Dieldrin	23.7	U	ug/kg	23.7	2.7	SW846 8081B
HB04_7	PCB/Pesticide	Endosulfan I	12.2	U	ug/kg	12.2	1.5	SW846 8081B
HB04_7	PCB/Pesticide	Endosulfan II	23.7	U	ug/kg	23.7	5	SW846 8081B
HB04_7	PCB/Pesticide	Endosulfan Sulfate	23.7	U	ug/kg	23.7	1.6	SW846 8081B
HB04_7	PCB/Pesticide	Endrin	23.7	U	ug/kg	23.7	1.7	SW846 8081B
HB04_7	PCB/Pesticide	Heptachlor	12.2	U	ug/kg	12.2	1.2	SW846 8081B
HB04_7	PCB/Pesticide	Total Polychlorinated Biphenyl	0.047	U	mg/kg	0.047	0.047	SW846 8082A
HB04_7	PCB/Pesticide	alpha-BHC	12.2	U	ug/kg	12.2	1.1	SW846 8081B
HB04_7	PCB/Pesticide	alpha-Chlordane	12.2	U	ug/kg	12.2	1.3	SW846 8081B
HB04_7	PCB/Pesticide	beta-BHC	12.2	U	ug/kg	12.2	1.3	SW846 8081B
HB04_7	PCB/Pesticide	delta-BHC	12.2	U	ug/kg	12.2	0.93	SW846 8081B
HB04_7	PCB/Pesticide	gamma-BHC	12.2	U	ug/kg	12.2	1	SW846 8081B
HB04_7	Semivolatile	Acenaphthene	149	U	ug/kg	149	22.4	SW846 8270D
HB04_7	Semivolatile	Acenaphthylene	149	U	ug/kg	149	16.4	SW846 8270D
HB04_7	Semivolatile	Anthracene	149	U	ug/kg	149	14.9	SW846 8270D
HB04_7	Semivolatile	Benzo(a)anthracene	149	U	ug/kg	149	22.4	SW846 8270D
HB04_7	Semivolatile	Benzo(a)pyrene	149	U	ug/kg	149	23.9	SW846 8270D
HB04_7	Semivolatile	Benzo(b)fluoranthene	149	U	ug/kg	149	35.8	SW846 8270D
HB04_7	Semivolatile	Benzo(g,h,i)perylene	149	U	ug/kg	149	31.4	SW846 8270D
HB04_7	Semivolatile	Benzo(k)fluoranthene	149	U	ug/kg	149	28.4	SW846 8270D
HB04_7	Semivolatile	Chrysene	149	U	ug/kg	149	19.4	SW846 8270D
HB04_7	Semivolatile	Dibenzo(a,h)anthracene	149	U	ug/kg	149	17.9	SW846 8270D
HB04_7	Semivolatile	Fluoranthene	149	U	ug/kg	149	28.4	SW846 8270D
HB04_7	Semivolatile	Fluorene	149	U	ug/kg	149	29.9	SW846 8270D
HB04_7	Semivolatile	Indeno(1,2,3-cd)pyrene	149	U	ug/kg	149	26.9	SW846 8270D
HB04_7	Semivolatile	Naphthalene	149	U	ug/kg	149	35.8	SW846 8270D
HB04_7	Semivolatile	Pentachlorophenol	299	U	ug/kg	299	53.8	SW846 8270D
HB04_7	Semivolatile	Phenanthrene	149	U	ug/kg	149	20.9	SW846 8270D
HB04_7	Semivolatile	Phenol	403	U	ug/kg	403	22.4	SW846 8270D
HB04_7	Semivolatile	Pyrene	149	U	ug/kg	149	26.9	SW846 8270D
HB04_7	Semivolatile	mp-Cresol	403	U	ug/kg	403	22.4	SW846 8270D
HB04_7	Semivolatile	o-Cresol	403	U	ug/kg	403	32.8	SW846 8270D
HB04_7	Volatile	1,1,1-Trichloroethane	2.6	U	ug/kg	2.6	0.8	SW846 8260C
HB04_7	Volatile	1,1-Dichloroethane	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	1,1-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
HB04_7	Volatile	1,2,4-Trimethylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB04_7	Volatile	1,2-Dichlorobenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	1,2-Dichloroethane	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	1,3,5-Trimethylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	1,3-Dichlorobenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	1,4-Dichlorobenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	1,4-Dioxane	96.4	U	ug/kg	96.4	22.9	SW846 8260C
HB04_7	Volatile	2-Butanone	12.9	U	ug/kg	12.9	4.1	SW846 8260C
HB04_7	Volatile	Acetone	8.3	J	ug/kg	12.9	5.9	SW846 8260C
HB04_7	Volatile	Benzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	Carbon Tetrachloride	2.6	U	ug/kg	2.6	0.66	SW846 8260C
HB04_7	Volatile	Chlorobenzene	2.6	U	ug/kg	2.6	0.66	SW846 8260C
HB04_7	Volatile	Chloroform	2.6	U	ug/kg	2.6	0.68	SW846 8260C
HB04_7	Volatile	Ethylbenzene	2.6	U	ug/kg	2.6	0.87	SW846 8260C
HB04_7	Volatile	Hexachlorobenzene	149	U	ug/kg	149	28.4	SW846 8270D
HB04_7	Volatile	Methyl t-Butyl Ether	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	Methylene Chloride	26.7		ug/kg	2.6	1	SW846 8260C
HB04_7	Volatile	Tetrachloroethene	2.6	U	ug/kg	2.6	0.77	SW846 8260C
HB04_7	Volatile	Toluene	2.6	U	ug/kg	2.6	0.86	SW846 8260C
HB04_7	Volatile	Total Xylenes	7.7	U	ug/kg	7.7	1.8	SW846 8260C
HB04_7	Volatile	Trichloroethene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	Vinyl Chloride	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	cis-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	n-Butylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	n-Propylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	sec-Butylbenzene	2.6	U	ug/kg	2.6	0.64	SW846 8260C
HB04_7	Volatile	tert-Butylbenzene	2.6	U	ug/kg	2.6	0.71	SW846 8260C
HB04_7	Volatile	trans-1,2-Dichloroethene	2.6	U	ug/kg	2.6	0.67	SW846 8260C
HB05_8	Metal	Arsenic, Total	3.9		mg/kg	1.8	0.59	SW846 6020A
HB05_8	Metal	Barium, Total	11.3		mg/kg	3	0.95	SW846 6020A
HB05_8	Metal	Beryllium, Total	0.26	J	mg/kg	0.59	0.2	SW846 6020A
HB05_8	Metal	Cadmium, Total	0.59	U	mg/kg	0.59	0.2	SW846 6020A
HB05_8	Metal	Chromium, Total	14		mg/kg	1.2	0.39	SW846 6020A
HB05_8	Metal	Copper, Total	8.4		mg/kg	3	0.95	SW846 6020A
HB05_8	Metal	Cyanide, Total	0.36	U	mg/kg	0.36	0.13	SW846 9012B
HB05_8	Metal	Hexavalent Chromium	2.9	U	mg/kg	2.9	0.56	SW846 7196A
HB05_8	Metal	Lead, Total	19		mg/kg	1.2	0.39	SW846 6020A
HB05_8	Metal	Manganese, Total	298		mg/kg	3	0.95	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_8	Metal	Mercury, Total	0.066	J	mg/kg	0.068	0.022	SW846 7471B
HB05_8	Metal	Nickel, Total	9.3		mg/kg	3	0.95	SW846 6020A
HB05_8	Metal	Selenium, Total	3	U	mg/kg	3	0.95	SW846 6020A
HB05_8	Metal	Silver, Total	1.2	U	mg/kg	1.2	0.39	SW846 6020A
HB05_8	Metal	Trivalent Chromium	14		mg/kg	2.8	2.8	Calculation
HB05_8	Metal	Zinc, Total	58.5		mg/kg	3	0.95	SW846 6020A
HB05_8	Other	Moisture	29.7		%	0.1	0.01	S2540G-11
HB05_8	Other	Total Solids	70.3		%	0.1	0.01	S2540G-11
HB05_8	PCB/Pesticide	2,4,5-TP	94.1	U	ug/kg	94.1	43.5	SW846 8151A
HB05_8	PCB/Pesticide	4,4'-DDD	23	U	ug/kg	23	1.9	SW846 8081B
HB05_8	PCB/Pesticide	4,4'-DDE	23	U	ug/kg	23	3.1	SW846 8081B
HB05_8	PCB/Pesticide	4,4'-DDT	23	U	ug/kg	23	2.6	SW846 8081B
HB05_8	PCB/Pesticide	Aldrin	11.9	U	ug/kg	11.9	3.8	SW846 8081B
HB05_8	PCB/Pesticide	Aroclor-1016	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_8	PCB/Pesticide	Aroclor-1221	0.046	U	mg/kg	0.046	0.0042	SW846 8082A
HB05_8	PCB/Pesticide	Aroclor-1232	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_8	PCB/Pesticide	Aroclor-1242	0.046	U	mg/kg	0.046	0.013	SW846 8082A
HB05_8	PCB/Pesticide	Aroclor-1248	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_8	PCB/Pesticide	Aroclor-1254	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_8	PCB/Pesticide	Aroclor-1260	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_8	PCB/Pesticide	Dibenzofuran	139	U	ug/kg	139	15.3	SW846 8270D
HB05_8	PCB/Pesticide	Dieldrin	23	U	ug/kg	23	2.6	SW846 8081B
HB05_8	PCB/Pesticide	Endosulfan I	11.9	U	ug/kg	11.9	1.5	SW846 8081B
HB05_8	PCB/Pesticide	Endosulfan II	23	U	ug/kg	23	4.8	SW846 8081B
HB05_8	PCB/Pesticide	Endosulfan Sulfate	23	U	ug/kg	23	1.5	SW846 8081B
HB05_8	PCB/Pesticide	Endrin	23	U	ug/kg	23	1.7	SW846 8081B
HB05_8	PCB/Pesticide	Heptachlor	11.9	U	ug/kg	11.9	1.2	SW846 8081B
HB05_8	PCB/Pesticide	Total Polychlorinated Biphenyl	0.046	U	mg/kg	0.046	0.046	SW846 8082A
HB05_8	PCB/Pesticide	alpha-BHC	11.9	U	ug/kg	11.9	1	SW846 8081B
HB05_8	PCB/Pesticide	alpha-Chlordane	11.9	U	ug/kg	11.9	1.3	SW846 8081B
HB05_8	PCB/Pesticide	beta-BHC	11.9	U	ug/kg	11.9	1.3	SW846 8081B
HB05_8	PCB/Pesticide	delta-BHC	11.9	U	ug/kg	11.9	0.91	SW846 8081B
HB05_8	PCB/Pesticide	gamma-BHC	11.9	U	ug/kg	11.9	0.98	SW846 8081B
HB05_8	Semivolatile	Acenaphthene	139	U	ug/kg	139	20.9	SW846 8270D
HB05_8	Semivolatile	Acenaphthylene	139	U	ug/kg	139	15.3	SW846 8270D
HB05_8	Semivolatile	Anthracene	139	U	ug/kg	139	13.9	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_8	Semivolatile	Benzo(a)anthracene	139	U	ug/kg	139	20.9	SW846 8270D
HB05_8	Semivolatile	Benzo(a)pyrene	139	U	ug/kg	139	22.3	SW846 8270D
HB05_8	Semivolatile	Benzo(b)fluoranthene	139	U	ug/kg	139	33.5	SW846 8270D
HB05_8	Semivolatile	Benzo(g,h,i)perylene	139	U	ug/kg	139	29.3	SW846 8270D
HB05_8	Semivolatile	Benzo(k)fluoranthene	139	U	ug/kg	139	26.5	SW846 8270D
HB05_8	Semivolatile	Chrysene	139	U	ug/kg	139	18.1	SW846 8270D
HB05_8	Semivolatile	Dibenzo(a,h)anthracene	139	U	ug/kg	139	16.7	SW846 8270D
HB05_8	Semivolatile	Fluoranthene	139	U	ug/kg	139	26.5	SW846 8270D
HB05_8	Semivolatile	Fluorene	139	U	ug/kg	139	27.9	SW846 8270D
HB05_8	Semivolatile	Indeno(1,2,3-cd)pyrene	139	U	ug/kg	139	25.1	SW846 8270D
HB05_8	Semivolatile	Naphthalene	139	U	ug/kg	139	33.5	SW846 8270D
HB05_8	Semivolatile	Pentachlorophenol	279	U	ug/kg	279	50.2	SW846 8270D
HB05_8	Semivolatile	Phenanthrene	139	U	ug/kg	139	19.5	SW846 8270D
HB05_8	Semivolatile	Phenol	377	U	ug/kg	377	20.9	SW846 8270D
HB05_8	Semivolatile	Pyrene	139	U	ug/kg	139	25.1	SW846 8270D
HB05_8	Semivolatile	mp-Cresol	377	U	ug/kg	377	20.9	SW846 8270D
HB05_8	Semivolatile	o-Cresol	377	U	ug/kg	377	30.7	SW846 8270D
HB05_8	Volatile	1,1,1-Trichloroethane	2	U	ug/kg	2	0.62	SW846 8260C
HB05_8	Volatile	1,1-Dichloroethane	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	1,1-Dichloroethene	2	U	ug/kg	2	0.52	SW846 8260C
HB05_8	Volatile	1,2,4-Trimethylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	1,2-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	1,2-Dichloroethane	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	1,3,5-Trimethylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	1,3-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	1,4-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	1,4-Dioxane	75.1	U	ug/kg	75.1	17.8	SW846 8260C
HB05_8	Volatile	2-Butanone	6.4	J	ug/kg	10	3.2	SW846 8260C
HB05_8	Volatile	Acetone	14.9		ug/kg	10	4.6	SW846 8260C
HB05_8	Volatile	Benzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	Carbon Tetrachloride	2	U	ug/kg	2	0.51	SW846 8260C
HB05_8	Volatile	Chlorobenzene	2	U	ug/kg	2	0.51	SW846 8260C
HB05_8	Volatile	Chloroform	2	U	ug/kg	2	0.53	SW846 8260C
HB05_8	Volatile	Ethylbenzene	2	U	ug/kg	2	0.68	SW846 8260C
HB05_8	Volatile	Hexachlorobenzene	139	U	ug/kg	139	26.5	SW846 8270D
HB05_8	Volatile	Methyl t-Butyl Ether	0.5	J	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	Methylene Chloride	23		ug/kg	2	0.78	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_8	Volatile	Tetrachloroethene	2	U	ug/kg	2	0.6	SW846 8260C
HB05_8	Volatile	Toluene	2	U	ug/kg	2	0.67	SW846 8260C
HB05_8	Volatile	Total Xylenes	6	U	ug/kg	6	1.4	SW846 8260C
HB05_8	Volatile	Trichloroethene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	Vinyl Chloride	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	cis-1,2-Dichloroethene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	n-Butylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	n-Propylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	sec-Butylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB05_8	Volatile	tert-Butylbenzene	2	U	ug/kg	2	0.55	SW846 8260C
HB05_8	Volatile	trans-1,2-Dichloroethene	2	U	ug/kg	2	0.52	SW846 8260C
HB05_9	Metal	Arsenic, Total	4.7		mg/kg	1.9	0.62	SW846 6020A
HB05_9	Metal	Barium, Total	9.9		mg/kg	3.1	0.99	SW846 6020A
HB05_9	Metal	Beryllium, Total	0.25	J	mg/kg	0.62	0.2	SW846 6020A
HB05_9	Metal	Cadmium, Total	0.62	U	mg/kg	0.62	0.2	SW846 6020A
HB05_9	Metal	Chromium, Total	13.2		mg/kg	1.2	0.41	SW846 6020A
HB05_9	Metal	Copper, Total	9.2		mg/kg	3.1	0.99	SW846 6020A
HB05_9	Metal	Cyanide, Total	0.34	U	mg/kg	0.34	0.12	SW846 9012B
HB05_9	Metal	Hexavalent Chromium	2.7	U	mg/kg	2.7	0.53	SW846 7196A
HB05_9	Metal	Lead, Total	20.1		mg/kg	1.2	0.41	SW846 6020A
HB05_9	Metal	Manganese, Total	282		mg/kg	3.1	0.99	SW846 6020A
HB05_9	Metal	Mercury, Total	0.07		mg/kg	0.063	0.02	SW846 7471B
HB05_9	Metal	Nickel, Total	9		mg/kg	3.1	0.99	SW846 6020A
HB05_9	Metal	Selenium, Total	3.1	U	mg/kg	3.1	0.99	SW846 6020A
HB05_9	Metal	Silver, Total	1.2	U	mg/kg	1.2	0.41	SW846 6020A
HB05_9	Metal	Trivalent Chromium	13.2		mg/kg	2.8	2.8	Calculation
HB05_9	Metal	Zinc, Total	59		mg/kg	3.1	0.99	SW846 6020A
HB05_9	Other	Moisture	29.3		%	0.1	0.01	S2540G-11
HB05_9	Other	Total Solids	70.7		%	0.1	0.01	S2540G-11
HB05_9	PCB/Pesticide	2,4,5-TP	92.9	U	ug/kg	92.9	43	SW846 8151A
HB05_9	PCB/Pesticide	4,4'-DDD	23	U	ug/kg	23	1.9	SW846 8081B
HB05_9	PCB/Pesticide	4,4'-DDE	23	U	ug/kg	23	3.1	SW846 8081B
HB05_9	PCB/Pesticide	4,4'-DDT	23	U	ug/kg	23	2.7	SW846 8081B
HB05_9	PCB/Pesticide	Aldrin	11.9	U	ug/kg	11.9	3.8	SW846 8081B
HB05_9	PCB/Pesticide	Aroclor-1016	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_9	PCB/Pesticide	Aroclor-1221	0.046	U	mg/kg	0.046	0.0042	SW846 8082A
HB05_9	PCB/Pesticide	Aroclor-1232	0.046	U	mg/kg	0.046	0.0084	SW846 8082A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_9	PCB/Pesticide	Aroclor-1242	0.046	U	mg/kg	0.046	0.013	SW846 8082A
HB05_9	PCB/Pesticide	Aroclor-1248	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_9	PCB/Pesticide	Aroclor-1254	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_9	PCB/Pesticide	Aroclor-1260	0.046	U	mg/kg	0.046	0.0084	SW846 8082A
HB05_9	PCB/Pesticide	Dibenzofuran	141	U	ug/kg	141	15.6	SW846 8270D
HB05_9	PCB/Pesticide	Dieldrin	23	U	ug/kg	23	2.7	SW846 8081B
HB05_9	PCB/Pesticide	Endosulfan I	11.9	U	ug/kg	11.9	1.5	SW846 8081B
HB05_9	PCB/Pesticide	Endosulfan II	23	U	ug/kg	23	4.8	SW846 8081B
HB05_9	PCB/Pesticide	Endosulfan Sulfate	23	U	ug/kg	23	1.5	SW846 8081B
HB05_9	PCB/Pesticide	Endrin	23	U	ug/kg	23	1.7	SW846 8081B
HB05_9	PCB/Pesticide	Heptachlor	11.9	U	ug/kg	11.9	1.2	SW846 8081B
HB05_9	PCB/Pesticide	Total Polychlorinated Biphenyl	0.046	U	mg/kg	0.046	0.046	SW846 8082A
HB05_9	PCB/Pesticide	alpha-BHC	11.9	U	ug/kg	11.9	1	SW846 8081B
HB05_9	PCB/Pesticide	alpha-Chlordane	11.9	U	ug/kg	11.9	1.3	SW846 8081B
HB05_9	PCB/Pesticide	beta-BHC	11.9	U	ug/kg	11.9	1.3	SW846 8081B
HB05_9	PCB/Pesticide	delta-BHC	11.9	U	ug/kg	11.9	0.91	SW846 8081B
HB05_9	PCB/Pesticide	gamma-BHC	11.9	U	ug/kg	11.9	0.98	SW846 8081B
HB05_9	Semivolatile	Acenaphthene	141	U	ug/kg	141	21.2	SW846 8270D
HB05_9	Semivolatile	Acenaphthylene	141	U	ug/kg	141	15.6	SW846 8270D
HB05_9	Semivolatile	Anthracene	141	U	ug/kg	141	14.1	SW846 8270D
HB05_9	Semivolatile	Benzo(a)anthracene	141	U	ug/kg	141	21.2	SW846 8270D
HB05_9	Semivolatile	Benzo(a)pyrene	141	U	ug/kg	141	22.6	SW846 8270D
HB05_9	Semivolatile	Benzo(b)fluoranthene	141	U	ug/kg	141	33.9	SW846 8270D
HB05_9	Semivolatile	Benzo(g,h,i)perylene	141	U	ug/kg	141	29.7	SW846 8270D
HB05_9	Semivolatile	Benzo(k)fluoranthene	141	U	ug/kg	141	26.9	SW846 8270D
HB05_9	Semivolatile	Chrysene	141	U	ug/kg	141	18.4	SW846 8270D
HB05_9	Semivolatile	Dibenzo(a,h)anthracene	141	U	ug/kg	141	17	SW846 8270D
HB05_9	Semivolatile	Fluoranthene	141	U	ug/kg	141	26.9	SW846 8270D
HB05_9	Semivolatile	Fluorene	141	U	ug/kg	141	28.3	SW846 8270D
HB05_9	Semivolatile	Indeno(1,2,3-cd)pyrene	141	U	ug/kg	141	25.5	SW846 8270D
HB05_9	Semivolatile	Naphthalene	141	U	ug/kg	141	33.9	SW846 8270D
HB05_9	Semivolatile	Pentachlorophenol	283	U	ug/kg	283	50.9	SW846 8270D
HB05_9	Semivolatile	Phenanthrene	141	U	ug/kg	141	19.8	SW846 8270D
HB05_9	Semivolatile	Phenol	382	U	ug/kg	382	21.2	SW846 8270D
HB05_9	Semivolatile	Pyrene	141	U	ug/kg	141	25.5	SW846 8270D
HB05_9	Semivolatile	mp-Cresol	382	U	ug/kg	382	21.2	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB05_9	Semivolatile	o-Cresol	382	U	ug/kg	382	31.1	SW846 8270D
HB05_9	Volatile	1,1,1-Trichloroethane	2.2	U	ug/kg	2.2	0.68	SW846 8260C
HB05_9	Volatile	1,1-Dichloroethane	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	1,1-Dichloroethene	2.2	U	ug/kg	2.2	0.57	SW846 8260C
HB05_9	Volatile	1,2,4-Trimethylbenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	1,2-Dichlorobenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	1,2-Dichloroethane	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	1,3,5-Trimethylbenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	1,3-Dichlorobenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	1,4-Dichlorobenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	1,4-Dioxane	81.8	U	ug/kg	81.8	19.4	SW846 8260C
HB05_9	Volatile	2-Butanone	10.9	U	ug/kg	10.9	3.5	SW846 8260C
HB05_9	Volatile	Acetone	10.9	U	ug/kg	10.9	5	SW846 8260C
HB05_9	Volatile	Benzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	Carbon Tetrachloride	2.2	U	ug/kg	2.2	0.56	SW846 8260C
HB05_9	Volatile	Chlorobenzene	2.2	U	ug/kg	2.2	0.56	SW846 8260C
HB05_9	Volatile	Chloroform	2.2	U	ug/kg	2.2	0.58	SW846 8260C
HB05_9	Volatile	Ethylbenzene	2.2	U	ug/kg	2.2	0.74	SW846 8260C
HB05_9	Volatile	Hexachlorobenzene	141	U	ug/kg	141	26.9	SW846 8270D
HB05_9	Volatile	Methyl t-Butyl Ether	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	Methylene Chloride	21.9		ug/kg	2.2	0.85	SW846 8260C
HB05_9	Volatile	Tetrachloroethene	2.2	U	ug/kg	2.2	0.65	SW846 8260C
HB05_9	Volatile	Toluene	2.2	U	ug/kg	2.2	0.73	SW846 8260C
HB05_9	Volatile	Total Xylenes	6.5	U	ug/kg	6.5	1.5	SW846 8260C
HB05_9	Volatile	Trichloroethene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	Vinyl Chloride	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	cis-1,2-Dichloroethene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	n-Butylbenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	n-Propylbenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	sec-Butylbenzene	2.2	U	ug/kg	2.2	0.55	SW846 8260C
HB05_9	Volatile	tert-Butylbenzene	2.2	U	ug/kg	2.2	0.6	SW846 8260C
HB05_9	Volatile	trans-1,2-Dichloroethene	2.2	U	ug/kg	2.2	0.57	SW846 8260C
HB06_11	Metal	Arsenic, Total	10.4		mg/kg	2.4	0.8	SW846 6020A
HB06_11	Metal	Barium, Total	29.6		mg/kg	4	1.3	SW846 6020A
HB06_11	Metal	Beryllium, Total	0.45	J	mg/kg	0.8	0.26	SW846 6020A
HB06_11	Metal	Cadmium, Total	1		mg/kg	0.8	0.26	SW846 6020A
HB06_11	Metal	Chromium, Total	33		mg/kg	1.6	0.53	SW846 6020A

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_11	Metal	Copper, Total	63		mg/kg	4	1.3	SW846 6020A
HB06_11	Metal	Cyanide, Total	0.39	U	mg/kg	0.39	0.14	SW846 9012B
HB06_11	Metal	Hexavalent Chromium	3.2	U	mg/kg	3.2	0.61	SW846 7196A
HB06_11	Metal	Lead, Total	65.7		mg/kg	1.6	0.53	SW846 6020A
HB06_11	Metal	Manganese, Total	186		mg/kg	4	1.3	SW846 6020A
HB06_11	Metal	Mercury, Total	0.49		mg/kg	0.081	0.026	SW846 7471B
HB06_11	Metal	Nickel, Total	15.8		mg/kg	4	1.3	SW846 6020A
HB06_11	Metal	Selenium, Total	1.7	J	mg/kg	4	1.3	SW846 6020A
HB06_11	Metal	Silver, Total	0.99	J	mg/kg	1.6	0.53	SW846 6020A
HB06_11	Metal	Trivalent Chromium	33		mg/kg	3.3	3.3	Calculation
HB06_11	Metal	Zinc, Total	141		mg/kg	4	1.3	SW846 6020A
HB06_11	Other	Moisture	38.5		%	0.1	0.01	S2540G-11
HB06_11	Other	Total Solids	61.5		%	0.1	0.01	S2540G-11
HB06_11	PCB/Pesticide	2,4,5-TP	108	U	ug/kg	108	49.9	SW846 8151A
HB06_11	PCB/Pesticide	4,4'-DDD	5.2	J	ug/kg	25.5	2.1	SW846 8081B
HB06_11	PCB/Pesticide	4,4'-DDE	6.4	J	ug/kg	25.5	3.5	SW846 8081B
HB06_11	PCB/Pesticide	4,4'-DDT	25.5	U	ug/kg	25.5	2.9	SW846 8081B
HB06_11	PCB/Pesticide	Aldrin	13.1	U	ug/kg	13.1	4.2	SW846 8081B
HB06_11	PCB/Pesticide	Aroclor-1016	0.051	U	mg/kg	0.051	0.0093	SW846 8082A
HB06_11	PCB/Pesticide	Aroclor-1221	0.051	U	mg/kg	0.051	0.0046	SW846 8082A
HB06_11	PCB/Pesticide	Aroclor-1232	0.051	U	mg/kg	0.051	0.0093	SW846 8082A
HB06_11	PCB/Pesticide	Aroclor-1242	0.051	U	mg/kg	0.051	0.014	SW846 8082A
HB06_11	PCB/Pesticide	Aroclor-1248	0.051	U	mg/kg	0.051	0.0093	SW846 8082A
HB06_11	PCB/Pesticide	Aroclor-1254	0.037	J	mg/kg	0.051	0.0093	SW846 8082A
HB06_11	PCB/Pesticide	Aroclor-1260	0.051	U	mg/kg	0.051	0.0093	SW846 8082A
HB06_11	PCB/Pesticide	Dibenzofuran	160	U	ug/kg	160	17.6	SW846 8270D
HB06_11	PCB/Pesticide	Dieldrin	25.5	U	ug/kg	25.5	2.9	SW846 8081B
HB06_11	PCB/Pesticide	Endosulfan I	13.1	U	ug/kg	13.1	1.6	SW846 8081B
HB06_11	PCB/Pesticide	Endosulfan II	25.5	U	ug/kg	25.5	5.3	SW846 8081B
HB06_11	PCB/Pesticide	Endosulfan Sulfate	25.5	U	ug/kg	25.5	1.7	SW846 8081B
HB06_11	PCB/Pesticide	Endrin	25.5	U	ug/kg	25.5	1.9	SW846 8081B
HB06_11	PCB/Pesticide	Heptachlor	13.1	U	ug/kg	13.1	1.3	SW846 8081B
HB06_11	PCB/Pesticide	Total Polychlorinated Biphenyl	0.051	U	mg/kg	0.051	0.051	SW846 8082A
HB06_11	PCB/Pesticide	alpha-BHC	13.1	U	ug/kg	13.1	1.2	SW846 8081B
HB06_11	PCB/Pesticide	alpha-Chlordane	13.1	U	ug/kg	13.1	1.4	SW846 8081B
HB06_11	PCB/Pesticide	beta-BHC	13.1	U	ug/kg	13.1	1.4	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_11	PCB/Pesticide	delta-BHC	13.1	U	ug/kg	13.1	1	SW846 8081B
HB06_11	PCB/Pesticide	gamma-BHC	13.1	U	ug/kg	13.1	1.1	SW846 8081B
HB06_11	Semivolatile	Acenaphthene	160	U	ug/kg	160	24.1	SW846 8270D
HB06_11	Semivolatile	Acenaphthylene	160	U	ug/kg	160	17.6	SW846 8270D
HB06_11	Semivolatile	Anthracene	143	J	ug/kg	160	16	SW846 8270D
HB06_11	Semivolatile	Benzo(a)anthracene	213		ug/kg	160	24.1	SW846 8270D
HB06_11	Semivolatile	Benzo(a)pyrene	219		ug/kg	160	25.7	SW846 8270D
HB06_11	Semivolatile	Benzo(b)fluoranthene	274		ug/kg	160	38.5	SW846 8270D
HB06_11	Semivolatile	Benzo(g,h,i)perylene	140	J	ug/kg	160	33.7	SW846 8270D
HB06_11	Semivolatile	Benzo(k)fluoranthene	104	J	ug/kg	160	30.5	SW846 8270D
HB06_11	Semivolatile	Chrysene	215		ug/kg	160	20.9	SW846 8270D
HB06_11	Semivolatile	Dibenzo(a,h)anthracene	160	U	ug/kg	160	19.2	SW846 8270D
HB06_11	Semivolatile	Fluoranthene	339		ug/kg	160	30.5	SW846 8270D
HB06_11	Semivolatile	Fluorene	160	U	ug/kg	160	32.1	SW846 8270D
HB06_11	Semivolatile	Indeno(1,2,3-cd)pyrene	154	J	ug/kg	160	28.9	SW846 8270D
HB06_11	Semivolatile	Naphthalene	160	U	ug/kg	160	38.5	SW846 8270D
HB06_11	Semivolatile	Pentachlorophenol	321	U	ug/kg	321	57.7	SW846 8270D
HB06_11	Semivolatile	Phenanthrene	141	J	ug/kg	160	22.5	SW846 8270D
HB06_11	Semivolatile	Phenol	433	U	ug/kg	433	24.1	SW846 8270D
HB06_11	Semivolatile	Pyrene	349		ug/kg	160	28.9	SW846 8270D
HB06_11	Semivolatile	mp-Cresol	433	U	ug/kg	433	24.1	SW846 8270D
HB06_11	Semivolatile	o-Cresol	433	U	ug/kg	433	35.3	SW846 8270D
HB06_11	Volatile	1,1,1-Trichloroethane	2	U	ug/kg	2	0.61	SW846 8260C
HB06_11	Volatile	1,1-Dichloroethane	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	1,1-Dichloroethene	2	U	ug/kg	2	0.51	SW846 8260C
HB06_11	Volatile	1,2,4-Trimethylbenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	1,2-Dichlorobenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	1,2-Dichloroethane	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	1,3,5-Trimethylbenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	1,3-Dichlorobenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	1,4-Dichlorobenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	1,4-Dioxane	73.5	U	ug/kg	73.5	17.4	SW846 8260C
HB06_11	Volatile	2-Butanone	9.8	U	ug/kg	9.8	3.1	SW846 8260C
HB06_11	Volatile	Acetone	8.3	J	ug/kg	9.8	4.5	SW846 8260C
HB06_11	Volatile	Benzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	Carbon Tetrachloride	2	U	ug/kg	2	0.5	SW846 8260C
HB06_11	Volatile	Chlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_11	Volatile	Chloroform	2	U	ug/kg	2	0.52	SW846 8260C
HB06_11	Volatile	Ethylbenzene	2	U	ug/kg	2	0.67	SW846 8260C
HB06_11	Volatile	Hexachlorobenzene	160	U	ug/kg	160	30.5	SW846 8270D
HB06_11	Volatile	Methyl t-Butyl Ether	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	Methylene Chloride	19.3		ug/kg	2	0.76	SW846 8260C
HB06_11	Volatile	Tetrachloroethene	2	U	ug/kg	2	0.59	SW846 8260C
HB06_11	Volatile	Toluene	2	U	ug/kg	2	0.66	SW846 8260C
HB06_11	Volatile	Total Xylenes	5.9	U	ug/kg	5.9	1.4	SW846 8260C
HB06_11	Volatile	Trichloroethene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	Vinyl Chloride	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	cis-1,2-Dichloroethene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	n-Butylbenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	n-Propylbenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	sec-Butylbenzene	2	U	ug/kg	2	0.49	SW846 8260C
HB06_11	Volatile	tert-Butylbenzene	2	U	ug/kg	2	0.54	SW846 8260C
HB06_11	Volatile	trans-1,2-Dichloroethene	2	U	ug/kg	2	0.51	SW846 8260C
HB06_12	Metal	Arsenic, Total	8.9		mg/kg	2.3	0.77	SW846 6020A
HB06_12	Metal	Barium, Total	23.3		mg/kg	3.8	1.2	SW846 6020A
HB06_12	Metal	Beryllium, Total	0.42	J	mg/kg	0.77	0.25	SW846 6020A
HB06_12	Metal	Cadmium, Total	0.99		mg/kg	0.77	0.25	SW846 6020A
HB06_12	Metal	Chromium, Total	31.1		mg/kg	1.5	0.51	SW846 6020A
HB06_12	Metal	Copper, Total	61.4		mg/kg	3.8	1.2	SW846 6020A
HB06_12	Metal	Cyanide, Total	0.41	U	mg/kg	0.41	0.15	SW846 9012B
HB06_12	Metal	Hexavalent Chromium	3.4	U	mg/kg	3.4	0.66	SW846 7196A
HB06_12	Metal	Lead, Total	61.5		mg/kg	1.5	0.51	SW846 6020A
HB06_12	Metal	Manganese, Total	193		mg/kg	3.8	1.2	SW846 6020A
HB06_12	Metal	Mercury, Total	0.57		mg/kg	0.08	0.026	SW846 7471B
HB06_12	Metal	Nickel, Total	15.7		mg/kg	3.8	1.2	SW846 6020A
HB06_12	Metal	Selenium, Total	2.4	J	mg/kg	3.8	1.2	SW846 6020A
HB06_12	Metal	Silver, Total	0.94	J	mg/kg	1.5	0.51	SW846 6020A
HB06_12	Metal	Trivalent Chromium	31.1		mg/kg	3.3	3.3	Calculation
HB06_12	Metal	Zinc, Total	151		mg/kg	3.8	1.2	SW846 6020A
HB06_12	Other	Moisture	39.7		%	0.1	0.01	S2540G-11
HB06_12	Other	Total Solids	60.3		%	0.1	0.01	S2540G-11
HB06_12	PCB/Pesticide	2,4,5-TP	108	U	ug/kg	108	49.9	SW846 8151A
HB06_12	PCB/Pesticide	4,4'-DDD	26.3	U	ug/kg	26.3	2.2	SW846 8081B
HB06_12	PCB/Pesticide	4,4'-DDE	6.4	J	ug/kg	26.3	3.6	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_12	PCB/Pesticide	4,4'-DDT	26.3	U	ug/kg	26.3	3	SW846 8081B
HB06_12	PCB/Pesticide	Aldrin	13.6	U	ug/kg	13.6	4.4	SW846 8081B
HB06_12	PCB/Pesticide	Aroclor-1016	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
HB06_12	PCB/Pesticide	Aroclor-1221	0.053	U	mg/kg	0.053	0.0048	SW846 8082A
HB06_12	PCB/Pesticide	Aroclor-1232	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
HB06_12	PCB/Pesticide	Aroclor-1242	0.053	U	mg/kg	0.053	0.014	SW846 8082A
HB06_12	PCB/Pesticide	Aroclor-1248	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
HB06_12	PCB/Pesticide	Aroclor-1254	0.039	J	mg/kg	0.053	0.0096	SW846 8082A
HB06_12	PCB/Pesticide	Aroclor-1260	0.053	U	mg/kg	0.053	0.0096	SW846 8082A
HB06_12	PCB/Pesticide	Dibenzofuran	156	U	ug/kg	156	17.2	SW846 8270D
HB06_12	PCB/Pesticide	Dieldrin	26.3	U	ug/kg	26.3	3	SW846 8081B
HB06_12	PCB/Pesticide	Endosulfan I	13.6	U	ug/kg	13.6	1.7	SW846 8081B
HB06_12	PCB/Pesticide	Endosulfan II	26.3	U	ug/kg	26.3	5.5	SW846 8081B
HB06_12	PCB/Pesticide	Endosulfan Sulfate	26.3	U	ug/kg	26.3	1.8	SW846 8081B
HB06_12	PCB/Pesticide	Endrin	26.3	U	ug/kg	26.3	1.9	SW846 8081B
HB06_12	PCB/Pesticide	Heptachlor	13.6	U	ug/kg	13.6	1.4	SW846 8081B
HB06_12	PCB/Pesticide	Total Polychlorinated Biphenyl	0.053	U	mg/kg	0.053	0.053	SW846 8082A
HB06_12	PCB/Pesticide	alpha-BHC	13.6	U	ug/kg	13.6	1.2	SW846 8081B
HB06_12	PCB/Pesticide	alpha-Chlordane	13.6	U	ug/kg	13.6	1.4	SW846 8081B
HB06_12	PCB/Pesticide	beta-BHC	13.6	U	ug/kg	13.6	1.4	SW846 8081B
HB06_12	PCB/Pesticide	delta-BHC	13.6	U	ug/kg	13.6	1	SW846 8081B
HB06_12	PCB/Pesticide	gamma-BHC	13.6	U	ug/kg	13.6	1.1	SW846 8081B
HB06_12	Semivolatile	Acenaphthene	156	U	ug/kg	156	23.5	SW846 8270D
HB06_12	Semivolatile	Acenaphthylene	68.3	J	ug/kg	156	17.2	SW846 8270D
HB06_12	Semivolatile	Anthracene	82.9	J	ug/kg	156	15.6	SW846 8270D
HB06_12	Semivolatile	Benzo(a)anthracene	286		ug/kg	156	23.5	SW846 8270D
HB06_12	Semivolatile	Benzo(a)pyrene	343		ug/kg	156	25	SW846 8270D
HB06_12	Semivolatile	Benzo(b)fluoranthene	428		ug/kg	156	37.5	SW846 8270D
HB06_12	Semivolatile	Benzo(g,h,i)perylene	231		ug/kg	156	32.9	SW846 8270D
HB06_12	Semivolatile	Benzo(k)fluoranthene	156	J	ug/kg	156	29.7	SW846 8270D
HB06_12	Semivolatile	Chrysene	296		ug/kg	156	20.3	SW846 8270D
HB06_12	Semivolatile	Dibenzo(a,h)anthracene	69.5	J	ug/kg	156	18.8	SW846 8270D
HB06_12	Semivolatile	Fluoranthene	516		ug/kg	156	29.7	SW846 8270D
HB06_12	Semivolatile	Fluorene	156	U	ug/kg	156	31.3	SW846 8270D
HB06_12	Semivolatile	Indeno(1,2,3-cd)pyrene	226		ug/kg	156	28.2	SW846 8270D
HB06_12	Semivolatile	Naphthalene	156	U	ug/kg	156	37.5	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB06_12	Semivolatile	Pentachlorophenol	313	U	ug/kg	313	56.3	SW846 8270D
HB06_12	Semivolatile	Phenanthrene	198		ug/kg	156	21.9	SW846 8270D
HB06_12	Semivolatile	Phenol	422	U	ug/kg	422	23.5	SW846 8270D
HB06_12	Semivolatile	Pyrene	493		ug/kg	156	28.2	SW846 8270D
HB06_12	Semivolatile	mp-Cresol	422	U	ug/kg	422	23.5	SW846 8270D
HB06_12	Semivolatile	o-Cresol	422	U	ug/kg	422	34.4	SW846 8270D
HB06_12	Volatile	1,1,1-Trichloroethane	2.9	U	ug/kg	2.9	0.91	SW846 8260C
HB06_12	Volatile	1,1-Dichloroethane	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	1,1-Dichloroethene	2.9	U	ug/kg	2.9	0.77	SW846 8260C
HB06_12	Volatile	1,2,4-Trimethylbenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	1,2-Dichlorobenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	1,2-Dichloroethane	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	1,3,5-Trimethylbenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	1,3-Dichlorobenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	1,4-Dichlorobenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	1,4-Dioxane	110	U	ug/kg	110	26.2	SW846 8260C
HB06_12	Volatile	2-Butanone	14.7	U	ug/kg	14.7	4.7	SW846 8260C
HB06_12	Volatile	Acetone	14.7	U	ug/kg	14.7	6.8	SW846 8260C
HB06_12	Volatile	Benzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	Carbon Tetrachloride	2.9	U	ug/kg	2.9	0.75	SW846 8260C
HB06_12	Volatile	Chlorobenzene	2.9	U	ug/kg	2.9	0.75	SW846 8260C
HB06_12	Volatile	Chloroform	2.9	U	ug/kg	2.9	0.78	SW846 8260C
HB06_12	Volatile	Ethylbenzene	2.9	U	ug/kg	2.9	1	SW846 8260C
HB06_12	Volatile	Hexachlorobenzene	156	U	ug/kg	156	29.7	SW846 8270D
HB06_12	Volatile	Methyl t-Butyl Ether	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	Methylene Chloride	26.6		ug/kg	2.9	1.1	SW846 8260C
HB06_12	Volatile	Tetrachloroethene	2.9	U	ug/kg	2.9	0.88	SW846 8260C
HB06_12	Volatile	Toluene	2.9	U	ug/kg	2.9	0.99	SW846 8260C
HB06_12	Volatile	Total Xylenes	8.8	U	ug/kg	8.8	2.1	SW846 8260C
HB06_12	Volatile	Trichloroethene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	Vinyl Chloride	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	cis-1,2-Dichloroethene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	n-Butylbenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	n-Propylbenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	sec-Butylbenzene	2.9	U	ug/kg	2.9	0.74	SW846 8260C
HB06_12	Volatile	tert-Butylbenzene	2.9	U	ug/kg	2.9	0.81	SW846 8260C
HB06_12	Volatile	trans-1,2-Dichloroethene	2.9	U	ug/kg	2.9	0.77	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_13	Metal	Arsenic, Total	3.6		mg/kg	2.1	0.7	SW846 6020A
HB07_13	Metal	Barium, Total	10		mg/kg	3.5	1.1	SW846 6020A
HB07_13	Metal	Beryllium, Total	0.7	U	mg/kg	0.7	0.23	SW846 6020A
HB07_13	Metal	Cadmium, Total	0.7	U	mg/kg	0.7	0.23	SW846 6020A
HB07_13	Metal	Chromium, Total	11		mg/kg	1.4	0.46	SW846 6020A
HB07_13	Metal	Copper, Total	13.1		mg/kg	3.5	1.1	SW846 6020A
HB07_13	Metal	Cyanide, Total	0.36	U	mg/kg	0.36	0.13	SW846 9012B
HB07_13	Metal	Hexavalent Chromium	2.7	U	mg/kg	2.7	0.53	SW846 7196A
HB07_13	Metal	Lead, Total	18.1		mg/kg	1.4	0.46	SW846 6020A
HB07_13	Metal	Manganese, Total	203		mg/kg	3.5	1.1	SW846 6020A
HB07_13	Metal	Mercury, Total	0.089		mg/kg	0.067	0.021	SW846 7471B
HB07_13	Metal	Nickel, Total	6.5		mg/kg	3.5	1.1	SW846 6020A
HB07_13	Metal	Selenium, Total	3.5	U	mg/kg	3.5	1.1	SW846 6020A
HB07_13	Metal	Silver, Total	1.4	U	mg/kg	1.4	0.46	SW846 6020A
HB07_13	Metal	Trivalent Chromium	11		mg/kg	2.8	2.8	Calculation
HB07_13	Metal	Zinc, Total	49.3		mg/kg	3.5	1.1	SW846 6020A
HB07_13	Other	Moisture	29.5		%	0.1	0.01	S2540G-11
HB07_13	Other	Total Solids	70.5		%	0.1	0.01	S2540G-11
HB07_13	PCB/Pesticide	2,4,5-TP	92.6	U	ug/kg	92.6	42.8	SW846 8151A
HB07_13	PCB/Pesticide	4,4'-DDD	23.3	U	ug/kg	23.3	1.9	SW846 8081B
HB07_13	PCB/Pesticide	4,4'-DDE	23.3	U	ug/kg	23.3	3.2	SW846 8081B
HB07_13	PCB/Pesticide	4,4'-DDT	23.3	U	ug/kg	23.3	2.7	SW846 8081B
HB07_13	PCB/Pesticide	Aldrin	12	U	ug/kg	12	3.9	SW846 8081B
HB07_13	PCB/Pesticide	Aroclor-1016	0.047	U	mg/kg	0.047	0.0085	SW846 8082A
HB07_13	PCB/Pesticide	Aroclor-1221	0.047	U	mg/kg	0.047	0.0042	SW846 8082A
HB07_13	PCB/Pesticide	Aroclor-1232	0.047	U	mg/kg	0.047	0.0085	SW846 8082A
HB07_13	PCB/Pesticide	Aroclor-1242	0.047	U	mg/kg	0.047	0.013	SW846 8082A
HB07_13	PCB/Pesticide	Aroclor-1248	0.047	U	mg/kg	0.047	0.0085	SW846 8082A
HB07_13	PCB/Pesticide	Aroclor-1254	0.047	U	mg/kg	0.047	0.0085	SW846 8082A
HB07_13	PCB/Pesticide	Aroclor-1260	0.047	U	mg/kg	0.047	0.0085	SW846 8082A
HB07_13	PCB/Pesticide	Dibenzofuran	137	U	ug/kg	137	15.1	SW846 8270D
HB07_13	PCB/Pesticide	Dieldrin	23.3	U	ug/kg	23.3	2.7	SW846 8081B
HB07_13	PCB/Pesticide	Endosulfan I	12	U	ug/kg	12	1.5	SW846 8081B
HB07_13	PCB/Pesticide	Endosulfan II	23.3	U	ug/kg	23.3	4.9	SW846 8081B
HB07_13	PCB/Pesticide	Endosulfan Sulfate	23.3	U	ug/kg	23.3	1.6	SW846 8081B
HB07_13	PCB/Pesticide	Endrin	23.3	U	ug/kg	23.3	1.7	SW846 8081B

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_13	PCB/Pesticide	Heptachlor	12	U	ug/kg	12	1.2	SW846 8081B
HB07_13	PCB/Pesticide	Total Polychlorinated Biphenyl	0.047	U	mg/kg	0.047	0.047	SW846 8082A
HB07_13	PCB/Pesticide	alpha-BHC	12	U	ug/kg	12	1.1	SW846 8081B
HB07_13	PCB/Pesticide	alpha-Chlordane	12	U	ug/kg	12	1.3	SW846 8081B
HB07_13	PCB/Pesticide	beta-BHC	12	U	ug/kg	12	1.3	SW846 8081B
HB07_13	PCB/Pesticide	delta-BHC	12	U	ug/kg	12	0.92	SW846 8081B
HB07_13	PCB/Pesticide	gamma-BHC	12	U	ug/kg	12	0.99	SW846 8081B
HB07_13	Semivolatile	Acenaphthene	137	U	ug/kg	137	20.6	SW846 8270D
HB07_13	Semivolatile	Acenaphthylene	137	U	ug/kg	137	15.1	SW846 8270D
HB07_13	Semivolatile	Anthracene	137	U	ug/kg	137	13.7	SW846 8270D
HB07_13	Semivolatile	Benzo(a)anthracene	137	U	ug/kg	137	20.6	SW846 8270D
HB07_13	Semivolatile	Benzo(a)pyrene	137	U	ug/kg	137	22	SW846 8270D
HB07_13	Semivolatile	Benzo(b)fluoranthene	137	U	ug/kg	137	33	SW846 8270D
HB07_13	Semivolatile	Benzo(g,h,i)perylene	137	U	ug/kg	137	28.8	SW846 8270D
HB07_13	Semivolatile	Benzo(k)fluoranthene	137	U	ug/kg	137	26.1	SW846 8270D
HB07_13	Semivolatile	Chrysene	137	U	ug/kg	137	17.8	SW846 8270D
HB07_13	Semivolatile	Dibenzo(a,h)anthracene	137	U	ug/kg	137	16.5	SW846 8270D
HB07_13	Semivolatile	Fluoranthene	137	U	ug/kg	137	26.1	SW846 8270D
HB07_13	Semivolatile	Fluorene	137	U	ug/kg	137	27.5	SW846 8270D
HB07_13	Semivolatile	Indeno(1,2,3-cd)pyrene	137	U	ug/kg	137	24.7	SW846 8270D
HB07_13	Semivolatile	Naphthalene	137	U	ug/kg	137	33	SW846 8270D
HB07_13	Semivolatile	Pentachlorophenol	275	U	ug/kg	275	49.4	SW846 8270D
HB07_13	Semivolatile	Phenanthrene	137	U	ug/kg	137	19.2	SW846 8270D
HB07_13	Semivolatile	Phenol	371	U	ug/kg	371	20.6	SW846 8270D
HB07_13	Semivolatile	Pyrene	137	U	ug/kg	137	24.7	SW846 8270D
HB07_13	Semivolatile	mp-Cresol	371	U	ug/kg	371	20.6	SW846 8270D
HB07_13	Semivolatile	o-Cresol	371	U	ug/kg	371	30.2	SW846 8270D
HB07_13	Volatile	1,1,1-Trichloroethane	2.1	U	ug/kg	2.1	0.64	SW846 8260C
HB07_13	Volatile	1,1-Dichloroethane	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	1,1-Dichloroethene	2.1	U	ug/kg	2.1	0.54	SW846 8260C
HB07_13	Volatile	1,2,4-Trimethylbenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	1,2-Dichlorobenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	1,2-Dichloroethane	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	1,3,5-Trimethylbenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	1,3-Dichlorobenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	1,4-Dichlorobenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_13	Volatile	1,4-Dioxane	77.7	U	ug/kg	77.7	18.4	SW846 8260C
HB07_13	Volatile	2-Butanone	10.4	U	ug/kg	10.4	3.3	SW846 8260C
HB07_13	Volatile	Acetone	5.5	J	ug/kg	10.4	4.8	SW846 8260C
HB07_13	Volatile	Benzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	Carbon Tetrachloride	2.1	U	ug/kg	2.1	0.53	SW846 8260C
HB07_13	Volatile	Chlorobenzene	2.1	U	ug/kg	2.1	0.53	SW846 8260C
HB07_13	Volatile	Chloroform	2.1	U	ug/kg	2.1	0.55	SW846 8260C
HB07_13	Volatile	Ethylbenzene	2.1	U	ug/kg	2.1	0.7	SW846 8260C
HB07_13	Volatile	Hexachlorobenzene	137	U	ug/kg	137	26.1	SW846 8270D
HB07_13	Volatile	Methyl t-Butyl Ether	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	Methylene Chloride	24.4		ug/kg	2.1	0.81	SW846 8260C
HB07_13	Volatile	Tetrachloroethene	2.1	U	ug/kg	2.1	0.62	SW846 8260C
HB07_13	Volatile	Toluene	2.1	U	ug/kg	2.1	0.69	SW846 8260C
HB07_13	Volatile	Total Xylenes	6.2	U	ug/kg	6.2	1.4	SW846 8260C
HB07_13	Volatile	Trichloroethene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	Vinyl Chloride	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	cis-1,2-Dichloroethene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	n-Butylbenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	n-Propylbenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	sec-Butylbenzene	2.1	U	ug/kg	2.1	0.52	SW846 8260C
HB07_13	Volatile	tert-Butylbenzene	2.1	U	ug/kg	2.1	0.57	SW846 8260C
HB07_13	Volatile	trans-1,2-Dichloroethene	2.1	U	ug/kg	2.1	0.54	SW846 8260C
HB07_14	Metal	Arsenic, Total	3.7		mg/kg	1.8	0.61	SW846 6020A
HB07_14	Metal	Barium, Total	10.4		mg/kg	3.1	0.98	SW846 6020A
HB07_14	Metal	Beryllium, Total	0.22	J	mg/kg	0.61	0.2	SW846 6020A
HB07_14	Metal	Cadmium, Total	0.24	J	mg/kg	0.61	0.2	SW846 6020A
HB07_14	Metal	Chromium, Total	12		mg/kg	1.2	0.41	SW846 6020A
HB07_14	Metal	Copper, Total	15		mg/kg	3.1	0.98	SW846 6020A
HB07_14	Metal	Cyanide, Total	0.35	U	mg/kg	0.35	0.13	SW846 9012B
HB07_14	Metal	Hexavalent Chromium	2.7	U	mg/kg	2.7	0.53	SW846 7196A
HB07_14	Metal	Lead, Total	19.2		mg/kg	1.2	0.41	SW846 6020A
HB07_14	Metal	Manganese, Total	291		mg/kg	3.1	0.98	SW846 6020A
HB07_14	Metal	Mercury, Total	0.098		mg/kg	0.059	0.019	SW846 7471B
HB07_14	Metal	Nickel, Total	6.8		mg/kg	3.1	0.98	SW846 6020A
HB07_14	Metal	Selenium, Total	3.1	U	mg/kg	3.1	0.98	SW846 6020A
HB07_14	Metal	Silver, Total	1.2	U	mg/kg	1.2	0.41	SW846 6020A
HB07_14	Metal	Trivalent Chromium	12		mg/kg	2.8	2.8	Calculation

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_14	Metal	Zinc, Total	57.2		mg/kg	3.1	0.98	SW846 6020A
HB07_14	Other	Moisture	28.7		%	0.1	0.01	S2540G-11
HB07_14	Other	Total Solids	71.3		%	0.1	0.01	S2540G-11
HB07_14	PCB/Pesticide	2,4,5-TP	93.9	U	ug/kg	93.9	43.5	SW846 8151A
HB07_14	PCB/Pesticide	4,4'-DDD	22.5	U	ug/kg	22.5	1.8	SW846 8081B
HB07_14	PCB/Pesticide	4,4'-DDE	22.5	U	ug/kg	22.5	3.1	SW846 8081B
HB07_14	PCB/Pesticide	4,4'-DDT	22.5	U	ug/kg	22.5	2.6	SW846 8081B
HB07_14	PCB/Pesticide	Aldrin	11.6	U	ug/kg	11.6	3.8	SW846 8081B
HB07_14	PCB/Pesticide	Aroclor-1016	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB07_14	PCB/Pesticide	Aroclor-1221	0.045	U	mg/kg	0.045	0.0041	SW846 8082A
HB07_14	PCB/Pesticide	Aroclor-1232	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB07_14	PCB/Pesticide	Aroclor-1242	0.045	U	mg/kg	0.045	0.012	SW846 8082A
HB07_14	PCB/Pesticide	Aroclor-1248	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB07_14	PCB/Pesticide	Aroclor-1254	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB07_14	PCB/Pesticide	Aroclor-1260	0.045	U	mg/kg	0.045	0.0082	SW846 8082A
HB07_14	PCB/Pesticide	Dibenzofuran	137	U	ug/kg	137	15.1	SW846 8270D
HB07_14	PCB/Pesticide	Dieldrin	22.5	U	ug/kg	22.5	2.6	SW846 8081B
HB07_14	PCB/Pesticide	Endosulfan I	11.6	U	ug/kg	11.6	1.4	SW846 8081B
HB07_14	PCB/Pesticide	Endosulfan II	22.5	U	ug/kg	22.5	4.7	SW846 8081B
HB07_14	PCB/Pesticide	Endosulfan Sulfate	22.5	U	ug/kg	22.5	1.5	SW846 8081B
HB07_14	PCB/Pesticide	Endrin	22.5	U	ug/kg	22.5	1.6	SW846 8081B
HB07_14	PCB/Pesticide	Heptachlor	11.6	U	ug/kg	11.6	1.2	SW846 8081B
HB07_14	PCB/Pesticide	Total Polychlorinated Biphenyl	0.045	U	mg/kg	0.045	0.045	SW846 8082A
HB07_14	PCB/Pesticide	alpha-BHC	11.6	U	ug/kg	11.6	1	SW846 8081B
HB07_14	PCB/Pesticide	alpha-Chlordane	11.6	U	ug/kg	11.6	1.2	SW846 8081B
HB07_14	PCB/Pesticide	beta-BHC	11.6	U	ug/kg	11.6	1.2	SW846 8081B
HB07_14	PCB/Pesticide	delta-BHC	11.6	U	ug/kg	11.6	0.89	SW846 8081B
HB07_14	PCB/Pesticide	gamma-BHC	11.6	U	ug/kg	11.6	0.96	SW846 8081B
HB07_14	Semivolatile	Acenaphthene	137	U	ug/kg	137	20.6	SW846 8270D
HB07_14	Semivolatile	Acenaphthylene	137	U	ug/kg	137	15.1	SW846 8270D
HB07_14	Semivolatile	Anthracene	137	U	ug/kg	137	13.7	SW846 8270D
HB07_14	Semivolatile	Benzo(a)anthracene	137	U	ug/kg	137	20.6	SW846 8270D
HB07_14	Semivolatile	Benzo(a)pyrene	137	U	ug/kg	137	22	SW846 8270D
HB07_14	Semivolatile	Benzo(b)fluoranthene	137	U	ug/kg	137	33	SW846 8270D
HB07_14	Semivolatile	Benzo(g,h,i)perylene	137	U	ug/kg	137	28.9	SW846 8270D
HB07_14	Semivolatile	Benzo(k)fluoranthene	137	U	ug/kg	137	26.1	SW846 8270D

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_14	Semivolatile	Chrysene	137	U	ug/kg	137	17.9	SW846 8270D
HB07_14	Semivolatile	Dibenzo(a,h)anthracene	137	U	ug/kg	137	16.5	SW846 8270D
HB07_14	Semivolatile	Fluoranthene	137	U	ug/kg	137	26.1	SW846 8270D
HB07_14	Semivolatile	Fluorene	137	U	ug/kg	137	27.5	SW846 8270D
HB07_14	Semivolatile	Indeno(1,2,3-cd)pyrene	137	U	ug/kg	137	24.7	SW846 8270D
HB07_14	Semivolatile	Naphthalene	137	U	ug/kg	137	33	SW846 8270D
HB07_14	Semivolatile	Pentachlorophenol	275	U	ug/kg	275	49.5	SW846 8270D
HB07_14	Semivolatile	Phenanthrene	137	U	ug/kg	137	19.2	SW846 8270D
HB07_14	Semivolatile	Phenol	371	U	ug/kg	371	20.6	SW846 8270D
HB07_14	Semivolatile	Pyrene	137	U	ug/kg	137	24.7	SW846 8270D
HB07_14	Semivolatile	mp-Cresol	371	U	ug/kg	371	20.6	SW846 8270D
HB07_14	Semivolatile	o-Cresol	371	U	ug/kg	371	30.2	SW846 8270D
HB07_14	Volatile	1,1,1-Trichloroethane	2	U	ug/kg	2	0.62	SW846 8260C
HB07_14	Volatile	1,1-Dichloroethane	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	1,1-Dichloroethene	2	U	ug/kg	2	0.52	SW846 8260C
HB07_14	Volatile	1,2,4-Trimethylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	1,2-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	1,2-Dichloroethane	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	1,3,5-Trimethylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	1,3-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	1,4-Dichlorobenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	1,4-Dioxane	74.5	U	ug/kg	74.5	17.7	SW846 8260C
HB07_14	Volatile	2-Butanone	9.9	U	ug/kg	9.9	3.2	SW846 8260C
HB07_14	Volatile	Acetone	9.9	U	ug/kg	9.9	4.6	SW846 8260C
HB07_14	Volatile	Benzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	Carbon Tetrachloride	2	U	ug/kg	2	0.51	SW846 8260C
HB07_14	Volatile	Chlorobenzene	2	U	ug/kg	2	0.51	SW846 8260C
HB07_14	Volatile	Chloroform	2	U	ug/kg	2	0.53	SW846 8260C
HB07_14	Volatile	Ethylbenzene	2	U	ug/kg	2	0.68	SW846 8260C
HB07_14	Volatile	Hexachlorobenzene	137	U	ug/kg	137	26.1	SW846 8270D
HB07_14	Volatile	Methyl t-Butyl Ether	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	Methylene Chloride	21.6		ug/kg	2	0.77	SW846 8260C
HB07_14	Volatile	Tetrachloroethene	2	U	ug/kg	2	0.6	SW846 8260C
HB07_14	Volatile	Toluene	2	U	ug/kg	2	0.67	SW846 8260C
HB07_14	Volatile	Total Xylenes	6	U	ug/kg	6	1.4	SW846 8260C
HB07_14	Volatile	Trichloroethene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	Vinyl Chloride	2	U	ug/kg	2	0.5	SW846 8260C

(continued)

Appendix Table G-11. (Continued)

Sample ID	Group	Analyte Name	Result	Qualifier	Units	Reporting Limit	Detection Limit	Method
HB07_14	Volatile	cis-1,2-Dichloroethene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	n-Butylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	n-Propylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	sec-Butylbenzene	2	U	ug/kg	2	0.5	SW846 8260C
HB07_14	Volatile	tert-Butylbenzene	2	U	ug/kg	2	0.55	SW846 8260C
HB07_14	Volatile	trans-1,2-Dichloroethene	2	U	ug/kg	2	0.52	SW846 8260C

Appendix Table G-12. Qualifier Codes and Descriptions for Clam Chemistry Data Collected during the September 2015 Benthic Study.

Group	Qualifier	Qualifier Description
Dioxin/Furan	BJ	Indicates the associated analyte was found in the method blank at >1/10th the reported value. Estimated value. The reported concentration is below the MRL.
Dioxin/Furan	J	Estimated value. The reported concentration is below the MRL.
Dioxin/Furan	JK	The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. Estimated value. The reported concentration is below the MRL.Reported concentration is a conservative estimate, however EMPC correction was not applied.
Dioxin/Furan	K	The ion abundance ratio between the primary and secondary ions were outside of theoretical acceptance limits. Reported concentration is a conservative estimate, however EMPC correction was not applied.
Dioxin/Furan	U	Compound was analyzed for, but was not detected (ND).
Dioxin/Furan	Y*	Isotopically Labeled Standard recovery outside of acceptance limits. In all cases, the signal-to-noise ratios are greater than 10:1, making the recoveries acceptable. The result is an outlier.
Lipid	U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
Metal	*	The result is an outlier.
Metal	J	The result is an estimated value.
Metal	N	The Matrix Spike sample recovery is not within control limits. See case narrative.
Metal	U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.

(continued)

Appendix Table G-12. (Continued)

Group	Qualifier	Qualifier Description
Metal	U*	
Metal	UN	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution. The Matrix Spike sample recovery is not within control limits. See case narrative.
Organochloride Pesticide	#	The control limit criteria is not applicable. See case narrative.
Organochloride Pesticide	J	The result is an estimated value.
Organochloride Pesticide	JP	The result is an estimated value. The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
Organochloride Pesticide	P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
Organochloride Pesticide	U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
Organochloride Pesticide	Ui	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution. The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
PCB	J	The result is an estimated value.
PCB	JP	The result is an estimated value. The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
PCB	U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.

(continued)

Appendix Table G-12. (Continued)

Group	Qualifier	Qualifier Description
Semivolatile Organic Coumpound/PAH	*	The result is an outlier. See case narrative
Semivolatile Organic Coumpound/PAH	*J	The result is an outlier. See case narrative. The result is an estimated value.
Semivolatile Organic Coumpound/PAH	J	The result is an estimated value.
Semivolatile Organic Coumpound/PAH	U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.

Appendix Table G-13. Qualifier Codes and Descriptions for Sediment Chemistry Data Collected during the September 2015 Benthic Study.

Group	Qualifier	Qualifier Description
Metal, PCB/Pesticide, Semivolatile, Volatile	J	The result is an estimated value.
Metal, PCB/Pesticide, Semivolatile, Volatile	U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.

Appendix H

Laboratory Reports for Water Analyses; September 2015 Benthic Macroinvertebrate Study.

(Provided as a separate document.)

Appendix I

Laboratory Reports for Sediment TOC Analysis; September 2015 Benthic Macroinvertebrate Study.

(Provided as a separate document.)

Appendix J

Laboratory Reports for Sediment Grain Size Analysis; September 2015 Benthic Macroinvertebrate Study.

(Provided as a separate document.)

Appendix K

Laboratory Reports for Clam Tissue Chemistry Analyses; September 2015 Benthic Macroinvertebrate Study.

(Provided as a separate document.)

Appendix L

Laboratory Reports for Sediment Chemistry Analyses; September 2015 Benthic Macroinvertebrate Study.

(Provided as a separate document.)