

**Full Environmental Assessment Form**  
**Part 1 - Project and Setting**

**Instructions for Completing Part 1**

**Part 1 is to be completed by the applicant or project sponsor.** Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either “Yes” or “No”. If the answer to the initial question is “Yes”, complete the sub-questions that follow. If the answer to the initial question is “No”, proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the project sponsor to verify that the information contained in Part 1 is accurate and complete.

**A. Project and Sponsor Information.**

Name of Action or Project:		
Project Location (describe, and attach a general location map):		
Brief Description of Proposed Action (include purpose or need):		
Name of Applicant/Sponsor:		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:
Project Contact (if not same as sponsor; give name and title/role):		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:
Property Owner (if not same as sponsor):		Telephone:
		E-Mail:
Address:		
City/PO:	State:	Zip Code:

**B. Government Approvals**

**B. Government Approvals, Funding, or Sponsorship.** (“Funding” includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Council, Town Board, or Village Board of Trustees <input type="checkbox"/> Yes <input type="checkbox"/> No		
b. City, Town or Village Planning Board or Commission <input type="checkbox"/> Yes <input type="checkbox"/> No		
c. City Council, Town or Village Zoning Board of Appeals <input type="checkbox"/> Yes <input type="checkbox"/> No		
d. Other local agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
e. County agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
f. Regional agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
g. State agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
h. Federal agencies <input type="checkbox"/> Yes <input type="checkbox"/> No		
i. Coastal Resources. <ul style="list-style-type: none"> <li data-bbox="121 829 1485 861">i. Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> <li data-bbox="121 892 1485 924">ii. Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> <li data-bbox="121 924 1485 955">iii. Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> </ul>		

**C. Planning and Zoning**

**C.1. Planning and zoning actions.**

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed?  Yes  No

- **If Yes**, complete sections C, F and G.
- **If No**, proceed to question C.2 and complete all remaining sections and questions in Part 1

**C.2. Adopted land use plans.**

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located?  Yes  No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located?  Yes  No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?)  Yes  No

If Yes, identify the plan(s):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan?  Yes  No

If Yes, identify the plan(s):

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**C.3. Zoning**

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance.  Yes  No  
If Yes, what is the zoning classification(s) including any applicable overlay district?

\_\_\_\_\_

\_\_\_\_\_

b. Is the use permitted or allowed by a special or conditional use permit?  Yes  No

c. Is a zoning change requested as part of the proposed action?  Yes  No

If Yes,

i. What is the proposed new zoning for the site? \_\_\_\_\_

**C.4. Existing community services.**

a. In what school district is the project site located? \_\_\_\_\_

b. What police or other public protection forces serve the project site?  
\_\_\_\_\_

c. Which fire protection and emergency medical services serve the project site?  
\_\_\_\_\_

d. What parks serve the project site?  
\_\_\_\_\_  
\_\_\_\_\_

**D. Project Details**

**D.1. Proposed and Potential Development**

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)?  
\_\_\_\_\_

b. a. Total acreage of the site of the proposed action? \_\_\_\_\_ acres

b. Total acreage to be physically disturbed? \_\_\_\_\_ acres

c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? \_\_\_\_\_ acres

c. Is the proposed action an expansion of an existing project or use?  Yes  No

i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % \_\_\_\_\_ Units: \_\_\_\_\_

d. Is the proposed action a subdivision, or does it include a subdivision?  Yes  No

If Yes,

i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types)  
\_\_\_\_\_

ii. Is a cluster/conservation layout proposed?  Yes  No

iii. Number of lots proposed? \_\_\_\_\_

iv. Minimum and maximum proposed lot sizes? Minimum \_\_\_\_\_ Maximum \_\_\_\_\_

e. Will proposed action be constructed in multiple phases?  Yes  No

i. If No, anticipated period of construction: \_\_\_\_\_ months

ii. If Yes:

• Total number of phases anticipated \_\_\_\_\_

• Anticipated commencement date of phase 1 (including demolition) \_\_\_\_\_ month \_\_\_\_\_ year

• Anticipated completion date of final phase \_\_\_\_\_ month \_\_\_\_\_ year

• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

f. Does the project include new residential uses?  Yes  No  
 If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)?  Yes  No  
 If Yes,

i. Total number of structures \_\_\_\_\_

ii. Dimensions (in feet) of largest proposed structure: \_\_\_\_\_ height; \_\_\_\_\_ width; and \_\_\_\_\_ length

iii. Approximate extent of building space to be heated or cooled: \_\_\_\_\_ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage?  Yes  No  
 If Yes,

i. Purpose of the impoundment: \_\_\_\_\_

ii. If a water impoundment, the principal source of the water:  Ground water  Surface water streams  Other specify: \_\_\_\_\_

iii. If other than water, identify the type of impounded/contained liquids and their source.  
 \_\_\_\_\_

iv. Approximate size of the proposed impoundment. Volume: \_\_\_\_\_ million gallons; surface area: \_\_\_\_\_ acres

v. Dimensions of the proposed dam or impounding structure: \_\_\_\_\_ height; \_\_\_\_\_ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete):  
 \_\_\_\_\_

**D.2. Project Operations**

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both?  Yes  No  
 (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)  
 If Yes:

i. What is the purpose of the excavation or dredging? \_\_\_\_\_

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): \_\_\_\_\_
- Over what duration of time? \_\_\_\_\_

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.  
 \_\_\_\_\_  
 \_\_\_\_\_

iv. Will there be onsite dewatering or processing of excavated materials?  Yes  No  
 If yes, describe. \_\_\_\_\_  
 \_\_\_\_\_

v. What is the total area to be dredged or excavated? \_\_\_\_\_ acres

vi. What is the maximum area to be worked at any one time? \_\_\_\_\_ acres

vii. What would be the maximum depth of excavation or dredging? \_\_\_\_\_ feet

viii. Will the excavation require blasting?  Yes  No

ix. Summarize site reclamation goals and plan: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area?  Yes  No  
 If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): \_\_\_\_\_  
 \_\_\_\_\_

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

iii. Will proposed action cause or result in disturbance to bottom sediments?  Yes  No

If Yes, describe: \_\_\_\_\_

iv. Will proposed action cause or result in the destruction or removal of aquatic vegetation?  Yes  No

If Yes:

- acres of aquatic vegetation proposed to be removed: \_\_\_\_\_
- expected acreage of aquatic vegetation remaining after project completion: \_\_\_\_\_
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): \_\_\_\_\_
- proposed method of plant removal: \_\_\_\_\_
- if chemical/herbicide treatment will be used, specify product(s): \_\_\_\_\_

v. Describe any proposed reclamation/mitigation following disturbance: \_\_\_\_\_

c. Will the proposed action use, or create a new demand for water?  Yes  No

If Yes:

i. Total anticipated water usage/demand per day: \_\_\_\_\_ gallons/day

ii. Will the proposed action obtain water from an existing public water supply?  Yes  No

If Yes:

- Name of district or service area: \_\_\_\_\_
- Does the existing public water supply have capacity to serve the proposal?  Yes  No
- Is the project site in the existing district?  Yes  No
- Is expansion of the district needed?  Yes  No
- Do existing lines serve the project site?  Yes  No

iii. Will line extension within an existing district be necessary to supply the project?  Yes  No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: \_\_\_\_\_
- Source(s) of supply for the district: \_\_\_\_\_

iv. Is a new water supply district or service area proposed to be formed to serve the project site?  Yes  No

If Yes:

- Applicant/sponsor for new district: \_\_\_\_\_
- Date application submitted or anticipated: \_\_\_\_\_
- Proposed source(s) of supply for new district: \_\_\_\_\_

v. If a public water supply will not be used, describe plans to provide water supply for the project: \_\_\_\_\_

vi. If water supply will be from wells (public or private), maximum pumping capacity: \_\_\_\_\_ gallons/minute.

d. Will the proposed action generate liquid wastes?  Yes  No

If Yes:

i. Total anticipated liquid waste generation per day: \_\_\_\_\_ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): \_\_\_\_\_

iii. Will the proposed action use any existing public wastewater treatment facilities?  Yes  No

If Yes:

- Name of wastewater treatment plant to be used: \_\_\_\_\_
- Name of district: \_\_\_\_\_
- Does the existing wastewater treatment plant have capacity to serve the project?  Yes  No
- Is the project site in the existing district?  Yes  No
- Is expansion of the district needed?  Yes  No

• Do existing sewer lines serve the project site?  Yes  No  
 • Will line extension within an existing district be necessary to serve the project?  Yes  No  
 If Yes:  
 • Describe extensions or capacity expansions proposed to serve this project: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site?  Yes  No  
 If Yes:  
 • Applicant/sponsor for new district: \_\_\_\_\_  
 • Date application submitted or anticipated: \_\_\_\_\_  
 • What is the receiving water for the wastewater discharge? \_\_\_\_\_

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge, or describe subsurface disposal plans):  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction?  Yes  No  
 If Yes:  
 i. How much impervious surface will the project create in relation to total size of project parcel?  
     \_\_\_\_\_ Square feet or \_\_\_\_\_ acres (impervious surface)  
     \_\_\_\_\_ Square feet or \_\_\_\_\_ acres (parcel size)  
 ii. Describe types of new point sources. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?  
 \_\_\_\_\_  
 \_\_\_\_\_  
 • If to surface waters, identify receiving water bodies or wetlands: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

• Will stormwater runoff flow to adjacent properties?  Yes  No

iv. Does proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater?  Yes  No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations?  Yes  No  
 If Yes, identify:  
 i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)  
 \_\_\_\_\_  
 ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)  
 \_\_\_\_\_  
 iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)  
 \_\_\_\_\_  
 \_\_\_\_\_

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit?  Yes  No  
 If Yes:  
 i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year)  Yes  No  
 ii. In addition to emissions as calculated in the application, the project will generate:  
 • \_\_\_\_\_ Tons/year (short tons) of Carbon Dioxide (CO<sub>2</sub>)  
 • \_\_\_\_\_ Tons/year (short tons) of Nitrous Oxide (N<sub>2</sub>O)  
 • \_\_\_\_\_ Tons/year (short tons) of Perfluorocarbons (PFCs)  
 • \_\_\_\_\_ Tons/year (short tons) of Sulfur Hexafluoride (SF<sub>6</sub>)  
 • \_\_\_\_\_ Tons/year (short tons) of Carbon Dioxide equivalent of Hydroflouorocarbons (HFCs)  
 • \_\_\_\_\_ Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)?  Yes  No

If Yes:

*i.* Estimate methane generation in tons/year (metric): \_\_\_\_\_

*ii.* Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): \_\_\_\_\_

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i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations?  Yes  No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): \_\_\_\_\_

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j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services?  Yes  No

If Yes:

*i.* When is the peak traffic expected (Check all that apply):  Morning  Evening  Weekend  
 Randomly between hours of \_\_\_\_\_ to \_\_\_\_\_.

*ii.* For commercial activities only, projected number of semi-trailer truck trips/day: \_\_\_\_\_

*iii.* Parking spaces: Existing \_\_\_\_\_ Proposed \_\_\_\_\_ Net increase/decrease \_\_\_\_\_

*iv.* Does the proposed action include any shared use parking?  Yes  No

*v.* If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: \_\_\_\_\_

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*vi.* Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site?  Yes  No

*vii.* Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles?  Yes  No

*viii.* Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes?  Yes  No

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k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy?  Yes  No

If Yes:

*i.* Estimate annual electricity demand during operation of the proposed action: \_\_\_\_\_

*ii.* Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): \_\_\_\_\_

*iii.* Will the proposed action require a new, or an upgrade to, an existing substation?  Yes  No

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l. Hours of operation. Answer all items which apply.

<p><i>i.</i> During Construction:</p> <ul style="list-style-type: none"> <li>• Monday - Friday: _____</li> <li>• Saturday: _____</li> <li>• Sunday: _____</li> <li>• Holidays: _____</li> </ul>	<p><i>ii.</i> During Operations:</p> <ul style="list-style-type: none"> <li>• Monday - Friday: _____</li> <li>• Saturday: _____</li> <li>• Sunday: _____</li> <li>• Holidays: _____</li> </ul>
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<p>m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>If yes:</p> <p>i. Provide details including sources, time of day and duration:</p> <p>_____</p> <p>_____</p>	
<p>ii. Will proposed action remove existing natural barriers that could act as a noise barrier or screen? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>Describe: _____</p> <p>_____</p>	
<p>n.. Will the proposed action have outdoor lighting? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>If yes:</p> <p>i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:</p> <p>_____</p> <p>_____</p>	
<p>ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>Describe: _____</p> <p>_____</p>	
<p>o. Does the proposed action have the potential to produce odors for more than one hour per day? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____</p> <p>_____</p> <p>_____</p>	
<p>p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>If Yes:</p> <p>i. Product(s) to be stored _____</p> <p>ii. Volume(s) _____ per unit time _____ (e.g., month, year)</p> <p>iii. Generally describe proposed storage facilities: _____</p> <p>_____</p>	
<p>q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>If Yes:</p> <p>i. Describe proposed treatment(s):</p> <p>_____</p> <p>_____</p> <p>_____</p>	
<p>ii. Will the proposed action use Integrated Pest Management Practices? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p>	
<p>r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span></p> <p>If Yes:</p> <p>i. Describe any solid waste(s) to be generated during construction or operation of the facility:</p> <ul style="list-style-type: none"> <li>• Construction: _____ tons per _____ (unit of time)</li> <li>• Operation : _____ tons per _____ (unit of time)</li> </ul> <p>ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:</p> <ul style="list-style-type: none"> <li>• Construction: _____</li> <li>_____</li> <li>• Operation: _____</li> <li>_____</li> </ul> <p>iii. Proposed disposal methods/facilities for solid waste generated on-site:</p> <ul style="list-style-type: none"> <li>• Construction: _____</li> <li>_____</li> <li>• Operation: _____</li> <li>_____</li> </ul>	

s. Does the proposed action include construction or modification of a solid waste management facility?  Yes  No  
 If Yes:  
 i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): \_\_\_\_\_  
 ii. Anticipated rate of disposal/processing:  
 • \_\_\_\_\_ Tons/month, if transfer or other non-combustion/thermal treatment, or  
 • \_\_\_\_\_ Tons/hour, if combustion or thermal treatment  
 iii. If landfill, anticipated site life: \_\_\_\_\_ years

t. Will proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste?  Yes  No  
 If Yes:  
 i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 ii. Generally describe processes or activities involving hazardous wastes or constituents: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 iii. Specify amount to be handled or generated \_\_\_\_\_ tons/month  
 iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility?  Yes  No  
 If Yes: provide name and location of facility: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility:  
 \_\_\_\_\_  
 \_\_\_\_\_

**E. Site and Setting of Proposed Action**

**E.1. Land uses on and surrounding the project site**

a. Existing land uses.  
 i. Check all uses that occur on, adjoining and near the project site.  
 Urban  Industrial  Commercial  Residential (suburban)  Rural (non-farm)  
 Forest  Agriculture  Aquatic  Other (specify): \_\_\_\_\_  
 ii. If mix of uses, generally describe:  
 \_\_\_\_\_  
 \_\_\_\_\_

b. Land uses and covertypes on the project site.

Land use or Covertypes	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces (including trails)			
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____ _____			

c. Is the project site presently used by members of the community for public recreation?  Yes  No  
i. If Yes: explain: \_\_\_\_\_

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d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site?  Yes  No  
If Yes,  
i. Identify Facilities:  
\_\_\_\_\_

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e. Does the project site contain an existing dam?  Yes  No  
If Yes:  
i. Dimensions of the dam and impoundment:  

- Dam height: \_\_\_\_\_ feet
- Dam length: \_\_\_\_\_ feet
- Surface area: \_\_\_\_\_ acres
- Volume impounded: \_\_\_\_\_ gallons OR acre-feet

ii. Dam's existing hazard classification: \_\_\_\_\_  
iii. Provide date and summarize results of last inspection:  
\_\_\_\_\_

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f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility?  Yes  No  
If Yes:  
i. Has the facility been formally closed?  Yes  No  

- If yes, cite sources/documentation: \_\_\_\_\_

ii. Describe the location of the project site relative to the boundaries of the solid waste management facility:  
\_\_\_\_\_

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g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste?  Yes  No  
If Yes:  
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:  
\_\_\_\_\_

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h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site?  Yes  No  
If Yes:  
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply:  Yes  No  
 Yes – Spills Incidents database Provide DEC ID number(s): \_\_\_\_\_  
 Yes – Environmental Site Remediation database Provide DEC ID number(s): \_\_\_\_\_  
 Neither database  
ii. If site has been subject of RCRA corrective activities, describe control measures: \_\_\_\_\_  
\_\_\_\_\_

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iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database?  Yes  No  
If yes, provide DEC ID number(s): \_\_\_\_\_  
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s):  
\_\_\_\_\_

v. Is the project site subject to an institutional control limiting property uses?  Yes  No

- If yes, DEC site ID number: \_\_\_\_\_
- Describe the type of institutional control (e.g., deed restriction or easement): \_\_\_\_\_
- Describe any use limitations: \_\_\_\_\_
- Describe any engineering controls: \_\_\_\_\_
- Will the project affect the institutional or engineering controls in place?  Yes  No
- Explain: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

---

**E.2. Natural Resources On or Near Project Site**

a. What is the average depth to bedrock on the project site? \_\_\_\_\_ feet

b. Are there bedrock outcroppings on the project site?  Yes  No  
 If Yes, what proportion of the site is comprised of bedrock outcroppings? \_\_\_\_\_%

c. Predominant soil type(s) present on project site: \_\_\_\_\_ %  
 \_\_\_\_\_ %  
 \_\_\_\_\_ %

d. What is the average depth to the water table on the project site? Average: \_\_\_\_\_ feet

e. Drainage status of project site soils:  Well Drained: \_\_\_\_\_ % of site  
 Moderately Well Drained: \_\_\_\_\_ % of site  
 Poorly Drained \_\_\_\_\_ % of site

f. Approximate proportion of proposed action site with slopes:  0-10%: \_\_\_\_\_ % of site  
 10-15%: \_\_\_\_\_ % of site  
 15% or greater: \_\_\_\_\_ % of site

g. Are there any unique geologic features on the project site?  Yes  No  
 If Yes, describe: \_\_\_\_\_  
 \_\_\_\_\_

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)?  Yes  No

ii. Do any wetlands or other waterbodies adjoin the project site?  Yes  No  
 If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency?  Yes  No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name \_\_\_\_\_ Classification \_\_\_\_\_
- Lakes or Ponds: Name \_\_\_\_\_ Classification \_\_\_\_\_
- Wetlands: Name \_\_\_\_\_ Approximate Size \_\_\_\_\_
- Wetland No. (if regulated by DEC) \_\_\_\_\_

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies?  Yes  No  
 If yes, name of impaired water body/bodies and basis for listing as impaired: \_\_\_\_\_  
 \_\_\_\_\_

---

i. Is the project site in a designated Floodway?  Yes  No

j. Is the project site in the 100 year Floodplain?  Yes  No

k. Is the project site in the 500 year Floodplain?  Yes  No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer?  Yes  No  
 If Yes:  
 i. Name of aquifer: \_\_\_\_\_

m. Identify the predominant wildlife species that occupy or use the project site: _____ _____ _____	
n. Does the project site contain a designated significant natural community? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If Yes: <i>i.</i> Describe the habitat/community (composition, function, and basis for designation): _____ _____ <i>ii.</i> Source(s) of description or evaluation: _____ <i>iii.</i> Extent of community/habitat: <ul style="list-style-type: none"> <li>• Currently: _____ acres</li> <li>• Following completion of project as proposed: _____ acres</li> <li>• Gain or loss (indicate + or -): _____ acres</li> </ul>	
o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span>	
p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span>	
q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If yes, give a brief description of how the proposed action may affect that use: _____ _____	
<b>E.3. Designated Public Resources On or Near Project Site</b>	
a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If Yes, provide county plus district name/number: _____	
b. Are agricultural lands consisting of highly productive soils present? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> <i>i.</i> If Yes: acreage(s) on project site? _____ <i>ii.</i> Source(s) of soil rating(s): _____	
c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If Yes: <i>i.</i> Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature <i>ii.</i> Provide brief description of landmark, including values behind designation and approximate size/extent: _____ _____ _____	
d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <span style="float: right;"><input type="checkbox"/> Yes <input type="checkbox"/> No</span> If Yes: <i>i.</i> CEA name: _____ <i>ii.</i> Basis for designation: _____ <i>iii.</i> Designating agency and date: _____	

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on, or has been nominated by the NYS Board of Historic Preservation for inclusion on, the State or National Register of Historic Places?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes:	
<i>i.</i> Nature of historic/archaeological resource: <input type="checkbox"/> Archaeological Site <input type="checkbox"/> Historic Building or District	
<i>ii.</i> Name: _____	
<i>iii.</i> Brief description of attributes on which listing is based: _____	
f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory?	<input type="checkbox"/> Yes <input type="checkbox"/> No
g. Have additional archaeological or historic site(s) or resources been identified on the project site?	
If Yes:	
<i>i.</i> Describe possible resource(s): _____	
<i>ii.</i> Basis for identification: _____	
h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes:	
<i>i.</i> Identify resource: _____	
<i>ii.</i> Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____	
<i>iii.</i> Distance between project and resource: _____ miles.	
i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666?	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes:	
<i>i.</i> Identify the name of the river and its designation: _____	
<i>ii.</i> Is the activity consistent with development restrictions contained in 6NYCRR Part 666?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	

**F. Additional Information**

Attach any additional information which may be needed to clarify your project.

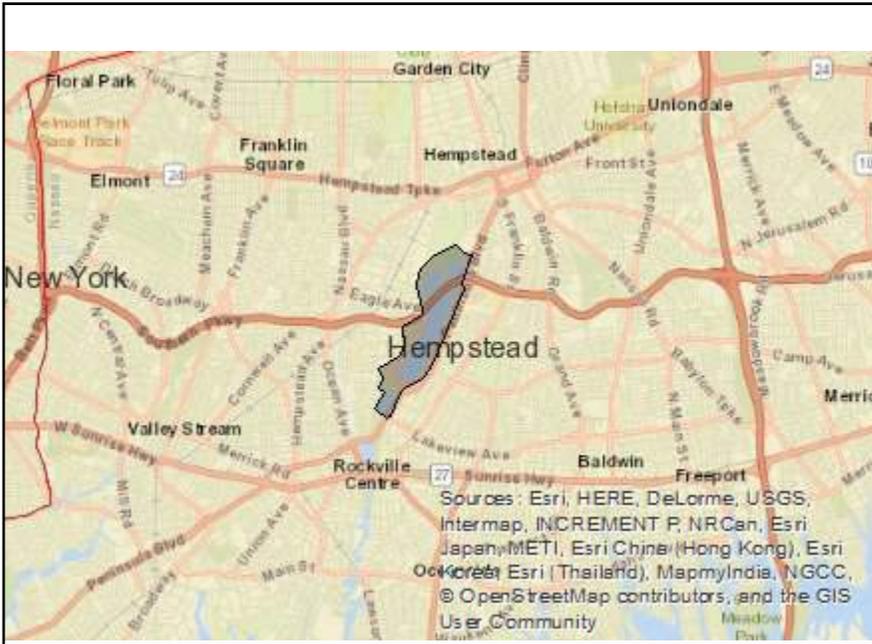
If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

**G. Verification**

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name \_\_\_\_\_ Date \_\_\_\_\_

Signature \_\_\_\_\_ Title \_\_\_\_\_



**Disclaimer:** The EAF Mapper is a screening tool intended to assist project sponsors and reviewing agencies in preparing an environmental assessment form (EAF). Not all questions asked in the EAF are answered by the EAF Mapper. Additional information on any EAF question can be obtained by consulting the EAF Workbooks. Although the EAF Mapper provides the most up-to-date digital data available to DEC, you may also need to contact local or other data sources in order to obtain data not provided by the Mapper. Digital data is not a substitute for agency determinations.



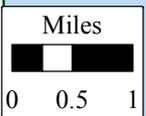
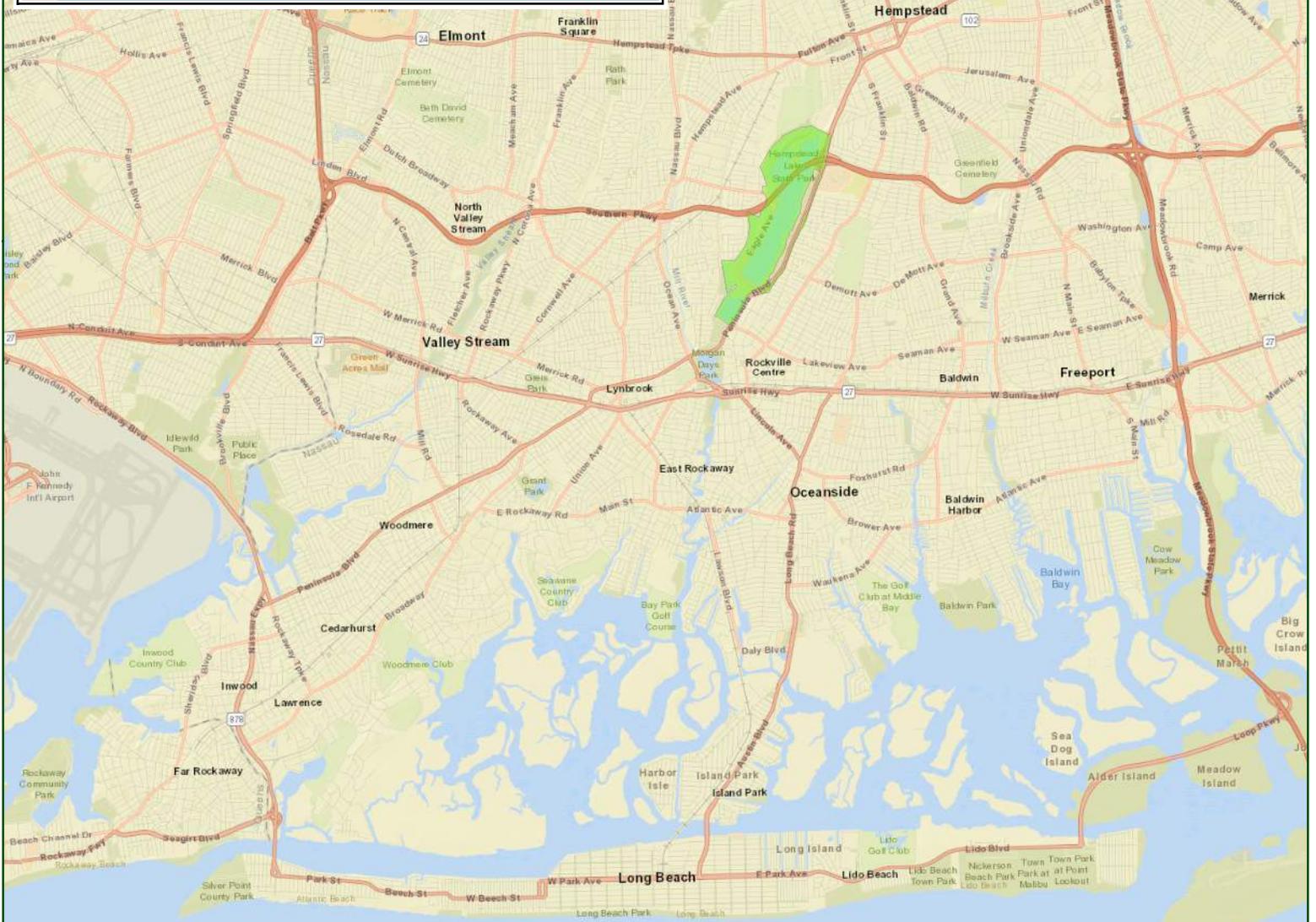
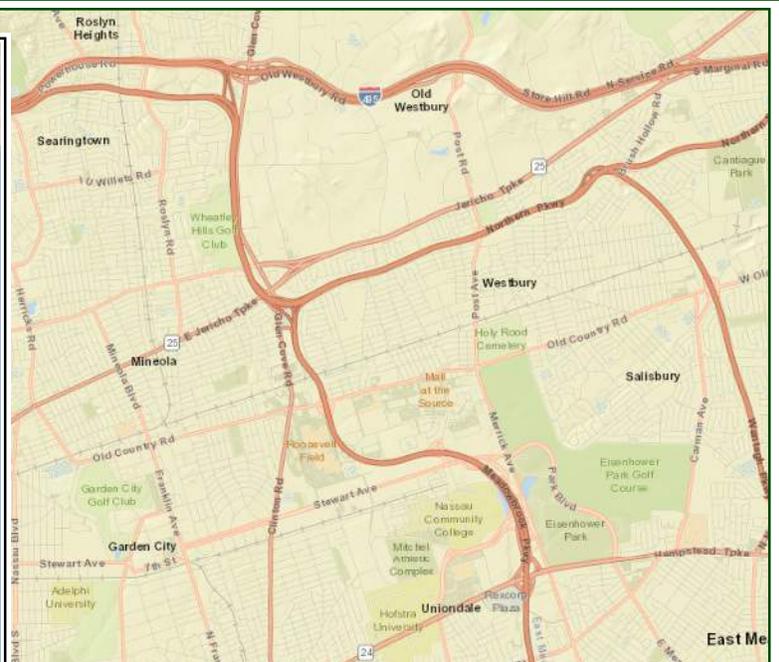
B.i.i [Coastal or Waterfront Area]	No
B.i.ii [Local Waterfront Revitalization Area]	No
C.2.b. [Special Planning District]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h [DEC Spills or Remediation Site - Potential Contamination History]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Listed]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.i [DEC Spills or Remediation Site - Environmental Site Remediation Database]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.1.h.iii [Within 2,000' of DEC Remediation Site]	Yes
E.1.h.iii [Within 2,000' of DEC Remediation Site - DEC ID]	C130140 , 130019
E.2.g [Unique Geologic Features]	No
E.2.h.i [Surface Water Features]	Yes
E.2.h.ii [Surface Water Features]	Yes
E.2.h.iii [Surface Water Features]	Yes - Digital mapping information on local and federal wetlands and waterbodies is known to be incomplete. Refer to EAF Workbook.
E.2.h.iv [Surface Water Features - Stream Name]	885-179, 885-178, 885-184, 885-186, 885-187
E.2.h.iv [Surface Water Features - Stream Classification]	A, C
E.2.h.iv [Surface Water Features - Lake/Pond Name]	885-185, 885-187, 885-179
E.2.h.iv [Surface Water Features - Lake/Pond Classification]	C, A

E.2.h.iv [Surface Water Features - Wetlands Name]	Federal Waters, NYS Wetland
E.2.h.iv [Surface Water Features - Wetlands Size]	NYS Wetland (in acres):90.1, NYS Wetland (in acres):142.1, NYS Wetland (in acres):60.8
E.2.h.iv [Surface Water Features - DEC Wetlands Number]	L-3, L-2, L-1
E.2.h.v [Impaired Water Bodies]	Yes
E.2.h.v [Impaired Water Bodies - Name and Basis for Listing]	Name - Pollutants - Uses:Hempstead Lake – Nutrients – Recreation
E.2.i. [Floodway]	No
E.2.j. [100 Year Floodplain]	No
E.2.k. [500 Year Floodplain]	No
E.2.l. [Aquifers]	Yes
E.2.l. [Aquifer Names]	Sole Source Aquifer Names:Nassau-Suffolk SSA
E.2.n. [Natural Communities]	Yes
E.2.n.i [Natural Communities - Name]	Coastal Plain Pond Shore
E.2.n.i [Natural Communities - Acres]	24.88
E.2.o. [Endangered or Threatened Species]	Yes
E.2.p. [Rare Plants or Animals]	No
E.3.a. [Agricultural District]	No
E.3.c. [National Natural Landmark]	No
E.3.d [Critical Environmental Area]	No
E.3.e. [National Register of Historic Places]	Digital mapping data are not available or are incomplete. Refer to EAF Workbook.
E.3.f. [Archeological Sites]	No
E.3.i. [Designated River Corridor]	No

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**ATTACHMENT A.**  
**Location Maps**

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**Legend**

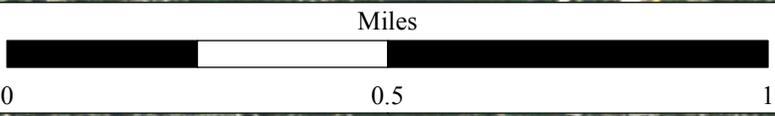
Sources: Esri, METI, Esri Chir

Hempstead Lake State Park Boundary

# Hempstead Lake State Park Location Map

Map produced by NYS OPRHP EMB Bureau, March 17, 2017.





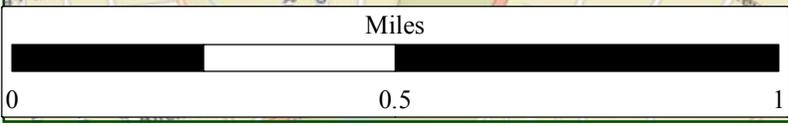
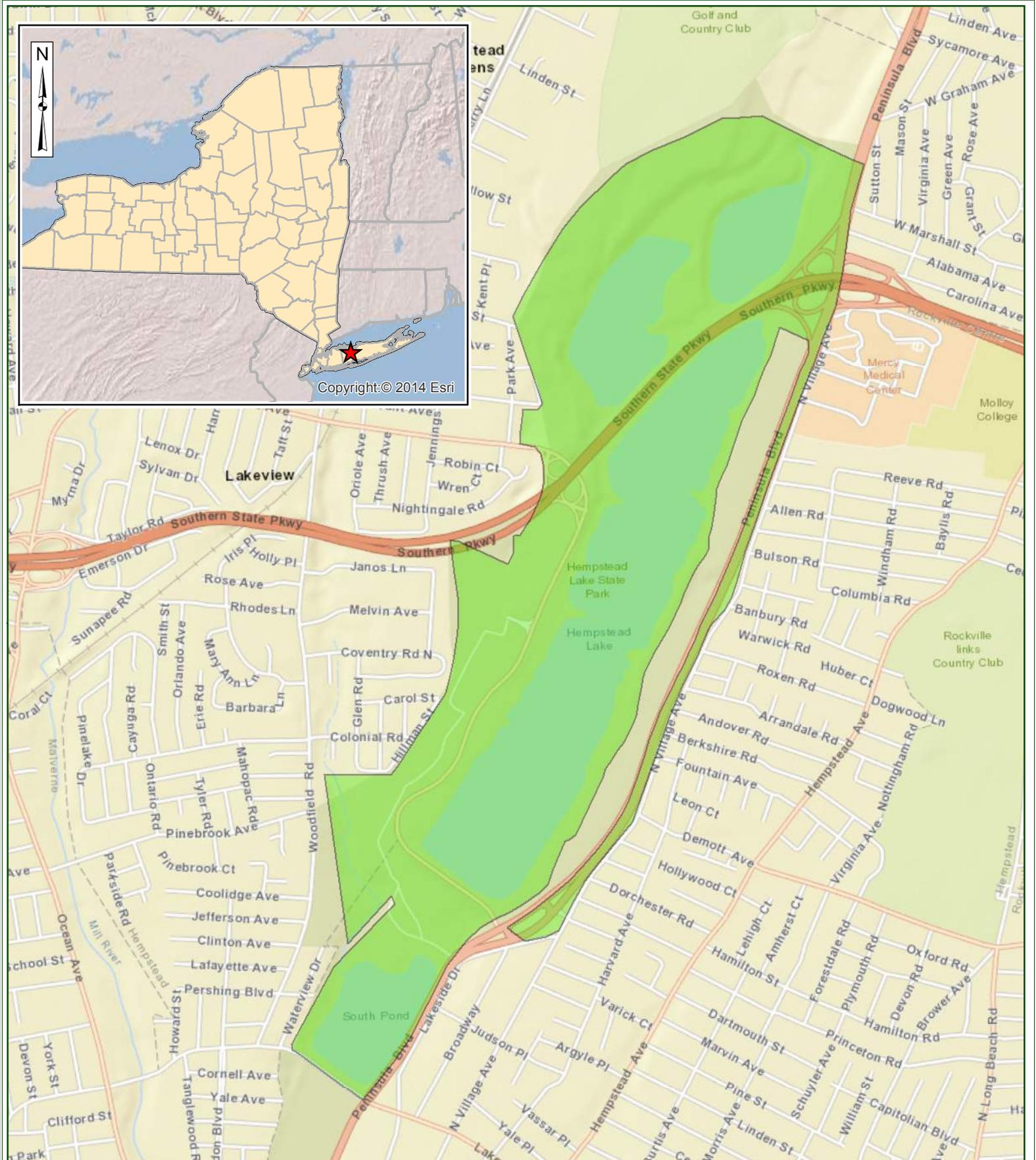
Source: Esri, DigitalGlobe, GeoEye, IGN,...

**Legend**

 Hempstead Lake State Park Boundary

# Hempstead Lake State Park





**Legend**

- Hempstead Lake State Park Boundary

# Hempstead Lake State Park



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**ATTACHMENT B.**  
**Additional Details**

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## Attachment B. Additional Details

### Hempstead Lake State Park - Part 1. FEF

#### **A. Project and Sponsor Information**

The proposed project is located at Hempstead Lake State Park. The purpose of the Proposed Hempstead Lake State Park Project, as a component of LWTB Project and Resiliency Strategy, is to improve stormwater management, enhance natural ecosystems, provide connectivity among diverse populations, enhance safety, and promote education programs at the Park.

To achieve these goals the proposed project spans the park and focuses on several key components: dams, ponds and wetlands, trails and waterfront access, and education. Project components are broken into four categories below: Ponds, Dams, Education and Resiliency Center, Greenways /Gateways/ Waterfront.

#### *Ponds*

Project elements proposed for the two northern most ponds (Northwest and Northeast Ponds) include, the installation of up to two (2) new sediment basins and two (2) new floatables catchers at the inlet streams of both ponds. A new paved road of 0.41 acres is proposed and will be used as an access to and from the floatables catchers. Open grid pavers are proposed to be laid in the channel of Mill Creek up to the new floatables catcher to reduce erosion of the creek bed. Combined, the proposed wetland enhancement activities at NW Pond and NE Pond would require removal of approximately 1,203 trees. The project would result in the permanent loss of 2.87 acres of open waters and wetlands and gain 1.15 acres of new open waters and wetlands. Improvements to the NW and NE Ponds would also improve water quality in Hempstead Lake and South Pond.

This component will result in 2,500 cubic yards of material to be dredged. Based on the preliminary sediment sampling findings, this material contains contamination from upstream urban runoff, and as such it would be hauled off-site and disposed at an appropriate facility. The project would also entail 39,000 cubic yards to be excavated from upland areas. It is proposed that all this material will be reused on-site. Any debris/trash within this material would be removed and taken off-site for disposal.

#### *Dams*

A full hydrological and hydraulic assessment was conducted for Hempstead Lake State Park waterbodies. Hempstead Lake State Park has three earthen dams: Hempstead Lake Dam, South Pond Dam, and Northwest Pond Dam. Per DEC dam safety criteria, vegetation growing on the dams and embankments must be removed. The project would remove 1,297 trees to meet this criterion.

The NW Pond dam is breached. The project proposes to restore this dam with a sheet pile dam that would be 5 feet in height. Twin culverts which allow flow from NW Pond to enter Hempstead Lake would be replaced by a singular open bottom structure.

The project proposes to remove all vegetation from South Pond Dam and regrade to provide a uniform crest elevation and width to improve dam safety. The embankment would be seeded with native grass mix. The inlet gatehouse would be restored (roof, door, windows) and the deteriorated outlet gatehouse demolished to grade and backfilled with suitable fill. Gatehouse work would be conducted in accordance with Historic Preservation guidelines and consultation.

Hempstead Lake Dam would have vegetation and sediment deposits removed. Trees on the upstream side of the dams that cannot be removed without damaging the stone facing would be cut to a 4-inch stump. On the dams, areas of tree removal would be reestablished with pollinator habitat. These actions would reduce erosion effects. The dam gatehouse would be restored in a historically accurate but also functional manner. All sluice gates and control valves would be returned to an operational status so that water level in the lake can be adjusted on a seasonal basis. New water level monitoring equipment is proposed to be installed in the gatehouse and a new catwalk, similar in design to the original, would be installed on the east and north sides to allow for visual inspection and clearing of debris. Roof, doors, and windows of the gatehouse would be replaced with durable materials designed to replicate the historic look of the structure. Debris and abandoned piping within the gatehouse chamber would be removed to improve flow.

Educational signage is also proposed on the history and working of the structure. The pipe arch between Hempstead Lake and South Pond would be repaired in localized damaged areas. Gatehouse and pipe arch repairs would be accomplished through use of a coffer dam to block flow, with water pumped around the work area and discharged downstream.

Proposed pedestrian bridges would be installed over Mill Creek near where it enters NE Pond and over the open stream channel between the Southern State Parkway and Hempstead Lake. The bridge over Mill Creek would be new; the bridge over the open-channel stream between the Southern State Parkway and Hempstead Lake would replace the existing 5-foot-diameter culverts, which would be removed. The bridges would be designed to fit into the Park aesthetic. The bridges would have a width of 11.5 feet, or 1.25 times the bank full width, and would be designed to handle a load of 15,000 pounds to accommodate emergency and maintenance vehicles. The elevation of the bridges would be coordinated with the adjacent multi-use paths and would maintain stormwater flows for most rainfall events.

#### *Education and Resiliency Center*

A new, approximately, 8,000-sq.-ft. building is proposed to be built in a mowed grass field by Parking Field 1. The building will be designed to reduce environmental demands. Utilities would be connected to the building through underground boring and trenching. Staging areas would be in Parking Field 1. Eleven trees would be removed to allow for construction of the building. Any grass damaged during construction would be reseeded.

*Greenways/ Gateways/Waterfront*

The proposed project seeks to enhance and expand access to the waterfront and trails for the local community. It would include approximately 6 miles of new and enhanced trails which would include a Greenway trail that would accommodate pedestrians, bicyclists, and equestrians, as well as a new trail leading to a new kayak launch and a new elevated trail leading to a lake observation pavilion.

The proposed trail plan would cover approximately 8 acres (335,947 square feet). Of this, 5.2 acres of existing trails would be resurfaced, 2.3 acres of existing trails would be widened, and 0.8 acre of new trails would be constructed. Areas of disturbance adjacent to the trails would be replanted with native herbaceous materials.

It would also include a formalized 0.91-acre parking area with 4 stormwater retention basins to replace an informal parking area used by park patrons. In addition, the project proposes to place along Hempstead Lake a new 416-square-foot kayak launch, as well as a 400-square foot observational pavilion, and four stairways for lake access. Three existing access points into the Park, Eagle Avenue, Graham Avenue, and Peninsula Boulevard, would be formalized as gateways for way-finding purposes.

**B. Government Approvals, Funding, or Sponsorship**

B.e/q/h

*e. County agencies:* Nassau County DOT – Road Opening Permit (driveway to access floatables container @ Peninsula Blvd.)

*g. State agencies:* NYS DEC –

- Article 15 Protection of Waters Permit,
- Article 24 Freshwater Wetlands Permit,
- 401 Water Quality Certification,
- SPDES General Permit (GP-0-15-002),
- Dam and Impoundment Structures: Part 608 Use and Protection of Waters

NYSOPRHP – Section 106 (will also cover 14.09)

GOSR – Funding/ Sponsorship

OGS – Construction of docks or piers on or above state-owned lands under water

*h. Federal agencies:* USFWS – ESA Section 7

Consultation HUD – Funding

ACOE – Section 404 of the Clean Water Act

## D. Project Details

### D.1. Proposed and Potential Development

#### *D.1.a: What is the general nature of the proposed action?*

To increase community resilience by improving drainage and water control to address impacts from flooding due to extreme weather and sea level rise. Proposed actions will improve existing infrastructure to help maintain the natural environment and improve ecosystems through water quality benefits, while enhancing stormwater retention. It will also provide increased public environmental awareness, accessibility and education, as well as access to waterfront locations. Improvements will decrease vulnerability to disaster impacts while also providing increased ecologic, economic and social benefits to the surrounding community.

#### *D.1.h.ii: If a water impoundment, what is the principal source of the water?*

A hydraulic and hydrological analysis of the watershed has indicated that groundwater has a significant influence on some of the waterbodies. Northeast Pond lies within groundwater; Northwest Pond is slightly above groundwater and can go dry during extended drought periods. Hempstead Lake fluctuates with groundwater levels. South Pond is fed by Schodack Creek.

#### *D.1.h.iv/v/vi (refer to table below)*

Question # and Question	Hempstead Lake	Northwest Pond	South Pond
<i>D.1.h.iv</i> : Approximate size of the <b>proposed</b> impoundment. Volume (million gallons) & surface area(acres)	<b>Volume(m.g.):</b> Normal (seasonal)= 64.7 MG or 198 ac-ft @ EL 17 to 214.7 MG or 658 ac-ft @ EL 22; same as existing <b>Surface Area(acres):</b> Normal = 64 to 115; Max = 178	<b>Volume(m.g.):</b> Normal = 5.7 MG or (17.4 ac-ft) @ EL 21; Max = 25.9 MG or 79.4 ac-ft @ EL 25 <b>Surface Area(acres):</b> Normal = 6.7 Ac @ EL 21; Max = 25 AC @ EL 25	Same as existing see Question E.1.e.i in next Table <b>Volume(m.g.):</b> <b>Surface Area(acres):</b>
<i>D.1.h.v</i> : Dimensions of the <b>proposed</b> dam or impounding structure. Height(ft) & Length (ft)	<b>Height(ft):</b> 17 <b>Length(ft):</b> 1500	<b>Height(ft):</b> 5 <b>Length(ft):</b> 230	Same as existing see Question E.1.e.i in next Table <b>Height(ft):</b> 10 <b>Length(ft):</b> 750
<i>D.1.h.vi</i> : Construction method & materials	Tree removal (including root balls on downstream side), sediment removal, sluiceway replacement, dewatering area to repair sluiceway gate and pipe arch outlet, gatehouse rehab including windows, doors, roof, pipe arch. Re-grading	Tree removal, removal of concrete top slab and wooden and concrete pilings, installation of steel sheet pile dam with earthen embankment behind it. Re-grading	Tree removal including root balls, regrading of embankment

### D.2 Project Operations

*D.2.a.iii: Describe the nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.*

This project will dredge 2,500 CY of bottom sediments from Northeast pond using a self-propelled dredging system and excavator to improve flood resiliency and habitat/water quality. Materials can be characterized as mud, sediment, and bottom sediments with some debris and garbage present. Preliminary sampling results (**Attachment F**) indicate this material is contaminated with urban runoff, and as such will be hauled off-site to an appropriate disposal facility.

Approximately 39,000 CY of excavation using excavators and backhoes will take place in upland areas. These soils will be used on-site in creation of wetlands.

These new filtering wetlands will provide treatment of the storm runoff to reduce and slow the runoff volume and remove debris, floatables, sediments and nutrients from the pond system and parklands.

Additionally, 1,500 CY of sediment will be excavated from the stone face of the Hempstead Lake Dam. This sediment, as well as trees and root balls removed from Hempstead Lake Dam and South Pond Dam will be taken and disposed of offsite.

*D.2.a.iv. Will there be onsite dewatering or processing of excavated materials?*

*Describe.*

The 39,000 CY of upland materials will be reused on site. Debris and waste materials found in the dredge materials and soils will be disposed of as municipal solid waste (msw) at a legal landfill; the location will be identified during the construction phase based on the awarded contractor. If soils are required to be dewatered before reuse in the project, they will be dewatered on-site. Dewatering locations will be authorized under a SPDES Permit for stormwater associated with Construction Activities.

*D.2.a.v.: Total area to be dredged or excavated*

Approximately 39,000 cubic yards of soils (over approximately 19 acres) will be excavated from the NE Pond and NW Pond upland areas. In addition, 2,500 cubic yards of sediment would be dredged from NE Pond, and approximately 1,500 cubic yards of accumulated sediment will be removed from the stone facing of the dam, each over limited areas (< 2 acre total). There will be no dredging occurring at Hempstead Lake. There will be no dredging or excavation work at South Pond.

Excavation work occurring for the construction of the education center will be part of the general site preparation, grading and installation of foundation and all material will remain and be re-used on site.

*D.2.a.ix.: Summarize site reclamation goals and plan:*

Preliminary sampling results (**Attachment F**) indicate that sediment in NE Pond is contaminated with urban runoff. All sediments (2,500 CY from NE Pond and 1,500 CY from Hempstead Lake Dam) would be hauled off-site to an appropriate disposal facility in accordance with NYSDEC standards.

Following excavation of 39,000 CY of upland soils, fill and regrading of the soils to the proposed elevation much of the disturbed areas will be planted with wetland vegetation to the limits shown on the plans to create the filtering wetlands. Other area, including trail edges, berms, staging areas, dewatering areas or unvegetated locations, will be graded and seeded with a native seed mix to revegetate.

*D.2.b. i: Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number, or geographic description)*

Wetland assessments were conducted at the two northern ponds in fall 2016. NYSDEC staff conducted a wetland delineation at the NE and NW Ponds in May 2017 to establish the limit of NYSDEC-regulated wetlands in this portion of the project area. NYSDEC staff flagged wetland limits in the field, and Cashin Associates surveyed them. The field assessments indicate that there are more extensive vegetated wetlands associated with each pond than were included in the NWI mapping.

Approximately 18.09 acres of emergent wetlands and 2.51 acres of scrub shrub wetlands are associated with NW Pond and 1.24 acres of emergent wetlands, 2.32 acres of scrub shrub wetlands, and 2.18 acres of forested wetland occur at NE Pond, for a total of 26.34 acres of vegetated wetlands. See **Attachment D** for a location map of NWI and State wetland areas on the project site with associated wetland ID numbers. From south to north, the waterbodies are: South Pond, Schodack Pond, McDonald Pond, Hempstead Lake, Northwest Pond, and Northeast Pond. DEC wetland areas are Class 1 and identified as L- 1, L-2, L-3. NWI wetlands are indicated by a string of letters and numbers and identified as open water (Lake & Freshwater Pond), Freshwater Emergent, and Freshwater Forested/Shrub Wetland.

*D.2.b.ii. - Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres*

*D.2.b.iii. - Describe disturbance to bottom sediment*

*D.2.b.v - Describe any proposed reclamation/mitigation following disturbance*

Proposed stormwater filtering project work in the Northern Ponds will affect the wetlands and waterbodies through dredge, excavation, and fill actions in the open pond and associated wetland areas, shorelines and uplands, to create filtering wetlands as well as installation of floatables collectors, sediment basins and repairs to the breached dam at Northwest Pond. The objective of the proposed project is to increase flood resiliency and improve water quality and habitat through enhanced wetland filtration, sediment capture, and removal of garbage (floatables) that come from the upper watershed and flow down through the system out to the bay and ocean. In total, project work in the NW and NE Ponds would remove 2.87 acres of wetlands and open water and create 1.15 acres of wetlands and open water from existing uplands, for a net loss of 1.72 acres.

- NW Pond: The project would remove 0.78 acre of emergent and scrub-shrub wetland and 0.2 acre of open water and add 0.17 acre of emergent wetland and open water from uplands for a net loss of 0.63 acre.
- NE Pond: The project would remove 1.82 acres of open water and 0.25 acre of a mix of emergent scrub shrub and forested wetland. The project would create 0.35 acre of open water and 0.63 acre of emergent wetland from uplands for a net loss of 1.09 acres.
- NE Pond: The project would convert 1.13 acres of a disturbed forested wetlands to emergent wetland and shallow open water, and permanently fill 0.13 acre, for a net loss of 1.26 acres of forested wetland.

An alternatives analysis and wetland functional assessment was prepared (see NEPA EA, Appendix F). During the design process multiple design options for different aspects of the design were considered. The design options were developed through discussions with project partners, input from community members and feedback from field meetings with NYSDEC wetland representatives. Concepts were presented at public meetings and at meetings with the NYSDEC. Designs were modified based on location, design concept, limitations and constraints and agency input. The proposed project as presented has avoided and minimized impact to the extent possible, while remaining

functional to meet the project purpose and need. The wetland functional assessment was performed to evaluate potential changes to wetland functions with four separate wetland systems affected by the proposed project. Collectively, the planned wetland changes associated with the project would result in a net benefit and functional uplift within the collective wetland systems of the northern ponds to offset the permanent and temporary impacts to the wetlands and open waters in the project area. The functional assessment indicates that no additional project measures are warranted to achieve a goal of no-net-loss of wetland functions (see NEPA EA, Appendix F).

The creation of additional recreational trails would not have direct impacts on wetlands and open water.

A Freshwater Wetlands Permit, Protection of Waters Permit, and 401 Water Quality Certification from NYSDEC would be required to physically disturb the wetlands. Prior to construction, the project sponsor would be required to secure Clean Water Act Section 404 Authorization from the U.S. Army Corps of Engineers.

The alternatives analysis and impact assessment are also required as part of the permit applications to compare a no-build alternative with design alternatives that were considered to avoid and minimize impacts and still accomplish the goals of project.

NYSDEC and the U.S. Army Corps of Engineers will determine the need for compensatory mitigation during the permitting process.

*D.2.m.ii - Will proposed action remove existing natural barriers that could act as a noise barrier or screen? Describe.*

Up to 2,555 trees would be removed. Main locations for removal are at Hempstead Lake Dam and South Pond Dam, as well as in the Northern Pond areas. Tree removal will decrease the buffering capacity of noise from the nearby roadways.

*D.2.n.ii - Will proposed action remove existing natural light barriers that could act as a light barrier or screen? Describe.*

Up to 2,555 trees will be removed. Main locations for removal are at Hempstead Lake Dam and South Pond Dam, as well as in the Northern Pond areas. Tree removal will open the viewscape. Headlights of cars would be more visible; however, the park closes at dusk and thereby will not result in an increased impact from the opened area.

## **E. Site and Setting of Proposed Action**

### **E.1 Land uses on and surrounding the project site**

*E.1.e.i./ii/iii (refer to table below)*

Question # and Question	Hempstead Lake	Northwest Pond	South Pond
<i>E.1.e.i.:</i> Dimensions of existing dam and impoundment. Height & Length (ft), Volume (million gallons) & surface area(acres)	Top gates are cut open and lower sluice gates inoperable <b>Volume(m.g.):</b> Normal = 175,308,068 (538 acre-ft) Max = 818,864,636 (2513 acre-ft) <b>Surface Area(acres):</b> 105 @ EL 21 <b>Height(ft):</b> 17 <b>Length(ft):</b> 1500	Dam is breached <b>Volume(m.g.):</b> 0 <b>Surface Area(acres):</b> 0 <b>Height(ft):</b> 4 <b>Length(ft):</b> 230	<b>Volume(m.g.):</b> Normal = (110 acre-ft); Max = (198 acre-ft) (LKB) <b>Surface Area(acres):</b> Normal = 22, Max = 27 (LKB) <b>Height(ft):</b> 10 (LKB) <b>Length(ft):</b> 750 (LKB)
<i>E.1.e.ii.:</i> Existing hazard classification	Class C	Dam is Unclassified earthen embankment	Class A
<i>E.1.e.iii.:</i> Date and summary of results of last inspection	11/3/2016 - Inspection noted that dam is overgrown with trees and brush which need to be removed to allow for proper inspection. The low-level outlets (sluice gates) are not operable	NA	11/3/2016 - There are trees and brush covering the entire dam. The crest of the dam is uneven and narrow in some locations

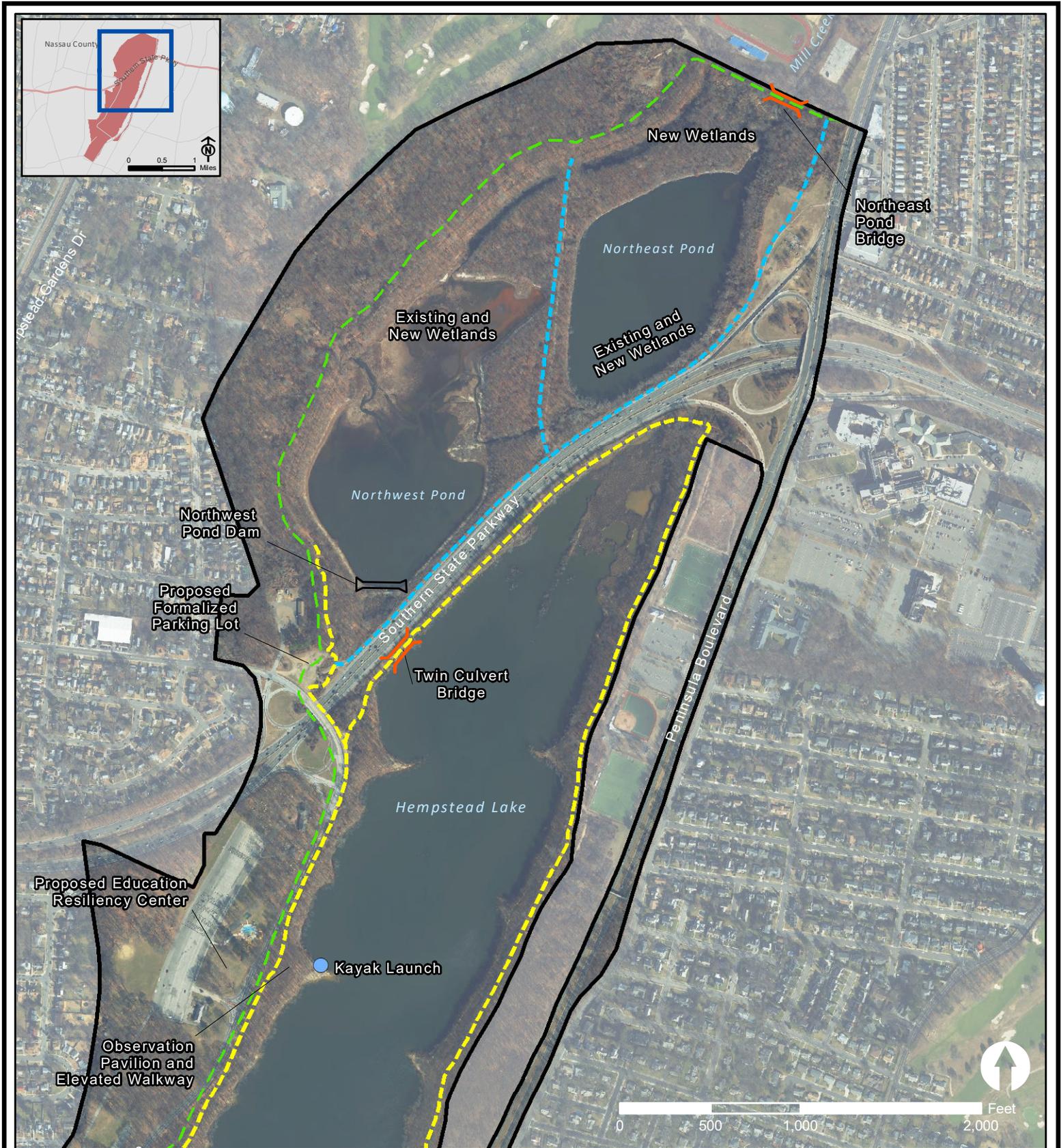
### **E.3: Designated Public Resources on or Near Project Site**

#### **E.3.g.: Have additional archaeological or historic site(s) or resources been identified on the project site?**

Hempstead Lake State Park was determined eligible for listing in the National Register of Historic Places by the Office of Parks, Recreation and Historic Preservation on June 5, 2017. The Park meets Criterion A in the areas of recreation, conservation, and Park planning as one of a network of state parks established on Long Island in 1924 as part of New York's comprehensive state park and parkway plan. The Park also meets Criterion C in the area of design. Resources in the Park that could be affected by the project include the Hempstead Lake Dam and South Pond inlet gatehouse.

**ATTACHMENT C.**  
**Proposed Project**

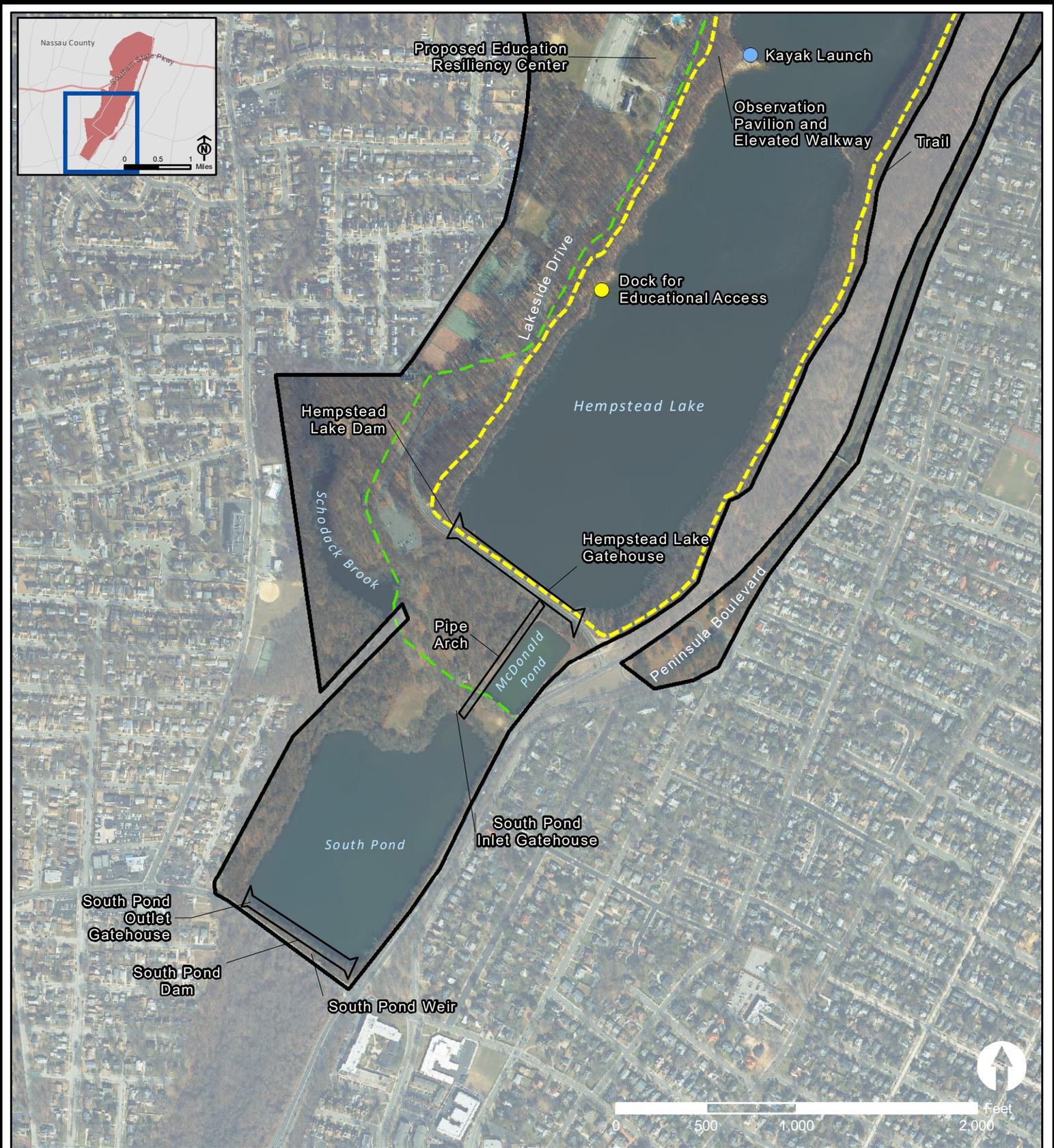
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- Project Boundary
- Proposed Kayak Launch
- Proposed Hiking, Cycling, and Bridle Path
- New Wetland Trail
- Greenway Trail
- Bridge

**Site Plan, North**

Hempstead Lake State Park



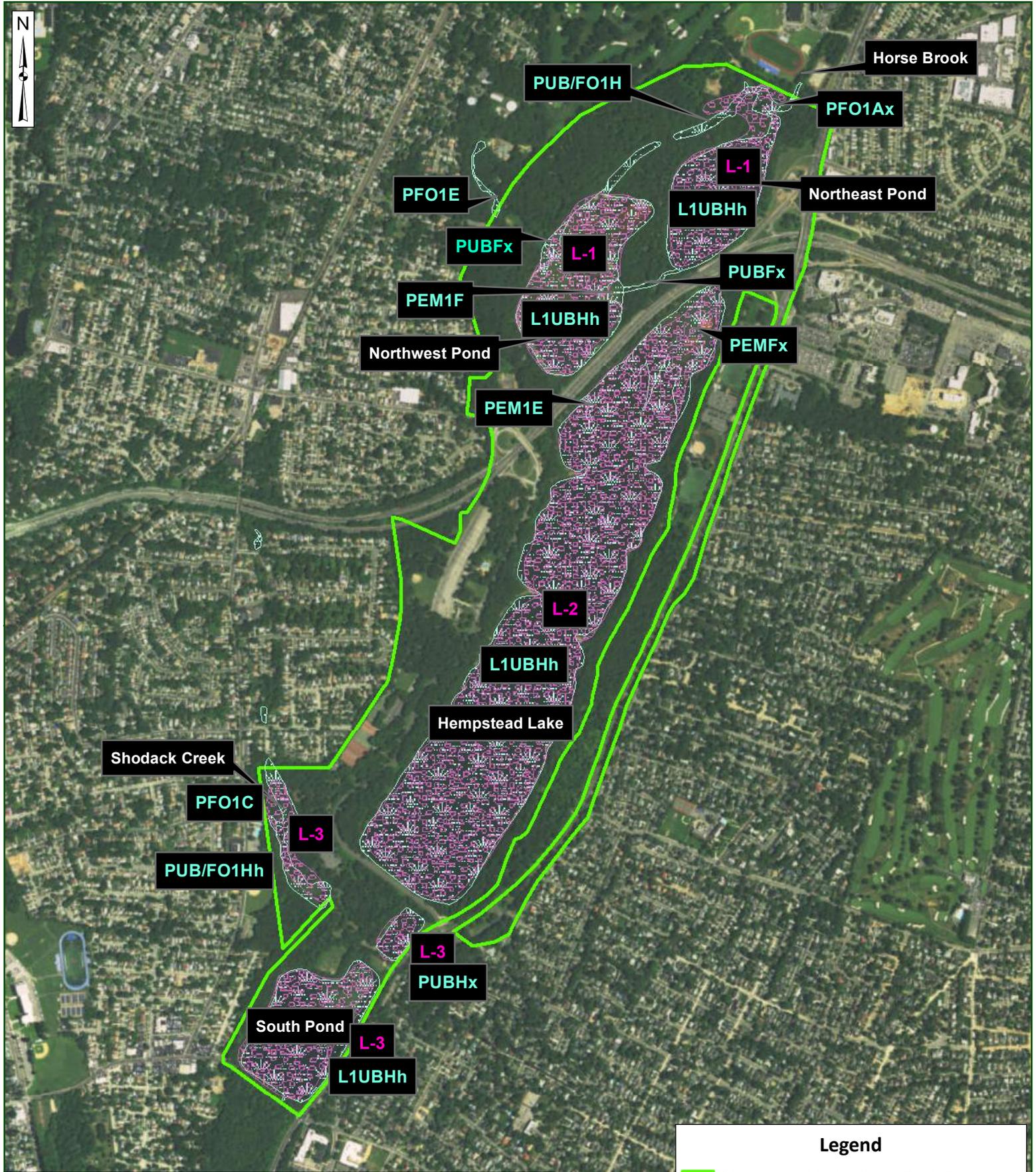
- Project Boundary
- Proposed Kayak Launch
- Dock for Educational Access
- Proposed Hiking, Cycling, and Bridle Path
- Greenway Trail

**Site Plan, South**

Hempstead Lake State Park

**ATTACHMENT D.**  
**State and Federal Wetlands**

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**Legend**

-  Hempstead Lake State Park Boundary
-  DEC Wetland Areas
-  NWI Wetland Areas

**Hempstead Lake State Park  
Federal and State Wetlands**

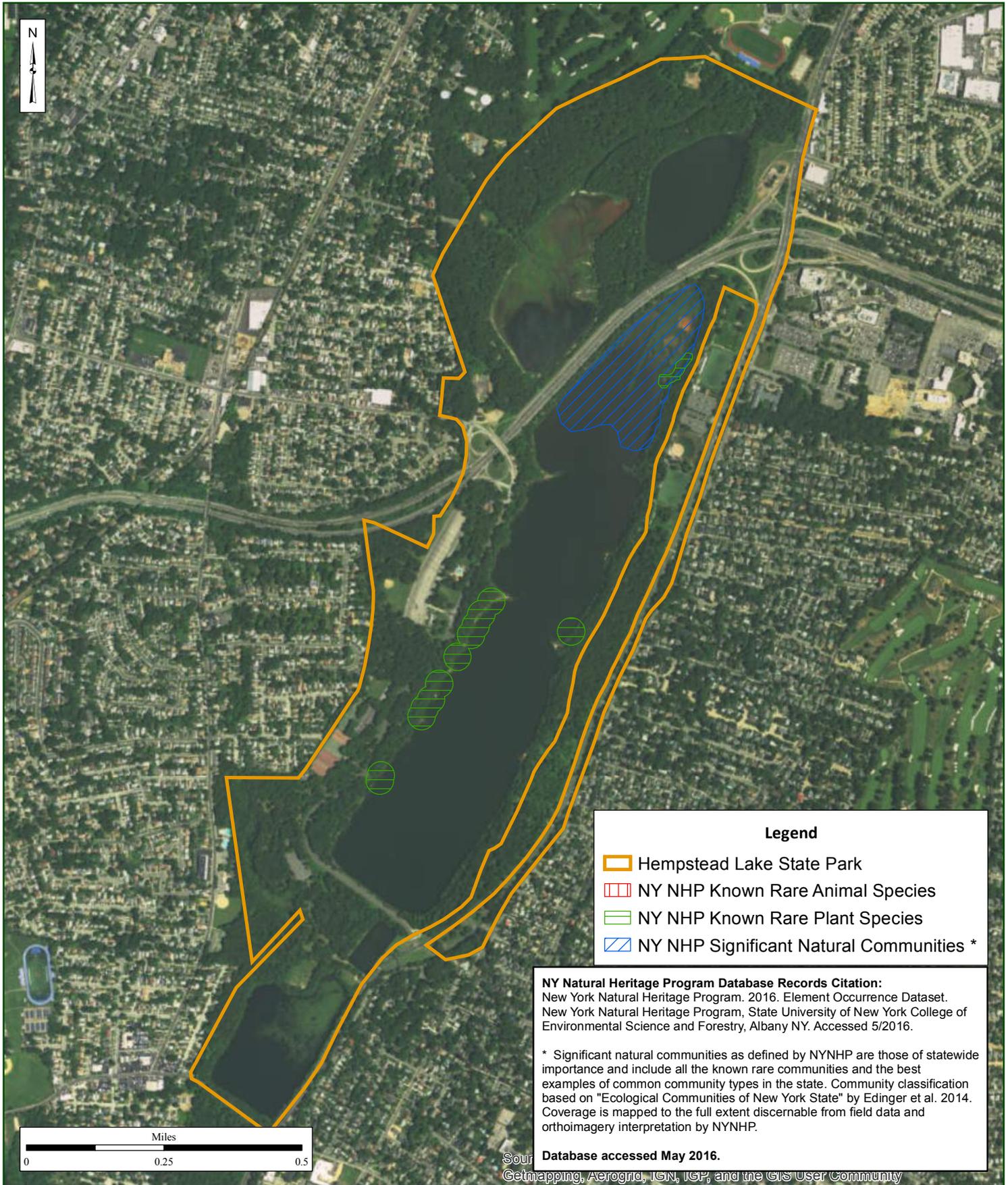
Map produced by NYS OPRHP EMB, March 17, 2017.



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**ATTACHMENT E.**  
**Natural Heritage Elements**

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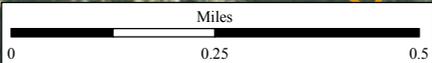
**Legend**

- Hempstead Lake State Park
- NY NHP Known Rare Animal Species
- NY NHP Known Rare Plant Species
- NY NHP Significant Natural Communities \*

**NY Natural Heritage Program Database Records Citation:**  
 New York Natural Heritage Program. 2016. Element Occurrence Dataset.  
 New York Natural Heritage Program, State University of New York College of  
 Environmental Science and Forestry, Albany NY. Accessed 5/2016.

\* Significant natural communities as defined by NYNHP are those of statewide importance and include all the known rare communities and the best examples of common community types in the state. Community classification based on "Ecological Communities of New York State" by Edinger et al. 2014. Coverage is mapped to the full extent discernable from field data and orthoimagery interpretation by NYNHP.

Database accessed May 2016.  
 Sources: Getmapping, Aerogrid, IGN, IGP, and the GIS User Community



# Hempstead Lake State Park

## NYNHP Database Review - Internal Use Only



**Parks, Recreation  
and Historic  
Preservation**

Map produced by NYS OPRHP EMB, March 16, 2017.

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**ATTACHMENT F.**  
**Sediment Reports**

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# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 1  
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790  
P: (631) 444-0365 | F: (631) 444-0360  
www.dec.ny.gov

March 1, 2018

Nancy Lenz  
Cashin Associates, P.C.  
1200 Veterans Memorial Hwy.  
Hauppauge, NY 11788

Re: Hempstead Lake State Park Sediment Management Plan

Dear Ms. Lenz:

The Department of Environmental Conservation (DEC) has completed a review of your client's sediment management plan following the results of the sediment sampling and we have the following comments.

Previous correspondence dated October 23, 2017 (copy enclosed) indicated that DEC would not permit proposed dredged and excavated material that exceeds Class C and possibly material that nearly exceeds Class B to be reused on site. The sediment management plan submitted proposes to keep all dredged and excavated material within Freshwater Wetlands Article 24 jurisdiction, even though sediment analysis revealed contaminants exceeding Class C thresholds. For DEC to consider allowing dredged and excavated material to remain on site, all contaminants that exceeded Class C thresholds as well as contaminants that exceeded the halfway point of Class B thresholds must be evaluated for contaminant mobility in their existing and proposed locations. The contaminant mobility evaluation must demonstrate that the redistribution of material within the wetland will not result in additional dispersion of the contaminants.

Additionally, DEC allowed the sampling of dioxin from only one location with the condition that dioxin would only have to be sampled at other sites if the contaminant was detected in high levels in the one sampled area. As elevated levels of dioxin were detected in sample 5A, you must test for dioxin in the A and B layers of the remaining dredge and excavation sample sites in which chemical testing was required based on grain size and organic content data.

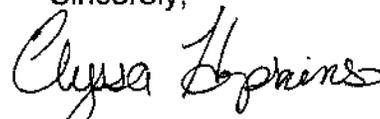
Elevated levels of lead were detected in several samples throughout the site. Therefore, you must submit a Toxicity Characteristic Leaching Procedure (TCLP) analysis for any samples in which lead exceeded 420 parts per million to determine whether the proposed dredged and excavated material exceeds the hazardous waste thresholds of the Identification and Listing of Hazardous Wastes (6 NYCRR Part 371).

DEC is aware that additional sampling presents a cost burden on the project and we are willing to cooperate with you and your client to develop a plan that is still financially feasible. You may wish to forgo additional testing and choose to dispose of the contaminated dredged and excavated material at an upland facility, though be aware that additional testing may be required by the facility receiving the material. Alternatively, if material must be disposed of off-site, you may wish to resample specific contaminants from sample sites to narrow down the amount of material that must be removed from Article 24 jurisdiction. Be advised that based on the contaminant levels detected within the project area, dredge material may not be disposed of upland within the Hempstead Lake State Park boundaries. Any off-site disposal must be taken off Long Island to protect groundwater resources.

DEC is willing to meet with you and your client to discuss the project. You may contact me at (631) 444-0364 or [elyssa.hopkins@dec.ny.gov](mailto:elyssa.hopkins@dec.ny.gov) if you wish to schedule a meeting.

Please call Daniel Lewis of the Bureau of Habitat unit at 621-444-0275 with any technical questions, or myself at 631-444-0364 with any procedural questions.

Sincerely,

A handwritten signature in black ink that reads "Elyssa Hopkins". The signature is written in a cursive, flowing style.

Elyssa Hopkins  
Environmental Analyst

cc: G. Cebada Mora  
D. Lewis  
File

**DRAFT**

# **SEDIMENT SAMPLING FINDINGS REPORT**

**Hempstead Lake State Park  
Northeast and Northwest Ponds**



*Prepared for:* NYS Office of Parks, Recreation and Historic Preservation  
PO Box 247  
Babylon, NY 11702

Roger Evans, Regional Permit Administrator  
NYS DEC Region 1  
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*Prepared by:* Cashin Associates  
1200 Veterans Memorial Highway  
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**JANUARY 2018**

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Figure 2. Sample Depths

## **APPENDICES**

Appendix 1. NYSDEC Approval Letter and Sediment Sampling Plan

Appendix 2. Compilation of Analytical Data

## **I. Project Background**

This report presents the findings from the sediment sampling efforts conducted for the restoration project of the Northwest Pond and Northeast Pond areas in Hempstead Lake State Park, performed in accordance with the Sediment Sampling Plan in the Northwest and Northeast Ponds, dated and approved by the NYSDEC in October 2017, included in Appendix 1. The two ponds lie in the northern part of the park, on the north side of Southern State Parkway. The ponds are presently in an underutilized area of the park and are part of the waterway system that collects runoff and drainage from the upper watershed area north of the park. This system discharges downstream to Hempstead Lake and the Mill River System, and ultimately into the bay along the south shore of Long Island. The ponds have received substantial amounts of sediments and debris, and bathymetric studies performed by Cashin Associates, P.C. (CA) indicate a substantial accumulation of such materials in some areas. The aquatic habitat value and floodwater retention capacity of both ponds have been impacted by this accumulation.

The objectives of the proposed project are to restore aquatic habitat values and floodwater retention capacities of both ponds by dredging the accumulated sediment, repairing the dam in the Northwest Pond, improving and creating new freshwater wetland habitat, and improving the existing surface water treatment capacity. Ultimately, this project seeks to mitigate the pollutant levels that enter the ponds by enhancing existing wetlands and creating new wetland areas to filter pollutants from the runoff entering the pond system. These pond improvements will also improve the quality of water entering Hempstead Lake and ultimately into the bay.

The purpose of the sediment sampling efforts was to collect sufficient data in order to determine potential uses of the dredge material. The proposed design is to dredge 16,000 cubic yards (CY) of material from the center portion Northeast Pond and 12,000 CY of material from the center of the Northwest Pond. The dredged material is intended to be

screened to remove any accumulated trash and used onsite to fill the locations where filtering wetlands are being proposed. The depth of the placed dredge materials is estimated to be 2.5 ft and will vary based on the debris removed during the screening process. No dredge material is proposed to be used outside of the pond limits on upland areas within the park. The dredge operation is currently anticipated to be a hydraulic dredge that utilizes a screening process to remove any trash and debris encountered.

After the dredge material is placed in the wetland locations, it will be covered with soils excavated from other locations adjacent to the Northeast Pond including the sediment basin, access road, and trail (estimated to be approximately 49,000 CY of soil). This material will be placed to a depth of approximately 1 inches over the dredge materials. The wetland embankments will also be constructed from the excavated material. The excavated areas will require removal of trash prior to the excavation operation. Materials unsuitable for the wetland construction will be disposed of offsite in accordance with all regulations and requirements. If necessary, clean fill may be brought in to augment this proposed layer of sediment.

Following the placement of the excavated material, the wetland and embankments will be covered with 6 inches of sand or topsoil to create the final wetland and embankment elevations and planted with appropriate native wetland and upland vegetation.

## **II. Sampling Methodology**

Sediment samples were collected by CA field personnel in October and November 2017 and sent to an analytical laboratory (Chemtech, Mountainside, NJ). The laboratory is approved and certified by the New York State Department of Health and the Environmental Lab Approval Program (ELAP).

Originally, sediment cores were to be collected from fifteen locations (HL-1 through HL-15) in the pond areas (Figure 1). However, after continued discussions with the governing agencies and other interested parties, five of the samples sites (HL-3, HL-9, HL-10, HL-11 and HL-14) were eliminated due to project re-design. The sample locations were chosen to characterize the sediment quality at all proposed sediment removal and deposition areas. Sample depths are identified on Figure 2.

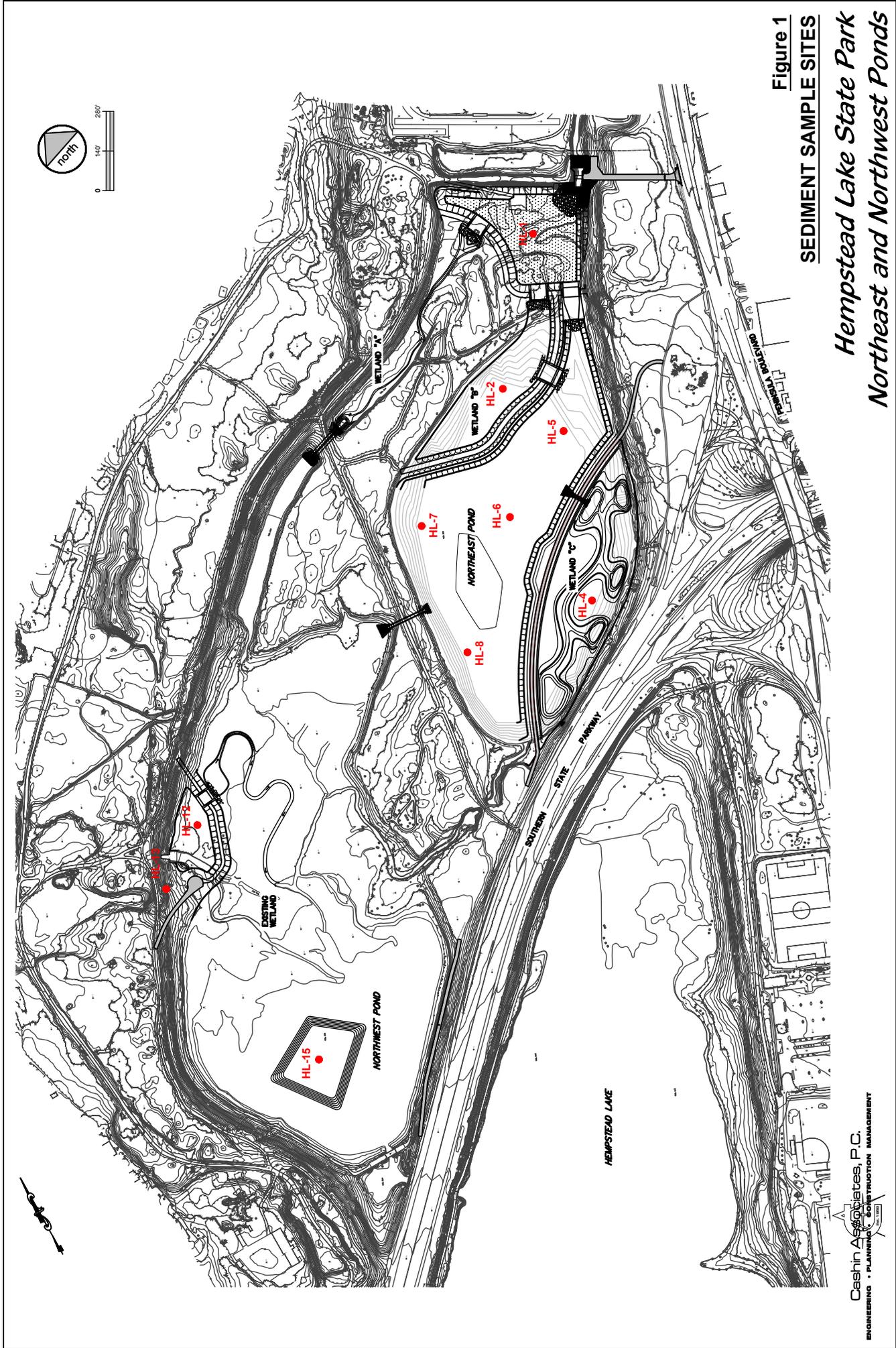
Core samples were collected using a hand held AMS Multi-Stage Sediment Sludge Sampler system to a minimum depth of one foot below the proposed dredging depth. Sample collection followed established protocols and procedures, consistent with the sediment sampling guidance provided in Appendix C of NYSDEC *Technical & Operational Guidance Series (TOGS) 5.1.9 In-Water and Riparian Management of Sediment and Dredge Material*. Visual inspection of the sediment cores was performed and documented. Each core sample was divided into segments representing (a) the surface to proposed dredging depth; (b) 0 to 6 inches below the proposed dredging depth (the post-dredging bottom to be exposed); and (c) 6 to 12 inches below the proposed dredging depth (Table 1). Each core segment was analyzed separately.

In general, the “A” samples had a layer of mud on the surface that gradually became sandier with depth. However, the transition from mud to sand was gradual and the cores did not exhibit distinct layering. Therefore, no additional samples from distinct sediment layers were taken.

The material was composited by placing the material in a clean tub and mixing it with a clean spatula to a uniform consistency. Care was taken to include material from the entire thickness of each core segment when creating a composite. Samples for VOC analysis were collected using disposable discrete VOC samplers (EnCore) and were obtained before the sample material was composited. The layer showing obvious signs of impact (i.e. odor, color, etc.) were selected for sampling. As previously discussed, most “A” samples transitioned from mud to sand but without distinct horizons. In these cases, VOC samples were taken from the muddier and higher organic upper layer which likely represents the greatest level of contamination. A compilation of the analytical data is provided in Appendix 2 of this report.

**Table 1. Sample Sites**

<b>SITE</b>	<b>IDENTIFICATION</b>	<b>SITE</b>	<b>IDENTIFICATION</b>
HL-1A	Surface to proposed dredging depth	HL-7A	Surface to proposed dredging depth
HL-1B	0" to 6" below post-dredge bottom	HL-7B	0" to 6" below post-dredge bottom
HL-1C	6" to 12" below post-dredge depth	HL-7C	6" to 12" below post-dredge depth
HL-2A	Surface to proposed dredging depth	HL-8A	Surface to proposed dredging depth
HL-2B	0" to 6" below post-dredge bottom	HL-8B	0" to 6" below post-dredge bottom
HL-2C	6" to 12" below post-dredge depth	HL-8C	6" to 12" below post-dredge depth
HL-4A	Surface to proposed dredging depth	HL-12A	Surface to proposed dredging depth
HL-4B	0" to 6" below post-dredge bottom	HL-12B	0" to 6" below post-dredge bottom
HL-4C	6" to 12" below post-dredge depth	HL-12C	6" to 12" below post-dredge depth
HL-5A	Surface to proposed dredging depth	HL-13A	Surface to proposed dredging depth
HL-5B	0" to 6" below post-dredge bottom	HL-13B	0" to 6" below post-dredge bottom
HL-5C	6" to 12" below post-dredge depth	HL-13C	6" to 12" below post-dredge depth
HL-6A	Surface to proposed dredging depth	HL-15A	Surface to proposed dredging depth
HL-6B	0" to 6" below post-dredge bottom	HL-15B	0" to 6" below post-dredge bottom
HL-6C	6" to 12" below post-dredge depth	HL-15C	6" to 12" below post-dredge depth

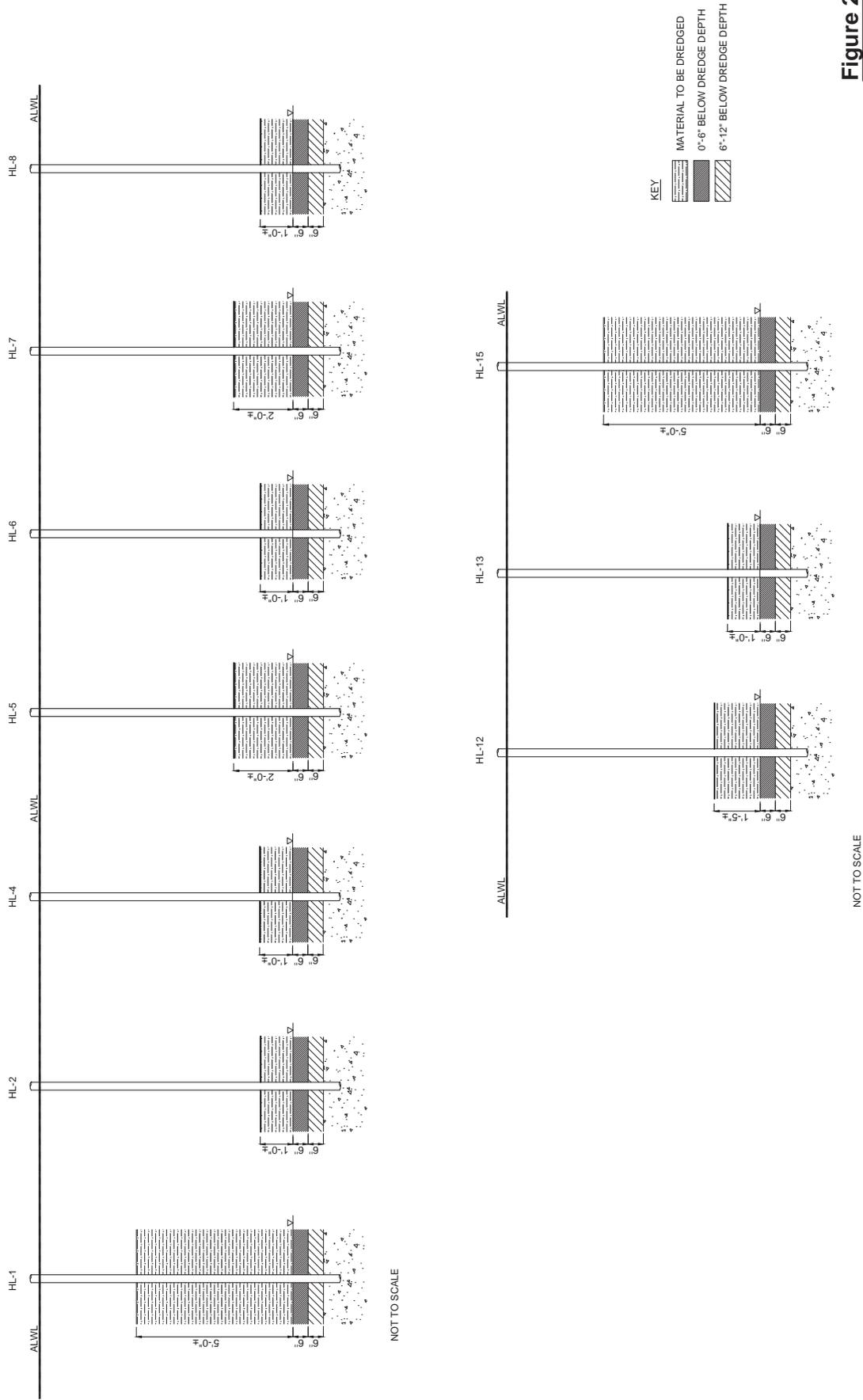


**Figure 1**  
**SEDIMENT SAMPLE SITES**

*Hemstead Lake State Park*  
*Northeast and Northwest Ponds*

# Hempstead Lake State Park Northeast and Northwest Ponds

**Figure 2**  
**SEDIMENT SAMPLE DEPTHS**



### III. Quality Assurance and Quality Control

Field and laboratory QA/QC procedures were consistent with the requirements outlined in Appendix C of the NYSDEC *In-Water and Riparian Management of Sediment and Dredged*

*Material* (TOGS 5.1.9). Testing for samples were in accordance with the procedures and methods listed in Table 2.

**Table 2. Procedures for Sample Testing**

CONTAMINANTS	USEPA SW-846 METHOD
Pesticides (Including Mirex)	8081 A
Herbicide (Silvex)	8151
Total Aroclors of PCB's	8082
Volatile Organics (VOC's)	8260 B
Semi-Volatile Organics (SVOC's)	8270 C
Metals	6010 B
Total Organic Carbon (TOC)	9060 A
Dioxin	1613B

#### *a. Field Documentation Procedures*

The following information was collected: field/weather conditions, names of samplers, description of sediment and any other pertinent information.

## **IV. Preliminary Analyses**

The following analyses were performed on all sample segments from each sample location:

### ***a. Grain Size Distribution***

Grain size distribution of each sample segment was determined by a sieve analysis performed in accordance with ASTM D422

### ***b. Total Organic Carbon***

The Total Organic Carbon (TOC) of each sample segment was determined in accordance with EPA Method 415.1.

### ***c. Testing Sequence***

According to the NYSDEC protocol, if the grain size and TOC analyses determine that the composition of any sample is at least 90% sand or larger material (less than 10% of the material passes through the No. 200 sieve) and less than 0.5% TOC, no further testing of that sample is required by the NYSDEC. Unless exempt under this protocol, all “A” and “B” samples were tested for the contaminant parameters identified above.

Additional analyses of “C” samples were based on the results from “A” and “B” analyses. If the analysis of a segment indicated that the level of contamination was significantly higher in Segment B relative to Segment A or that Class C levels of contaminants are present and would not be removed by the proposed dredging, contaminant analysis was also conducted on Segment C (6” to 12” below the proposed dredging depth) for all parameters identified above to determine if alteration of the dredging depth would mitigate the problem. For two of the sample locations, the analysis of “C” samples was required due to contamination in “B” samples. Some of the hold times for this round of sampling were exceeded due to the testing sequence. One additional “C” was exempt from further testing based on the grain size and TOC.

***d. Dioxin Testing***

In accordance with the approved sampling plan, Dioxin was analyzed at one of the sample sites (HL-5). Only the “A” and “B” samples were analyzed and additional sediment is currently being archived for additional testing if necessary.

***e. Additional Analysis Comparisons***

Additionally, at the request of the NYSDEC, the results were compared to contamination levels of freshwater thresholds as well as protection of groundwater standards as detailed in the Remedial Program Soil Cleanup Objectives (6NYCRR Part 375-6.8(b)).

## **V. Results**

This section summarizes the results of the sediment sampling efforts conducted at the project site by CA in October and November 2017. These data provide a comparison of the contamination levels against the various regulatory thresholds. A comprehensive table of all the analytical data can be found in Appendix A.

### ***a. Grain Size Distribution and Total Organic Content (TOC)***

Grain size distribution and total organic content (TOC) analysis was performed on the “A” (sediment to be dredged), “B” (sediment 6” below the sediment to be dredged), and “C” (6” to 12” below sediment to be dredged) segments of each sample site listed in Table 1 above. Based on TOGS 5.1.9, the samples are exempt from chemical analysis if the percent of grain size that passes through the number 200 sieve is below 10% and the TOC is less than 5,000 ppm (0.05%)

Table 3 details the grain size distribution and TOC found for all samples. The data for grain size is represented by the percentage of material which passes through the number 200 sieve and the TOC data is presented in ppm. Based on the grain size distribution and TOC analysis, it was determined that fourteen (highlighted in bold on Table 3) of the 30 segments analyzed were not exempt from the chemical analysis as described in TOGS 5.1.9.

**Table 3. Grain Size and Total Organic Content**

SEGMENT		GRAIN SIZE (% > #200 SIEVE)	TOTAL ORGANIC CONTENT (PPM)
HL-1	A	2.1	1,690
	B	0.8	924
	C	0.9	1,300
HL-2	A	9.4	<b>15,100</b>
	B	2.0	972
	C	1.8	576
HL-4	A	<b>35.3</b>	<b>27,400</b>
	B	<b>13.2</b>	<b>17,000</b>
	C	1.4	883
HL-5	A	<b>20.0</b>	<b>24,600</b>
	B	5.5	<b>13,100</b>
	C	<b>17.7</b>	<b>25,500</b>
HL-6	A	<b>35.2</b>	<b>23,400</b>
	B	3.7	2,800
	C	2.6	307
HL-7	A	9.3	<b>26,800</b>
	B	7.9	<b>14,200</b>
	C	4.1	1,520
HL-8	A	<b>40.0</b>	<b>21,200</b>
	B	2.8	<b>13,700</b>
	C	1.7	<b>5,930</b>
HL-12	A	<b>12.9</b>	<b>13,600</b>
	B	1.9	872
	C	1.0	324
HL-13	A	1.1	2,280
	B	2.7	583
	C	2.5	353
HL-15	A	4.0	<b>5,080</b>
	B	0.4	1,120
	C	4.0	188

**b. Chemical Analysis**

Sample analysis followed established protocols and procedures, consistent with the sediment sampling guidance provided in the Table 2 of the NYSDEC *Technical & Operational Guidance Series (TOGS) 5.1.9 In-Water and Riparian Management of Sediment and Dredge Material*. The first round of chemical analyses was conducted on the “A” and “B” samples. Following a review of the results, two additional samples from the “C” segment were analyzed as well.

According to the review of the laboratory’s QA/QC narrative, there were issues with some of the analyses performed for the VOCs, SVOCs, and pesticides. These issues included contamination of methylene chloride in the trip blank, the failure of internal and surrogate standards, and the inability to re-analyze some of the VOC samples due to the lack of additional sample material. However, it should be noted that the only VOC constituents that were detected are the three commonly found laboratory contaminants: acetone, methylene chloride, and MEK. Therefore, the VOC constituents are most likely the result of laboratory contamination, rather than environmental factors at the site. Also, the sample matrix (muddy content) and high moisture content may also have contributed to some unreliable analytical results, such as elevated metal results.

Table 4 compares the analytical results with thresholds for “Unrestricted Use” (SCO), “Class B Threshold” (moderate contamination) and “Class C Threshold” (high contamination). Constituents listed in each category are those that exceed the recommended thresholds. All sample segments that were analyzed for chemical constituents had regulatory exceedances in all of the three threshold categories. Generally, there was not a considerable difference in the number of contaminants present between “A” and “B” segments. However, there was a noticeable reduction in the concentration of these contaminants from “A” to “B”. Furthermore, most “C” segments were exempt from further testing except for two sites of which both showed considerable reductions in contamination with respect to the associated “A” and “B” segments.

**Table 4. Soil Cleanup Objectives (SCO) for Unrestricted Use**

SEGMENT	UNRESTRICTED USE	CLASS B THRESHOLD	CLASS C THRESHOLD
<b>SEGMENTS IN AREAS TO BE DREDGED</b>			
5A	Copper, lead, mercury, nickel, selenium, zinc, PCB-1254*, Dioxin-equiv	Dioxin-equiv, fluoranthene*, pyrene*, benzo(a)anthracene*, cadmium, chromium, copper, mercury, nickel, PCB-1254*	Lead, zinc
5B	Lead, zinc	Copper, zinc	lead
5C	4,4-DDE, copper, lead, mercury, nickel, zinc	Chromium, copper, nickel, mercury	Lead, zinc
6A	Arsenic, cadmium, copper, lead, mercury, selenium, zinc	Fluoranthene*, arsenic, cadmium, chromium, mercury, silver	Copper, lead, zinc
7A	Phenol*, 4,4-DDE*, 4,4-DDD*, arsenic, cadmium, copper, lead, mercury, nickel, selenium, zinc	ΣDDT*, arsenic, cadmium, chromium, mercury, silver	Copper, lead, nickel, zinc
7B	4,4-DDD*, cadmium, copper, lead, mercury, selenium, zinc	Cadmium, chromium, mercury, nickel	Lead, Zinc
8A	Arsenic, cadmium, copper, lead, mercury, nickel, selenium, zinc	Arsenic, chromium, mercury, silver	Cadmium, copper, lead, nickel, zinc
8B	4,4-DDE*, 4,4-DDD*, cadmium, copper, lead, mercury, zinc	ΣDDT*, cadmium, chromium, copper, mercury, nickel,	Lead, zinc
8C		Lead	
15A	Lead		Lead
<b>SEGMENTS IN NON DREDGE AREAS</b>			
2A	4,4-DDD*, copper, lead, mercury, zinc	Fluoranthene*, pyrene*, benzo(a)anthracene*, chrysene*, copper, lead, mercury, nickel	ΣDDT*, zinc
4A	Phenol*, arsenic, cadmium, copper, lead, mercury, nickel, selenium	Arsenic, cadmium, chromium, mercury, silver	Copper, lead, nickel
4B	4,4-DDD*, arsenic, cadmium, copper, lead, mercury, nickel, selenium, zinc	ΣDDT*, arsenic, cadmium, chromium, copper, nickel	Lead, mercury, zinc
12A	Lead, mercury, zinc	Copper, mercury, nickel, zinc	Lead

Note: \*Sample was analyzed twice and contamination was only detected once.

These results were also compared to NYSDEC *6NYCRR Part 375-Environmental Remediation Programs* Table 375-6.8(b): Restricted Use Soil Cleanup Objectives (Tables 5 and 6). Eleven of the twelve segments analyzed had at least one constituent that registered above *Part 375* Unrestricted Use Soil Cleanup Objectives and most of the Restricted Use Objectives. Metals appeared to have the most prevalent constituents which registered above the cleanup objectives.

Generally, in cases where the “A” and “B” segments were both analyzed, there was a noticeable reduction in the number of contaminants and their concentrations from “A” to “B”. This would suggest that in these areas where sediments are to be removed the exposure of the “B” layer would most likely be beneficial.

The only Volatile Organic Compound (VOC) that did not meet the Unrestricted Cleanup Objective was Acetone. However, it should be noted that in many instances, elevated levels of acetone may be the result of laboratory contamination, rather than environmental factors at the site.

**Table 5. All Soil Cleanup Objectives (SCO) in Dredge Areas\***

SEGMENT	PROTECTION OF PUBLIC HEALTH				PROTECTION OF ECOLOGICAL RESOURCES
	RESIDENTIAL	RESTRICTED-RESIDENTIAL	COMMERCIAL	INDUSTRIAL	
5A	Chromium, mercury	Mercury			Copper, lead, mercury, nickel, selenium, zinc
5B					Lead, zinc, 4,4DDD
6A	Cadmium, lead chromium, copper, mercury	Cadmium, lead, copper, mercury	Copper, lead		Arsenic, lead, cadmium, nickel, chromium, zinc, selenium, copper, mercury
7A	Arsenic, copper, cadmium, lead, chromium, mercury	Arsenic, copper, cadmium, lead, mercury	Arsenic, copper, lead	Arsenic	Arsenic, copper, cadmium, lead, chromium, zinc, nickel, mercury, selenium, 4,4DDD
7B	Cadmium, lead	Lead			Lead, mercury, selenium, zinc, 4,4DDD
8A	Arsenic, copper, chromium, lead, cadmium, mercury	Arsenic, copper, cadmium, lead, chromium, mercury	Arsenic, copper, cadmium, lead	Arsenic, cadmium	Arsenic, copper, cadmium, lead, chromium, mercury, nickel, selenium
8B	Cadmium, lead	Lead			Chromium, lead, copper, zinc, 4,4DDD, 4,4DDE

\*Constituents listed in each category are those that exceed the recommended thresholds in that category.

**Table 6. All Soil Cleanup Objectives (SCO) in Non-Dredge Areas\***

SEGMENT	PROTECTION OF PUBLIC HEALTH				PROTECTION OF ECOLOGICAL RESOURCES	PROTECTION OF GROUND WATER
	RESIDENTIAL	RESTRICTED-RESIDENTIAL	COMMERCIAL	INDUSTRIAL		
<b>SEGMENTS IN NON-DREDGE AREAS</b>						
2A					Copper, lead, mercury, zinc, 4,4DDD	
4A	Arsenic, copper, cadmium, lead, chromium, mercury	Arsenic, copper, cadmium, lead, mercury	Arsenic, copper, lead	Arsenic	Arsenic, copper, cadmium, lead, chromium, nickel mercury, zinc, selenium	Arsenic, lead, cadmium, mercury, selenium, acetone
4B	Chromium	Cadmium		Arsenic	Cadmium, lead, copper, mercury, chromium, nickel Selenium, zinc	Selenium
12A					Lead, mercury, zinc	

\*Constituents listed in each category are those that exceed the recommended thresholds in that category.

**c. Dioxin**

As requested by the NYSDEC, sample segments 5A and 5B were also analyzed for dioxin. Both of these segments had detections of dioxin, but only segment 5A had an exceedance in Unrestricted Use and Class B Thresholds (Table 4).

## **VI. Summary and Discussion**

Based on the analytical results, the sediments in the Northeast and Northwest Ponds have considerably high concentration of contamination. Metals are the most pervasive contaminants and are responsible for almost all of the C material classification per TOGS 5.1.9. The only other C classification was for 4,4-DDD at sample site HL-2. Lead and zinc were the two most elevated contaminants relative to their threshold concentrations. Most C segments were exempt from the chemical analysis due to low/no contamination in their associated “B” segments or due to the grain size and TOC exclusionary protocol. It appears that, in general, the contamination concentrations decrease with depth. Furthermore, the contamination is likely concentrated within the top few inches of sediment but was not separately sampled due to the lack of any distinct sediment layering.

It is important to note that not all areas were found with high levels of contamination. Over half of the samples were sandy low organic sediments and exempt from the chemical analysis. Two sample sites HL-1, located in the stream in the Northeast Pond, and HL-13, located slightly upland in the Northwest Pond near the outfall were completely exempt from sampling (Segments A, B and C). Of the 14 samples that were chemically analyzed, only three exhibited one Class C threshold exceedance (Lead) and another sample only exhibited a Class B threshold exceedance (Lead). It is also important note that not all the sample sites are within areas that will be dredged. Four of the fourteen analyzed segments (HL-2A, HL-4A, HL-4B and HL-12A) are in areas where the sediment is to remain and will possibly be capped with additional material.

It appears that in general the number of contaminants and concentrations decrease with depth. This is demonstrated by comparing the analytical data between segments. Furthermore, most “C” samples are assumed to have low contamination due to their coarse grain size and low organic content. However, there are also limited instances when one of the deeper samples exhibited higher distinct contamination. Samples at sites HL-5C, -8B and -4B all exhibited elevated levels of DDT/DDE compared to their associated shallower segments. Therefore, decisions regarding dredge material management will require site specific assessments.

In general, the proposed project for restoration of the Northwest and Northeast Ponds will involve limited dredging and the re-use of dredged materials on-site. Re-use will include using the materials as fill to create wetland areas. All fill materials will be capped with clean materials. Site specific dredging methods and controls will be developed and used to mitigate construction phase impacts to water quality. Overall the management of sediment will result in an improvement of pond environmental conditions by removing debris, reducing contamination levels in exposed sediment, providing additional wetlands and capping contaminated sediments with clean material.

**APPENDIX 1**  
NYSDEC APPROVAL LETTER AND  
SEDIMENT SAMPLING PLAN

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Permits, Region 1  
SUNY @ Stony Brook, 50 Circle Road, Stony Brook, NY 11790  
P: (631) 444-0365 | F: (631) 444-0360  
www.dec.ny.gov

October 23, 2017

Nancy Lenz  
Cashin Associates, P.C.  
1200 Veterans Memorial Hwy.  
Hauppauge, NY 11788

Re: Application #1-2820-03703/00009  
Hempstead Lake State Park Northern Ponds Sediment Sampling

Dear Ms. Lenz:

The Department of Environmental Conservation (DEC) has completed a review of your client's draft sediment sampling plan proposed for the dredging, excavation and fill of the northern ponds within Hempstead Lake State Park. The proposed plan, last revised October 2017, is acceptable and therefore approved by the department. You may proceed with the sediment sampling as proposed.

Please forward the results to my attention when the sampling and analysis have been completed. The results must contain a summary of any class B and C analytes detected.

Please be advised that material testing at or above Class C thresholds, and possibly material that nearly exceeds class B thresholds, may not be placed within Article 24 jurisdiction. Additionally, material that does not meet the protection of groundwater standards of 6 NYCRR Part 375 will not be permitted to be reused on site. If material must be disposed of at an upland site, DEC Division of Materials Management staff may require additional sampling.

Sincerely,



Elyssa Hopkins  
Environmental Analyst

cc: S. Fish - NYSOPRHP  
M. Accardi - GOSR  
File



Department of  
Environmental  
Conservation

# **Northeast and Northwest Ponds Dredging Project**

## **Draft Sediment Sampling Plan**

**Hempstead Lake State Park, NY**

**Prepared for:** NYS Office of Parks, Recreation and Historic Preservation  
PO Box 247  
Babylon, NY 11702

**Roger Evans, Regional Permit Administrator**  
NYS DEC Region 1  
SUNY @ Stony Brook  
50 Circle Road Room 121  
Stony Brook, NY 11790-3409

**Prepared by:** Cashin Associates  
1200 Veterans Memorial Highway  
Hauppauge, NY 11788

**February 2017**  
**Revised May 2017**  
**Revised July 2017**  
**Revised October 2017**

## **I Project Background**

NYS Office of Parks, Recreation and Historic Preservation (OPRHP) is in the preliminary phase of planning, estimating and environmental sampling that is required for the restoration of the Northwest Pond and Northeast Pond areas in Hempstead Lake State Park. The two ponds lie in the northern part of the park, on the north side of Southern State Parkway. The ponds are presently in an underutilized area of the park and part of the waterway system that collects runoff and drainage from the upper watershed area north of the park. This system discharges downstream to Hempstead Lake and the Mill River System and ultimately into the bay along the south shore of Long Island. The ponds have received substantial amounts of sediments and debris, and bathymetric studies performed by CA indicate a substantial accumulation of such materials in some areas. Both ponds aquatic habitat value and floodwater retention capacity have been impacted by this accumulation.

The objectives of the proposed project is to restore aquatic habitat values and floodwater retention capacities of both ponds by dredging the accumulated sediment, dam repair in Northwest Pond, creating new as well as improving existing freshwater wetland habitat, and improving the existing surface water treatment capacity. The purpose of this sediment sampling plan is to collect sufficient data in order to determine potential uses of the dredge material. Ultimately, this project seeks to mitigate the pollutant levels that enter the ponds by enhancing existing wetlands and creating new wetland areas to filter pollutants from the runoff entering the pond system. These pond improvements will also improve the quality of water entering Hempstead Lake and ultimately into the bay.

The proposed design is to dredge 16,000 CY of materials from the center portion Northeast Pond and 12,000 CY of material from the center of the surface water in Northwest Pond. The dredged material is intended to be screened to remove any accumulated trash and placed to fill the locations where filtering wetland are being proposed on the north and south sides of the. The depth of the placed dredge materials is estimated to be 2.5' and will vary based on the debris removed during the screening process. No dredge material is proposed to be used outside of the

pond limits on upland areas within the park. The dredge operation is currently anticipated to be a hydraulic dredge that utilizes a screening process to remove any trash and debris encountered. After the dredge material is placed in the wetland locations, it will be covered with soils excavated from other locations adjacent to Northeast Pond including the sediment basin, access road and trail estimated to be approximately 49,000 CY. This material will be placed to a depth of approximately 18" over the dredge materials. The wetland embankments will also be constructed from the excavated material. The excavated areas will require removal of trash prior to excavation operation. Materials unsuitable for the wetland construction will be disposed of offsite in accordance with all regulations and requirements. If inadequate material results due to trash and unsuitable materials removals, clean fill may be brought to the site.

Following placement of the excavated materials, the wetland and embankments will be covered with 6" of sand or topsoil to create the final wetland and embankment elevations and planted with appropriate native wetland and upland vegetation.

## **II Site Description and Existing Habitat**

Hempstead Lake was originally constructed as part of the Brooklyn Waterworks water supply system that provided water to Brooklyn, NY. The North Ponds were developed when the Southern State Parkway was constructed which separated the northern lake section from the remainder of Hempstead Lake. The lake system and surrounding land became a state park in 1926. Review of historic aerials from 1926 and 1956 shown considerable changes in the lake and Mill Creek area after construction of the Southern State Parkway. The 1926 aerial showed an upper pond area with an overflow that directed the runoff to two stream channels with an island in the center. NYSDOT design plans for the Southern State Parkway referred to the Northeast Pond as an Impoundment Area and all drainage from the parkway was piped to this area. The design plans also showed a pond area north of the Impoundment Area and a separate channel for Mill Creek. The southern limit of this pond area is visible due to the berm at the northern limit of the project site but the Hempstead High School sport facility sits where the majority of this pond had been. Flow to the Northwest Pond was via a channel north of the impoundment area and there was no connection between the ponds. This channel is still visible

but sediment build-up appears to prevent flow through the channel and now Northeast Pond overflows at its southern end into Northwest Pond.

After construction of the Southern State Parkway, few improvements were made to the North Ponds area. This section of the park saw limited use mainly for horseback riding and other minor trails use. As development within the watershed continued, runoff volumes and velocities increased and the drainage system carried floatables and debris to the ponds where they were trapped along the shoreline and within the ponds. Cleanup events scheduled once or twice a year were unable to keep up with the volumes of materials being deposited. As the debris volumes built up, this section of the park became less desirable for public use.

### **III. Sampling Methodology**

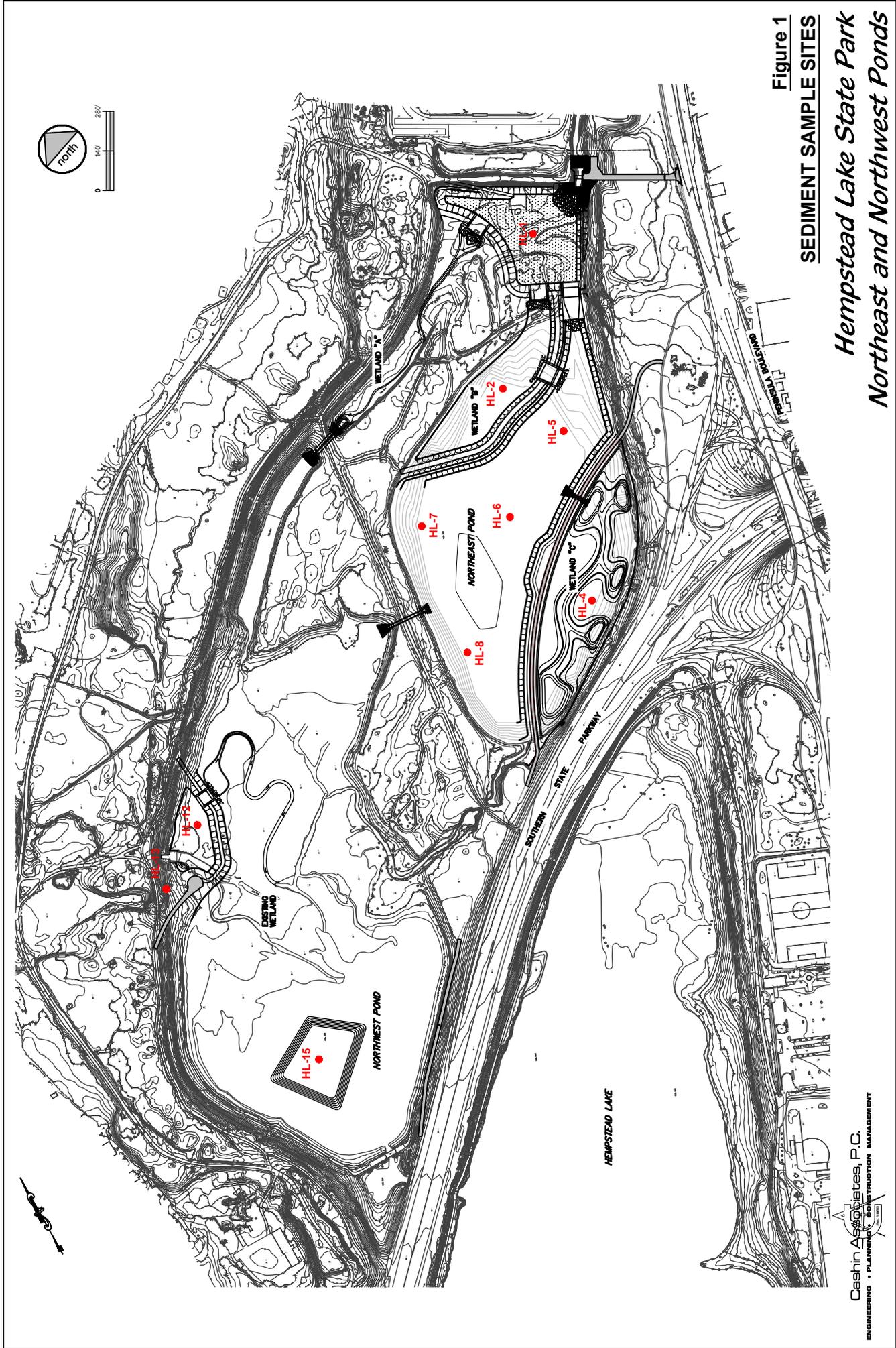
Sediment samples will be collected by Cashin Associates (CA) field personnel. CA is located at 1200 Veterans Memorial Highway, Hauppauge, NY 11788 and the contact person for this project is Keith W. Brewer, Senior Environmental Scientist at (631) 348-7600-ext. 30. The analytical laboratory used for the chemical analysis will be York Analytical Laboratories, Inc. located at 120 Research Drive, Stratford, CT 06615, (203) 325-1371 or other qualified laboratory. The laboratory will be one approved and certified by the New York State Department of Health and the Environmental Lab Approval Program (ELAP).

Originally, sediment cores were to be collected from fifteen locations (HL-1 through HL-15) in the pond areas (Figure 1). However, after continued discussions with the governing agencies and other interested parties, five of the samples sites (HL-3, HL-9, HL-10, HL-11 and HL-14) have been eliminated due to project re-design. The samples will be collected in order to get full coverage of all proposed sediment removal and deposition areas. Sample depths are identified on Figure 2.

Core samples will be collected using a hand held AMS Multi-Stage Sediment Sludge Sampler system to a minimum depth of one foot below the proposed dredging depth. Sample collection will follow established protocols and procedures, consistent with the sediment sampling

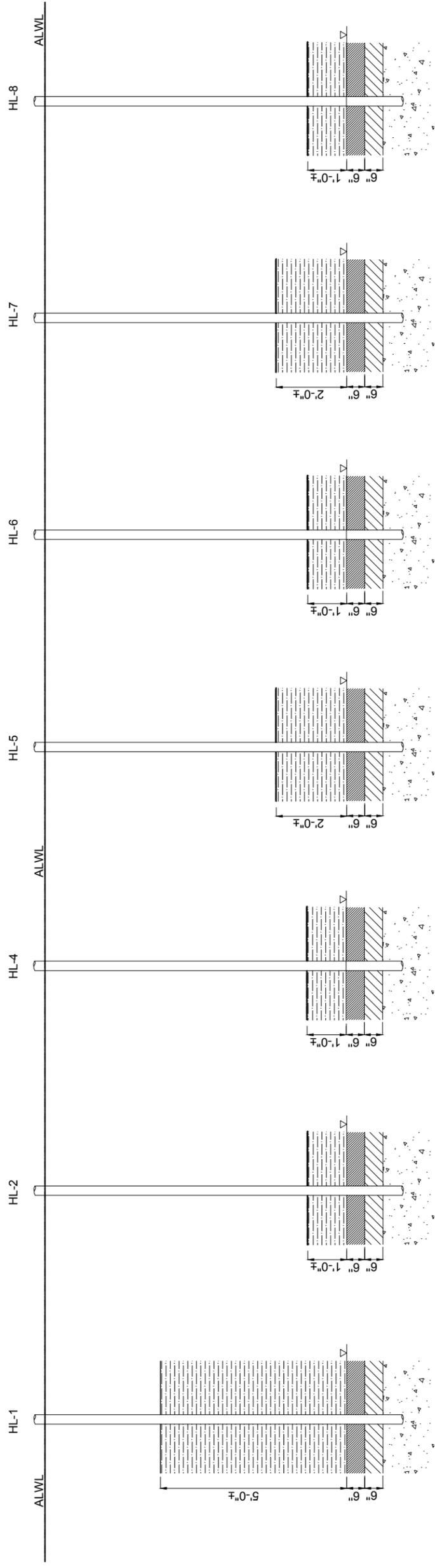
guidance provided in Appendix C of NYSDEC *Technical & Operational Guidance Series (TOGS) 5.1.9 In-Water and Riparian Management of Sediment and Dredge Material*. Visual inspection of the sediment cores will be performed and documented. Each core sample will be divided into segments representing (a) the surface to proposed dredging depth, (b) 0” to 6” below the proposed dredging depth (the post-dredging bottom to be exposed) and (c) 6” to 12” below the proposed dredging depth (Table 1). Each core segment will be analyzed separately. If the sample segments are distinctly layered rather than fairly uniform, then the layers will also be sampled separately. If the sediments within a segment appear to be fairly uniform, then the material will be composited by placing the material in a clean tub and mixing it with a clean spatula to a uniform consistency. Care will be taken to include material from the entire thickness of each core segment when creating a composite. Sediment to be analyzed for trace metals will not come into contact with metals and sediment to be analyzed for organic compounds will not come into contact with plastics. In addition, samples collected for VOC analysis will be grab samples, selected before the sediments within each segment are mixed to create the segment composite.

The layer showing obvious signs of impact (i.e. odor, color, etc.) will be selected. If the segment is fairly uniform, any portion of that segment may be selected for VOC analysis. A photographic log will be generated to depict these processes.

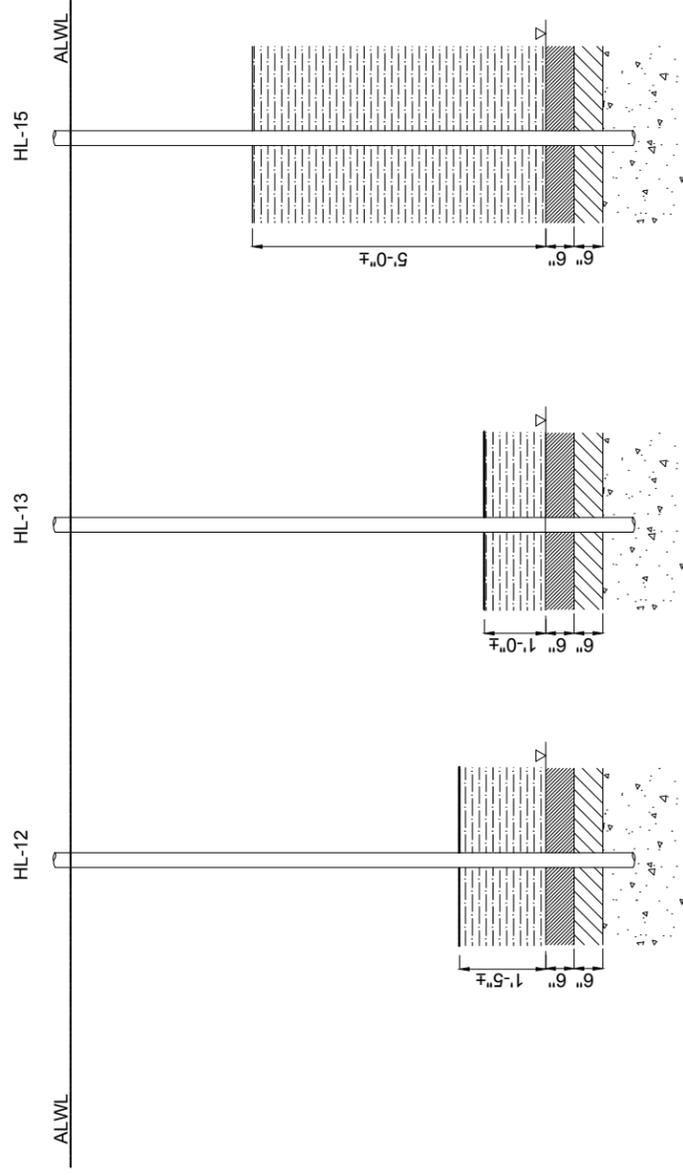
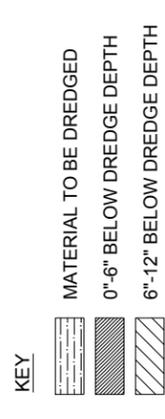


**Figure 1**  
**SEDIMENT SAMPLE SITES**

*Hemstead Lake State Park  
Northeast and Northwest Ponds*



NOT TO SCALE



NOT TO SCALE

**Figure 2**  
**SEDIMENT SAMPLE DEPTHS**

*Hempstead Lake State Park  
Northeast and Northwest Ponds*

Sample containers will be supplied by the testing laboratory. The containers will be laboratory cleaned, pre-preserved and sealed with the appropriate documentation. All sample containers will be labeled using a permanent marker to indicate the date, time, sample location, and sample identification number. This information will be recorded on a chain of custody form that will follow the samples. Once each sample container is filled, capped and labeled, it will be appropriately packaged to prevent breakage and placed in an ice-filled insulated cooler until the samples are delivered to the laboratory.

**Table 1. Sample numbering and identification for Northeast and Northwest Ponds Reconstruction Project.**

Site	Identification	Site	Identification
HL-1A	Surface to proposed dredging depth	HL-8C	6" to 12" below post-dredge depth
HL-1B	0" to 6" below post-dredge bottom		
HL-1C	6" to 12" below post-dredge depth		
HL-2A	Surface to proposed dredging depth		
HL-2B	0" to 6" below post-dredge bottom		
HL-2C	6" to 12" below post-dredge depth		
HL-4A	Surface to proposed dredging depth		
HL-4B	0" to 6" below post-dredge bottom	HL-12A	Surface to proposed dredging depth
HL-4C	6" to 12" below post-dredge depth	HL-12B	0" to 6" below post-dredge bottom
HL-5A	Surface to proposed dredging depth	HL-12C	6" to 12" below post-dredge depth
HL-5B	0" to 6" below post-dredge bottom	HL-13A	Surface to proposed dredging depth
HL-5C	6" to 12" below post-dredge depth	HL-13B	0" to 6" below post-dredge bottom
HL-6A	Surface to proposed dredging depth	HL-13C	6" to 12" below post-dredge depth
HL-6B	0" to 6" below post-dredge bottom		
HL-6C	6" to 12" below post-dredge depth		
HL-7A	Surface to proposed dredging depth		
HL-7B	0" to 6" below post-dredge bottom	HL-15A	Surface to proposed dredging depth
HL-7C	6" to 12" below post-dredge depth	HL-15B	0" to 6" below post-dredge bottom
HL-8A	Surface to proposed dredging depth	HL-15C	6" to 12" below post-dredge depth
HL-8B	0" to 6" below post-dredge bottom		

**IV. Quality Assurance and Quality Control**

Field and laboratory QA/QC procedures will be consistent with the requirements outlined in Appendix C of the NYSDEC *In-Water and Riparian Management of Sediment and Dredged*

Material (TOGS 5.1.9). Testing for samples will be in accordance with the following procedures and methods:

<u>Contaminants</u>	<u>United States Environmental Protection Agency (USEPA) SW-846 Method</u>
Pesticides (Including Mirex)	8081 A
Herbicide (Silvex)	8151
Total Aroclors of PCB's	8082
Volatile Organics (VOC's)	8260 B
Semi-Volatile Organics (SVOC's)	8270 C
Metals	6010 B
Hexavalent Chromium	7196A
Cyanide	9012A
Total Organic Carbon (TOC)	9060 A
Dioxin	1613B

**a. Field Documentation Procedures**

The following information shall be collected and documented on an appropriate data sheet and submitted with the test results:

- Field Conditions
- Weather Conditions
- Pertinent observations that may bear influence on the analyses of the samples
- Name of sampler
- Sample designation
- Collection method
- Detailed description of soil (estimation of soil composition)

The sampler shall document each sample taken with photographs and take other photographs to document the surrounding conditions, sampling procedures, etc.

**V. Analyses to be Performed**

The following analyses will be performed on sample segments A (material to be dredged) and B (0" to 6" below the post-dredging bottom) from each sample location before the maximum allowable holding time for testing is exceeded.

a. Grain Size Distribution

Grain size distribution of each sample segment will be determined by a sieve analysis performed in accordance with ASTM C136-95.

b. Total Organic Carbon

The Total Organic Carbon (TOC) of each sample segment will be determined in accordance with EPA Method 415.1.

c. Testing Sequence

According to the NYSDEC protocol, if the grain size and TOC analyses determine that the composition of any sample is at least 90% sand or larger material (less than 10% of the material passes through the No. 200 sieve) and less than 0.5% TOC, no further testing of that sample is required by the NYSDEC. All samples that fall below this limit will be tested for contaminant parameters identified in (Table 2) and in accordance with the testing methods provided. Results will be calculated and summed as indicated and all data should be reported in the units listed.

Segment A and segment B from each sample location containing more than 10% of material passing through the No. 200 sieve or greater than 0.5% TOC will be analyzed for all parameters identified in Table 2. If the analysis of segments indicates that the level of any contaminant is significantly higher in Segment B relative to Segment A or that Class C levels of contaminants are present and would not be removed by the proposed dredging, contaminant analysis will also be conducted on Segment C (6" to 12"

below the proposed dredging depth) for all parameters identified in Table 2 to determine if alteration of the dredging depth would mitigate the problem.

If the results of the sediment analyses determine that there is risk of significantly higher contaminant levels becoming exposed in the post-dredging bottom or that existing Class C levels are not removed by the proposed dredging depth, a proposed plan to mitigate the problem of elevated contaminant levels will be submitted to the NYSDEC. The mitigation plan will be submitted to the NYSDEC for review and comment along with the results of the sediment analyses.

d. Proposed Cost Reduction Strategy

Originally, review of the site history and concurrence with the NYSDEC suggested that the project area has never been used for industrial/commercial purposes and therefore unlikely that dioxin is present in the sediment. Based on past uses as a drinking water reservoir, its current use as a state park and the high cost of dioxin analysis, it was decided that no analysis for this constituent be conducted. However, a letter from the NYSDEC dated September 12, 2017 stated that although previous correspondences from the NYSDEC indicated that testing for dioxin was not required. Further review by the NYSDEC of the proposal suggests that dioxin may be of concern at sample location HL-5 and therefore this site must be tested for dioxin. The NYSDEC believes that the presence of dioxin may be the result of firefighting waste water entering the Northwest Pond. The NYSDEC also stated in the letter that all other sample locations in pond must be tested for dioxin only if elevated levels of dioxin are detected in HL-5.

e. Additional Analysis Comparisons

At the request of the NYSDEC and in addition to the analysis describe above, the results will be compared to contamination levels of freshwater thresholds as well as protection of groundwater standards as detailed in the Remedial Program Soil Cleanup Objectives (6NYCRR Part 375-6.8(b)).

**Table 2. NYSDEC Contaminant Parameters, Methods and Thresholds**

Physical Properties

Grain Size	ASTM C136 or D422
Total Organic Carbon	EPA 9060A

NYSDEC Technical Reviewing Unit	Parameter Sediment/Soil	Suggested EPA Analytical Method CLP/RCRA	CAS Number	S&HM Unrestricted Use (ppm)	MHP Class B Threshold <sup>1</sup> (mg/kg)	MHP Class C Threshold (mg/kg)
<b>Metals</b>						
MHP, S&HM	Arsenic	EPA 6010B	7440-38-2	13 <sup>c</sup>	14 (8.2)	53
S&HM	Barium	EPA 6010B	7440-39-3	350 <sup>c</sup>		
S&HM	Beryllium	EPA 6010B	7440-41-7	7.2		
MHP, S&HM	Cadmium	EPA 6010B	7440-43-9	2.5 <sup>c</sup>	1.2	9.5
MHP	Chromium	EPA 6010B			26 (81)	110 (370)
S&HM	Chromium, hexavalent <sup>c</sup>	EPA 7196A	18540-29-9	1 <sup>b</sup>		
S&HM	Chromium, trivalent <sup>c</sup>	EPA 6010B	16065-83-1	30 <sup>c</sup>		
MHP, S&HM	Copper	EPA 6010B	7440-50-8	50	33	207 (270)
S&HM	Total Cyanide <sup>e,f</sup>	EPA 9012A		27		
MHP, S&HM	Lead	EPA 6010B	7439-92-1	63 <sup>c</sup>	33(47)	166(218)
S&HM	Manganese	EPA 6010B	7439-96-5	1600 <sup>c</sup>	460	1100
MHP, S&HM	Mercury	EPA 6010B, 7470		0.18 <sup>c</sup>	0.17	1.6 (1.0)
MHP, S&HM	Nickel	EPA 6010B	7440-02-0	30	16 (21)	50 (52)
S&HM	Selenium	EPA 6010B	7782-49-2	3.9 <sup>c</sup>		

NYSDEC Technical Reviewing Unit	Parameter Sediment/Soil	Suggested EPA Analytical Method CLP/RCA	CAS Number	S&HM Unrestricted Use (ppm)	MHP Class B Threshold <sup>1</sup> (mg/kg)	MHP Class C Threshold (mg/kg)
MHP, S&HM	Silver	EPA 6010B	7440-22-4	2	1.0	2.2 (3.7)
MHP, S&HM	Zinc	EPA 6010B	7440-66-6	109 <sup>c</sup>	120 (150)	270 (410)
<b>Pesticides</b>						
S&HM	2,4,5 – TP Acid (Silvex) <sup>f</sup>	EPA 8151	93-72-1	3.8		
S&HM	4,4'- DDE	EPA 8081A	72-55-9	0.0033 <sup>b</sup>		
S&HM	4,4' – DDT	EPA 8081A	50-29-3	0.0033 <sup>b</sup>		
S&HM	4,4' - DDD	EPA 8081A	72-54-8	0.0033 <sup>b</sup>		
MHP	Sum of DDT+DDE+DDD	EPA 8081A			0.003	0.03
S&HM	Aldrin	EPA 8081A	309-00-2	0.005 <sup>c</sup>		
S&HM	Alpha - BHC	EPA 8081A	319-84-6	0.02		
S&HM	Beta – BHC	EPA 8081A	319-85-7	0.036		
S&HM	Delta – BHC <sup>g</sup>	EPA 8081A	319-86-8	0.04		
S&HM	Chlordane (alpha)	EPA 8081A	5103-71-9	0.094		
MHP	Chlordane	EPA 8081A			0.003	0.036
S&HM	dibenzofuran <sup>f</sup>	EPA 8270	132-64-9	7		
MHP, S&HM	Dieldrin	EPA 8081A	60-57-1	0.005 <sup>c</sup>	0.11	0.48
S&HM	Endosulfan I <sup>d,f</sup>	EPA 8081A	959-98-8	2.4		
S&HM	Endosulfan II <sup>d,f</sup>	EPA 8081A	33213-65-9	2.4		
S&HM	Endosulfan sulfate <sup>d,f</sup>	EPA 8081A	1031-07-8	2.4		
S&HM	Endrin	EPA 8081A	72-20-8	0.014		
S&HM	Heptachlor	EPA 8081A	76-44-8	0.042		
S&HM	Lindane	EPA 8081A	58-89-9	0.1		
MHP	Mirex	EPA 8081A			0.0014	0.014
<b>PCBs</b>						
MHP, S&HM	PCBs (sum of aroclor)	EPA 8082	1336-36-3	0.1	0.1	1

NYSDEC Technical Reviewing Unit	Parameter Sediment/Soil	Suggested EPA Analytical Method CLP/RCRA	CAS Number	S&HM Unrestricted Use (ppm)	MHP Class B Threshold <sup>1</sup> (mg/kg)	MHP Class C Threshold (mg/kg)
<b>Semi-Volatile Organics</b>						
MHP	2-chloronaphthalene	EPA 8270	91-58-7			
MHP	2-methylnaphthalene	EPA 8270	91-5706			
MHP, S&HM	Acenaphthene	EPA 8270	83-32-9	20	0.016	0.5
MHP, S&HM	Acenaphthylene <sup>f</sup>	EPA 8270	208-96-8	100 <sup>a</sup>	0.044	0.64
MHP, S&HM	Anthracene <sup>f</sup>	EPA 8270	120-12-7	100 <sup>a</sup>	0.085	0.11
MHP, S&HM	Benz(a)anthracene <sup>f</sup>	EPA 8270	56-55-3	1 <sup>c</sup>	0.261	1.6
MHP, S&HM	Benzo(a)pyrene	EPA 8270	50-32-8	1 <sup>c</sup>	0.43	1.6
MHP, S&HM	Benzo(b)fluoranthene <sup>f</sup>	EPA 8270	205-99-2	1 <sup>c</sup>		
MHP, S&HM	Benzo(g,h,i)perylene <sup>f</sup>	EPA 8270	191-24-2	100		
MHP, S&HM	Benzo(k)fluoroanthene <sup>f</sup>	EPA 8270	207-08-9	0.8 <sup>c</sup>		
MHP, S&HM	Chrysene <sup>f</sup>	EPA 8270	218-01-9	1 <sup>c</sup>	0.384	2.8
MHP, S&HM	Dibenz(a,h)anthracene <sup>f</sup>	EPA 8270	53-70-3	0.33 <sup>b</sup>	0.063	0.26
MHP, S&HM	Fluoranthene <sup>f</sup>	EPA 8270	206-44-0	100 <sup>a</sup>	0.6	5.1
MHP, S&HM	Fluorene	EPA 8270	86-73-7	30	0.019	0.54
MHP, S&HM	Indeno(1,2,3-cd)pyrene <sup>f</sup>	EPA 8270	193-39-5	0.5 <sup>c</sup>		
S&HM	m-Cresol <sup>f</sup>	EPA 8270	108-39-4	0.33 <sup>b</sup>		
MHP, S&HM	Naphthalene <sup>f</sup>	EPA 8270	91-20-3	12	0.16	2.1
S&HM	o-Cresol <sup>f</sup>	EPA 8270	95-48-7	0.33 <sup>b</sup>		
S&HM	p-Cresol <sup>f</sup>	EPA 8270	106-44-5	0.33 <sup>b</sup>		
S&HM	Pentachlorophenol	EPA 8270	87-86-5	0.8 <sup>b</sup>		
MHP, S&HM	Phenanthrene <sup>f</sup>	EPA 8270	85-01-8	100	0.24	1.5
S&HM	Phenol	EPA 8270	108-95-2	0.33 <sup>b</sup>		
MHP, S&HM	Pyrene <sup>f</sup>	EPA 8270	129-00-0	100	0.665	2.6
MHP	Total PAH <sup>2</sup>	EPA 8270			0.33	4
<b>Volatile Organic Compounds</b>						
S&HM	1,1,1 - trichloroethane <sup>f</sup>	EPA 8260B	71-55-6	0.68		
S&HM	1,1 - Dichloroethane <sup>f</sup>	EPA 8260B	75-34-3	0.27		

NYSDEC Technical Reviewing Unit	Parameter Sediment/Soil	Suggested EPA Analytical Method CLP/RCRA	CAS Number	S&HM Unrestricted Use (ppm)	MHP Class B Threshold <sup>1</sup> (mg/kg)	MHP Class C Threshold (mg/kg)
S&HM	1,1 - Dichloroethene <sup>f</sup>	EPA 8260B	75-35-4	0.33		
S&HM	1,2 - Dichlorobenzene <sup>f</sup>	EPA 8260B	95-50-1	1.1		
S&HM	1,2 - Dichloroethane	EPA 8260B	107-06-2	0.02 <sup>c</sup>		
S&HM	cis 1,2 - Dichloroethene <sup>f</sup>	EPA 8260B	156-59-2	0.25		
S&HM	trans 1,2 - Dichloroethene <sup>f</sup>	EPA 8260B	156-60-5	0.19		
S&HM	1,3 - Dichlorobenzene <sup>f</sup>	EPA 8260B	541-73-1	2.4		
S&HM	1,4 - Dichlorobenzene	EPA 8260B	106-46-7	1.8		
S&HM	1,4 – Dioxane	EPA 8260B	123-91-1	0.1 <sup>b</sup>		
S&HM	Acetone	EPA 8260B	67-64-1	0.05		
MHP, S&HM	Benzene	EPA 8260B	71-43-2	0.06	0.59	2.16
S&HM	n-Butylbenzene <sup>f</sup>	EPA 8260B	104-51-8	12		
S&HM	Carbon tetrachloride <sup>f</sup>	EPA 8260B	56-23-5	0.76		
S&HM	Chlorobenzene	EPA 8260B	108-90-7	1.1		
S&HM	Chloroform	EPA 8260B	67-66-3	0.37		
S&HM	Ethylbenzene <sup>f</sup>	EPA 8260B	100-41-4	1		
S&HM	Hexachlorobenzene <sup>f</sup>	EPA 8260B	118-74-1	0.33 <sup>b</sup>		
S&HM	Methyl ethyl ketone	EPA 8260B	78-93-3	0.12		
S&HM	Methyl tert-butyl ether <sup>f</sup>	EPA 8260B	1634-04-4	0.93		
S&HM	Methylene chloride	EPA 8260B	75-09-2	0.05		
S&HM	n-Propylbenzene <sup>f</sup>	EPA 8260B	103-65-1	3.9		
S&HM	sec-Butylbenzene <sup>f</sup>	EPA 8260B	135-98-8	11		
S&HM	tert-Butylbenzene <sup>f</sup>	EPA 8260B	98-06-6	5.9		
S&HM	Tetrachloroethene	EPA 8260B	127-18-4	1.3		
S&HM	Toluene	EPA 8260B	108-88-3	0.7		
S&HM	Trichloroethene	EPA 8260B	79-01-6	0.47		
S&HM	1,2,4-Trimethylbenzene <sup>f</sup>	EPA 8260B	95-63-6	3.6		
S&HM	1,3,5- trimethylbenzene <sup>f</sup>	EPA 8260B	108-67-8	8.4		
S&HM	Vinyl chloride <sup>f</sup>	EPA 8260B	75-01-4	0.02		
S&HM	Xylene (mixed)	EPA 8260B	1330-20-7	0.26		

NYSDEC Technical Reviewing Unit	Parameter Sediment/Soil	Suggested EPA Analytical Method CLP/RCRA	CAS Number	S&HM Unrestricted Use (ppm)	MHP Class B Threshold <sup>1</sup> (mg/kg)	MHP Class C Threshold (mg/kg)
MHP	Total BTEX <sup>3</sup>	EPA 8260B			0.96	5.9
	<b>Dioxin</b>					
MHP	2,3,7,8-TCDD <sup>4</sup> (Toxic Equivalency Total)	EPA 1613B			0.0000045	0.00005

<sup>1</sup> Threshold values lower than the Minimum Detection Limit are superseded by the Minimum Detection Limit.

<sup>2</sup> Total PAHs – sum the concentrations of the 18 semi-volatile analytes identified as MHP parameters

<sup>3</sup> Total BTEX – The sum of benzene, toluene and xylene concentrations

<sup>4</sup> TEQ calculation as per the NATO – 1988 method. For more information see TEQ Calculation for Dioxin/Furan below.

<sup>a</sup> The Soil Cleanup Objectives (SCOs) for unrestricted use were capped at a maximum value of 100 ppm. See Technical Support document, section 9.3

<sup>b</sup> For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the Track 1 SCO value.

<sup>c</sup> For constituents where the calculated where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and the Department of Health rural soil survey, the rural soil background concentration is used as the track 1 SCO value for this use of the site.

<sup>d</sup> SCO is the sum of endosulfan I, endosulfan II and endosulfan sulphate.

<sup>e</sup> The SCO for this specific compound (or family of compounds) is considered to be met if the analysis for the total species of this contaminant is below the specific SCO.

<sup>f</sup> Protection of ecological resources SCOs were not developed for contaminants identified in Table 375-6.8(b) with “NS”. Where such contaminants appear in Table 375-6.8(a), the applicant may be required by the Department to calculate a protection of ecological resources SCO according to the TSD.

### TEQ CALCULATION FOR DIOXIN/FURAN

The 2,3,7,8-TCDD equivalent for a congener is obtained by multiplying the concentration of that congener by its Toxicity Equivalency Factor (TEF) from the table below. The TEQ is the sum of the products.

CONGENER	TEF
2,3,7,8 -Tetrachlorodibenzo-p-dioxin	1
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	0.5
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.1
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.1
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.01
Octachlorodibenzo-p-dioxin	0.001
2,3,7,8-Tetrachlorodibenzofuran	0.1
1,2,3,7,8-Pentachlorodibenzofuran	0.05
2,3,4,7,8-Pentachlorodibenzofuran	0.5
1,2,3,4,7,8-Hexachlorodibenzofuran	0.1
1,2,3,6,7,8-Hexachlorodibenzofuran	0.1
2,3,4,6,7,8-Hexachlorodibenzofuran	0.1
1,2,3,7,8,9-Hexachlorodibenzofuran	0.1
1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.01
1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.01
Octachlorodibenzofuran	0.001

TEQ calculation as per: NATO.1988. International Toxicity Equivalency Factors (I-TEF) Method of Risk Assessment for Complex Mixtures of Dioxins and Related Compounds. North Atlantic Treaty Organization. Report Number 176.

**APPENDIX 2**  
**COMPILATION OF ANALYTICAL DATA**

Appendix 2.  
Compilation of Analytical Data

Sample ID	HL-2A	HL-2ARE	HL-2B	HL-4A	HL-4ARE	HL-4B	HL-4BRE	HL-5A	HL-5ARE	HL-5B	HL-5C	HL-6A
Sampling Date	11/1/2017	11/1/2017	11/1/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	11/1/2017	11/1/2017	11/1/2017	11/1/2017	11/1/2017
Analytes												
<b>TOC (mg/kg)</b>	15100	9720		27400	17000	24600	13100	25500	23400			
<b>Grain Size (%&lt;#200)</b>	9.4		2	35.3	13.2	20	5.5	17.7	35.2			
<b>VOC Units</b>	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Acetone	210			1600	1600	940					40.7	1100
Methylene Chloride	6.4			120	130	10.5						
2-Butanone (MEK)				300	310	230	47.1					
Chloroform												
1,3,5-Trimethylbenzene												
1,2,4-Trimethylbenzene												
sec-Butylbenzene												
n-Butylbenzene												
<b>SVOC Units</b>	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Phenol	810		90.6	420						100	200	260
Fluoranthene	870		260			930				460	260	1000
Pyrene	410		260			850				480	210	210
Benzo(a)anthracene	430		100			330				220	120	
Benzo(b)fluoranthene	490		150			550				290	180	
Benzo(a)pyrene	370		180			620				320	170	220
Indeno(1,2,3-cd)pyrene	310		120			400				210	120	
Benzo(g,h,i)perylene	340		120			390				200	200	
<b>PEST Units</b>	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
4,4-DDE	1.8	2.1	2.3	2.8		2.2				4	3.7	1.1
4,4-DDD	5.7	5.9				3.3						
4,4-DDT		8	2.3	2.8	0	5.5	0	0	0	4	3.7	1.1
ddt sum	4.9	6.1	2.6			1.2				5.3	5.7	
alpha-Chlordane												
<b>PCB - Aroclor-1254 (ug/kg)</b>						78.6		130				
<b>Metal Units</b>	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	1920		851	14500		9980		6300		2150	3470	11400
Antimony	1.3			3.66				2.76				2.01
Arsenic	3.12		0.431	23.9		14		7.52		3.08	6.46	15.9

Appendix 2.  
Compilation of Analytical Data

Sample ID	HL-6ARE	HL-7A	HL-7ARE	HL-7B	HL-7BRE	HL-8A	HL-8ARE	HL-8B	HL-8BRE	HL-8C	HL-12A	HL-15A
Sampling Date	11/1/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	11/2/2017	11/1/2017
Analytes												
<b>TOC (mg/kg)</b>		26800		14200		21200		13700		5930	13600	5080
<b>Grain Size (%&lt;#200)</b>		9.3		7.9		40		2.8		1.7	12.9	4
<b>VOC Units</b>												
Acetone	430	1600	1100	200	64.4	1200	730	1400	85.3		15.7	ug/Kg
Methylene Chloride			16.2	4.7	2.9	16	19.3	42.9	4.7		7.9	ug/Kg
2-Butanone (MEK)	60	290	240	23.8		290	140	310				
Chloroform												
1,3,5-Trimethylbenzene	7.8											
1,2,4-Trimethylbenzene	15.6											
sec-Butylbenzene	9.7											
n-Butylbenzene	4.9											
<b>SVOC Units</b>												
Phenol		400				310		230		140	160	ug/Kg
Fluoranthene												
Pyrene										560		
Benzo(a)anthracene												
Chrysene												
Benzo(b)fluoranthene												
Benzo(a)pyrene												
Indeno(1,2,3-cd)pyrene												
Benzo(g,h,i)perylene												
<b>PEST Units</b>												
4,4-DDE		3.3		2.4		3		5.4		0.543	1.1	0.938
4,4-DDD		4.5		3.6				4.3			1.9	
4,4-DDT												
ddt sum	0	7.8	0	6	0	3	0	9.7	0	0.543	3	0.938
alpha-Chlordane		3.8		1.2		3.4		1.4			11.6	1.9
<b>PCB - Aroclor-1254 (ug/kg)</b>												
<b>Metal Units</b>												
Aluminum		19000		7420		13500		5840		1720	4420	3430
Antimony		2.14		1.11		3.06				2.76		
Arsenic		24.1		9.86		26.2		11.2		1.68	2.6	2.45

Appendix 2.  
Compilation of Analytical Data

Sample ID	HL-2A	HL-2ARE	HL-2B	HL-4A	HL-4ARE	HL-4B	HL-4BRE	HL-5A	HL-5ARE	HL-5B	HL-5C	HL-6A
Sampling Date	11/1/2017	11/1/2017	11/1/2017	10/31/2017	10/31/2017	10/31/2017	10/31/2017	11/1/2017	11/1/2017	11/1/2017	11/1/2017	11/1/2017
Barium	35.1		7.1	144		71.1		93.7		40.1	46	113
Beryllium				0.529		0.454		0.194		0.106	0.149	0.45
Cadmium	1.11			8.16		4.46		1.93		1.06	2.5	7.11
Calcium	2050		352	4160		1420		5610		980	2450	3480
Chromium	24.9		3.57	103		54.3		61.5		16.4	41	86.9
Cobalt	7.74		0.502	26.4		11		16.9		2.67	3.68	21.9
Copper	71.1		4.83	348		146		163		46.9	91.1	301
Iron	6280		1950	24700		15500		16500		4420	7570	18400
Lead	203		16.4	1620		919		291		270	807	1280
Magnesium	998		198	2750		1230		3210		593	1560	2480
Manganese	50.6		10.5	216		113		107		26.7	39.5	145
Mercury	0.232		0.05	1.18		0.526		0.946		0.13	0.394	0.923
Nickel	19.8		1.55	106		49.5		40		13.4	32.7	82.4
Potassium	169		55.3	659		390		376		114	188	524
Selenium	1.31		0.509	8.04		4.85		4.66		1.34	3.3	5.56
Silver				1.93							0.388	1.78
Sodium	93.4		11.4	237		80.9		226		87.6	107	222
Thallium				1.98		1.04		1.57				1.42
Vanadium	14		2.48	93.6		51.2		37.2		10.5	24.6	67.3
Zinc	346		31.7	1400		578		678		166	344	1210
Dioxin TCDD - Equiv. (ng/kg)								99		8.2		



**APPENDIX 3**  
ANALYTICAL DATASHEETS

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2A	SDG No.:	I6340
Lab Sample ID:	I6340-09	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	58.1
Sample Wt/Vol:	3.68      Units:    g	Final Vol:	5000            uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS      ID :    0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055998.D	1		11/14/17 05:17	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	16.2	U	1.6	1.6	16.2	ug/Kg
75-35-4	1,1-Dichloroethene	16.2	U	1.6	1.6	16.2	ug/Kg
67-64-1	Acetone	210		8.1	8.1	81.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	16.2	U	1.6	1.6	16.2	ug/Kg
75-09-2	Methylene Chloride	6.4	JB	1.6	1.6	16.2	ug/Kg
156-60-5	trans-1,2-Dichloroethene	16.2	U	1.6	1.6	16.2	ug/Kg
75-34-3	1,1-Dichloroethane	16.2	U	1.6	1.6	16.2	ug/Kg
78-93-3	2-Butanone	81.1	U	10.1	24.3	81.1	ug/Kg
56-23-5	Carbon Tetrachloride	16.2	U	1.6	1.6	16.2	ug/Kg
156-59-2	cis-1,2-Dichloroethene	16.2	U	1.6	1.6	16.2	ug/Kg
67-66-3	Chloroform	16.2	U	1.6	1.6	16.2	ug/Kg
71-55-6	1,1,1-Trichloroethane	16.2	U	1.6	1.6	16.2	ug/Kg
71-43-2	Benzene	16.2	U	1.2	1.6	16.2	ug/Kg
107-06-2	1,2-Dichloroethane	16.2	U	1.6	1.6	16.2	ug/Kg
79-01-6	Trichloroethene	16.2	U	1.6	1.6	16.2	ug/Kg
108-88-3	Toluene	16.2	U	1.6	1.6	16.2	ug/Kg
127-18-4	Tetrachloroethene	16.2	U	1.6	1.6	16.2	ug/Kg
108-90-7	Chlorobenzene	16.2	U	1.6	1.6	16.2	ug/Kg
100-41-4	Ethyl Benzene	16.2	U	1.6	1.6	16.2	ug/Kg
1330-20-7	Total Xylenes	48.6	U	3.9	4.8	48.6	ug/Kg
103-65-1	n-propylbenzene	16.2	U	1.2	1.6	16.2	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	16.2	U	1.5	1.6	16.2	ug/Kg
98-06-6	tert-Butylbenzene	16.2	U	1.6	1.6	16.2	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	16.2	U	1.6	1.6	16.2	ug/Kg
135-98-8	sec-Butylbenzene	16.2	U	1.6	1.6	16.2	ug/Kg
541-73-1	1,3-Dichlorobenzene	16.2	U	1.2	1.6	16.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	16.2	U	1.3	1.6	16.2	ug/Kg
104-51-8	n-Butylbenzene	16.2	U	1.5	1.6	16.2	ug/Kg
95-50-1	1,2-Dichlorobenzene	16.2	U	1.6	1.6	16.2	ug/Kg
123-91-1	1,4-Dioxane	320	U	320	320	320	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	62.7	*	56 - 120		125%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2A	SDG No.:	I6340
Lab Sample ID:	I6340-09	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	58.1
Sample Wt/Vol:	3.68 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055998.D	1		11/14/17 05:17	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	53.6		57 - 135		107%	SPK: 50
2037-26-5	Toluene-d8	36.4		67 - 123		73%	SPK: 50
460-00-4	4-Bromofluorobenzene	26		33 - 141		52%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	194113	6.15				
540-36-3	1,4-Difluorobenzene	353775	7.27				
3114-55-4	Chlorobenzene-d5	226823	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	49983	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2ARE	SDG No.:	I6340
Lab Sample ID:	I6340-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	58.1
Sample Wt/Vol:	3.36 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055476.D	1		11/14/17 17:11	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	17.8	U	1.8	1.8	17.8	ug/Kg
75-35-4	1,1-Dichloroethene	17.8	U	1.8	1.8	17.8	ug/Kg
67-64-1	Acetone	88.8	U	8.9	8.9	88.8	ug/Kg
1634-04-4	Methyl tert-butyl Ether	17.8	U	1.8	1.8	17.8	ug/Kg
75-09-2	Methylene Chloride	17.8	U	1.8	1.8	17.8	ug/Kg
156-60-5	trans-1,2-Dichloroethene	17.8	U	1.8	1.8	17.8	ug/Kg
75-34-3	1,1-Dichloroethane	17.8	U	1.8	1.8	17.8	ug/Kg
78-93-3	2-Butanone	88.8	U	11	26.6	88.8	ug/Kg
56-23-5	Carbon Tetrachloride	17.8	U	1.8	1.8	17.8	ug/Kg
156-59-2	cis-1,2-Dichloroethene	17.8	U	1.8	1.8	17.8	ug/Kg
67-66-3	Chloroform	17.8	U	1.8	1.8	17.8	ug/Kg
71-55-6	1,1,1-Trichloroethane	17.8	U	1.8	1.8	17.8	ug/Kg
71-43-2	Benzene	17.8	U	1.3	1.8	17.8	ug/Kg
107-06-2	1,2-Dichloroethane	17.8	U	1.8	1.8	17.8	ug/Kg
79-01-6	Trichloroethene	17.8	U	1.8	1.8	17.8	ug/Kg
108-88-3	Toluene	17.8	U	1.8	1.8	17.8	ug/Kg
127-18-4	Tetrachloroethene	17.8	U	1.8	1.8	17.8	ug/Kg
108-90-7	Chlorobenzene	17.8	U	1.8	1.8	17.8	ug/Kg
100-41-4	Ethyl Benzene	17.8	U	1.8	1.8	17.8	ug/Kg
1330-20-7	Total Xylenes	53.3	U	4.4	5.4	53.3	ug/Kg
103-65-1	n-propylbenzene	17.8	U	1.3	1.8	17.8	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	17.8	U	1.6	1.8	17.8	ug/Kg
98-06-6	tert-Butylbenzene	17.8	U	1.8	1.8	17.8	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	17.8	U	1.8	1.8	17.8	ug/Kg
135-98-8	sec-Butylbenzene	17.8	U	1.8	1.8	17.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	17.8	U	1.3	1.8	17.8	ug/Kg
106-46-7	1,4-Dichlorobenzene	17.8	U	1.5	1.8	17.8	ug/Kg
104-51-8	n-Butylbenzene	17.8	U	1.6	1.8	17.8	ug/Kg
95-50-1	1,2-Dichlorobenzene	17.8	U	1.8	1.8	17.8	ug/Kg
123-91-1	1,4-Dioxane	360	U	360	360	360	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	50.2		56 - 120		100%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2ARE	SDG No.:	I6340
Lab Sample ID:	I6340-09RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	58.1
Sample Wt/Vol:	3.36 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055476.D	1		11/14/17 17:11	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	57		57 - 135		114%	SPK: 50
2037-26-5	Toluene-d8	44.5		67 - 123		89%	SPK: 50
460-00-4	4-Bromofluorobenzene	23.5		33 - 141		47%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	311191	4.8				
540-36-3	1,4-Difluorobenzene	517812	5.52				
3114-55-4	Chlorobenzene-d5	330203	9.69				
3855-82-1	1,4-Dichlorobenzene-d4	67346	12.48				

U = Not Detected

LOQ = Limit of Quantitation

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LOD = Limit of Detection

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J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2B	SDG No.:	I6340
Lab Sample ID:	I6340-10	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	26.1
Sample Wt/Vol:	5.68      Units: g	Final Vol:	5000      uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS      ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055477.D	1		11/14/17 17:40	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	6	U	0.6	0.6	6	ug/Kg
75-35-4	1,1-Dichloroethene	6	U	0.6	0.6	6	ug/Kg
67-64-1	Acetone	29.8	U	3	3	29.8	ug/Kg
1634-04-4	Methyl tert-butyl Ether	6	U	0.6	0.6	6	ug/Kg
75-09-2	Methylene Chloride	6	U	0.6	0.6	6	ug/Kg
156-60-5	trans-1,2-Dichloroethene	6	U	0.6	0.6	6	ug/Kg
75-34-3	1,1-Dichloroethane	6	U	0.6	0.6	6	ug/Kg
78-93-3	2-Butanone	29.8	U	3.7	8.9	29.8	ug/Kg
56-23-5	Carbon Tetrachloride	6	U	0.6	0.6	6	ug/Kg
156-59-2	cis-1,2-Dichloroethene	6	U	0.6	0.6	6	ug/Kg
67-66-3	Chloroform	6	U	0.6	0.6	6	ug/Kg
71-55-6	1,1,1-Trichloroethane	6	U	0.6	0.6	6	ug/Kg
71-43-2	Benzene	6	U	0.45	0.6	6	ug/Kg
107-06-2	1,2-Dichloroethane	6	U	0.6	0.6	6	ug/Kg
79-01-6	Trichloroethene	6	U	0.6	0.6	6	ug/Kg
108-88-3	Toluene	6	U	0.6	0.6	6	ug/Kg
127-18-4	Tetrachloroethene	6	U	0.6	0.6	6	ug/Kg
108-90-7	Chlorobenzene	6	U	0.6	0.6	6	ug/Kg
100-41-4	Ethyl Benzene	6	U	0.6	0.6	6	ug/Kg
1330-20-7	Total Xylenes	17.9	U	1.46	1.8	17.9	ug/Kg
103-65-1	n-propylbenzene	6	U	0.43	0.6	6	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	6	U	0.54	0.6	6	ug/Kg
98-06-6	tert-Butylbenzene	6	U	0.6	0.6	6	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	6	U	0.6	0.6	6	ug/Kg
135-98-8	sec-Butylbenzene	6	U	0.6	0.6	6	ug/Kg
541-73-1	1,3-Dichlorobenzene	6	U	0.44	0.6	6	ug/Kg
106-46-7	1,4-Dichlorobenzene	6	U	0.49	0.6	6	ug/Kg
104-51-8	n-Butylbenzene	6	U	0.55	0.6	6	ug/Kg
95-50-1	1,2-Dichlorobenzene	6	U	0.6	0.6	6	ug/Kg
123-91-1	1,4-Dioxane	120	U	120	120	120	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	49.4		56 - 120		99%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2B	SDG No.:	I6340
Lab Sample ID:	I6340-10	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	26.1
Sample Wt/Vol:	5.68 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055477.D	1		11/14/17 17:40	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	56.4		57 - 135		113%	SPK: 50
2037-26-5	Toluene-d8	50.3		67 - 123		101%	SPK: 50
460-00-4	4-Bromofluorobenzene	42.7		33 - 141		85%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	364219	4.79				
540-36-3	1,4-Difluorobenzene	619131	5.52				
3114-55-4	Chlorobenzene-d5	518568	9.69				
3855-82-1	1,4-Dichlorobenzene-d4	238326	12.48				

U = Not Detected

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J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4A	SDG No.:	I6340
Lab Sample ID:	I6340-07	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	79
Sample Wt/Vol:	5.06 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055996.D	1		11/14/17 04:22	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	23.5	U	2.4	2.4	23.5	ug/Kg
75-35-4	1,1-Dichloroethene	23.5	U	2.4	2.4	23.5	ug/Kg
67-64-1	Acetone	1600		11.8	11.8	120	ug/Kg
1634-04-4	Methyl tert-butyl Ether	23.5	U	2.4	2.4	23.5	ug/Kg
75-09-2	Methylene Chloride	120	B	2.4	2.4	23.5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	23.5	U	2.4	2.4	23.5	ug/Kg
75-34-3	1,1-Dichloroethane	23.5	U	2.4	2.4	23.5	ug/Kg
78-93-3	2-Butanone	300		14.6	35.3	120	ug/Kg
56-23-5	Carbon Tetrachloride	23.5	U	2.4	2.4	23.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	23.5	U	2.4	2.4	23.5	ug/Kg
67-66-3	Chloroform	23.5	U	2.4	2.4	23.5	ug/Kg
71-55-6	1,1,1-Trichloroethane	23.5	U	2.4	2.4	23.5	ug/Kg
71-43-2	Benzene	23.5	U	1.8	2.4	23.5	ug/Kg
107-06-2	1,2-Dichloroethane	23.5	U	2.4	2.4	23.5	ug/Kg
79-01-6	Trichloroethene	23.5	U	2.4	2.4	23.5	ug/Kg
108-88-3	Toluene	23.5	U	2.4	2.4	23.5	ug/Kg
127-18-4	Tetrachloroethene	23.5	U	2.4	2.4	23.5	ug/Kg
108-90-7	Chlorobenzene	23.5	U	2.4	2.4	23.5	ug/Kg
100-41-4	Ethyl Benzene	23.5	U	2.4	2.4	23.5	ug/Kg
1330-20-7	Total Xylenes	70.6	U	5.8	7.1	70.6	ug/Kg
103-65-1	n-propylbenzene	23.5	U	1.7	2.4	23.5	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	23.5	U	2.1	2.4	23.5	ug/Kg
98-06-6	tert-Butylbenzene	23.5	U	2.4	2.4	23.5	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	23.5	U	2.4	2.4	23.5	ug/Kg
135-98-8	sec-Butylbenzene	23.5	U	2.4	2.4	23.5	ug/Kg
541-73-1	1,3-Dichlorobenzene	23.5	U	1.7	2.4	23.5	ug/Kg
106-46-7	1,4-Dichlorobenzene	23.5	U	1.9	2.4	23.5	ug/Kg
104-51-8	n-Butylbenzene	23.5	U	2.2	2.4	23.5	ug/Kg
95-50-1	1,2-Dichlorobenzene	23.5	U	2.4	2.4	23.5	ug/Kg
123-91-1	1,4-Dioxane	470	U	470	470	470	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	69.6	*	56 - 120		139%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4A	SDG No.:	I6340
Lab Sample ID:	I6340-07	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	79
Sample Wt/Vol:	5.06 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055996.D	1		11/14/17 04:22	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	60.4		57 - 135		121%	SPK: 50
2037-26-5	Toluene-d8	35.9		67 - 123		72%	SPK: 50
460-00-4	4-Bromofluorobenzene	18		33 - 141		36%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	147109	6.14				
540-36-3	1,4-Difluorobenzene	279963	7.27				
3114-55-4	Chlorobenzene-d5	147367	11.45				
3855-82-1	1,4-Dichlorobenzene-d4	23979	13.79				

U = Not Detected

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B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

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() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4ARE	SDG No.:	I6340
Lab Sample ID:	I6340-07RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	79
Sample Wt/Vol:	4.31 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056013.D	1		11/14/17 15:35	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	27.6	U	2.8	2.8	27.6	ug/Kg
75-35-4	1,1-Dichloroethene	27.6	U	2.8	2.8	27.6	ug/Kg
67-64-1	Acetone	1600		13.8	13.8	140	ug/Kg
1634-04-4	Methyl tert-butyl Ether	27.6	U	2.8	2.8	27.6	ug/Kg
75-09-2	Methylene Chloride	130		2.8	2.8	27.6	ug/Kg
156-60-5	trans-1,2-Dichloroethene	27.6	U	2.8	2.8	27.6	ug/Kg
75-34-3	1,1-Dichloroethane	27.6	U	2.8	2.8	27.6	ug/Kg
78-93-3	2-Butanone	310		17.2	41.4	140	ug/Kg
56-23-5	Carbon Tetrachloride	27.6	U	2.8	2.8	27.6	ug/Kg
156-59-2	cis-1,2-Dichloroethene	27.6	U	2.8	2.8	27.6	ug/Kg
67-66-3	Chloroform	27.6	U	2.8	2.8	27.6	ug/Kg
71-55-6	1,1,1-Trichloroethane	27.6	U	2.8	2.8	27.6	ug/Kg
71-43-2	Benzene	27.6	U	2.1	2.8	27.6	ug/Kg
107-06-2	1,2-Dichloroethane	27.6	U	2.8	2.8	27.6	ug/Kg
79-01-6	Trichloroethene	27.6	U	2.8	2.8	27.6	ug/Kg
108-88-3	Toluene	27.6	U	2.8	2.8	27.6	ug/Kg
127-18-4	Tetrachloroethene	27.6	U	2.8	2.8	27.6	ug/Kg
108-90-7	Chlorobenzene	27.6	U	2.8	2.8	27.6	ug/Kg
100-41-4	Ethyl Benzene	27.6	U	2.8	2.8	27.6	ug/Kg
1330-20-7	Total Xylenes	82.8	U	6.8	8.3	82.8	ug/Kg
103-65-1	n-propylbenzene	27.6	U	2	2.8	27.6	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	27.6	U	2.5	2.8	27.6	ug/Kg
98-06-6	tert-Butylbenzene	27.6	U	2.8	2.8	27.6	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	27.6	U	2.8	2.8	27.6	ug/Kg
135-98-8	sec-Butylbenzene	27.6	U	2.8	2.8	27.6	ug/Kg
541-73-1	1,3-Dichlorobenzene	27.6	U	2	2.8	27.6	ug/Kg
106-46-7	1,4-Dichlorobenzene	27.6	U	2.3	2.8	27.6	ug/Kg
104-51-8	n-Butylbenzene	27.6	U	2.5	2.8	27.6	ug/Kg
95-50-1	1,2-Dichlorobenzene	27.6	U	2.8	2.8	27.6	ug/Kg
123-91-1	1,4-Dioxane	550	U	550	550	550	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	74.7	*	56 - 120		149%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4ARE	SDG No.:	I6340
Lab Sample ID:	I6340-07RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	79
Sample Wt/Vol:	4.31 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056013.D	1		11/14/17 15:35	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	63.1		57 - 135		126%	SPK: 50
2037-26-5	Toluene-d8	39.8		67 - 123		80%	SPK: 50
460-00-4	4-Bromofluorobenzene	20.2		33 - 141		40%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	198551	6.15				
540-36-3	1,4-Difluorobenzene	373100	7.27				
3114-55-4	Chlorobenzene-d5	192618	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	33631	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4B	SDG No.:	I6340
Lab Sample ID:	I6340-08	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	60.1
Sample Wt/Vol:	3.84 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055997.D	1		11/14/17 04:50	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	16.3	U	1.6	1.6	16.3	ug/Kg
75-35-4	1,1-Dichloroethene	16.3	U	1.6	1.6	16.3	ug/Kg
67-64-1	Acetone	940		8.2	8.2	81.6	ug/Kg
1634-04-4	Methyl tert-butyl Ether	16.3	U	1.6	1.6	16.3	ug/Kg
75-09-2	Methylene Chloride	10.5	JB	1.6	1.6	16.3	ug/Kg
156-60-5	trans-1,2-Dichloroethene	16.3	U	1.6	1.6	16.3	ug/Kg
75-34-3	1,1-Dichloroethane	16.3	U	1.6	1.6	16.3	ug/Kg
78-93-3	2-Butanone	230		10.1	24.5	81.6	ug/Kg
56-23-5	Carbon Tetrachloride	16.3	U	1.6	1.6	16.3	ug/Kg
156-59-2	cis-1,2-Dichloroethene	16.3	U	1.6	1.6	16.3	ug/Kg
67-66-3	Chloroform	16.3	U	1.6	1.6	16.3	ug/Kg
71-55-6	1,1,1-Trichloroethane	16.3	U	1.6	1.6	16.3	ug/Kg
71-43-2	Benzene	16.3	U	1.2	1.6	16.3	ug/Kg
107-06-2	1,2-Dichloroethane	16.3	U	1.6	1.6	16.3	ug/Kg
79-01-6	Trichloroethene	16.3	U	1.6	1.6	16.3	ug/Kg
108-88-3	Toluene	16.3	U	1.6	1.6	16.3	ug/Kg
127-18-4	Tetrachloroethene	16.3	U	1.6	1.6	16.3	ug/Kg
108-90-7	Chlorobenzene	16.3	U	1.6	1.6	16.3	ug/Kg
100-41-4	Ethyl Benzene	16.3	U	1.6	1.6	16.3	ug/Kg
1330-20-7	Total Xylenes	48.9	U	3.9	4.9	48.9	ug/Kg
103-65-1	n-propylbenzene	16.3	U	1.2	1.6	16.3	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	16.3	U	1.5	1.6	16.3	ug/Kg
98-06-6	tert-Butylbenzene	16.3	U	1.6	1.6	16.3	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	16.3	U	1.6	1.6	16.3	ug/Kg
135-98-8	sec-Butylbenzene	16.3	U	1.6	1.6	16.3	ug/Kg
541-73-1	1,3-Dichlorobenzene	16.3	U	1.2	1.6	16.3	ug/Kg
106-46-7	1,4-Dichlorobenzene	16.3	U	1.3	1.6	16.3	ug/Kg
104-51-8	n-Butylbenzene	16.3	U	1.5	1.6	16.3	ug/Kg
95-50-1	1,2-Dichlorobenzene	16.3	U	1.6	1.6	16.3	ug/Kg
123-91-1	1,4-Dioxane	330	U	330	330	330	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	68.4	*	56 - 120		137%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4B	SDG No.:	I6340
Lab Sample ID:	I6340-08	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	60.1
Sample Wt/Vol:	3.84 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055997.D	1		11/14/17 04:50	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	60.4		57 - 135		121%	SPK: 50
2037-26-5	Toluene-d8	34.9		67 - 123		70%	SPK: 50
460-00-4	4-Bromofluorobenzene	15	*	33 - 141		30%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	134609	6.15				
540-36-3	1,4-Difluorobenzene	244118	7.27				
3114-55-4	Chlorobenzene-d5	112219	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	14544	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4BRE	SDG No.:	I6340
Lab Sample ID:	I6340-08RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	60.1
Sample Wt/Vol:	5.67 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055475.D	1		11/14/17 16:41	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	11.1	U	1.1	1.1	11.1	ug/Kg
75-35-4	1,1-Dichloroethene	11.1	U	1.1	1.1	11.1	ug/Kg
67-64-1	Acetone	55.3	U	5.5	5.5	55.3	ug/Kg
1634-04-4	Methyl tert-butyl Ether	11.1	U	1.1	1.1	11.1	ug/Kg
75-09-2	Methylene Chloride	11.1	U	1.1	1.1	11.1	ug/Kg
156-60-5	trans-1,2-Dichloroethene	11.1	U	1.1	1.1	11.1	ug/Kg
75-34-3	1,1-Dichloroethane	11.1	U	1.1	1.1	11.1	ug/Kg
78-93-3	2-Butanone	47.1	J	6.9	16.6	55.3	ug/Kg
56-23-5	Carbon Tetrachloride	11.1	U	1.1	1.1	11.1	ug/Kg
156-59-2	cis-1,2-Dichloroethene	11.1	U	1.1	1.1	11.1	ug/Kg
67-66-3	Chloroform	11.1	U	1.1	1.1	11.1	ug/Kg
71-55-6	1,1,1-Trichloroethane	11.1	U	1.1	1.1	11.1	ug/Kg
71-43-2	Benzene	11.1	U	0.84	1.1	11.1	ug/Kg
107-06-2	1,2-Dichloroethane	11.1	U	1.1	1.1	11.1	ug/Kg
79-01-6	Trichloroethene	11.1	U	1.1	1.1	11.1	ug/Kg
108-88-3	Toluene	11.1	U	1.1	1.1	11.1	ug/Kg
127-18-4	Tetrachloroethene	11.1	U	1.1	1.1	11.1	ug/Kg
108-90-7	Chlorobenzene	11.1	U	1.1	1.1	11.1	ug/Kg
100-41-4	Ethyl Benzene	11.1	U	1.1	1.1	11.1	ug/Kg
1330-20-7	Total Xylenes	33.2	U	2.7	3.3	33.2	ug/Kg
103-65-1	n-propylbenzene	11.1	U	0.8	1.1	11.1	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	11.1	U	0.99	1.1	11.1	ug/Kg
98-06-6	tert-Butylbenzene	11.1	U	1.1	1.1	11.1	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	11.1	U	1.1	1.1	11.1	ug/Kg
135-98-8	sec-Butylbenzene	11.1	U	1.1	1.1	11.1	ug/Kg
541-73-1	1,3-Dichlorobenzene	11.1	U	0.82	1.1	11.1	ug/Kg
106-46-7	1,4-Dichlorobenzene	11.1	U	0.91	1.1	11.1	ug/Kg
104-51-8	n-Butylbenzene	11.1	U	1	1.1	11.1	ug/Kg
95-50-1	1,2-Dichlorobenzene	11.1	U	1.1	1.1	11.1	ug/Kg
123-91-1	1,4-Dioxane	220	U	220	220	220	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	59.2		56 - 120		118%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4BRE	SDG No.:	I6340
Lab Sample ID:	I6340-08RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	60.1
Sample Wt/Vol:	5.67 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055475.D	1		11/14/17 16:41	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	60.4		57 - 135		121%	SPK: 50
2037-26-5	Toluene-d8	38.9		67 - 123		78%	SPK: 50
460-00-4	4-Bromofluorobenzene	20.2		33 - 141		40%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	203903	4.8				
540-36-3	1,4-Difluorobenzene	353783	5.53				
3114-55-4	Chlorobenzene-d5	182441	9.69				
3855-82-1	1,4-Dichlorobenzene-d4	43280	12.49				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5A	SDG No.:	I6340
Lab Sample ID:	I6340-11	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	71.3
Sample Wt/Vol:	3.76 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056000.D	1		11/14/17 06:13	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	23.2	U	2.3	2.3	23.2	ug/Kg
75-35-4	1,1-Dichloroethene	23.2	U	2.3	2.3	23.2	ug/Kg
67-64-1	Acetone	120	U	11.6	11.6	120	ug/Kg
1634-04-4	Methyl tert-butyl Ether	23.2	U	2.3	2.3	23.2	ug/Kg
75-09-2	Methylene Chloride	23.2	U	2.3	2.3	23.2	ug/Kg
156-60-5	trans-1,2-Dichloroethene	23.2	U	2.3	2.3	23.2	ug/Kg
75-34-3	1,1-Dichloroethane	23.2	U	2.3	2.3	23.2	ug/Kg
78-93-3	2-Butanone	120	U	14.4	34.8	120	ug/Kg
56-23-5	Carbon Tetrachloride	23.2	U	2.3	2.3	23.2	ug/Kg
156-59-2	cis-1,2-Dichloroethene	23.2	U	2.3	2.3	23.2	ug/Kg
67-66-3	Chloroform	23.2	U	2.3	2.3	23.2	ug/Kg
71-55-6	1,1,1-Trichloroethane	23.2	U	2.3	2.3	23.2	ug/Kg
71-43-2	Benzene	23.2	U	1.8	2.3	23.2	ug/Kg
107-06-2	1,2-Dichloroethane	23.2	U	2.3	2.3	23.2	ug/Kg
79-01-6	Trichloroethene	23.2	U	2.3	2.3	23.2	ug/Kg
108-88-3	Toluene	23.2	U	2.3	2.3	23.2	ug/Kg
127-18-4	Tetrachloroethene	23.2	U	2.3	2.3	23.2	ug/Kg
108-90-7	Chlorobenzene	23.2	U	2.3	2.3	23.2	ug/Kg
100-41-4	Ethyl Benzene	23.2	U	2.3	2.3	23.2	ug/Kg
1330-20-7	Total Xylenes	69.5	U	5.6	6.9	69.5	ug/Kg
103-65-1	n-propylbenzene	23.2	U	1.7	2.3	23.2	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	23.2	U	2.1	2.3	23.2	ug/Kg
98-06-6	tert-Butylbenzene	23.2	U	2.3	2.3	23.2	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	23.2	U	2.3	2.3	23.2	ug/Kg
135-98-8	sec-Butylbenzene	23.2	U	2.3	2.3	23.2	ug/Kg
541-73-1	1,3-Dichlorobenzene	23.2	U	1.7	2.3	23.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	23.2	U	1.9	2.3	23.2	ug/Kg
104-51-8	n-Butylbenzene	23.2	U	2.1	2.3	23.2	ug/Kg
95-50-1	1,2-Dichlorobenzene	23.2	U	2.3	2.3	23.2	ug/Kg
123-91-1	1,4-Dioxane	460	U	460	460	460	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	68	*	56 - 120		136%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5A	SDG No.:	I6340
Lab Sample ID:	I6340-11	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	71.3
Sample Wt/Vol:	3.76 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056000.D	1		11/14/17 06:13	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	57.5		57 - 135		115%	SPK: 50
2037-26-5	Toluene-d8	39.1		67 - 123		78%	SPK: 50
460-00-4	4-Bromofluorobenzene	24.4		33 - 141		49%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	160685	6.15				
540-36-3	1,4-Difluorobenzene	298975	7.27				
3114-55-4	Chlorobenzene-d5	186385	11.45				
3855-82-1	1,4-Dichlorobenzene-d4	36660	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

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Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5ARE	SDG No.:	I6340
Lab Sample ID:	I6340-11RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	71.3
Sample Wt/Vol:	3.81 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055478.D	1		11/14/17 18:10	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	22.9	U	2.3	2.3	22.9	ug/Kg
75-35-4	1,1-Dichloroethene	22.9	U	2.3	2.3	22.9	ug/Kg
67-64-1	Acetone	110	U	11.4	11.4	110	ug/Kg
1634-04-4	Methyl tert-butyl Ether	22.9	U	2.3	2.3	22.9	ug/Kg
75-09-2	Methylene Chloride	22.9	U	2.3	2.3	22.9	ug/Kg
156-60-5	trans-1,2-Dichloroethene	22.9	U	2.3	2.3	22.9	ug/Kg
75-34-3	1,1-Dichloroethane	22.9	U	2.3	2.3	22.9	ug/Kg
78-93-3	2-Butanone	110	U	14.2	34.3	110	ug/Kg
56-23-5	Carbon Tetrachloride	22.9	U	2.3	2.3	22.9	ug/Kg
156-59-2	cis-1,2-Dichloroethene	22.9	U	2.3	2.3	22.9	ug/Kg
67-66-3	Chloroform	22.9	U	2.3	2.3	22.9	ug/Kg
71-55-6	1,1,1-Trichloroethane	22.9	U	2.3	2.3	22.9	ug/Kg
71-43-2	Benzene	22.9	U	1.7	2.3	22.9	ug/Kg
107-06-2	1,2-Dichloroethane	22.9	U	2.3	2.3	22.9	ug/Kg
79-01-6	Trichloroethene	22.9	U	2.3	2.3	22.9	ug/Kg
108-88-3	Toluene	22.9	U	2.3	2.3	22.9	ug/Kg
127-18-4	Tetrachloroethene	22.9	U	2.3	2.3	22.9	ug/Kg
108-90-7	Chlorobenzene	22.9	U	2.3	2.3	22.9	ug/Kg
100-41-4	Ethyl Benzene	22.9	U	2.3	2.3	22.9	ug/Kg
1330-20-7	Total Xylenes	68.6	U	5.6	6.9	68.6	ug/Kg
103-65-1	n-propylbenzene	22.9	U	1.6	2.3	22.9	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	22.9	U	2.1	2.3	22.9	ug/Kg
98-06-6	tert-Butylbenzene	22.9	U	2.3	2.3	22.9	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	22.9	U	2.3	2.3	22.9	ug/Kg
135-98-8	sec-Butylbenzene	22.9	U	2.3	2.3	22.9	ug/Kg
541-73-1	1,3-Dichlorobenzene	22.9	U	1.7	2.3	22.9	ug/Kg
106-46-7	1,4-Dichlorobenzene	22.9	U	1.9	2.3	22.9	ug/Kg
104-51-8	n-Butylbenzene	22.9	U	2.1	2.3	22.9	ug/Kg
95-50-1	1,2-Dichlorobenzene	22.9	U	2.3	2.3	22.9	ug/Kg
123-91-1	1,4-Dioxane	460	U	460	460	460	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	49.7		56 - 120		99%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5ARE	SDG No.:	I6340
Lab Sample ID:	I6340-11RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	71.3
Sample Wt/Vol:	3.81 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055478.D	1		11/14/17 18:10	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	57.1		57 - 135		114%	SPK: 50
2037-26-5	Toluene-d8	46.1		67 - 123		92%	SPK: 50
460-00-4	4-Bromofluorobenzene	24.1		33 - 141		48%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	313774	4.8				
540-36-3	1,4-Difluorobenzene	515741	5.53				
3114-55-4	Chlorobenzene-d5	326720	9.69				
3855-82-1	1,4-Dichlorobenzene-d4	71352	12.48				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5B	SDG No.:	I6340
Lab Sample ID:	I6340-12	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	29.6
Sample Wt/Vol:	6.55 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055479.D	1		11/14/17 18:39	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	5.4	U	0.54	0.54	5.4	ug/Kg
75-35-4	1,1-Dichloroethene	5.4	U	0.54	0.54	5.4	ug/Kg
67-64-1	Acetone	27.1	U	2.7	2.7	27.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	5.4	U	0.54	0.54	5.4	ug/Kg
75-09-2	Methylene Chloride	5.4	U	0.54	0.54	5.4	ug/Kg
156-60-5	trans-1,2-Dichloroethene	5.4	U	0.54	0.54	5.4	ug/Kg
75-34-3	1,1-Dichloroethane	5.4	U	0.54	0.54	5.4	ug/Kg
78-93-3	2-Butanone	27.1	U	3.4	8.1	27.1	ug/Kg
56-23-5	Carbon Tetrachloride	5.4	U	0.54	0.54	5.4	ug/Kg
156-59-2	cis-1,2-Dichloroethene	5.4	U	0.54	0.54	5.4	ug/Kg
67-66-3	Chloroform	5.4	U	0.54	0.54	5.4	ug/Kg
71-55-6	1,1,1-Trichloroethane	5.4	U	0.54	0.54	5.4	ug/Kg
71-43-2	Benzene	5.4	U	0.41	0.54	5.4	ug/Kg
107-06-2	1,2-Dichloroethane	5.4	U	0.54	0.54	5.4	ug/Kg
79-01-6	Trichloroethene	5.4	U	0.54	0.54	5.4	ug/Kg
108-88-3	Toluene	5.4	U	0.54	0.54	5.4	ug/Kg
127-18-4	Tetrachloroethene	5.4	U	0.54	0.54	5.4	ug/Kg
108-90-7	Chlorobenzene	5.4	U	0.54	0.54	5.4	ug/Kg
100-41-4	Ethyl Benzene	5.4	U	0.54	0.54	5.4	ug/Kg
1330-20-7	Total Xylenes	16.2	U	1.32	1.64	16.2	ug/Kg
103-65-1	n-propylbenzene	5.4	U	0.39	0.54	5.4	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	5.4	U	0.49	0.54	5.4	ug/Kg
98-06-6	tert-Butylbenzene	5.4	U	0.54	0.54	5.4	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	5.4	U	0.54	0.54	5.4	ug/Kg
135-98-8	sec-Butylbenzene	5.4	U	0.54	0.54	5.4	ug/Kg
541-73-1	1,3-Dichlorobenzene	5.4	U	0.4	0.54	5.4	ug/Kg
106-46-7	1,4-Dichlorobenzene	5.4	U	0.44	0.54	5.4	ug/Kg
104-51-8	n-Butylbenzene	5.4	U	0.5	0.54	5.4	ug/Kg
95-50-1	1,2-Dichlorobenzene	5.4	U	0.54	0.54	5.4	ug/Kg
123-91-1	1,4-Dioxane	110	U	110	110	110	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	50.9		56 - 120		102%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5B	SDG No.:	I6340
Lab Sample ID:	I6340-12	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	29.6
Sample Wt/Vol:	6.55 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055479.D	1		11/14/17 18:39	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	53.7		57 - 135		107%	SPK: 50
2037-26-5	Toluene-d8	48.7		67 - 123		97%	SPK: 50
460-00-4	4-Bromofluorobenzene	37.3		33 - 141		75%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	335772	4.8				
540-36-3	1,4-Difluorobenzene	575859	5.53				
3114-55-4	Chlorobenzene-d5	442123	9.7				
3855-82-1	1,4-Dichlorobenzene-d4	146595	12.49				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

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J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5C	SDG No.:	I6920
Lab Sample ID:	I6920-18	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	5.02      Units: g	Final Vol:	5000      uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS      ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056500.D	1		12/20/17 14:09	VD122017

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	8.7	U	0.87	0.87	8.7	ug/Kg
75-35-4	1,1-Dichloroethene	8.7	U	0.87	0.87	8.7	ug/Kg
67-64-1	Acetone	40.7	J	4.3	4.3	43.5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	8.7	U	0.87	0.87	8.7	ug/Kg
75-09-2	Methylene Chloride	8.7	U	0.87	0.87	8.7	ug/Kg
156-60-5	trans-1,2-Dichloroethene	8.7	U	0.87	0.87	8.7	ug/Kg
75-34-3	1,1-Dichloroethane	8.7	U	0.87	0.87	8.7	ug/Kg
78-93-3	2-Butanone	43.5	U	5.4	13	43.5	ug/Kg
56-23-5	Carbon Tetrachloride	8.7	U	0.87	0.87	8.7	ug/Kg
156-59-2	cis-1,2-Dichloroethene	8.7	U	0.87	0.87	8.7	ug/Kg
67-66-3	Chloroform	8.7	U	0.87	0.87	8.7	ug/Kg
71-55-6	1,1,1-Trichloroethane	8.7	U	0.87	0.87	8.7	ug/Kg
71-43-2	Benzene	8.7	U	0.66	0.87	8.7	ug/Kg
107-06-2	1,2-Dichloroethane	8.7	U	0.87	0.87	8.7	ug/Kg
79-01-6	Trichloroethene	8.7	U	0.87	0.87	8.7	ug/Kg
108-88-3	Toluene	8.7	U	0.87	0.87	8.7	ug/Kg
127-18-4	Tetrachloroethene	8.7	U	0.87	0.87	8.7	ug/Kg
108-90-7	Chlorobenzene	8.7	U	0.87	0.87	8.7	ug/Kg
100-41-4	Ethyl Benzene	8.7	U	0.87	0.87	8.7	ug/Kg
1330-20-7	Total Xylenes	26.1	U	2.17	2.57	26.1	ug/Kg
103-65-1	n-propylbenzene	8.7	U	0.63	0.87	8.7	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	8.7	U	0.78	0.87	8.7	ug/Kg
98-06-6	tert-Butylbenzene	8.7	U	0.87	0.87	8.7	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	8.7	U	0.87	0.87	8.7	ug/Kg
135-98-8	sec-Butylbenzene	8.7	U	0.87	0.87	8.7	ug/Kg
541-73-1	1,3-Dichlorobenzene	8.7	U	0.64	0.87	8.7	ug/Kg
106-46-7	1,4-Dichlorobenzene	8.7	U	0.71	0.87	8.7	ug/Kg
104-51-8	n-Butylbenzene	8.7	U	0.8	0.87	8.7	ug/Kg
95-50-1	1,2-Dichlorobenzene	8.7	U	0.87	0.87	8.7	ug/Kg
123-91-1	1,4-Dioxane	170	U	170	170	170	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	57.9		56 - 120		116%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5C	SDG No.:	I6920
Lab Sample ID:	I6920-18	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	5.02 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056500.D	1		12/20/17 14:09	VD122017

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	54.9		57 - 135		110%	SPK: 50
2037-26-5	Toluene-d8	43.3		67 - 123		87%	SPK: 50
460-00-4	4-Bromofluorobenzene	30.8		33 - 141		62%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	274686	6.17				
540-36-3	1,4-Difluorobenzene	468354	7.3				
3114-55-4	Chlorobenzene-d5	336447	11.46				
3855-82-1	1,4-Dichlorobenzene-d4	80370	13.81				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5CRE	SDG No.:	I6920
Lab Sample ID:	I6920-18RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	5.18      Units:    g	Final Vol:	5000            uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS      ID :    0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056523.D	1		12/21/17 15:38	VD122117

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	8.4	U	0.84	0.84	8.4	ug/Kg
75-35-4	1,1-Dichloroethene	8.4	U	0.84	0.84	8.4	ug/Kg
67-64-1	Acetone	61.9		4.2	4.2	42.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	8.4	U	0.84	0.84	8.4	ug/Kg
75-09-2	Methylene Chloride	8.4	U	0.84	0.84	8.4	ug/Kg
156-60-5	trans-1,2-Dichloroethene	8.4	U	0.84	0.84	8.4	ug/Kg
75-34-3	1,1-Dichloroethane	8.4	U	0.84	0.84	8.4	ug/Kg
78-93-3	2-Butanone	42.1	U	5.2	12.6	42.1	ug/Kg
56-23-5	Carbon Tetrachloride	8.4	U	0.84	0.84	8.4	ug/Kg
156-59-2	cis-1,2-Dichloroethene	8.4	U	0.84	0.84	8.4	ug/Kg
67-66-3	Chloroform	8.4	U	0.84	0.84	8.4	ug/Kg
71-55-6	1,1,1-Trichloroethane	8.4	U	0.84	0.84	8.4	ug/Kg
71-43-2	Benzene	8.4	U	0.64	0.84	8.4	ug/Kg
107-06-2	1,2-Dichloroethane	8.4	U	0.84	0.84	8.4	ug/Kg
79-01-6	Trichloroethene	8.4	U	0.84	0.84	8.4	ug/Kg
108-88-3	Toluene	8.4	U	0.84	0.84	8.4	ug/Kg
127-18-4	Tetrachloroethene	8.4	U	0.84	0.84	8.4	ug/Kg
108-90-7	Chlorobenzene	8.4	U	0.84	0.84	8.4	ug/Kg
100-41-4	Ethyl Benzene	8.4	U	0.84	0.84	8.4	ug/Kg
1330-20-7	Total Xylenes	25.2	U	2.04	2.54	25.2	ug/Kg
103-65-1	n-propylbenzene	8.4	U	0.61	0.84	8.4	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	8.4	U	0.76	0.84	8.4	ug/Kg
98-06-6	tert-Butylbenzene	8.4	U	0.84	0.84	8.4	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	8.4	U	0.84	0.84	8.4	ug/Kg
135-98-8	sec-Butylbenzene	8.4	U	0.84	0.84	8.4	ug/Kg
541-73-1	1,3-Dichlorobenzene	8.4	U	0.62	0.84	8.4	ug/Kg
106-46-7	1,4-Dichlorobenzene	8.4	U	0.69	0.84	8.4	ug/Kg
104-51-8	n-Butylbenzene	8.4	U	0.77	0.84	8.4	ug/Kg
95-50-1	1,2-Dichlorobenzene	8.4	U	0.84	0.84	8.4	ug/Kg
123-91-1	1,4-Dioxane	170	U	170	170	170	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	64.8	*	56 - 120		130%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5CRE	SDG No.:	I6920
Lab Sample ID:	I6920-18RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	5.18 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056523.D	1		12/21/17 15:38	VD122117

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	57.8		57 - 135		116%	SPK: 50
2037-26-5	Toluene-d8	41.7		67 - 123		83%	SPK: 50
460-00-4	4-Bromofluorobenzene	27.4		33 - 141		55%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	184485	6.15				
540-36-3	1,4-Difluorobenzene	324060	7.27				
3114-55-4	Chlorobenzene-d5	222051	11.45				
3855-82-1	1,4-Dichlorobenzene-d4	53778	13.79				

U = Not Detected

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LOD = Limit of Detection

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M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-6A	SDG No.:	I6340
Lab Sample ID:	I6340-13	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	67.7
Sample Wt/Vol:	2.55 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056002.D	1		11/14/17 07:09	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	30.4	U	3	3	30.4	ug/Kg
75-35-4	1,1-Dichloroethene	30.4	U	3	3	30.4	ug/Kg
67-64-1	Acetone	1100		15.2	15.2	150	ug/Kg
1634-04-4	Methyl tert-butyl Ether	30.4	U	3	3	30.4	ug/Kg
75-09-2	Methylene Chloride	30.4	U	3	3	30.4	ug/Kg
156-60-5	trans-1,2-Dichloroethene	30.4	U	3	3	30.4	ug/Kg
75-34-3	1,1-Dichloroethane	30.4	U	3	3	30.4	ug/Kg
78-93-3	2-Butanone	150	U	18.9	45.5	150	ug/Kg
56-23-5	Carbon Tetrachloride	30.4	U	3	3	30.4	ug/Kg
156-59-2	cis-1,2-Dichloroethene	30.4	U	3	3	30.4	ug/Kg
67-66-3	Chloroform	30.4	U	3	3	30.4	ug/Kg
71-55-6	1,1,1-Trichloroethane	30.4	U	3	3	30.4	ug/Kg
71-43-2	Benzene	30.4	U	2.3	3	30.4	ug/Kg
107-06-2	1,2-Dichloroethane	30.4	U	3	3	30.4	ug/Kg
79-01-6	Trichloroethene	30.4	U	3	3	30.4	ug/Kg
108-88-3	Toluene	30.4	U	3	3	30.4	ug/Kg
127-18-4	Tetrachloroethene	30.4	U	3	3	30.4	ug/Kg
108-90-7	Chlorobenzene	30.4	U	3	3	30.4	ug/Kg
100-41-4	Ethyl Benzene	30.4	U	3	3	30.4	ug/Kg
1330-20-7	Total Xylenes	91.1	U	7.4	9.1	91.1	ug/Kg
103-65-1	n-propylbenzene	30.4	U	2.2	3	30.4	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	30.4	U	2.7	3	30.4	ug/Kg
98-06-6	tert-Butylbenzene	30.4	U	3	3	30.4	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	30.4	U	3	3	30.4	ug/Kg
135-98-8	sec-Butylbenzene	30.4	U	3	3	30.4	ug/Kg
541-73-1	1,3-Dichlorobenzene	30.4	U	2.2	3	30.4	ug/Kg
106-46-7	1,4-Dichlorobenzene	30.4	U	2.5	3	30.4	ug/Kg
104-51-8	n-Butylbenzene	30.4	U	2.8	3	30.4	ug/Kg
95-50-1	1,2-Dichlorobenzene	30.4	U	3	3	30.4	ug/Kg
123-91-1	1,4-Dioxane	610	U	610	610	610	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	73.5	*	56 - 120		147%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-6A	SDG No.:	I6340
Lab Sample ID:	I6340-13	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	67.7
Sample Wt/Vol:	2.55 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056002.D	1		11/14/17 07:09	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	60.9		57 - 135		122%	SPK: 50
2037-26-5	Toluene-d8	35		67 - 123		70%	SPK: 50
460-00-4	4-Bromofluorobenzene	16	*	33 - 141		32%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	164352	6.15				
540-36-3	1,4-Difluorobenzene	315191	7.27				
3114-55-4	Chlorobenzene-d5	155788	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	21246	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-6ARE	SDG No.:	I6340
Lab Sample ID:	I6340-13RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	67.7
Sample Wt/Vol:	3.23 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055499.D	1		11/15/17 17:34	VF111517

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	24	U	2.4	2.4	24	ug/Kg
75-35-4	1,1-Dichloroethene	24	U	2.4	2.4	24	ug/Kg
67-64-1	Acetone	430		12	12	120	ug/Kg
1634-04-4	Methyl tert-butyl Ether	24	U	2.4	2.4	24	ug/Kg
75-09-2	Methylene Chloride	24	U	2.4	2.4	24	ug/Kg
156-60-5	trans-1,2-Dichloroethene	24	U	2.4	2.4	24	ug/Kg
75-34-3	1,1-Dichloroethane	24	U	2.4	2.4	24	ug/Kg
78-93-3	2-Butanone	60	J	14.9	35.9	120	ug/Kg
56-23-5	Carbon Tetrachloride	24	U	2.4	2.4	24	ug/Kg
156-59-2	cis-1,2-Dichloroethene	24	U	2.4	2.4	24	ug/Kg
67-66-3	Chloroform	24	U	2.4	2.4	24	ug/Kg
71-55-6	1,1,1-Trichloroethane	24	U	2.4	2.4	24	ug/Kg
71-43-2	Benzene	24	U	1.8	2.4	24	ug/Kg
107-06-2	1,2-Dichloroethane	24	U	2.4	2.4	24	ug/Kg
79-01-6	Trichloroethene	24	U	2.4	2.4	24	ug/Kg
108-88-3	Toluene	24	U	2.4	2.4	24	ug/Kg
127-18-4	Tetrachloroethene	24	U	2.4	2.4	24	ug/Kg
108-90-7	Chlorobenzene	24	U	2.4	2.4	24	ug/Kg
100-41-4	Ethyl Benzene	24	U	2.4	2.4	24	ug/Kg
1330-20-7	Total Xylenes	71.9	U	5.9	7.2	71.9	ug/Kg
103-65-1	n-propylbenzene	24	U	1.7	2.4	24	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	7.8	J	2.2	2.4	24	ug/Kg
98-06-6	tert-Butylbenzene	24	U	2.4	2.4	24	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	15.6	J	2.4	2.4	24	ug/Kg
135-98-8	sec-Butylbenzene	9.7	J	2.4	2.4	24	ug/Kg
541-73-1	1,3-Dichlorobenzene	24	U	1.8	2.4	24	ug/Kg
106-46-7	1,4-Dichlorobenzene	24	U	2	2.4	24	ug/Kg
104-51-8	n-Butylbenzene	4.9	J	2.2	2.4	24	ug/Kg
95-50-1	1,2-Dichlorobenzene	24	U	2.4	2.4	24	ug/Kg
123-91-1	1,4-Dioxane	480	U	480	480	480	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	48.4		56 - 120		97%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-6ARE	SDG No.:	I6340
Lab Sample ID:	I6340-13RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	67.7
Sample Wt/Vol:	3.23 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055499.D	1		11/15/17 17:34	VF111517

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	54.6		57 - 135		109%	SPK: 50
2037-26-5	Toluene-d8	43		67 - 123		86%	SPK: 50
460-00-4	4-Bromofluorobenzene	21.1		33 - 141		42%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	284321	4.81				
540-36-3	1,4-Difluorobenzene	470984	5.53				
3114-55-4	Chlorobenzene-d5	275502	9.7				
3855-82-1	1,4-Dichlorobenzene-d4	52818	12.49				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7A	SDG No.:	I6340
Lab Sample ID:	I6340-05	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77
Sample Wt/Vol:	5.35 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055994.D	1		11/14/17 03:26	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	20.3	U	2	2	20.3	ug/Kg
75-35-4	1,1-Dichloroethene	20.3	U	2	2	20.3	ug/Kg
67-64-1	Acetone	1600		10.2	10.2	100	ug/Kg
1634-04-4	Methyl tert-butyl Ether	20.3	U	2	2	20.3	ug/Kg
75-09-2	Methylene Chloride	20.3	U	2	2	20.3	ug/Kg
156-60-5	trans-1,2-Dichloroethene	20.3	U	2	2	20.3	ug/Kg
75-34-3	1,1-Dichloroethane	20.3	U	2	2	20.3	ug/Kg
78-93-3	2-Butanone	290		12.6	30.5	100	ug/Kg
56-23-5	Carbon Tetrachloride	20.3	U	2	2	20.3	ug/Kg
156-59-2	cis-1,2-Dichloroethene	20.3	U	2	2	20.3	ug/Kg
67-66-3	Chloroform	20.3	U	2	2	20.3	ug/Kg
71-55-6	1,1,1-Trichloroethane	20.3	U	2	2	20.3	ug/Kg
71-43-2	Benzene	20.3	U	1.5	2	20.3	ug/Kg
107-06-2	1,2-Dichloroethane	20.3	U	2	2	20.3	ug/Kg
79-01-6	Trichloroethene	20.3	U	2	2	20.3	ug/Kg
108-88-3	Toluene	20.3	U	2	2	20.3	ug/Kg
127-18-4	Tetrachloroethene	20.3	U	2	2	20.3	ug/Kg
108-90-7	Chlorobenzene	20.3	U	2	2	20.3	ug/Kg
100-41-4	Ethyl Benzene	20.3	U	2	2	20.3	ug/Kg
1330-20-7	Total Xylenes	60.9	U	4.9	6.1	60.9	ug/Kg
103-65-1	n-propylbenzene	20.3	U	1.5	2	20.3	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	20.3	U	1.8	2	20.3	ug/Kg
98-06-6	tert-Butylbenzene	20.3	U	2	2	20.3	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	20.3	U	2	2	20.3	ug/Kg
135-98-8	sec-Butylbenzene	20.3	U	2	2	20.3	ug/Kg
541-73-1	1,3-Dichlorobenzene	20.3	U	1.5	2	20.3	ug/Kg
106-46-7	1,4-Dichlorobenzene	20.3	U	1.7	2	20.3	ug/Kg
104-51-8	n-Butylbenzene	20.3	U	1.9	2	20.3	ug/Kg
95-50-1	1,2-Dichlorobenzene	20.3	U	2	2	20.3	ug/Kg
123-91-1	1,4-Dioxane	410	U	410	410	410	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	83.3	*	56 - 120		167%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7A	SDG No.:	I6340
Lab Sample ID:	I6340-05	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77
Sample Wt/Vol:	5.35 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055994.D	1		11/14/17 03:26	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	68.8	*	57 - 135		138%	SPK: 50
2037-26-5	Toluene-d8	32.2	*	67 - 123		64%	SPK: 50
460-00-4	4-Bromofluorobenzene	14.3	*	33 - 141		29%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	110353	6.15				
540-36-3	1,4-Difluorobenzene	209159	7.27				
3114-55-4	Chlorobenzene-d5	87625	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	12891	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7ARE	SDG No.:	I6340
Lab Sample ID:	I6340-05RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77
Sample Wt/Vol:	4.42 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056011.D	1		11/14/17 14:40	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	24.6	U	2.5	2.5	24.6	ug/Kg
75-35-4	1,1-Dichloroethene	24.6	U	2.5	2.5	24.6	ug/Kg
67-64-1	Acetone	1100		12.3	12.3	120	ug/Kg
1634-04-4	Methyl tert-butyl Ether	24.6	U	2.5	2.5	24.6	ug/Kg
75-09-2	Methylene Chloride	16.2	J	2.5	2.5	24.6	ug/Kg
156-60-5	trans-1,2-Dichloroethene	24.6	U	2.5	2.5	24.6	ug/Kg
75-34-3	1,1-Dichloroethane	24.6	U	2.5	2.5	24.6	ug/Kg
78-93-3	2-Butanone	240		15.3	36.9	120	ug/Kg
56-23-5	Carbon Tetrachloride	24.6	U	2.5	2.5	24.6	ug/Kg
156-59-2	cis-1,2-Dichloroethene	24.6	U	2.5	2.5	24.6	ug/Kg
67-66-3	Chloroform	24.6	U	2.5	2.5	24.6	ug/Kg
71-55-6	1,1,1-Trichloroethane	24.6	U	2.5	2.5	24.6	ug/Kg
71-43-2	Benzene	24.6	U	1.9	2.5	24.6	ug/Kg
107-06-2	1,2-Dichloroethane	24.6	U	2.5	2.5	24.6	ug/Kg
79-01-6	Trichloroethene	24.6	U	2.5	2.5	24.6	ug/Kg
108-88-3	Toluene	24.6	U	2.5	2.5	24.6	ug/Kg
127-18-4	Tetrachloroethene	24.6	U	2.5	2.5	24.6	ug/Kg
108-90-7	Chlorobenzene	24.6	U	2.5	2.5	24.6	ug/Kg
100-41-4	Ethyl Benzene	24.6	U	2.5	2.5	24.6	ug/Kg
1330-20-7	Total Xylenes	73.8	U	6	7.4	73.8	ug/Kg
103-65-1	n-propylbenzene	24.6	U	1.8	2.5	24.6	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	24.6	U	2.2	2.5	24.6	ug/Kg
98-06-6	tert-Butylbenzene	24.6	U	2.5	2.5	24.6	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	24.6	U	2.5	2.5	24.6	ug/Kg
135-98-8	sec-Butylbenzene	24.6	U	2.5	2.5	24.6	ug/Kg
541-73-1	1,3-Dichlorobenzene	24.6	U	1.8	2.5	24.6	ug/Kg
106-46-7	1,4-Dichlorobenzene	24.6	U	2	2.5	24.6	ug/Kg
104-51-8	n-Butylbenzene	24.6	U	2.3	2.5	24.6	ug/Kg
95-50-1	1,2-Dichlorobenzene	24.6	U	2.5	2.5	24.6	ug/Kg
123-91-1	1,4-Dioxane	490	U	490	490	490	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	81.7	*	56 - 120		163%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7ARE	SDG No.:	I6340
Lab Sample ID:	I6340-05RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77
Sample Wt/Vol:	4.42 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056011.D	1		11/14/17 14:40	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	65.5		57 - 135		131%	SPK: 50
2037-26-5	Toluene-d8	35.1		67 - 123		70%	SPK: 50
460-00-4	4-Bromofluorobenzene	16.6		33 - 141		33%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	159517	6.15				
540-36-3	1,4-Difluorobenzene	309718	7.27				
3114-55-4	Chlorobenzene-d5	140698	11.45				
3855-82-1	1,4-Dichlorobenzene-d4	24392	13.79				

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7B	SDG No.:	I6340
Lab Sample ID:	I6340-06	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	38.1
Sample Wt/Vol:	6.47 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055995.D	1		11/14/17 03:54	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	6.2	U	0.62	0.62	6.2	ug/Kg
75-35-4	1,1-Dichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
67-64-1	Acetone	200		3.1	3.1	31.2	ug/Kg
1634-04-4	Methyl tert-butyl Ether	6.2	U	0.62	0.62	6.2	ug/Kg
75-09-2	Methylene Chloride	4.7	JB	0.62	0.62	6.2	ug/Kg
156-60-5	trans-1,2-Dichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
75-34-3	1,1-Dichloroethane	6.2	U	0.62	0.62	6.2	ug/Kg
78-93-3	2-Butanone	23.8	J	3.9	9.4	31.2	ug/Kg
56-23-5	Carbon Tetrachloride	6.2	U	0.62	0.62	6.2	ug/Kg
156-59-2	cis-1,2-Dichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
67-66-3	Chloroform	6.2	U	0.62	0.62	6.2	ug/Kg
71-55-6	1,1,1-Trichloroethane	6.2	U	0.62	0.62	6.2	ug/Kg
71-43-2	Benzene	6.2	U	0.47	0.62	6.2	ug/Kg
107-06-2	1,2-Dichloroethane	6.2	U	0.62	0.62	6.2	ug/Kg
79-01-6	Trichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
108-88-3	Toluene	6.2	U	0.62	0.62	6.2	ug/Kg
127-18-4	Tetrachloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
108-90-7	Chlorobenzene	6.2	U	0.62	0.62	6.2	ug/Kg
100-41-4	Ethyl Benzene	6.2	U	0.62	0.62	6.2	ug/Kg
1330-20-7	Total Xylenes	18.7	U	1.52	1.82	18.7	ug/Kg
103-65-1	n-propylbenzene	6.2	U	0.45	0.62	6.2	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	6.2	U	0.56	0.62	6.2	ug/Kg
98-06-6	tert-Butylbenzene	6.2	U	0.62	0.62	6.2	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	6.2	U	0.62	0.62	6.2	ug/Kg
135-98-8	sec-Butylbenzene	6.2	U	0.62	0.62	6.2	ug/Kg
541-73-1	1,3-Dichlorobenzene	6.2	U	0.46	0.62	6.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	6.2	U	0.51	0.62	6.2	ug/Kg
104-51-8	n-Butylbenzene	6.2	U	0.57	0.62	6.2	ug/Kg
95-50-1	1,2-Dichlorobenzene	6.2	U	0.62	0.62	6.2	ug/Kg
123-91-1	1,4-Dioxane	120	U	120	120	120	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	62.4	*	56 - 120		125%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7B	SDG No.:	I6340
Lab Sample ID:	I6340-06	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	38.1
Sample Wt/Vol:	6.47 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055995.D	1		11/14/17 03:54	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	57.3		57 - 135		115%	SPK: 50
2037-26-5	Toluene-d8	41.7		67 - 123		83%	SPK: 50
460-00-4	4-Bromofluorobenzene	24.8		33 - 141		50%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	185622	6.15				
540-36-3	1,4-Difluorobenzene	337876	7.27				
3114-55-4	Chlorobenzene-d5	218170	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	42545	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7BRE	SDG No.:	I6340
Lab Sample ID:	I6340-06RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	38.1
Sample Wt/Vol:	6.53 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056012.D	1		11/14/17 15:07	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	6.2	U	0.62	0.62	6.2	ug/Kg
75-35-4	1,1-Dichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
67-64-1	Acetone	64.4		3.1	3.1	30.9	ug/Kg
1634-04-4	Methyl tert-butyl Ether	6.2	U	0.62	0.62	6.2	ug/Kg
75-09-2	Methylene Chloride	2.9	J	0.62	0.62	6.2	ug/Kg
156-60-5	trans-1,2-Dichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
75-34-3	1,1-Dichloroethane	6.2	U	0.62	0.62	6.2	ug/Kg
78-93-3	2-Butanone	30.9	U	3.8	9.3	30.9	ug/Kg
56-23-5	Carbon Tetrachloride	6.2	U	0.62	0.62	6.2	ug/Kg
156-59-2	cis-1,2-Dichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
67-66-3	Chloroform	6.2	U	0.62	0.62	6.2	ug/Kg
71-55-6	1,1,1-Trichloroethane	6.2	U	0.62	0.62	6.2	ug/Kg
71-43-2	Benzene	6.2	U	0.47	0.62	6.2	ug/Kg
107-06-2	1,2-Dichloroethane	6.2	U	0.62	0.62	6.2	ug/Kg
79-01-6	Trichloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
108-88-3	Toluene	6.2	U	0.62	0.62	6.2	ug/Kg
127-18-4	Tetrachloroethene	6.2	U	0.62	0.62	6.2	ug/Kg
108-90-7	Chlorobenzene	6.2	U	0.62	0.62	6.2	ug/Kg
100-41-4	Ethyl Benzene	6.2	U	0.62	0.62	6.2	ug/Kg
1330-20-7	Total Xylenes	18.6	U	1.51	1.82	18.6	ug/Kg
103-65-1	n-propylbenzene	6.2	U	0.45	0.62	6.2	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	6.2	U	0.56	0.62	6.2	ug/Kg
98-06-6	tert-Butylbenzene	6.2	U	0.62	0.62	6.2	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	6.2	U	0.62	0.62	6.2	ug/Kg
135-98-8	sec-Butylbenzene	6.2	U	0.62	0.62	6.2	ug/Kg
541-73-1	1,3-Dichlorobenzene	6.2	U	0.46	0.62	6.2	ug/Kg
106-46-7	1,4-Dichlorobenzene	6.2	U	0.51	0.62	6.2	ug/Kg
104-51-8	n-Butylbenzene	6.2	U	0.57	0.62	6.2	ug/Kg
95-50-1	1,2-Dichlorobenzene	6.2	U	0.62	0.62	6.2	ug/Kg
123-91-1	1,4-Dioxane	120	U	120	120	120	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	55.8		56 - 120		112%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7BRE	SDG No.:	I6340
Lab Sample ID:	I6340-06RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	38.1
Sample Wt/Vol:	6.53 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056012.D	1		11/14/17 15:07	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	53.9		57 - 135		108%	SPK: 50
2037-26-5	Toluene-d8	46		67 - 123		92%	SPK: 50
460-00-4	4-Bromofluorobenzene	33.3		33 - 141		67%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	348041	6.15				
540-36-3	1,4-Difluorobenzene	620696	7.27				
3114-55-4	Chlorobenzene-d5	449467	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	110272	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8A	SDG No.:	I6340
Lab Sample ID:	I6340-03	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77.1
Sample Wt/Vol:	3.77 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055992.D	1		11/14/17 02:30	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	29	U	2.9	2.9	29	ug/Kg
75-35-4	1,1-Dichloroethene	29	U	2.9	2.9	29	ug/Kg
67-64-1	Acetone	1200		14.5	14.5	140	ug/Kg
1634-04-4	Methyl tert-butyl Ether	29	U	2.9	2.9	29	ug/Kg
75-09-2	Methylene Chloride	16	JB	2.9	2.9	29	ug/Kg
156-60-5	trans-1,2-Dichloroethene	29	U	2.9	2.9	29	ug/Kg
75-34-3	1,1-Dichloroethane	29	U	2.9	2.9	29	ug/Kg
78-93-3	2-Butanone	290		18	43.4	140	ug/Kg
56-23-5	Carbon Tetrachloride	29	U	2.9	2.9	29	ug/Kg
156-59-2	cis-1,2-Dichloroethene	29	U	2.9	2.9	29	ug/Kg
67-66-3	Chloroform	29	U	2.9	2.9	29	ug/Kg
71-55-6	1,1,1-Trichloroethane	29	U	2.9	2.9	29	ug/Kg
71-43-2	Benzene	29	U	2.2	2.9	29	ug/Kg
107-06-2	1,2-Dichloroethane	29	U	2.9	2.9	29	ug/Kg
79-01-6	Trichloroethene	29	U	2.9	2.9	29	ug/Kg
108-88-3	Toluene	29	U	2.9	2.9	29	ug/Kg
127-18-4	Tetrachloroethene	29	U	2.9	2.9	29	ug/Kg
108-90-7	Chlorobenzene	29	U	2.9	2.9	29	ug/Kg
100-41-4	Ethyl Benzene	29	U	2.9	2.9	29	ug/Kg
1330-20-7	Total Xylenes	86.9	U	7.1	8.7	86.9	ug/Kg
103-65-1	n-propylbenzene	29	U	2.1	2.9	29	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	29	U	2.6	2.9	29	ug/Kg
98-06-6	tert-Butylbenzene	29	U	2.9	2.9	29	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	29	U	2.9	2.9	29	ug/Kg
135-98-8	sec-Butylbenzene	29	U	2.9	2.9	29	ug/Kg
541-73-1	1,3-Dichlorobenzene	29	U	2.1	2.9	29	ug/Kg
106-46-7	1,4-Dichlorobenzene	29	U	2.4	2.9	29	ug/Kg
104-51-8	n-Butylbenzene	29	U	2.7	2.9	29	ug/Kg
95-50-1	1,2-Dichlorobenzene	29	U	2.9	2.9	29	ug/Kg
123-91-1	1,4-Dioxane	580	U	580	580	580	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	69.8	*	56 - 120		140%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8A	SDG No.:	I6340
Lab Sample ID:	I6340-03	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77.1
Sample Wt/Vol:	3.77 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055992.D	1		11/14/17 02:30	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	60.9		57 - 135		122%	SPK: 50
2037-26-5	Toluene-d8	36.6		67 - 123		73%	SPK: 50
460-00-4	4-Bromofluorobenzene	17.8		33 - 141		36%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	140059	6.15				
540-36-3	1,4-Difluorobenzene	265869	7.27				
3114-55-4	Chlorobenzene-d5	139341	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	23426	13.8				

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8ARE	SDG No.:	I6340
Lab Sample ID:	I6340-03RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77.1
Sample Wt/Vol:	4.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056009.D	1		11/14/17 13:44	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	26.8	U	2.7	2.7	26.8	ug/Kg
75-35-4	1,1-Dichloroethene	26.8	U	2.7	2.7	26.8	ug/Kg
67-64-1	Acetone	730		13.4	13.4	130	ug/Kg
1634-04-4	Methyl tert-butyl Ether	26.8	U	2.7	2.7	26.8	ug/Kg
75-09-2	Methylene Chloride	19.3	J	2.7	2.7	26.8	ug/Kg
156-60-5	trans-1,2-Dichloroethene	26.8	U	2.7	2.7	26.8	ug/Kg
75-34-3	1,1-Dichloroethane	26.8	U	2.7	2.7	26.8	ug/Kg
78-93-3	2-Butanone	140		16.7	40.2	130	ug/Kg
56-23-5	Carbon Tetrachloride	26.8	U	2.7	2.7	26.8	ug/Kg
156-59-2	cis-1,2-Dichloroethene	26.8	U	2.7	2.7	26.8	ug/Kg
67-66-3	Chloroform	26.8	U	2.7	2.7	26.8	ug/Kg
71-55-6	1,1,1-Trichloroethane	26.8	U	2.7	2.7	26.8	ug/Kg
71-43-2	Benzene	26.8	U	2	2.7	26.8	ug/Kg
107-06-2	1,2-Dichloroethane	26.8	U	2.7	2.7	26.8	ug/Kg
79-01-6	Trichloroethene	26.8	U	2.7	2.7	26.8	ug/Kg
108-88-3	Toluene	26.8	U	2.7	2.7	26.8	ug/Kg
127-18-4	Tetrachloroethene	26.8	U	2.7	2.7	26.8	ug/Kg
108-90-7	Chlorobenzene	26.8	U	2.7	2.7	26.8	ug/Kg
100-41-4	Ethyl Benzene	26.8	U	2.7	2.7	26.8	ug/Kg
1330-20-7	Total Xylenes	80.4	U	6.6	8.1	80.4	ug/Kg
103-65-1	n-propylbenzene	26.8	U	1.9	2.7	26.8	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	26.8	U	2.4	2.7	26.8	ug/Kg
98-06-6	tert-Butylbenzene	26.8	U	2.7	2.7	26.8	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	26.8	U	2.7	2.7	26.8	ug/Kg
135-98-8	sec-Butylbenzene	26.8	U	2.7	2.7	26.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	26.8	U	2	2.7	26.8	ug/Kg
106-46-7	1,4-Dichlorobenzene	26.8	U	2.2	2.7	26.8	ug/Kg
104-51-8	n-Butylbenzene	26.8	U	2.5	2.7	26.8	ug/Kg
95-50-1	1,2-Dichlorobenzene	26.8	U	2.7	2.7	26.8	ug/Kg
123-91-1	1,4-Dioxane	540	U	540	540	540	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	73.3	*	56 - 120		147%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8ARE	SDG No.:	I6340
Lab Sample ID:	I6340-03RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	77.1
Sample Wt/Vol:	4.07 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056009.D	1		11/14/17 13:44	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	63.9		57 - 135		128%	SPK: 50
2037-26-5	Toluene-d8	37.2		67 - 123		74%	SPK: 50
460-00-4	4-Bromofluorobenzene	17.7		33 - 141		35%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	206710	6.15				
540-36-3	1,4-Difluorobenzene	391044	7.27				
3114-55-4	Chlorobenzene-d5	195299	11.45				
3855-82-1	1,4-Dichlorobenzene-d4	34234	13.79				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8B	SDG No.:	I6340
Lab Sample ID:	I6340-04	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	0.84 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055993.D	1		11/14/17 02:58	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	51.9	U	5.2	5.2	51.9	ug/Kg
75-35-4	1,1-Dichloroethene	51.9	U	5.2	5.2	51.9	ug/Kg
67-64-1	Acetone	1400		26	26	260	ug/Kg
1634-04-4	Methyl tert-butyl Ether	51.9	U	5.2	5.2	51.9	ug/Kg
75-09-2	Methylene Chloride	42.9	JB	5.2	5.2	51.9	ug/Kg
156-60-5	trans-1,2-Dichloroethene	51.9	U	5.2	5.2	51.9	ug/Kg
75-34-3	1,1-Dichloroethane	51.9	U	5.2	5.2	51.9	ug/Kg
78-93-3	2-Butanone	310		32.3	77.9	260	ug/Kg
56-23-5	Carbon Tetrachloride	51.9	U	5.2	5.2	51.9	ug/Kg
156-59-2	cis-1,2-Dichloroethene	51.9	U	5.2	5.2	51.9	ug/Kg
67-66-3	Chloroform	51.9	U	5.2	5.2	51.9	ug/Kg
71-55-6	1,1,1-Trichloroethane	51.9	U	5.2	5.2	51.9	ug/Kg
71-43-2	Benzene	51.9	U	3.9	5.2	51.9	ug/Kg
107-06-2	1,2-Dichloroethane	51.9	U	5.2	5.2	51.9	ug/Kg
79-01-6	Trichloroethene	51.9	U	5.2	5.2	51.9	ug/Kg
108-88-3	Toluene	51.9	U	5.2	5.2	51.9	ug/Kg
127-18-4	Tetrachloroethene	51.9	U	5.2	5.2	51.9	ug/Kg
108-90-7	Chlorobenzene	51.9	U	5.2	5.2	51.9	ug/Kg
100-41-4	Ethyl Benzene	51.9	U	5.2	5.2	51.9	ug/Kg
1330-20-7	Total Xylenes	151	U	12.7	15.6	151	ug/Kg
103-65-1	n-propylbenzene	51.9	U	3.7	5.2	51.9	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	51.9	U	4.7	5.2	51.9	ug/Kg
98-06-6	tert-Butylbenzene	51.9	U	5.2	5.2	51.9	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	51.9	U	5.2	5.2	51.9	ug/Kg
135-98-8	sec-Butylbenzene	51.9	U	5.2	5.2	51.9	ug/Kg
541-73-1	1,3-Dichlorobenzene	51.9	U	3.8	5.2	51.9	ug/Kg
106-46-7	1,4-Dichlorobenzene	51.9	U	4.3	5.2	51.9	ug/Kg
104-51-8	n-Butylbenzene	51.9	U	4.8	5.2	51.9	ug/Kg
95-50-1	1,2-Dichlorobenzene	51.9	U	5.2	5.2	51.9	ug/Kg
123-91-1	1,4-Dioxane	1000	U	1000	1000	1000	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	70	*	56 - 120		140%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8B	SDG No.:	I6340
Lab Sample ID:	I6340-04	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	0.84 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055993.D	1		11/14/17 02:58	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	59.9		57 - 135		120%	SPK: 50
2037-26-5	Toluene-d8	43.3		67 - 123		87%	SPK: 50
460-00-4	4-Bromofluorobenzene	29.6		33 - 141		59%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	187398	6.15				
540-36-3	1,4-Difluorobenzene	354525	7.27				
3114-55-4	Chlorobenzene-d5	240333	11.45				
3855-82-1	1,4-Dichlorobenzene-d4	50262	13.79				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8BRE	SDG No.:	I6340
Lab Sample ID:	I6340-04RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	5.13 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056010.D	1		11/14/17 14:12	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	8.5	U	0.85	0.85	8.5	ug/Kg
75-35-4	1,1-Dichloroethene	8.5	U	0.85	0.85	8.5	ug/Kg
67-64-1	Acetone	85.3		4.3	4.3	42.5	ug/Kg
1634-04-4	Methyl tert-butyl Ether	8.5	U	0.85	0.85	8.5	ug/Kg
75-09-2	Methylene Chloride	4.7	J	0.85	0.85	8.5	ug/Kg
156-60-5	trans-1,2-Dichloroethene	8.5	U	0.85	0.85	8.5	ug/Kg
75-34-3	1,1-Dichloroethane	8.5	U	0.85	0.85	8.5	ug/Kg
78-93-3	2-Butanone	42.5	U	5.3	12.8	42.5	ug/Kg
56-23-5	Carbon Tetrachloride	8.5	U	0.85	0.85	8.5	ug/Kg
156-59-2	cis-1,2-Dichloroethene	8.5	U	0.85	0.85	8.5	ug/Kg
67-66-3	Chloroform	8.5	U	0.85	0.85	8.5	ug/Kg
71-55-6	1,1,1-Trichloroethane	8.5	U	0.85	0.85	8.5	ug/Kg
71-43-2	Benzene	8.5	U	0.65	0.85	8.5	ug/Kg
107-06-2	1,2-Dichloroethane	8.5	U	0.85	0.85	8.5	ug/Kg
79-01-6	Trichloroethene	8.5	U	0.85	0.85	8.5	ug/Kg
108-88-3	Toluene	8.5	U	0.85	0.85	8.5	ug/Kg
127-18-4	Tetrachloroethene	8.5	U	0.85	0.85	8.5	ug/Kg
108-90-7	Chlorobenzene	8.5	U	0.85	0.85	8.5	ug/Kg
100-41-4	Ethyl Benzene	8.5	U	0.85	0.85	8.5	ug/Kg
1330-20-7	Total Xylenes	25.5	U	2.05	2.55	25.5	ug/Kg
103-65-1	n-propylbenzene	8.5	U	0.61	0.85	8.5	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	8.5	U	0.77	0.85	8.5	ug/Kg
98-06-6	tert-Butylbenzene	8.5	U	0.85	0.85	8.5	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	8.5	U	0.85	0.85	8.5	ug/Kg
135-98-8	sec-Butylbenzene	8.5	U	0.85	0.85	8.5	ug/Kg
541-73-1	1,3-Dichlorobenzene	8.5	U	0.63	0.85	8.5	ug/Kg
106-46-7	1,4-Dichlorobenzene	8.5	U	0.7	0.85	8.5	ug/Kg
104-51-8	n-Butylbenzene	8.5	U	0.78	0.85	8.5	ug/Kg
95-50-1	1,2-Dichlorobenzene	8.5	U	0.85	0.85	8.5	ug/Kg
123-91-1	1,4-Dioxane	170	U	170	170	170	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	55.4		56 - 120		111%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8BRE	SDG No.:	I6340
Lab Sample ID:	I6340-04RE	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	42.7
Sample Wt/Vol:	5.13 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056010.D	1		11/14/17 14:12	VD111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	54.6		57 - 135		109%	SPK: 50
2037-26-5	Toluene-d8	45.4		67 - 123		91%	SPK: 50
460-00-4	4-Bromofluorobenzene	30.7		33 - 141		61%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	345898	6.15				
540-36-3	1,4-Difluorobenzene	611260	7.28				
3114-55-4	Chlorobenzene-d5	438469	11.45				
3855-82-1	1,4-Dichlorobenzene-d4	102717	13.8				

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8C	SDG No.:	I6920
Lab Sample ID:	I6920-06	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	24.7
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056498.D	1		12/20/17 13:13	VD122017

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	6.6	U	0.66	0.66	6.6	ug/Kg
75-35-4	1,1-Dichloroethene	6.6	U	0.66	0.66	6.6	ug/Kg
67-64-1	Acetone	33.1	U	3.3	3.3	33.1	ug/Kg
1634-04-4	Methyl tert-butyl Ether	6.6	U	0.66	0.66	6.6	ug/Kg
75-09-2	Methylene Chloride	6.6	U	0.66	0.66	6.6	ug/Kg
156-60-5	trans-1,2-Dichloroethene	6.6	U	0.66	0.66	6.6	ug/Kg
75-34-3	1,1-Dichloroethane	6.6	U	0.66	0.66	6.6	ug/Kg
78-93-3	2-Butanone	33.1	U	4.1	9.9	33.1	ug/Kg
56-23-5	Carbon Tetrachloride	6.6	U	0.66	0.66	6.6	ug/Kg
156-59-2	cis-1,2-Dichloroethene	6.6	U	0.66	0.66	6.6	ug/Kg
67-66-3	Chloroform	6.6	U	0.66	0.66	6.6	ug/Kg
71-55-6	1,1,1-Trichloroethane	6.6	U	0.66	0.66	6.6	ug/Kg
71-43-2	Benzene	6.6	U	0.5	0.66	6.6	ug/Kg
107-06-2	1,2-Dichloroethane	6.6	U	0.66	0.66	6.6	ug/Kg
79-01-6	Trichloroethene	6.6	U	0.66	0.66	6.6	ug/Kg
108-88-3	Toluene	6.6	U	0.66	0.66	6.6	ug/Kg
127-18-4	Tetrachloroethene	6.6	U	0.66	0.66	6.6	ug/Kg
108-90-7	Chlorobenzene	6.6	U	0.66	0.66	6.6	ug/Kg
100-41-4	Ethyl Benzene	6.6	U	0.66	0.66	6.6	ug/Kg
1330-20-7	Total Xylenes	19.9	U	1.61	1.96	19.9	ug/Kg
103-65-1	n-propylbenzene	6.6	U	0.48	0.66	6.6	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	6.6	U	0.6	0.66	6.6	ug/Kg
98-06-6	tert-Butylbenzene	6.6	U	0.66	0.66	6.6	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	6.6	U	0.66	0.66	6.6	ug/Kg
135-98-8	sec-Butylbenzene	6.6	U	0.66	0.66	6.6	ug/Kg
541-73-1	1,3-Dichlorobenzene	6.6	U	0.49	0.66	6.6	ug/Kg
106-46-7	1,4-Dichlorobenzene	6.6	U	0.54	0.66	6.6	ug/Kg
104-51-8	n-Butylbenzene	6.6	U	0.61	0.66	6.6	ug/Kg
95-50-1	1,2-Dichlorobenzene	6.6	U	0.66	0.66	6.6	ug/Kg
123-91-1	1,4-Dioxane	130	U	130	130	130	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	54		56 - 120		108%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8C	SDG No.:	I6920
Lab Sample ID:	I6920-06	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	24.7
Sample Wt/Vol:	5.01 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD056498.D	1		12/20/17 13:13	VD122017

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	51.4		57 - 135		103%	SPK: 50
2037-26-5	Toluene-d8	45.1		67 - 123		90%	SPK: 50
460-00-4	4-Bromofluorobenzene	44.2		33 - 141		88%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	313325	6.17				
540-36-3	1,4-Difluorobenzene	530072	7.3				
3114-55-4	Chlorobenzene-d5	464627	11.46				
3855-82-1	1,4-Dichlorobenzene-d4	170592	13.81				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/02/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-12A	SDG No.:	I6343
Lab Sample ID:	I6343-05	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	32.2
Sample Wt/Vol:	5.44 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055991.D	1		11/14/17 02:02	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	6.8	U	0.68	0.68	6.8	ug/Kg
75-35-4	1,1-Dichloroethene	6.8	U	0.68	0.68	6.8	ug/Kg
67-64-1	Acetone	15.7	J	3.4	3.4	33.9	ug/Kg
1634-04-4	Methyl tert-butyl Ether	6.8	U	0.68	0.68	6.8	ug/Kg
75-09-2	Methylene Chloride	7.9	B	0.68	0.68	6.8	ug/Kg
156-60-5	trans-1,2-Dichloroethene	6.8	U	0.68	0.68	6.8	ug/Kg
75-34-3	1,1-Dichloroethane	6.8	U	0.68	0.68	6.8	ug/Kg
78-93-3	2-Butanone	33.9	U	4.2	10.2	33.9	ug/Kg
56-23-5	Carbon Tetrachloride	6.8	U	0.68	0.68	6.8	ug/Kg
156-59-2	cis-1,2-Dichloroethene	6.8	U	0.68	0.68	6.8	ug/Kg
67-66-3	Chloroform	6.8	U	0.68	0.68	6.8	ug/Kg
71-55-6	1,1,1-Trichloroethane	6.8	U	0.68	0.68	6.8	ug/Kg
71-43-2	Benzene	6.8	U	0.52	0.68	6.8	ug/Kg
107-06-2	1,2-Dichloroethane	6.8	U	0.68	0.68	6.8	ug/Kg
79-01-6	Trichloroethene	6.8	U	0.68	0.68	6.8	ug/Kg
108-88-3	Toluene	6.8	U	0.68	0.68	6.8	ug/Kg
127-18-4	Tetrachloroethene	6.8	U	0.68	0.68	6.8	ug/Kg
108-90-7	Chlorobenzene	6.8	U	0.68	0.68	6.8	ug/Kg
100-41-4	Ethyl Benzene	6.8	U	0.68	0.68	6.8	ug/Kg
1330-20-7	Total Xylenes	20.4	U	1.66	2.08	20.4	ug/Kg
103-65-1	n-propylbenzene	6.8	U	0.49	0.68	6.8	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	6.8	U	0.61	0.68	6.8	ug/Kg
98-06-6	tert-Butylbenzene	6.8	U	0.68	0.68	6.8	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	6.8	U	0.68	0.68	6.8	ug/Kg
135-98-8	sec-Butylbenzene	6.8	U	0.68	0.68	6.8	ug/Kg
541-73-1	1,3-Dichlorobenzene	6.8	U	0.5	0.68	6.8	ug/Kg
106-46-7	1,4-Dichlorobenzene	6.8	U	0.56	0.68	6.8	ug/Kg
104-51-8	n-Butylbenzene	6.8	U	0.62	0.68	6.8	ug/Kg
95-50-1	1,2-Dichlorobenzene	6.8	U	0.68	0.68	6.8	ug/Kg
123-91-1	1,4-Dioxane	140	U	140	140	140	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	59.1		56 - 120		118%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/02/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-12A	SDG No.:	I6343
Lab Sample ID:	I6343-05	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	32.2
Sample Wt/Vol:	5.44 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VD055991.D	1		11/14/17 02:02	VD111317

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	58.6		57 - 135		117%	SPK: 50
2037-26-5	Toluene-d8	47.8		67 - 123		96%	SPK: 50
460-00-4	4-Bromofluorobenzene	36.4		33 - 141		73%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	227128	6.15				
540-36-3	1,4-Difluorobenzene	392224	7.27				
3114-55-4	Chlorobenzene-d5	316691	11.44				
3855-82-1	1,4-Dichlorobenzene-d4	88284	13.8				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-15A	SDG No.:	I6343
Lab Sample ID:	I6343-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	22.9
Sample Wt/Vol:	5.52 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055480.D	1		11/14/17 19:09	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
75-01-4	Vinyl Chloride	5.9	U	0.59	0.59	5.9	ug/Kg
75-35-4	1,1-Dichloroethene	5.9	U	0.59	0.59	5.9	ug/Kg
67-64-1	Acetone	29.4	U	2.9	2.9	29.4	ug/Kg
1634-04-4	Methyl tert-butyl Ether	5.9	U	0.59	0.59	5.9	ug/Kg
75-09-2	Methylene Chloride	5.9	U	0.59	0.59	5.9	ug/Kg
156-60-5	trans-1,2-Dichloroethene	5.9	U	0.59	0.59	5.9	ug/Kg
75-34-3	1,1-Dichloroethane	5.9	U	0.59	0.59	5.9	ug/Kg
78-93-3	2-Butanone	29.4	U	3.7	8.8	29.4	ug/Kg
56-23-5	Carbon Tetrachloride	5.9	U	0.59	0.59	5.9	ug/Kg
156-59-2	cis-1,2-Dichloroethene	5.9	U	0.59	0.59	5.9	ug/Kg
67-66-3	Chloroform	5.9	U	0.59	0.59	5.9	ug/Kg
71-55-6	1,1,1-Trichloroethane	5.9	U	0.59	0.59	5.9	ug/Kg
71-43-2	Benzene	5.9	U	0.45	0.59	5.9	ug/Kg
107-06-2	1,2-Dichloroethane	5.9	U	0.59	0.59	5.9	ug/Kg
79-01-6	Trichloroethene	5.9	U	0.59	0.59	5.9	ug/Kg
108-88-3	Toluene	5.9	U	0.59	0.59	5.9	ug/Kg
127-18-4	Tetrachloroethene	5.9	U	0.59	0.59	5.9	ug/Kg
108-90-7	Chlorobenzene	5.9	U	0.59	0.59	5.9	ug/Kg
100-41-4	Ethyl Benzene	5.9	U	0.59	0.59	5.9	ug/Kg
1330-20-7	Total Xylenes	17.6	U	1.44	1.79	17.6	ug/Kg
103-65-1	n-propylbenzene	5.9	U	0.42	0.59	5.9	ug/Kg
108-67-8	1,3,5-Trimethylbenzene	5.9	U	0.53	0.59	5.9	ug/Kg
98-06-6	tert-Butylbenzene	5.9	U	0.59	0.59	5.9	ug/Kg
95-63-6	1,2,4-Trimethylbenzene	5.9	U	0.59	0.59	5.9	ug/Kg
135-98-8	sec-Butylbenzene	5.9	U	0.59	0.59	5.9	ug/Kg
541-73-1	1,3-Dichlorobenzene	5.9	U	0.43	0.59	5.9	ug/Kg
106-46-7	1,4-Dichlorobenzene	5.9	U	0.48	0.59	5.9	ug/Kg
104-51-8	n-Butylbenzene	5.9	U	0.54	0.59	5.9	ug/Kg
95-50-1	1,2-Dichlorobenzene	5.9	U	0.59	0.59	5.9	ug/Kg
123-91-1	1,4-Dioxane	120	U	120	120	120	ug/Kg
<b>SURROGATES</b>							
17060-07-0	1,2-Dichloroethane-d4	48.3		56 - 120		97%	SPK: 50

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-15A	SDG No.:	I6343
Lab Sample ID:	I6343-01	Matrix:	SOIL
Analytical Method:	SW8260	% Moisture:	22.9
Sample Wt/Vol:	5.52 Units: g	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RTX-VMS ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VF055480.D	1		11/14/17 19:09	VF111417

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1868-53-7	Dibromofluoromethane	55.3		57 - 135		111%	SPK: 50
2037-26-5	Toluene-d8	47.8		67 - 123		96%	SPK: 50
460-00-4	4-Bromofluorobenzene	37.8		33 - 141		76%	SPK: 50
<b>INTERNAL STANDARDS</b>							
363-72-4	Pentafluorobenzene	329132	4.8				
540-36-3	1,4-Difluorobenzene	558111	5.53				
3114-55-4	Chlorobenzene-d5	437259	9.7				
3855-82-1	1,4-Dichlorobenzene-d4	158960	12.49				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2A	SDG No.:	I6340
Lab Sample ID:	I6340-09	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	58.1
Sample Wt/Vol:	30.09 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100780.D	1	11/14/17 08:59	11/21/17 15:11	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
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**TARGETS**

108-95-2	Phenol	790	U	18.3	79.3	790	ug/Kg
95-48-7	2-Methylphenol	790	U	43.1	79.3	790	ug/Kg
65794-96-9	3+4-Methylphenols	790	U	41.2	79.3	790	ug/Kg
91-20-3	Naphthalene	790	U	27.4	79.3	790	ug/Kg
91-57-6	2-Methylnaphthalene	790	U	20	79.3	790	ug/Kg
91-58-7	2-Chloronaphthalene	790	U	18.1	79.3	790	ug/Kg
208-96-8	Acenaphthylene	790	U	20	79.3	790	ug/Kg
83-32-9	Acenaphthene	790	U	22.4	79.3	790	ug/Kg
86-73-7	Fluorene	790	U	30	79.3	790	ug/Kg
118-74-1	Hexachlorobenzene	790	U	32.4	79.3	790	ug/Kg
87-86-5	Pentachlorophenol	790	U	54.3	79.3	790	ug/Kg
120-12-7	Anthracene	790	U	16.2	79.3	790	ug/Kg
206-44-0	Fluoranthene	810		15.9	79.3	790	ug/Kg
129-00-0	Pyrene	870		19	79.3	790	ug/Kg
56-55-3	Benzo(a)anthracene	410	J	37.8	79.3	790	ug/Kg
218-01-9	Chrysene	430	J	35.9	79.3	790	ug/Kg
205-99-2	Benzo(b)fluoranthene	490	J	25.9	79.3	790	ug/Kg
207-08-9	Benzo(k)fluoranthene	790	U	37.4	79.3	790	ug/Kg
50-32-8	Benzo(a)pyrene	370	J	17.1	79.3	790	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	310	J	26.4	79.3	790	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	790	U	22.8	79.3	790	ug/Kg
191-24-2	Benzo(g,h,i)perylene	340	J	32.1	79.3	790	ug/Kg

**SURROGATES**

367-12-4	2-Fluorophenol	88.7		28 - 127		59%	SPK: 150
13127-88-3	Phenol-d6	85.5		34 - 127		57%	SPK: 150
4165-60-0	Nitrobenzene-d5	66.2		31 - 132		66%	SPK: 100
321-60-8	2-Fluorobiphenyl	52.6		39 - 123		53%	SPK: 100
118-79-6	2,4,6-Tribromophenol	90.5		30 - 133		60%	SPK: 150
1718-51-0	Terphenyl-d14	51.2		37 - 115		51%	SPK: 100

**INTERNAL STANDARDS**

3855-82-1	1,4-Dichlorobenzene-d4	77717	6.87				
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**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2A	SDG No.:	I6340
Lab Sample ID:	I6340-09	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	58.1
Sample Wt/Vol:	30.09      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100780.D	1	11/14/17 08:59	11/21/17 15:11	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	315082	8.15				
15067-26-2	Acenaphthene-d10	147542	9.91				
1517-22-2	Phenanthrene-d10	281859	11.39				
1719-03-5	Chrysene-d12	168348	14.03				
1520-96-3	Perylene-d12	171840	15.5				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

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J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2B	SDG No.:	I6340
Lab Sample ID:	I6340-10	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	26.1
Sample Wt/Vol:	30.13      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100781.D	1	11/14/17 08:59	11/21/17 15:38	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	90.6	J	10.4	44.9	440	ug/Kg
95-48-7	2-Methylphenol	440	U	24.4	44.9	440	ug/Kg
65794-96-9	3+4-Methylphenols	440	U	23.3	44.9	440	ug/Kg
91-20-3	Naphthalene	440	U	15.5	44.9	440	ug/Kg
91-57-6	2-Methylnaphthalene	440	U	11.3	44.9	440	ug/Kg
91-58-7	2-Chloronaphthalene	440	U	10.2	44.9	440	ug/Kg
208-96-8	Acenaphthylene	440	U	11.3	44.9	440	ug/Kg
83-32-9	Acenaphthene	440	U	12.7	44.9	440	ug/Kg
86-73-7	Fluorene	440	U	17	44.9	440	ug/Kg
118-74-1	Hexachlorobenzene	440	U	18.3	44.9	440	ug/Kg
87-86-5	Pentachlorophenol	440	U	30.7	44.9	440	ug/Kg
120-12-7	Anthracene	440	U	9.2	44.9	440	ug/Kg
206-44-0	Fluoranthene	260	J	9	44.9	440	ug/Kg
129-00-0	Pyrene	260	J	10.8	44.9	440	ug/Kg
56-55-3	Benzo(a)anthracene	100	J	21.4	44.9	440	ug/Kg
218-01-9	Chrysene	150	J	20.3	44.9	440	ug/Kg
205-99-2	Benzo(b)fluoranthene	180	J	14.7	44.9	440	ug/Kg
207-08-9	Benzo(k)fluoranthene	440	U	21.2	44.9	440	ug/Kg
50-32-8	Benzo(a)pyrene	120	J	9.7	44.9	440	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	120	J	15	44.9	440	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	440	U	12.9	44.9	440	ug/Kg
191-24-2	Benzo(g,h,i)perylene	120	J	18.2	44.9	440	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	90.6		28 - 127		60%	SPK: 150
13127-88-3	Phenol-d6	90.9		34 - 127		61%	SPK: 150
4165-60-0	Nitrobenzene-d5	67.6		31 - 132		68%	SPK: 100
321-60-8	2-Fluorobiphenyl	53		39 - 123		53%	SPK: 100
118-79-6	2,4,6-Tribromophenol	93.6		30 - 133		62%	SPK: 150
1718-51-0	Terphenyl-d14	48.9		37 - 115		49%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	83733	6.87				

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2B	SDG No.:	I6340
Lab Sample ID:	I6340-10	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	26.1
Sample Wt/Vol:	30.13      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100781.D	1	11/14/17 08:59	11/21/17 15:38	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	327871	8.15				
15067-26-2	Acenaphthene-d10	149882	9.91				
1517-22-2	Phenanthrene-d10	279350	11.39				
1719-03-5	Chrysene-d12	173309	14.03				
1520-96-3	Perylene-d12	186826	15.51				

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4A	SDG No.:	I6340
Lab Sample ID:	I6340-07	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	79
Sample Wt/Vol:	30.01 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100778.D	1	11/14/17 08:59	11/21/17 14:17	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
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**TARGETS**

108-95-2	Phenol	420	J	36.7	160	1600	ug/Kg
95-48-7	2-Methylphenol	1600	U	86.2	160	1600	ug/Kg
65794-96-9	3+4-Methylphenols	1600	U	82.4	160	1600	ug/Kg
91-20-3	Naphthalene	1600	U	54.7	160	1600	ug/Kg
91-57-6	2-Methylnaphthalene	1600	U	40	160	1600	ug/Kg
91-58-7	2-Chloronaphthalene	1600	U	36.2	160	1600	ug/Kg
208-96-8	Acenaphthylene	1600	U	40	160	1600	ug/Kg
83-32-9	Acenaphthene	1600	U	44.7	160	1600	ug/Kg
86-73-7	Fluorene	1600	U	60	160	1600	ug/Kg
118-74-1	Hexachlorobenzene	1600	U	64.7	160	1600	ug/Kg
87-86-5	Pentachlorophenol	1600	U	110	160	1600	ug/Kg
120-12-7	Anthracene	1600	U	32.4	160	1600	ug/Kg
206-44-0	Fluoranthene	1600	U	31.9	160	1600	ug/Kg
129-00-0	Pyrene	1600	U	38.1	160	1600	ug/Kg
56-55-3	Benzo(a)anthracene	1600	U	75.7	160	1600	ug/Kg
218-01-9	Chrysene	1600	U	71.9	160	1600	ug/Kg
205-99-2	Benzo(b)fluoranthene	1600	U	51.9	160	1600	ug/Kg
207-08-9	Benzo(k)fluoranthene	1600	U	74.7	160	1600	ug/Kg
50-32-8	Benzo(a)pyrene	1600	U	34.3	160	1600	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1600	U	52.8	160	1600	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1600	U	45.7	160	1600	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1600	U	64.3	160	1600	ug/Kg

**SURROGATES**

367-12-4	2-Fluorophenol	110		28 - 127		72%	SPK: 150
13127-88-3	Phenol-d6	110		34 - 127		71%	SPK: 150
4165-60-0	Nitrobenzene-d5	81.9		31 - 132		82%	SPK: 100
321-60-8	2-Fluorobiphenyl	62		39 - 123		62%	SPK: 100
118-79-6	2,4,6-Tribromophenol	100		30 - 133		67%	SPK: 150
1718-51-0	Terphenyl-d14	57.5		37 - 115		57%	SPK: 100

**INTERNAL STANDARDS**

3855-82-1	1,4-Dichlorobenzene-d4	76347	6.87				
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**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4A	SDG No.:	I6340
Lab Sample ID:	I6340-07	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	79
Sample Wt/Vol:	30.01      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100778.D	1	11/14/17 08:59	11/21/17 14:17	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	307870	8.15				
15067-26-2	Acenaphthene-d10	145709	9.91				
1517-22-2	Phenanthrene-d10	285620	11.39				
1719-03-5	Chrysene-d12	189498	14.03				
1520-96-3	Perylene-d12	163714	15.5				

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 () = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4B	SDG No.:	I6340
Lab Sample ID:	I6340-08	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	60.1
Sample Wt/Vol:	30.05      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100779.D	1	11/14/17 08:59	11/21/17 14:44	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	830	U	19.3	83.4	830	ug/Kg
95-48-7	2-Methylphenol	830	U	45.3	83.4	830	ug/Kg
65794-96-9	3+4-Methylphenols	830	U	43.3	83.4	830	ug/Kg
91-20-3	Naphthalene	830	U	28.8	83.4	830	ug/Kg
91-57-6	2-Methylnaphthalene	830	U	21	83.4	830	ug/Kg
91-58-7	2-Chloronaphthalene	830	U	19	83.4	830	ug/Kg
208-96-8	Acenaphthylene	830	U	21	83.4	830	ug/Kg
83-32-9	Acenaphthene	830	U	23.5	83.4	830	ug/Kg
86-73-7	Fluorene	830	U	31.5	83.4	830	ug/Kg
118-74-1	Hexachlorobenzene	830	U	34	83.4	830	ug/Kg
87-86-5	Pentachlorophenol	830	U	57	83.4	830	ug/Kg
120-12-7	Anthracene	830	U	17	83.4	830	ug/Kg
206-44-0	Fluoranthene	830	U	16.8	83.4	830	ug/Kg
129-00-0	Pyrene	830	U	20	83.4	830	ug/Kg
56-55-3	Benzo(a)anthracene	830	U	39.8	83.4	830	ug/Kg
218-01-9	Chrysene	830	U	37.8	83.4	830	ug/Kg
205-99-2	Benzo(b)fluoranthene	830	U	27.3	83.4	830	ug/Kg
207-08-9	Benzo(k)fluoranthene	830	U	39.3	83.4	830	ug/Kg
50-32-8	Benzo(a)pyrene	830	U	18	83.4	830	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	830	U	27.8	83.4	830	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	830	U	24	83.4	830	ug/Kg
191-24-2	Benzo(g,h,i)perylene	830	U	33.8	83.4	830	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	110		28 - 127		74%	SPK: 150
13127-88-3	Phenol-d6	110		34 - 127		73%	SPK: 150
4165-60-0	Nitrobenzene-d5	82.8		31 - 132		83%	SPK: 100
321-60-8	2-Fluorobiphenyl	62.6		39 - 123		63%	SPK: 100
118-79-6	2,4,6-Tribromophenol	110		30 - 133		70%	SPK: 150
1718-51-0	Terphenyl-d14	58.2		37 - 115		58%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	87600	6.87				

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4B	SDG No.:	I6340
Lab Sample ID:	I6340-08	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	60.1
Sample Wt/Vol:	30.05      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100779.D	1	11/14/17 08:59	11/21/17 14:44	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	353129	8.15				
15067-26-2	Acenaphthene-d10	166822	9.91				
1517-22-2	Phenanthrene-d10	330014	11.39				
1719-03-5	Chrysene-d12	224072	14.03				
1520-96-3	Perylene-d12	190664	15.5				

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
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 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 () = Laboratory InHouse Limit



**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5A	SDG No.:	I6340
Lab Sample ID:	I6340-11	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	71.3
Sample Wt/Vol:	30.02      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100782.D	1	11/14/17 08:59	11/21/17 16:05	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	359566	8.15				
15067-26-2	Acenaphthene-d10	161883	9.91				
1517-22-2	Phenanthrene-d10	285791	11.39				
1719-03-5	Chrysene-d12	182679	14.03				
1520-96-3	Perylene-d12	206155	15.51				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit



**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5B	SDG No.:	I6340
Lab Sample ID:	I6340-12	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	29.6
Sample Wt/Vol:	30.06      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100783.D	1	11/14/17 08:59	11/21/17 16:32	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	351794	8.15				
15067-26-2	Acenaphthene-d10	160852	9.91				
1517-22-2	Phenanthrene-d10	283426	11.4				
1719-03-5	Chrysene-d12	174144	14.04				
1520-96-3	Perylene-d12	193451	15.52				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit



**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5C	SDG No.:	I6920
Lab Sample ID:	I6920-18	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	42.7
Sample Wt/Vol:	30.03      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF101622.D	1	12/15/17 08:29	12/21/17 22:08	PB105059

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	515253	8.07				
15067-26-2	Acenaphthene-d10	196031	9.83				
1517-22-2	Phenanthrene-d10	299342	11.32				
1719-03-5	Chrysene-d12	289438	13.97				
1520-96-3	Perylene-d12	234538	15.44				

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 () = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-6A	SDG No.:	I6340
Lab Sample ID:	I6340-13	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	67.7
Sample Wt/Vol:	30.1 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100784.D	1	11/14/17 08:59	11/21/17 16:58	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	260	J	23.8	100	1000	ug/Kg
95-48-7	2-Methylphenol	1000	U	55.9	100	1000	ug/Kg
65794-96-9	3+4-Methylphenols	1000	U	53.4	100	1000	ug/Kg
91-20-3	Naphthalene	1000	U	35.5	100	1000	ug/Kg
91-57-6	2-Methylnaphthalene	1000	U	25.9	100	1000	ug/Kg
91-58-7	2-Chloronaphthalene	1000	U	23.5	100	1000	ug/Kg
208-96-8	Acenaphthylene	1000	U	25.9	100	1000	ug/Kg
83-32-9	Acenaphthene	1000	U	29	100	1000	ug/Kg
86-73-7	Fluorene	1000	U	38.9	100	1000	ug/Kg
118-74-1	Hexachlorobenzene	1000	U	42	100	1000	ug/Kg
87-86-5	Pentachlorophenol	1000	U	70.4	100	1000	ug/Kg
120-12-7	Anthracene	1000	U	21	100	1000	ug/Kg
206-44-0	Fluoranthene	1000	U	20.7	100	1000	ug/Kg
129-00-0	Pyrene	210	J	24.7	100	1000	ug/Kg
56-55-3	Benzo(a)anthracene	1000	U	49.1	100	1000	ug/Kg
218-01-9	Chrysene	1000	U	46.6	100	1000	ug/Kg
205-99-2	Benzo(b)fluoranthene	220	J	33.6	100	1000	ug/Kg
207-08-9	Benzo(k)fluoranthene	1000	U	48.4	100	1000	ug/Kg
50-32-8	Benzo(a)pyrene	1000	U	22.2	100	1000	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1000	U	34.3	100	1000	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1000	U	29.6	100	1000	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1000	U	41.7	100	1000	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	110		28 - 127		71%	SPK: 150
13127-88-3	Phenol-d6	100		34 - 127		69%	SPK: 150
4165-60-0	Nitrobenzene-d5	76.7		31 - 132		77%	SPK: 100
321-60-8	2-Fluorobiphenyl	50.3		39 - 123		50%	SPK: 100
118-79-6	2,4,6-Tribromophenol	87.9		30 - 133		59%	SPK: 150
1718-51-0	Terphenyl-d14	38.4		37 - 115		38%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	80303	6.87				

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-6A	SDG No.:	I6340
Lab Sample ID:	I6340-13	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	67.7
Sample Wt/Vol:	30.1      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100784.D	1	11/14/17 08:59	11/21/17 16:58	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	307760	8.15				
15067-26-2	Acenaphthene-d10	140214	9.91				
1517-22-2	Phenanthrene-d10	242143	11.39				
1719-03-5	Chrysene-d12	158582	14.03				
1520-96-3	Perylene-d12	182455	15.51				

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7A	SDG No.:	I6340
Lab Sample ID:	I6340-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	77
Sample Wt/Vol:	30.08 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100701.D	1	11/14/17 08:59	11/18/17 03:45	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	400	J	33.4	140	1400	ug/Kg
95-48-7	2-Methylphenol	1400	U	78.5	140	1400	ug/Kg
65794-96-9	3+4-Methylphenols	1400	U	75	140	1400	ug/Kg
91-20-3	Naphthalene	1400	U	49.9	140	1400	ug/Kg
91-57-6	2-Methylnaphthalene	1400	U	36.4	140	1400	ug/Kg
91-58-7	2-Chloronaphthalene	1400	U	33	140	1400	ug/Kg
208-96-8	Acenaphthylene	1400	U	36.4	140	1400	ug/Kg
83-32-9	Acenaphthene	1400	U	40.8	140	1400	ug/Kg
86-73-7	Fluorene	1400	U	54.6	140	1400	ug/Kg
118-74-1	Hexachlorobenzene	1400	U	59	140	1400	ug/Kg
87-86-5	Pentachlorophenol	1400	U	98.9	140	1400	ug/Kg
120-12-7	Anthracene	1400	U	29.5	140	1400	ug/Kg
206-44-0	Fluoranthene	1400	U	29.1	140	1400	ug/Kg
129-00-0	Pyrene	1400	U	34.7	140	1400	ug/Kg
56-55-3	Benzo(a)anthracene	1400	U	68.9	140	1400	ug/Kg
218-01-9	Chrysene	1400	U	65.5	140	1400	ug/Kg
205-99-2	Benzo(b)fluoranthene	1400	U	47.3	140	1400	ug/Kg
207-08-9	Benzo(k)fluoranthene	1400	U	68.1	140	1400	ug/Kg
50-32-8	Benzo(a)pyrene	1400	U	31.2	140	1400	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	1400	U	48.1	140	1400	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	1400	U	41.6	140	1400	ug/Kg
191-24-2	Benzo(g,h,i)perylene	1400	U	58.5	140	1400	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	89		28 - 127		59%	SPK: 150
13127-88-3	Phenol-d6	85.1		34 - 127		57%	SPK: 150
4165-60-0	Nitrobenzene-d5	68.2		31 - 132		68%	SPK: 100
321-60-8	2-Fluorobiphenyl	64		39 - 123		64%	SPK: 100
118-79-6	2,4,6-Tribromophenol	77.2		30 - 133		51%	SPK: 150
1718-51-0	Terphenyl-d14	41.4		37 - 115		41%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	95031	6.88				

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7A	SDG No.:	I6340
Lab Sample ID:	I6340-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	77
Sample Wt/Vol:	30.08      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100701.D	1	11/14/17 08:59	11/18/17 03:45	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	359829	8.16				
15067-26-2	Acenaphthene-d10	142603	9.92				
1517-22-2	Phenanthrene-d10	216325	11.4				
1719-03-5	Chrysene-d12	217107	14.04				
1520-96-3	Perylene-d12	185636	15.52				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7B	SDG No.:	I6340
Lab Sample ID:	I6340-06	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	38.1
Sample Wt/Vol:	30.12 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100702.D	1	11/14/17 08:59	11/18/17 04:12	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	530	U	12.4	53.6	530	ug/Kg
95-48-7	2-Methylphenol	530	U	29.1	53.6	530	ug/Kg
65794-96-9	3+4-Methylphenols	530	U	27.8	53.6	530	ug/Kg
91-20-3	Naphthalene	530	U	18.5	53.6	530	ug/Kg
91-57-6	2-Methylnaphthalene	530	U	13.5	53.6	530	ug/Kg
91-58-7	2-Chloronaphthalene	530	U	12.2	53.6	530	ug/Kg
208-96-8	Acenaphthylene	530	U	13.5	53.6	530	ug/Kg
83-32-9	Acenaphthene	530	U	15.1	53.6	530	ug/Kg
86-73-7	Fluorene	530	U	20.3	53.6	530	ug/Kg
118-74-1	Hexachlorobenzene	530	U	21.9	53.6	530	ug/Kg
87-86-5	Pentachlorophenol	530	U	36.7	53.6	530	ug/Kg
120-12-7	Anthracene	530	U	10.9	53.6	530	ug/Kg
206-44-0	Fluoranthene	530	U	10.8	53.6	530	ug/Kg
129-00-0	Pyrene	530	U	12.9	53.6	530	ug/Kg
56-55-3	Benzo(a)anthracene	530	U	25.6	53.6	530	ug/Kg
218-01-9	Chrysene	530	U	24.3	53.6	530	ug/Kg
205-99-2	Benzo(b)fluoranthene	530	U	17.5	53.6	530	ug/Kg
207-08-9	Benzo(k)fluoranthene	530	U	25.3	53.6	530	ug/Kg
50-32-8	Benzo(a)pyrene	530	U	11.6	53.6	530	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	530	U	17.9	53.6	530	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	530	U	15.4	53.6	530	ug/Kg
191-24-2	Benzo(g,h,i)perylene	530	U	21.7	53.6	530	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	65.3		28 - 127		44%	SPK: 150
13127-88-3	Phenol-d6	63.5		34 - 127		42%	SPK: 150
4165-60-0	Nitrobenzene-d5	50.2		31 - 132		50%	SPK: 100
321-60-8	2-Fluorobiphenyl	44.4		39 - 123		44%	SPK: 100
118-79-6	2,4,6-Tribromophenol	59.9		30 - 133		40%	SPK: 150
1718-51-0	Terphenyl-d14	31.7	*	37 - 115		32%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	96407		6.88			

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7B	SDG No.:	I6340
Lab Sample ID:	I6340-06	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	38.1
Sample Wt/Vol:	30.12      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100702.D	1	11/14/17 08:59	11/18/17 04:12	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	367685	8.16				
15067-26-2	Acenaphthene-d10	158749	9.92				
1517-22-2	Phenanthrene-d10	252415	11.4				
1719-03-5	Chrysene-d12	221155	14.04				
1520-96-3	Perylene-d12	189446	15.52				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit



### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8A	SDG No.:	I6340
Lab Sample ID:	I6340-03	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	77.1
Sample Wt/Vol:	30      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100699.D	1	11/14/17 08:59	11/18/17 02:51	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	370979	8.16				
15067-26-2	Acenaphthene-d10	155506	9.92				
1517-22-2	Phenanthrene-d10	243453	11.4				
1719-03-5	Chrysene-d12	228760	14.04				
1520-96-3	Perylene-d12	200956	15.52				

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8B	SDG No.:	I6340
Lab Sample ID:	I6340-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	42.7
Sample Wt/Vol:	30.04 Units: g	Final Vol:	1000 uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100700.D	1	11/14/17 08:59	11/18/17 03:18	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	230	J	13.4	58.1	580	ug/Kg
95-48-7	2-Methylphenol	580	U	31.5	58.1	580	ug/Kg
65794-96-9	3+4-Methylphenols	580	U	30.2	58.1	580	ug/Kg
91-20-3	Naphthalene	580	U	20	58.1	580	ug/Kg
91-57-6	2-Methylnaphthalene	580	U	14.6	58.1	580	ug/Kg
91-58-7	2-Chloronaphthalene	580	U	13.2	58.1	580	ug/Kg
208-96-8	Acenaphthylene	580	U	14.6	58.1	580	ug/Kg
83-32-9	Acenaphthene	580	U	16.4	58.1	580	ug/Kg
86-73-7	Fluorene	580	U	22	58.1	580	ug/Kg
118-74-1	Hexachlorobenzene	580	U	23.7	58.1	580	ug/Kg
87-86-5	Pentachlorophenol	580	U	39.7	58.1	580	ug/Kg
120-12-7	Anthracene	580	U	11.9	58.1	580	ug/Kg
206-44-0	Fluoranthene	580	U	11.7	58.1	580	ug/Kg
129-00-0	Pyrene	580	U	13.9	58.1	580	ug/Kg
56-55-3	Benzo(a)anthracene	580	U	27.7	58.1	580	ug/Kg
218-01-9	Chrysene	580	U	26.3	58.1	580	ug/Kg
205-99-2	Benzo(b)fluoranthene	580	U	19	58.1	580	ug/Kg
207-08-9	Benzo(k)fluoranthene	580	U	27.4	58.1	580	ug/Kg
50-32-8	Benzo(a)pyrene	580	U	12.5	58.1	580	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	580	U	19.3	58.1	580	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	580	U	16.7	58.1	580	ug/Kg
191-24-2	Benzo(g,h,i)perylene	580	U	23.5	58.1	580	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	110		28 - 127		73%	SPK: 150
13127-88-3	Phenol-d6	110		34 - 127		71%	SPK: 150
4165-60-0	Nitrobenzene-d5	86.8		31 - 132		87%	SPK: 100
321-60-8	2-Fluorobiphenyl	84.3		39 - 123		84%	SPK: 100
118-79-6	2,4,6-Tribromophenol	99.5		30 - 133		66%	SPK: 150
1718-51-0	Terphenyl-d14	57.2		37 - 115		57%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	97779	6.88				

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8B	SDG No.:	I6340
Lab Sample ID:	I6340-04	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	42.7
Sample Wt/Vol:	30.04      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100700.D	1	11/14/17 08:59	11/18/17 03:18	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	368699	8.16				
15067-26-2	Acenaphthene-d10	145626	9.92				
1517-22-2	Phenanthrene-d10	223321	11.4				
1719-03-5	Chrysene-d12	223421	14.04				
1520-96-3	Perylene-d12	184210	15.52				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8C	SDG No.:	I6920
Lab Sample ID:	I6920-06	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	24.7
Sample Wt/Vol:	30.03      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF101620.D	1	12/15/17 08:29	12/21/17 21:15	PB105059

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	140	J	10.2	44.2	440	ug/Kg
95-48-7	2-Methylphenol	440	U	24	44.2	440	ug/Kg
65794-96-9	3+4-Methylphenols	560		23	44.2	440	ug/Kg
91-20-3	Naphthalene	440	U	15.3	44.2	440	ug/Kg
91-57-6	2-Methylnaphthalene	440	U	11.1	44.2	440	ug/Kg
91-58-7	2-Chloronaphthalene	440	U	10.1	44.2	440	ug/Kg
208-96-8	Acenaphthylene	440	U	11.1	44.2	440	ug/Kg
83-32-9	Acenaphthene	440	U	12.5	44.2	440	ug/Kg
86-73-7	Fluorene	440	U	16.7	44.2	440	ug/Kg
118-74-1	Hexachlorobenzene	440	U	18	44.2	440	ug/Kg
87-86-5	Pentachlorophenol	440	U	30.2	44.2	440	ug/Kg
120-12-7	Anthracene	440	U	9	44.2	440	ug/Kg
206-44-0	Fluoranthene	440	U	8.9	44.2	440	ug/Kg
129-00-0	Pyrene	440	U	10.6	44.2	440	ug/Kg
56-55-3	Benzo(a)anthracene	440	U	21.1	44.2	440	ug/Kg
218-01-9	Chrysene	440	U	20	44.2	440	ug/Kg
205-99-2	Benzo(b)fluoranthene	440	U	14.5	44.2	440	ug/Kg
207-08-9	Benzo(k)fluoranthene	440	U	20.8	44.2	440	ug/Kg
50-32-8	Benzo(a)pyrene	440	U	9.6	44.2	440	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	440	U	14.7	44.2	440	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	440	U	12.7	44.2	440	ug/Kg
191-24-2	Benzo(g,h,i)perylene	440	U	17.9	44.2	440	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	98.5		28 - 127		66%	SPK: 150
13127-88-3	Phenol-d6	94.8		34 - 127		63%	SPK: 150
4165-60-0	Nitrobenzene-d5	68.7		31 - 132		69%	SPK: 100
321-60-8	2-Fluorobiphenyl	55.6		39 - 123		56%	SPK: 100
118-79-6	2,4,6-Tribromophenol	83.7		30 - 133		56%	SPK: 150
1718-51-0	Terphenyl-d14	47.9		37 - 115		48%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	154544	6.79				

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8C	SDG No.:	I6920
Lab Sample ID:	I6920-06	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	24.7
Sample Wt/Vol:	30.03      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF101620.D	1	12/15/17 08:29	12/21/17 21:15	PB105059

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	603727	8.07				
15067-26-2	Acenaphthene-d10	245633	9.83				
1517-22-2	Phenanthrene-d10	392201	11.32				
1719-03-5	Chrysene-d12	301479	13.97				
1520-96-3	Perylene-d12	255516	15.44				

U = Not Detected

LOQ = Limit of Quantitation

MDL = Method Detection Limit

LOD = Limit of Detection

E = Value Exceeds Calibration Range

Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

() = Laboratory InHouse Limit

### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	11/02/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-12A	SDG No.:	I6343
Lab Sample ID:	I6343-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	32.2
Sample Wt/Vol:	30.07      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100704.D	1	11/14/17 08:59	11/18/17 05:05	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
108-95-2	Phenol	160	J	11.3	49	490	ug/Kg
95-48-7	2-Methylphenol	490	U	26.6	49	490	ug/Kg
65794-96-9	3+4-Methylphenols	490	U	25.5	49	490	ug/Kg
91-20-3	Naphthalene	490	U	16.9	49	490	ug/Kg
91-57-6	2-Methylnaphthalene	490	U	12.4	49	490	ug/Kg
91-58-7	2-Chloronaphthalene	490	U	11.2	49	490	ug/Kg
208-96-8	Acenaphthylene	490	U	12.4	49	490	ug/Kg
83-32-9	Acenaphthene	490	U	13.8	49	490	ug/Kg
86-73-7	Fluorene	490	U	18.5	49	490	ug/Kg
118-74-1	Hexachlorobenzene	490	U	20	49	490	ug/Kg
87-86-5	Pentachlorophenol	490	U	33.6	49	490	ug/Kg
120-12-7	Anthracene	490	U	10	49	490	ug/Kg
206-44-0	Fluoranthene	490	U	9.9	49	490	ug/Kg
129-00-0	Pyrene	490	U	11.8	49	490	ug/Kg
56-55-3	Benzo(a)anthracene	490	U	23.4	49	490	ug/Kg
218-01-9	Chrysene	490	U	22.2	49	490	ug/Kg
205-99-2	Benzo(b)fluoranthene	490	U	16	49	490	ug/Kg
207-08-9	Benzo(k)fluoranthene	490	U	23.1	49	490	ug/Kg
50-32-8	Benzo(a)pyrene	490	U	10.6	49	490	ug/Kg
193-39-5	Indeno(1,2,3-cd)pyrene	490	U	16.3	49	490	ug/Kg
53-70-3	Dibenzo(a,h)anthracene	490	U	14.1	49	490	ug/Kg
191-24-2	Benzo(g,h,i)perylene	490	U	19.9	49	490	ug/Kg
<b>SURROGATES</b>							
367-12-4	2-Fluorophenol	99.8		28 - 127		67%	SPK: 150
13127-88-3	Phenol-d6	97		34 - 127		65%	SPK: 150
4165-60-0	Nitrobenzene-d5	81		31 - 132		81%	SPK: 100
321-60-8	2-Fluorobiphenyl	73		39 - 123		73%	SPK: 100
118-79-6	2,4,6-Tribromophenol	86.1		30 - 133		57%	SPK: 150
1718-51-0	Terphenyl-d14	47.1		37 - 115		47%	SPK: 100
<b>INTERNAL STANDARDS</b>							
3855-82-1	1,4-Dichlorobenzene-d4	109934	6.88				

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/02/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-12A	SDG No.:	I6343
Lab Sample ID:	I6343-05	Matrix:	SOIL
Analytical Method:	SW8270	% Moisture:	32.2
Sample Wt/Vol:	30.07      Units: g	Final Vol:	1000      uL
Soil Aliquot Vol:	uL	Test:	SVOCMS Group1
Extraction Type :	Decanted : N	Level :	LOW
Injection Volume :	GPC Factor : 1.0	GPC Cleanup :	N      PH :

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
BF100704.D	1	11/14/17 08:59	11/18/17 05:05	PB104248

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
1146-65-2	Naphthalene-d8	405927	8.16				
15067-26-2	Acenaphthene-d10	160799	9.92				
1517-22-2	Phenanthrene-d10	243943	11.4				
1719-03-5	Chrysene-d12	240565	14.04				
1520-96-3	Perylene-d12	199781	15.52				

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 () = Laboratory InHouse Limit





**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-2A	SDG No.:	I6340
Lab Sample ID:	I6340-09	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	58.1 Decanted:
Sample Wt/Vol:	30.05 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PESTICIDE Group1
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL030634.D	1	11/14/17 08:43	11/15/17 12:55	PB104242

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	4.1	U	0.31	0.786	4.1	ug/kg
319-85-7	beta-BHC	4.1	U	0.429	0.786	4.1	ug/kg
319-86-8	delta-BHC	4.1	U	0.238	0.786	4.1	ug/kg
58-89-9	gamma-BHC (Lindane)	4.1	U	0.357	0.786	4.1	ug/kg
76-44-8	Heptachlor	4.1	U	0.334	0.786	4.1	ug/kg
309-00-2	Aldrin	4.1	U	0.238	0.786	4.1	ug/kg
959-98-8	Endosulfan I	4.1	U	0.357	0.786	4.1	ug/kg
60-57-1	Dieldrin	4.1	U	0.31	0.786	4.1	ug/kg
72-55-9	4,4-DDE	1.8	J	0.476	0.786	4.1	ug/kg
72-20-8	Endrin	4.1	U	0.429	0.786	4.1	ug/kg
33213-65-9	Endosulfan II	4.1	U	0.334	0.786	4.1	ug/kg
72-54-8	4,4-DDD	5.7	P	0.405	0.786	4.1	ug/kg
1031-07-8	Endosulfan Sulfate	4.1	U	0.357	0.786	4.1	ug/kg
50-29-3	4,4-DDT	4.1	U	0.334	0.786	4.1	ug/kg
5103-71-9	alpha-Chlordane	4.9	P	0.334	0.786	4.1	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	2.23		10 - 169		11%	SPK: 20
877-09-8	Tetrachloro-m-xylene	4.64	*	31 - 151		23%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-2ARE	SDG No.:	I6340			
Lab Sample ID:	I6340-09RE	Matrix:	SOIL			
Analytical Method:	SW8081	% Moisture:	58.1	Decanted:		
Sample Wt/Vol:	30.05	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PESTICIDE Group1	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL030678.D	1	11/14/17 08:43	11/16/17 10:58	PB104242

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	4.1	U	0.31	0.786	4.1	ug/kg
319-85-7	beta-BHC	4.1	U	0.429	0.786	4.1	ug/kg
319-86-8	delta-BHC	4.1	U	0.238	0.786	4.1	ug/kg
58-89-9	gamma-BHC (Lindane)	4.1	U	0.357	0.786	4.1	ug/kg
76-44-8	Heptachlor	4.1	U	0.334	0.786	4.1	ug/kg
309-00-2	Aldrin	4.1	U	0.238	0.786	4.1	ug/kg
959-98-8	Endosulfan I	4.1	U	0.357	0.786	4.1	ug/kg
60-57-1	Dieldrin	4.1	U	0.31	0.786	4.1	ug/kg
72-55-9	4,4-DDE	2.1	J	0.476	0.786	4.1	ug/kg
72-20-8	Endrin	4.1	U	0.429	0.786	4.1	ug/kg
33213-65-9	Endosulfan II	4.1	U	0.334	0.786	4.1	ug/kg
72-54-8	4,4-DDD	5.9		0.405	0.786	4.1	ug/kg
1031-07-8	Endosulfan Sulfate	4.1	U	0.357	0.786	4.1	ug/kg
50-29-3	4,4-DDT	4.1	U	0.334	0.786	4.1	ug/kg
5103-71-9	alpha-Chlordane	6.1	P	0.334	0.786	4.1	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	2.03		10 - 169		10%	SPK: 20
877-09-8	Tetrachloro-m-xylene	5.05	*	31 - 151		25%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit











**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-5B	SDG No.:	I6340			
Lab Sample ID:	I6340-12	Matrix:	SOIL			
Analytical Method:	SW8081	% Moisture:	29.6	Decanted:		
Sample Wt/Vol:	30.03	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PESTICIDE Group1	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL030637.D	1	11/14/17 08:43	11/15/17 13:41	PB104242

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	2.4	U	0.184	0.468	2.4	ug/kg
319-85-7	beta-BHC	2.4	U	0.255	0.468	2.4	ug/kg
319-86-8	delta-BHC	2.4	U	0.142	0.468	2.4	ug/kg
58-89-9	gamma-BHC (Lindane)	2.4	U	0.213	0.468	2.4	ug/kg
76-44-8	Heptachlor	2.4	U	0.199	0.468	2.4	ug/kg
309-00-2	Aldrin	2.4	U	0.142	0.468	2.4	ug/kg
959-98-8	Endosulfan I	2.4	U	0.213	0.468	2.4	ug/kg
60-57-1	Dieldrin	2.4	U	0.184	0.468	2.4	ug/kg
72-55-9	4,4-DDE	4	P	0.284	0.468	2.4	ug/kg
72-20-8	Endrin	2.4	U	0.255	0.468	2.4	ug/kg
33213-65-9	Endosulfan II	2.4	U	0.199	0.468	2.4	ug/kg
72-54-8	4,4-DDD	2.4	U	0.241	0.468	2.4	ug/kg
1031-07-8	Endosulfan Sulfate	2.4	U	0.213	0.468	2.4	ug/kg
50-29-3	4,4-DDT	2.4	U	0.199	0.468	2.4	ug/kg
5103-71-9	alpha-Chlordane	5.3	P	0.199	0.468	2.4	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	4.54		10 - 169		23%	SPK: 20
877-09-8	Tetrachloro-m-xylene	8		31 - 151		40%	SPK: 20

Comments:

U = Not Detected

LOQ = Limit of Quantitation

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LOD = Limit of Detection

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Q = indicates LCS control criteria did not meet requirements

M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value

B = Analyte Found in Associated Method Blank

N = Presumptive Evidence of a Compound

\* = Values outside of QC limits

D = Dilution

S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.

() = Laboratory InHouse Limit





**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-7A	SDG No.:	I6340			
Lab Sample ID:	I6340-05	Matrix:	SOIL			
Analytical Method:	SW8081	% Moisture:	77	Decanted:		
Sample Wt/Vol:	30.09	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PESTICIDE Group1	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL030630.D	1	11/14/17 08:43	11/15/17 11:55	PB104242

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	7.4	U	0.564	1.4	7.4	ug/kg
319-85-7	beta-BHC	7.4	U	0.78	1.4	7.4	ug/kg
319-86-8	delta-BHC	7.4	U	0.434	1.4	7.4	ug/kg
58-89-9	gamma-BHC (Lindane)	7.4	U	0.65	1.4	7.4	ug/kg
76-44-8	Heptachlor	7.4	U	0.607	1.4	7.4	ug/kg
309-00-2	Aldrin	7.4	U	0.434	1.4	7.4	ug/kg
959-98-8	Endosulfan I	7.4	U	0.65	1.4	7.4	ug/kg
60-57-1	Dieldrin	7.4	U	0.564	1.4	7.4	ug/kg
72-55-9	4,4-DDE	3.3	J	0.867	1.4	7.4	ug/kg
72-20-8	Endrin	7.4	U	0.78	1.4	7.4	ug/kg
33213-65-9	Endosulfan II	7.4	U	0.607	1.4	7.4	ug/kg
72-54-8	4,4-DDD	4.5	J	0.737	1.4	7.4	ug/kg
1031-07-8	Endosulfan Sulfate	7.4	U	0.65	1.4	7.4	ug/kg
50-29-3	4,4-DDT	7.4	U	0.607	1.4	7.4	ug/kg
5103-71-9	alpha-Chlordane	3.8	JP	0.607	1.4	7.4	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	2.18		10 - 169		11%	SPK: 20
877-09-8	Tetrachloro-m-xylene	6.3		31 - 151		32%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-7B	SDG No.:	I6340			
Lab Sample ID:	I6340-06	Matrix:	SOIL			
Analytical Method:	SW8081	% Moisture:	38.1	Decanted:		
Sample Wt/Vol:	30.03	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PESTICIDE Group1	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL030631.D	1	11/14/17 08:43	11/15/17 12:10	PB104242

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	2.7	U	0.21	0.533	2.7	ug/kg
319-85-7	beta-BHC	2.7	U	0.29	0.533	2.7	ug/kg
319-86-8	delta-BHC	2.7	U	0.161	0.533	2.7	ug/kg
58-89-9	gamma-BHC (Lindane)	2.7	U	0.242	0.533	2.7	ug/kg
76-44-8	Heptachlor	2.7	U	0.226	0.533	2.7	ug/kg
309-00-2	Aldrin	2.7	U	0.161	0.533	2.7	ug/kg
959-98-8	Endosulfan I	2.7	U	0.242	0.533	2.7	ug/kg
60-57-1	Dieldrin	2.7	U	0.21	0.533	2.7	ug/kg
72-55-9	4,4-DDE	2.4	J	0.323	0.533	2.7	ug/kg
72-20-8	Endrin	2.7	U	0.29	0.533	2.7	ug/kg
33213-65-9	Endosulfan II	2.7	U	0.226	0.533	2.7	ug/kg
72-54-8	4,4-DDD	3.6	P	0.274	0.533	2.7	ug/kg
1031-07-8	Endosulfan Sulfate	2.7	U	0.242	0.533	2.7	ug/kg
50-29-3	4,4-DDT	2.7	U	0.226	0.533	2.7	ug/kg
5103-71-9	alpha-Chlordane	1.2	J	0.226	0.533	2.7	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	3.75		10 - 169		19%	SPK: 20
877-09-8	Tetrachloro-m-xylene	8.94		31 - 151		45%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-8A	SDG No.:	I6340
Lab Sample ID:	I6340-03	Matrix:	SOIL
Analytical Method:	SW8081	% Moisture:	77.1 Decanted:
Sample Wt/Vol:	30 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PESTICIDE Group1
Extraction Type:		Injection Volume :	
GPC Factor :	1.0 PH :		

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL030628.D	1	11/14/17 08:43	11/15/17 11:25	PB104242

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	7.4	U	0.568	1.4	7.4	ug/kg
319-85-7	beta-BHC	7.4	U	0.786	1.4	7.4	ug/kg
319-86-8	delta-BHC	7.4	U	0.437	1.4	7.4	ug/kg
58-89-9	gamma-BHC (Lindane)	7.4	U	0.655	1.4	7.4	ug/kg
76-44-8	Heptachlor	7.4	U	0.611	1.4	7.4	ug/kg
309-00-2	Aldrin	7.4	U	0.437	1.4	7.4	ug/kg
959-98-8	Endosulfan I	7.4	U	0.655	1.4	7.4	ug/kg
60-57-1	Dieldrin	7.4	U	0.568	1.4	7.4	ug/kg
72-55-9	4,4-DDE	3	JP	0.873	1.4	7.4	ug/kg
72-20-8	Endrin	7.4	U	0.786	1.4	7.4	ug/kg
33213-65-9	Endosulfan II	7.4	U	0.611	1.4	7.4	ug/kg
72-54-8	4,4-DDD	7.4	U	0.742	1.4	7.4	ug/kg
1031-07-8	Endosulfan Sulfate	7.4	U	0.655	1.4	7.4	ug/kg
50-29-3	4,4-DDT	7.4	U	0.611	1.4	7.4	ug/kg
5103-71-9	alpha-Chlordane	3.4	J	0.611	1.4	7.4	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	3.32		10 - 169		17%	SPK: 20
877-09-8	Tetrachloro-m-xylene	6.7		31 - 151		33%	SPK: 20

Comments:

- |  |  |
|--|--|
| U = Not Detected   | J = Estimated Value  |
| LOQ = Limit of Quantitation  | B = Analyte Found in Associated Method Blank   |
| MDL = Method Detection Limit   | N = Presumptive Evidence of a Compound   |
| LOD = Limit of Detection   | * = Values outside of QC limits  |
| E = Value Exceeds Calibration Range  | D = Dilution   |
| P = Indicates >25% difference for detected concentrations between the two GC columns | S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample. |
| Q = indicates LCS control criteria did not meet requirements                         | () = Laboratory InHouse Limit  |
| M = MS/MSD acceptance criteria did not meet requirements                             |  |



**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-8C	SDG No.:	I6920			
Lab Sample ID:	I6920-06	Matrix:	SOIL			
Analytical Method:	SW8081	% Moisture:	24.7	Decanted:		
Sample Wt/Vol:	30.11	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PESTICIDE Group1	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PL031262.D	1	12/15/17 08:36	12/18/17 20:26	PB105061

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	2.2	U	0.172	0.437	2.2	ug/kg
319-85-7	beta-BHC	2.2	U	0.238	0.437	2.2	ug/kg
319-86-8	delta-BHC	2.2	U	0.132	0.437	2.2	ug/kg
58-89-9	gamma-BHC (Lindane)	2.2	U	0.198	0.437	2.2	ug/kg
76-44-8	Heptachlor	2.2	U	0.185	0.437	2.2	ug/kg
309-00-2	Aldrin	2.2	U	0.132	0.437	2.2	ug/kg
959-98-8	Endosulfan I	2.2	U	0.198	0.437	2.2	ug/kg
60-57-1	Dieldrin	2.2	U	0.172	0.437	2.2	ug/kg
72-55-9	4,4-DDE	0.542	J	0.265	0.437	2.2	ug/kg
72-20-8	Endrin	2.2	U	0.238	0.437	2.2	ug/kg
33213-65-9	Endosulfan II	2.2	U	0.185	0.437	2.2	ug/kg
72-54-8	4,4-DDD	2.2	U	0.225	0.437	2.2	ug/kg
1031-07-8	Endosulfan Sulfate	2.2	U	0.198	0.437	2.2	ug/kg
50-29-3	4,4-DDT	2.2	U	0.185	0.437	2.2	ug/kg
5103-71-9	alpha-Chlordane	2.2	U	0.185	0.437	2.2	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	4.23		10 - 169		21%	SPK: 20
877-09-8	Tetrachloro-m-xylene	9.97		31 - 151		50%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/02/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-12A	SDG No.:	I6343			
Lab Sample ID:	I6343-05	Matrix:	SOIL			
Analytical Method:	SW8081	% Moisture:	32.2	Decanted:		
Sample Wt/Vol:	30.08	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PESTICIDE Group1	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PD043919.D	1	11/14/17 08:43	11/15/17 01:43	PB104242

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
319-84-6	alpha-BHC	2.5	U	0.191	0.485	2.5	ug/kg
319-85-7	beta-BHC	2.5	U	0.265	0.485	2.5	ug/kg
319-86-8	delta-BHC	2.5	U	0.147	0.485	2.5	ug/kg
58-89-9	gamma-BHC (Lindane)	2.5	U	0.221	0.485	2.5	ug/kg
76-44-8	Heptachlor	2.5	U	0.206	0.485	2.5	ug/kg
309-00-2	Aldrin	2.5	U	0.147	0.485	2.5	ug/kg
959-98-8	Endosulfan I	2.5	U	0.221	0.485	2.5	ug/kg
60-57-1	Dieldrin	2.5	U	0.191	0.485	2.5	ug/kg
72-55-9	4,4-DDE	1.1	J	0.294	0.485	2.5	ug/kg
72-20-8	Endrin	2.5	U	0.265	0.485	2.5	ug/kg
33213-65-9	Endosulfan II	2.5	U	0.206	0.485	2.5	ug/kg
72-54-8	4,4-DDD	2.5	U	0.25	0.485	2.5	ug/kg
1031-07-8	Endosulfan Sulfate	2.5	U	0.221	0.485	2.5	ug/kg
50-29-3	4,4-DDT	1.9	JP	0.206	0.485	2.5	ug/kg
5103-71-9	alpha-Chlordane	11.6	P	0.206	0.485	2.5	ug/kg
<b>SURROGATES</b>							
2051-24-3	Decachlorobiphenyl	6.5		10 - 169		33%	SPK: 20
877-09-8	Tetrachloro-m-xylene	8.98		31 - 151		45%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit



**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-2A	SDG No.:	I6340			
Lab Sample ID:	I6340-09	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	58.1	Decanted:		
Sample Wt/Vol:	30	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039218.D	1	11/14/17 08:51	11/15/17 22:24	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	40.6	U	7.9	7.9	40.6	ug/kg
11104-28-2	Aroclor-1221	40.6	U	7.9	7.9	40.6	ug/kg
11141-16-5	Aroclor-1232	40.6	U	7.9	7.9	40.6	ug/kg
53469-21-9	Aroclor-1242	40.6	U	7.9	7.9	40.6	ug/kg
12672-29-6	Aroclor-1248	40.6	U	7.9	7.9	40.6	ug/kg
11097-69-1	Aroclor-1254	40.6	U	3.6	7.9	40.6	ug/kg
37324-23-5	Aroclor-1262	40.6	U	7.9	7.9	40.6	ug/kg
11100-14-4	Aroclor-1268	40.6	U	7.9	7.9	40.6	ug/kg
11096-82-5	Aroclor-1260	40.6	U	7.9	7.9	40.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	4.86		10 - 166		24%	SPK: 20
2051-24-3	Decachlorobiphenyl	2.46	*	60 - 125		12%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-2ARE	SDG No.:	I6340			
Lab Sample ID:	I6340-09RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	58.1	Decanted:		
Sample Wt/Vol:	30	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039343.D	1	11/14/17 08:51	11/18/17 01:42	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	40.6	U	7.9	7.9	40.6	ug/kg
11104-28-2	Aroclor-1221	40.6	U	7.9	7.9	40.6	ug/kg
11141-16-5	Aroclor-1232	40.6	U	7.9	7.9	40.6	ug/kg
53469-21-9	Aroclor-1242	40.6	U	7.9	7.9	40.6	ug/kg
12672-29-6	Aroclor-1248	40.6	U	7.9	7.9	40.6	ug/kg
11097-69-1	Aroclor-1254	40.6	U	3.6	7.9	40.6	ug/kg
37324-23-5	Aroclor-1262	40.6	U	7.9	7.9	40.6	ug/kg
11100-14-4	Aroclor-1268	40.6	U	7.9	7.9	40.6	ug/kg
11096-82-5	Aroclor-1260	40.6	U	7.9	7.9	40.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	4.12		10 - 166		21%	SPK: 20
2051-24-3	Decachlorobiphenyl	2.74	*	60 - 125		14%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-2B	SDG No.:	I6340			
Lab Sample ID:	I6340-10	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	26.1	Decanted:		
Sample Wt/Vol:	30.08	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039219.D	1	11/14/17 08:51	11/15/17 22:39	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	22.9	U	4.5	4.5	22.9	ug/kg
11104-28-2	Aroclor-1221	22.9	U	4.5	4.5	22.9	ug/kg
11141-16-5	Aroclor-1232	22.9	U	4.5	4.5	22.9	ug/kg
53469-21-9	Aroclor-1242	22.9	U	4.5	4.5	22.9	ug/kg
12672-29-6	Aroclor-1248	22.9	U	4.5	4.5	22.9	ug/kg
11097-69-1	Aroclor-1254	22.9	U	2	4.5	22.9	ug/kg
37324-23-5	Aroclor-1262	22.9	U	4.5	4.5	22.9	ug/kg
11100-14-4	Aroclor-1268	22.9	U	4.5	4.5	22.9	ug/kg
11096-82-5	Aroclor-1260	22.9	U	4.5	4.5	22.9	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	15.3		10 - 166		76%	SPK: 20
2051-24-3	Decachlorobiphenyl	7.94	*	60 - 125		40%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-2BRE	SDG No.:	I6340			
Lab Sample ID:	I6340-10RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	26.1	Decanted:		
Sample Wt/Vol:	30.08	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039344.D	1	11/14/17 08:51	11/18/17 01:57	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	22.9	U	4.5	4.5	22.9	ug/kg
11104-28-2	Aroclor-1221	22.9	U	4.5	4.5	22.9	ug/kg
11141-16-5	Aroclor-1232	22.9	U	4.5	4.5	22.9	ug/kg
53469-21-9	Aroclor-1242	22.9	U	4.5	4.5	22.9	ug/kg
12672-29-6	Aroclor-1248	22.9	U	4.5	4.5	22.9	ug/kg
11097-69-1	Aroclor-1254	22.9	U	2	4.5	22.9	ug/kg
37324-23-5	Aroclor-1262	22.9	U	4.5	4.5	22.9	ug/kg
11100-14-4	Aroclor-1268	22.9	U	4.5	4.5	22.9	ug/kg
11096-82-5	Aroclor-1260	22.9	U	4.5	4.5	22.9	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	13.1		10 - 166		65%	SPK: 20
2051-24-3	Decachlorobiphenyl	8.63	*	60 - 125		43%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-4A	SDG No.:	I6340			
Lab Sample ID:	I6340-07	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	79	Decanted:		
Sample Wt/Vol:	30.11	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039216.D	1	11/14/17 08:51	11/15/17 21:54	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	80.7	U	15.8	15.8	80.7	ug/kg
11104-28-2	Aroclor-1221	80.7	U	15.8	15.8	80.7	ug/kg
11141-16-5	Aroclor-1232	80.7	U	15.8	15.8	80.7	ug/kg
53469-21-9	Aroclor-1242	80.7	U	15.8	15.8	80.7	ug/kg
12672-29-6	Aroclor-1248	80.7	U	15.8	15.8	80.7	ug/kg
11097-69-1	Aroclor-1254	80.7	U	7.1	15.8	80.7	ug/kg
37324-23-5	Aroclor-1262	80.7	U	15.8	15.8	80.7	ug/kg
11100-14-4	Aroclor-1268	80.7	U	15.8	15.8	80.7	ug/kg
11096-82-5	Aroclor-1260	80.7	U	15.8	15.8	80.7	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	11.8		10 - 166		59%	SPK: 20
2051-24-3	Decachlorobiphenyl	6.51	*	60 - 125		33%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-4ARE	SDG No.:	I6340			
Lab Sample ID:	I6340-07RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	79	Decanted:		
Sample Wt/Vol:	30.11	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039341.D	1	11/14/17 08:51	11/18/17 01:12	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	80.7	U	15.8	15.8	80.7	ug/kg
11104-28-2	Aroclor-1221	80.7	U	15.8	15.8	80.7	ug/kg
11141-16-5	Aroclor-1232	80.7	U	15.8	15.8	80.7	ug/kg
53469-21-9	Aroclor-1242	80.7	U	15.8	15.8	80.7	ug/kg
12672-29-6	Aroclor-1248	80.7	U	15.8	15.8	80.7	ug/kg
11097-69-1	Aroclor-1254	80.7	U	7.1	15.8	80.7	ug/kg
37324-23-5	Aroclor-1262	80.7	U	15.8	15.8	80.7	ug/kg
11100-14-4	Aroclor-1268	80.7	U	15.8	15.8	80.7	ug/kg
11096-82-5	Aroclor-1260	80.7	U	15.8	15.8	80.7	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	9.62		10 - 166		48%	SPK: 20
2051-24-3	Decachlorobiphenyl	7.01	*	60 - 125		35%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-4B	SDG No.:	I6340			
Lab Sample ID:	I6340-08	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	60.1	Decanted:		
Sample Wt/Vol:	30.04	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039217.D	1	11/14/17 08:51	11/15/17 22:09	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	42.5	U	8.3	8.3	42.5	ug/kg
11104-28-2	Aroclor-1221	42.5	U	8.3	8.3	42.5	ug/kg
11141-16-5	Aroclor-1232	42.5	U	8.3	8.3	42.5	ug/kg
53469-21-9	Aroclor-1242	42.5	U	8.3	8.3	42.5	ug/kg
12672-29-6	Aroclor-1248	42.5	U	8.3	8.3	42.5	ug/kg
11097-69-1	Aroclor-1254	42.5	U	3.7	8.3	42.5	ug/kg
37324-23-5	Aroclor-1262	42.5	U	8.3	8.3	42.5	ug/kg
11100-14-4	Aroclor-1268	42.5	U	8.3	8.3	42.5	ug/kg
11096-82-5	Aroclor-1260	42.5	U	8.3	8.3	42.5	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	11.7		10 - 166		59%	SPK: 20
2051-24-3	Decachlorobiphenyl	5.56	*	60 - 125		28%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-4BRE	SDG No.:	I6340			
Lab Sample ID:	I6340-08RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	60.1	Decanted:		
Sample Wt/Vol:	30.04	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039342.D	1	11/14/17 08:51	11/18/17 01:27	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	42.5	U	8.3	8.3	42.5	ug/kg
11104-28-2	Aroclor-1221	42.5	U	8.3	8.3	42.5	ug/kg
11141-16-5	Aroclor-1232	42.5	U	8.3	8.3	42.5	ug/kg
53469-21-9	Aroclor-1242	42.5	U	8.3	8.3	42.5	ug/kg
12672-29-6	Aroclor-1248	42.5	U	8.3	8.3	42.5	ug/kg
11097-69-1	Aroclor-1254	42.5	U	3.7	8.3	42.5	ug/kg
37324-23-5	Aroclor-1262	42.5	U	8.3	8.3	42.5	ug/kg
11100-14-4	Aroclor-1268	42.5	U	8.3	8.3	42.5	ug/kg
11096-82-5	Aroclor-1260	42.5	U	8.3	8.3	42.5	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	9.63		10 - 166		48%	SPK: 20
2051-24-3	Decachlorobiphenyl	6.09	*	60 - 125		30%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-5A	SDG No.:	I6340			
Lab Sample ID:	I6340-11	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	71.3	Decanted:		
Sample Wt/Vol:	30.12	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039220.D	1	11/14/17 08:51	11/15/17 22:54	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	59	U	11.6	11.6	59	ug/kg
11104-28-2	Aroclor-1221	59	U	11.6	11.6	59	ug/kg
11141-16-5	Aroclor-1232	59	U	11.6	11.6	59	ug/kg
53469-21-9	Aroclor-1242	59	U	11.6	11.6	59	ug/kg
12672-29-6	Aroclor-1248	59	U	11.6	11.6	59	ug/kg
11097-69-1	Aroclor-1254	78.6	P	5.2	11.6	59	ug/kg
37324-23-5	Aroclor-1262	59	U	11.6	11.6	59	ug/kg
11100-14-4	Aroclor-1268	59	U	11.6	11.6	59	ug/kg
11096-82-5	Aroclor-1260	59	U	11.6	11.6	59	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	7.76		10 - 166		39%	SPK: 20
2051-24-3	Decachlorobiphenyl	4.32	*	60 - 125		22%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-5ARE	SDG No.:	I6340
Lab Sample ID:	I6340-11RE	Matrix:	SOIL
Analytical Method:	SW8082A	% Moisture:	71.3
Sample Wt/Vol:	30.12 Units: g	Final Vol:	10000 uL
Soil Aliquot Vol:	uL	Test:	PCB
Extraction Type:		Injection Volume :	
GPC Factor :	1.0	PH :	

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039345.D	1	11/14/17 08:51	11/18/17 02:12	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	59	U	11.6	11.6	59	ug/kg
11104-28-2	Aroclor-1221	59	U	11.6	11.6	59	ug/kg
11141-16-5	Aroclor-1232	59	U	11.6	11.6	59	ug/kg
53469-21-9	Aroclor-1242	59	U	11.6	11.6	59	ug/kg
12672-29-6	Aroclor-1248	59	U	11.6	11.6	59	ug/kg
11097-69-1	Aroclor-1254	130	P	5.2	11.6	59	ug/kg
37324-23-5	Aroclor-1262	59	U	11.6	11.6	59	ug/kg
11100-14-4	Aroclor-1268	59	U	11.6	11.6	59	ug/kg
11096-82-5	Aroclor-1260	59	U	11.6	11.6	59	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	6.78		10 - 166		34%	SPK: 20
2051-24-3	Decachlorobiphenyl	4.01	*	60 - 125		20%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-5B	SDG No.:	I6340			
Lab Sample ID:	I6340-12	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	29.6	Decanted:		
Sample Wt/Vol:	30.05	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039221.D	1	11/14/17 08:51	11/15/17 23:09	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	24.1	U	4.7	4.7	24.1	ug/kg
11104-28-2	Aroclor-1221	24.1	U	4.7	4.7	24.1	ug/kg
11141-16-5	Aroclor-1232	24.1	U	4.7	4.7	24.1	ug/kg
53469-21-9	Aroclor-1242	24.1	U	4.7	4.7	24.1	ug/kg
12672-29-6	Aroclor-1248	24.1	U	4.7	4.7	24.1	ug/kg
11097-69-1	Aroclor-1254	24.1	U	2.1	4.7	24.1	ug/kg
37324-23-5	Aroclor-1262	24.1	U	4.7	4.7	24.1	ug/kg
11100-14-4	Aroclor-1268	24.1	U	4.7	4.7	24.1	ug/kg
11096-82-5	Aroclor-1260	24.1	U	4.7	4.7	24.1	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	14.6		10 - 166		73%	SPK: 20
2051-24-3	Decachlorobiphenyl	7.08	*	60 - 125		35%	SPK: 20

Comments:

- |  |  |
|--|--|
| U = Not Detected   | J = Estimated Value  |
| LOQ = Limit of Quantitation  | B = Analyte Found in Associated Method Blank   |
| MDL = Method Detection Limit   | N = Presumptive Evidence of a Compound   |
| LOD = Limit of Detection   | * = Values outside of QC limits  |
| E = Value Exceeds Calibration Range  | D = Dilution   |
| P = Indicates >25% difference for detected concentrations between the two GC columns | S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample. |
| Q = indicates LCS control criteria did not meet requirements                         | () = Laboratory InHouse Limit  |
| M = MS/MSD acceptance criteria did not meet requirements                             |  |

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-5BRE	SDG No.:	I6340			
Lab Sample ID:	I6340-12RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	29.6	Decanted:		
Sample Wt/Vol:	30.05	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039346.D	1	11/14/17 08:51	11/18/17 02:27	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	24.1	U	4.7	4.7	24.1	ug/kg
11104-28-2	Aroclor-1221	24.1	U	4.7	4.7	24.1	ug/kg
11141-16-5	Aroclor-1232	24.1	U	4.7	4.7	24.1	ug/kg
53469-21-9	Aroclor-1242	24.1	U	4.7	4.7	24.1	ug/kg
12672-29-6	Aroclor-1248	24.1	U	4.7	4.7	24.1	ug/kg
11097-69-1	Aroclor-1254	24.1	U	2.1	4.7	24.1	ug/kg
37324-23-5	Aroclor-1262	24.1	U	4.7	4.7	24.1	ug/kg
11100-14-4	Aroclor-1268	24.1	U	4.7	4.7	24.1	ug/kg
11096-82-5	Aroclor-1260	24.1	U	4.7	4.7	24.1	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	13.4		10 - 166		67%	SPK: 20
2051-24-3	Decachlorobiphenyl	7.53	*	60 - 125		38%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-5C	SDG No.:	I6920			
Lab Sample ID:	I6920-18	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	42.7	Decanted:		
Sample Wt/Vol:	30.06	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PR023996.D	1	12/15/17 08:36	12/20/17 01:00	PB105060

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	29.6	U	5.8	5.8	29.6	ug/kg
11104-28-2	Aroclor-1221	29.6	U	5.8	5.8	29.6	ug/kg
11141-16-5	Aroclor-1232	29.6	U	5.8	5.8	29.6	ug/kg
53469-21-9	Aroclor-1242	29.6	U	5.8	5.8	29.6	ug/kg
12672-29-6	Aroclor-1248	29.6	U	5.8	5.8	29.6	ug/kg
11097-69-1	Aroclor-1254	29.6	U	2.6	5.8	29.6	ug/kg
37324-23-5	Aroclor-1262	29.6	U	5.8	5.8	29.6	ug/kg
11100-14-4	Aroclor-1268	29.6	U	5.8	5.8	29.6	ug/kg
11096-82-5	Aroclor-1260	29.6	U	5.8	5.8	29.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	9.49		10 - 166		47%	SPK: 20
2051-24-3	Decachlorobiphenyl	6.4	*	60 - 125		32%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-5CRE	SDG No.:	I6920			
Lab Sample ID:	I6920-18RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	42.7	Decanted:		
Sample Wt/Vol:	30.06	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PR024007.D	1	12/15/17 08:36	12/20/17 09:09	PB105060

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	29.6	U	5.8	5.8	29.6	ug/kg
11104-28-2	Aroclor-1221	29.6	U	5.8	5.8	29.6	ug/kg
11141-16-5	Aroclor-1232	29.6	U	5.8	5.8	29.6	ug/kg
53469-21-9	Aroclor-1242	29.6	U	5.8	5.8	29.6	ug/kg
12672-29-6	Aroclor-1248	29.6	U	5.8	5.8	29.6	ug/kg
11097-69-1	Aroclor-1254	29.6	U	2.6	5.8	29.6	ug/kg
37324-23-5	Aroclor-1262	29.6	U	5.8	5.8	29.6	ug/kg
11100-14-4	Aroclor-1268	29.6	U	5.8	5.8	29.6	ug/kg
11096-82-5	Aroclor-1260	29.6	U	5.8	5.8	29.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	8.88		10 - 166		44%	SPK: 20
2051-24-3	Decachlorobiphenyl	5.34	*	60 - 125		27%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-6A	SDG No.:	I6340			
Lab Sample ID:	I6340-13	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	67.7	Decanted:		
Sample Wt/Vol:	30.03	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039222.D	1	11/14/17 08:51	11/15/17 23:24	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	52.6	U	10.3	10.3	52.6	ug/kg
11104-28-2	Aroclor-1221	52.6	U	10.3	10.3	52.6	ug/kg
11141-16-5	Aroclor-1232	52.6	U	10.3	10.3	52.6	ug/kg
53469-21-9	Aroclor-1242	52.6	U	10.3	10.3	52.6	ug/kg
12672-29-6	Aroclor-1248	52.6	U	10.3	10.3	52.6	ug/kg
11097-69-1	Aroclor-1254	52.6	U	4.6	10.3	52.6	ug/kg
37324-23-5	Aroclor-1262	52.6	U	10.3	10.3	52.6	ug/kg
11100-14-4	Aroclor-1268	52.6	U	10.3	10.3	52.6	ug/kg
11096-82-5	Aroclor-1260	52.6	U	10.3	10.3	52.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	14		10 - 166		70%	SPK: 20
2051-24-3	Decachlorobiphenyl	8.54	*	60 - 125		43%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-6ARE	SDG No.:	I6340			
Lab Sample ID:	I6340-13RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	67.7	Decanted:		
Sample Wt/Vol:	30.03	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039347.D	1	11/14/17 08:51	11/18/17 02:42	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	52.6	U	10.3	10.3	52.6	ug/kg
11104-28-2	Aroclor-1221	52.6	U	10.3	10.3	52.6	ug/kg
11141-16-5	Aroclor-1232	52.6	U	10.3	10.3	52.6	ug/kg
53469-21-9	Aroclor-1242	52.6	U	10.3	10.3	52.6	ug/kg
12672-29-6	Aroclor-1248	52.6	U	10.3	10.3	52.6	ug/kg
11097-69-1	Aroclor-1254	52.6	U	4.6	10.3	52.6	ug/kg
37324-23-5	Aroclor-1262	52.6	U	10.3	10.3	52.6	ug/kg
11100-14-4	Aroclor-1268	52.6	U	10.3	10.3	52.6	ug/kg
11096-82-5	Aroclor-1260	52.6	U	10.3	10.3	52.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	12.2		10 - 166		61%	SPK: 20
2051-24-3	Decachlorobiphenyl	8.9	*	60 - 125		45%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-7A	SDG No.:	I6340			
Lab Sample ID:	I6340-05	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	77	Decanted:		
Sample Wt/Vol:	30.11	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039214.D	1	11/14/17 08:51	11/15/17 21:24	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	73.6	U	14.4	14.4	73.6	ug/kg
11104-28-2	Aroclor-1221	73.6	U	14.4	14.4	73.6	ug/kg
11141-16-5	Aroclor-1232	73.6	U	14.4	14.4	73.6	ug/kg
53469-21-9	Aroclor-1242	73.6	U	14.4	14.4	73.6	ug/kg
12672-29-6	Aroclor-1248	73.6	U	14.4	14.4	73.6	ug/kg
11097-69-1	Aroclor-1254	73.6	U	6.5	14.4	73.6	ug/kg
37324-23-5	Aroclor-1262	73.6	U	14.4	14.4	73.6	ug/kg
11100-14-4	Aroclor-1268	73.6	U	14.4	14.4	73.6	ug/kg
11096-82-5	Aroclor-1260	73.6	U	14.4	14.4	73.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	6.51		10 - 166		33%	SPK: 20
2051-24-3	Decachlorobiphenyl	2.5	*	60 - 125		13%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-7ARE	SDG No.:	I6340			
Lab Sample ID:	I6340-05RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	77	Decanted:		
Sample Wt/Vol:	30.11	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039339.D	1	11/14/17 08:51	11/18/17 00:43	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	73.6	U	14.4	14.4	73.6	ug/kg
11104-28-2	Aroclor-1221	73.6	U	14.4	14.4	73.6	ug/kg
11141-16-5	Aroclor-1232	73.6	U	14.4	14.4	73.6	ug/kg
53469-21-9	Aroclor-1242	73.6	U	14.4	14.4	73.6	ug/kg
12672-29-6	Aroclor-1248	73.6	U	14.4	14.4	73.6	ug/kg
11097-69-1	Aroclor-1254	73.6	U	6.5	14.4	73.6	ug/kg
37324-23-5	Aroclor-1262	73.6	U	14.4	14.4	73.6	ug/kg
11100-14-4	Aroclor-1268	73.6	U	14.4	14.4	73.6	ug/kg
11096-82-5	Aroclor-1260	73.6	U	14.4	14.4	73.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	5.7		10 - 166		29%	SPK: 20
2051-24-3	Decachlorobiphenyl	2.84	*	60 - 125		14%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-7B	SDG No.:	I6340			
Lab Sample ID:	I6340-06	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	38.1	Decanted:		
Sample Wt/Vol:	30.05	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039215.D	1	11/14/17 08:51	11/15/17 21:39	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	27.4	U	5.4	5.4	27.4	ug/kg
11104-28-2	Aroclor-1221	27.4	U	5.4	5.4	27.4	ug/kg
11141-16-5	Aroclor-1232	27.4	U	5.4	5.4	27.4	ug/kg
53469-21-9	Aroclor-1242	27.4	U	5.4	5.4	27.4	ug/kg
12672-29-6	Aroclor-1248	27.4	U	5.4	5.4	27.4	ug/kg
11097-69-1	Aroclor-1254	27.4	U	2.4	5.4	27.4	ug/kg
37324-23-5	Aroclor-1262	27.4	U	5.4	5.4	27.4	ug/kg
11100-14-4	Aroclor-1268	27.4	U	5.4	5.4	27.4	ug/kg
11096-82-5	Aroclor-1260	27.4	U	5.4	5.4	27.4	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	8.72		10 - 166		44%	SPK: 20
2051-24-3	Decachlorobiphenyl	4.03	*	60 - 125		20%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-7BRE	SDG No.:	I6340			
Lab Sample ID:	I6340-06RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	38.1	Decanted:		
Sample Wt/Vol:	30.05	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039340.D	1	11/14/17 08:51	11/18/17 00:57	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	27.4	U	5.4	5.4	27.4	ug/kg
11104-28-2	Aroclor-1221	27.4	U	5.4	5.4	27.4	ug/kg
11141-16-5	Aroclor-1232	27.4	U	5.4	5.4	27.4	ug/kg
53469-21-9	Aroclor-1242	27.4	U	5.4	5.4	27.4	ug/kg
12672-29-6	Aroclor-1248	27.4	U	5.4	5.4	27.4	ug/kg
11097-69-1	Aroclor-1254	27.4	U	2.4	5.4	27.4	ug/kg
37324-23-5	Aroclor-1262	27.4	U	5.4	5.4	27.4	ug/kg
11100-14-4	Aroclor-1268	27.4	U	5.4	5.4	27.4	ug/kg
11096-82-5	Aroclor-1260	27.4	U	5.4	5.4	27.4	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	7.64		10 - 166		38%	SPK: 20
2051-24-3	Decachlorobiphenyl	4.32	*	60 - 125		22%	SPK: 20

Comments:

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 E = Value Exceeds Calibration Range  
 P = Indicates >25% difference for detected concentrations between the two GC columns  
 Q = indicates LCS control criteria did not meet requirements  
 M = MS/MSD acceptance criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 N = Presumptive Evidence of a Compound  
 \* = Values outside of QC limits  
 D = Dilution  
 S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.  
 () = Laboratory InHouse Limit

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-8A	SDG No.:	I6340			
Lab Sample ID:	I6340-03	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	77.1	Decanted:		
Sample Wt/Vol:	30.11	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039212.D	1	11/14/17 08:51	11/15/17 20:54	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	74	U	14.5	14.5	74	ug/kg
11104-28-2	Aroclor-1221	74	U	14.5	14.5	74	ug/kg
11141-16-5	Aroclor-1232	74	U	14.5	14.5	74	ug/kg
53469-21-9	Aroclor-1242	74	U	14.5	14.5	74	ug/kg
12672-29-6	Aroclor-1248	74	U	14.5	14.5	74	ug/kg
11097-69-1	Aroclor-1254	74	U	6.5	14.5	74	ug/kg
37324-23-5	Aroclor-1262	74	U	14.5	14.5	74	ug/kg
11100-14-4	Aroclor-1268	74	U	14.5	14.5	74	ug/kg
11096-82-5	Aroclor-1260	74	U	14.5	14.5	74	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	8.13		10 - 166		41%	SPK: 20
2051-24-3	Decachlorobiphenyl	3.48	*	60 - 125		17%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-8ARE	SDG No.:	I6340			
Lab Sample ID:	I6340-03RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	77.1	Decanted:		
Sample Wt/Vol:	30.11	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039337.D	1	11/14/17 08:51	11/18/17 00:12	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	74	U	14.5	14.5	74	ug/kg
11104-28-2	Aroclor-1221	74	U	14.5	14.5	74	ug/kg
11141-16-5	Aroclor-1232	74	U	14.5	14.5	74	ug/kg
53469-21-9	Aroclor-1242	74	U	14.5	14.5	74	ug/kg
12672-29-6	Aroclor-1248	74	U	14.5	14.5	74	ug/kg
11097-69-1	Aroclor-1254	74	U	6.5	14.5	74	ug/kg
37324-23-5	Aroclor-1262	74	U	14.5	14.5	74	ug/kg
11100-14-4	Aroclor-1268	74	U	14.5	14.5	74	ug/kg
11096-82-5	Aroclor-1260	74	U	14.5	14.5	74	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	6.86		10 - 166		34%	SPK: 20
2051-24-3	Decachlorobiphenyl	5.45	*	60 - 125		27%	SPK: 20

Comments:

- |  |  |
|--|--|
| U = Not Detected   | J = Estimated Value  |
| LOQ = Limit of Quantitation  | B = Analyte Found in Associated Method Blank   |
| MDL = Method Detection Limit   | N = Presumptive Evidence of a Compound   |
| LOD = Limit of Detection   | * = Values outside of QC limits  |
| E = Value Exceeds Calibration Range  | D = Dilution   |
| P = Indicates >25% difference for detected concentrations between the two GC columns | S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample. |
| Q = indicates LCS control criteria did not meet requirements                         | () = Laboratory InHouse Limit  |
| M = MS/MSD acceptance criteria did not meet requirements                             |  |

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-8B	SDG No.:	I6340			
Lab Sample ID:	I6340-04	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	42.7	Decanted:		
Sample Wt/Vol:	30.05	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039213.D	1	11/14/17 08:51	11/15/17 21:09	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	29.6	U	5.8	5.8	29.6	ug/kg
11104-28-2	Aroclor-1221	29.6	U	5.8	5.8	29.6	ug/kg
11141-16-5	Aroclor-1232	29.6	U	5.8	5.8	29.6	ug/kg
53469-21-9	Aroclor-1242	29.6	U	5.8	5.8	29.6	ug/kg
12672-29-6	Aroclor-1248	29.6	U	5.8	5.8	29.6	ug/kg
11097-69-1	Aroclor-1254	29.6	U	2.6	5.8	29.6	ug/kg
37324-23-5	Aroclor-1262	29.6	U	5.8	5.8	29.6	ug/kg
11100-14-4	Aroclor-1268	29.6	U	5.8	5.8	29.6	ug/kg
11096-82-5	Aroclor-1260	29.6	U	5.8	5.8	29.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	10.3		10 - 166		51%	SPK: 20
2051-24-3	Decachlorobiphenyl	5.6	*	60 - 125		28%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-8BRE	SDG No.:	I6340			
Lab Sample ID:	I6340-04RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	42.7	Decanted:		
Sample Wt/Vol:	30.05	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039338.D	1	11/14/17 08:51	11/18/17 00:27	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	29.6	U	5.8	5.8	29.6	ug/kg
11104-28-2	Aroclor-1221	29.6	U	5.8	5.8	29.6	ug/kg
11141-16-5	Aroclor-1232	29.6	U	5.8	5.8	29.6	ug/kg
53469-21-9	Aroclor-1242	29.6	U	5.8	5.8	29.6	ug/kg
12672-29-6	Aroclor-1248	29.6	U	5.8	5.8	29.6	ug/kg
11097-69-1	Aroclor-1254	29.6	U	2.6	5.8	29.6	ug/kg
37324-23-5	Aroclor-1262	29.6	U	5.8	5.8	29.6	ug/kg
11100-14-4	Aroclor-1268	29.6	U	5.8	5.8	29.6	ug/kg
11096-82-5	Aroclor-1260	29.6	U	5.8	5.8	29.6	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	9.06		10 - 166		45%	SPK: 20
2051-24-3	Decachlorobiphenyl	6.21	*	60 - 125		31%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-8C	SDG No.:	I6920			
Lab Sample ID:	I6920-06	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	24.7	Decanted:		
Sample Wt/Vol:	30.08	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PR023994.D	1	12/15/17 08:36	12/20/17 00:31	PB105060

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	22.5	U	4.4	4.4	22.5	ug/kg
11104-28-2	Aroclor-1221	22.5	U	4.4	4.4	22.5	ug/kg
11141-16-5	Aroclor-1232	22.5	U	4.4	4.4	22.5	ug/kg
53469-21-9	Aroclor-1242	22.5	U	4.4	4.4	22.5	ug/kg
12672-29-6	Aroclor-1248	22.5	U	4.4	4.4	22.5	ug/kg
11097-69-1	Aroclor-1254	22.5	U	2	4.4	22.5	ug/kg
37324-23-5	Aroclor-1262	22.5	U	4.4	4.4	22.5	ug/kg
11100-14-4	Aroclor-1268	22.5	U	4.4	4.4	22.5	ug/kg
11096-82-5	Aroclor-1260	22.5	U	4.4	4.4	22.5	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	15.4		10 - 166		77%	SPK: 20
2051-24-3	Decachlorobiphenyl	7.12	*	60 - 125		36%	SPK: 20

Comments:

- |  |  |
|--|--|
| U = Not Detected   | J = Estimated Value  |
| LOQ = Limit of Quantitation  | B = Analyte Found in Associated Method Blank   |
| MDL = Method Detection Limit   | N = Presumptive Evidence of a Compound   |
| LOD = Limit of Detection   | * = Values outside of QC limits  |
| E = Value Exceeds Calibration Range  | D = Dilution   |
| P = Indicates >25% difference for detected concentrations between the two GC columns | S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample. |
| Q = indicates LCS control criteria did not meet requirements                         | () = Laboratory InHouse Limit  |
| M = MS/MSD acceptance criteria did not meet requirements                             |  |

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-8CRE	SDG No.:	I6920			
Lab Sample ID:	I6920-06RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	24.7	Decanted:		
Sample Wt/Vol:	30.08	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PR024006.D	1	12/15/17 08:36	12/20/17 08:55	PB105060

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	22.5	U	4.4	4.4	22.5	ug/kg
11104-28-2	Aroclor-1221	22.5	U	4.4	4.4	22.5	ug/kg
11141-16-5	Aroclor-1232	22.5	U	4.4	4.4	22.5	ug/kg
53469-21-9	Aroclor-1242	22.5	U	4.4	4.4	22.5	ug/kg
12672-29-6	Aroclor-1248	22.5	U	4.4	4.4	22.5	ug/kg
11097-69-1	Aroclor-1254	22.5	U	2	4.4	22.5	ug/kg
37324-23-5	Aroclor-1262	22.5	U	4.4	4.4	22.5	ug/kg
11100-14-4	Aroclor-1268	22.5	U	4.4	4.4	22.5	ug/kg
11096-82-5	Aroclor-1260	22.5	U	4.4	4.4	22.5	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	17.1		10 - 166		85%	SPK: 20
2051-24-3	Decachlorobiphenyl	7.34	*	60 - 125		37%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/02/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-12A	SDG No.:	I6343			
Lab Sample ID:	I6343-05	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	32.2	Decanted:		
Sample Wt/Vol:	30.04	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039227.D	1	11/14/17 08:51	11/16/17 00:54	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	25	U	4.9	4.9	25	ug/kg
11104-28-2	Aroclor-1221	25	U	4.9	4.9	25	ug/kg
11141-16-5	Aroclor-1232	25	U	4.9	4.9	25	ug/kg
53469-21-9	Aroclor-1242	25	U	4.9	4.9	25	ug/kg
12672-29-6	Aroclor-1248	25	U	4.9	4.9	25	ug/kg
11097-69-1	Aroclor-1254	25	U	2.2	4.9	25	ug/kg
37324-23-5	Aroclor-1262	25	U	4.9	4.9	25	ug/kg
11100-14-4	Aroclor-1268	25	U	4.9	4.9	25	ug/kg
11096-82-5	Aroclor-1260	25	U	4.9	4.9	25	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	13.5		10 - 166		67%	SPK: 20
2051-24-3	Decachlorobiphenyl	6.92	*	60 - 125		35%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/02/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-12ARE	SDG No.:	I6343			
Lab Sample ID:	I6343-05RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	32.2	Decanted:		
Sample Wt/Vol:	30.04	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039277.D	1	11/14/17 08:51	11/16/17 19:23	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	25	U	4.9	4.9	25	ug/kg
11104-28-2	Aroclor-1221	25	U	4.9	4.9	25	ug/kg
11141-16-5	Aroclor-1232	25	U	4.9	4.9	25	ug/kg
53469-21-9	Aroclor-1242	25	U	4.9	4.9	25	ug/kg
12672-29-6	Aroclor-1248	25	U	4.9	4.9	25	ug/kg
11097-69-1	Aroclor-1254	25	U	2.2	4.9	25	ug/kg
37324-23-5	Aroclor-1262	25	U	4.9	4.9	25	ug/kg
11100-14-4	Aroclor-1268	25	U	4.9	4.9	25	ug/kg
11096-82-5	Aroclor-1260	25	U	4.9	4.9	25	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	11.5		10 - 166		57%	SPK: 20
2051-24-3	Decachlorobiphenyl	6.85	*	60 - 125		34%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-15A	SDG No.:	I6343			
Lab Sample ID:	I6343-01	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	22.9	Decanted:		
Sample Wt/Vol:	30.1	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039226.D	1	11/14/17 08:51	11/16/17 00:39	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	22	U	4.3	4.3	22	ug/kg
11104-28-2	Aroclor-1221	22	U	4.3	4.3	22	ug/kg
11141-16-5	Aroclor-1232	22	U	4.3	4.3	22	ug/kg
53469-21-9	Aroclor-1242	22	U	4.3	4.3	22	ug/kg
12672-29-6	Aroclor-1248	22	U	4.3	4.3	22	ug/kg
11097-69-1	Aroclor-1254	22	U	1.9	4.3	22	ug/kg
37324-23-5	Aroclor-1262	22	U	4.3	4.3	22	ug/kg
11100-14-4	Aroclor-1268	22	U	4.3	4.3	22	ug/kg
11096-82-5	Aroclor-1260	22	U	4.3	4.3	22	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	19.6		10 - 166		98%	SPK: 20
2051-24-3	Decachlorobiphenyl	11.1	*	60 - 125		56%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	

**Report of Analysis**

Client:	Cashin Associates, P.C.	Date Collected:	11/01/17			
Project:	Hempstead Lake State Park	Date Received:	11/03/17			
Client Sample ID:	HL-15ARE	SDG No.:	I6343			
Lab Sample ID:	I6343-01RE	Matrix:	SOIL			
Analytical Method:	SW8082A	% Moisture:	22.9	Decanted:		
Sample Wt/Vol:	30.1	Units:	g	Final Vol:	10000	uL
Soil Aliquot Vol:			uL	Test:	PCB	
Extraction Type:				Injection Volume :		
GPC Factor :	1.0	PH :				

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
PO039276.D	1	11/14/17 08:51	11/16/17 19:08	PB104244

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units(Dry Weight)
<b>TARGETS</b>							
12674-11-2	Aroclor-1016	22	U	4.3	4.3	22	ug/kg
11104-28-2	Aroclor-1221	22	U	4.3	4.3	22	ug/kg
11141-16-5	Aroclor-1232	22	U	4.3	4.3	22	ug/kg
53469-21-9	Aroclor-1242	22	U	4.3	4.3	22	ug/kg
12672-29-6	Aroclor-1248	22	U	4.3	4.3	22	ug/kg
11097-69-1	Aroclor-1254	22	U	1.9	4.3	22	ug/kg
37324-23-5	Aroclor-1262	22	U	4.3	4.3	22	ug/kg
11100-14-4	Aroclor-1268	22	U	4.3	4.3	22	ug/kg
11096-82-5	Aroclor-1260	22	U	4.3	4.3	22	ug/kg
<b>SURROGATES</b>							
877-09-8	Tetrachloro-m-xylene	17.2		10 - 166		86%	SPK: 20
2051-24-3	Decachlorobiphenyl	10.8	*	60 - 125		54%	SPK: 20

Comments:

U = Not Detected	J = Estimated Value
LOQ = Limit of Quantitation	B = Analyte Found in Associated Method Blank
MDL = Method Detection Limit	N = Presumptive Evidence of a Compound
LOD = Limit of Detection	* = Values outside of QC limits
E = Value Exceeds Calibration Range	D = Dilution
P = Indicates >25% difference for detected concentrations between the two GC columns	S = Indicates estimated value where valid five-point calibration was not performed prior to analyte detection in sample.
Q = indicates LCS control criteria did not meet requirements	() = Laboratory InHouse Limit
M = MS/MSD acceptance criteria did not meet requirements	







### Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-4B	SDG No.:	I6340
Lab Sample ID:	I6340-08	Matrix:	SOIL
Level (low/med):	low	% Solid:	39.9

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
7429-90-5	Aluminum	9980	1	1.8	2.68	10.7	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-36-0	Antimony	5.36	UN	1	1.2	1.34	5.36	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010
7440-38-2	Arsenic	14	1	0.536	0.536	2.14	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-39-3	Barium	71.1	N	1	0.857	2.68	10.7	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010
7440-41-7	Beryllium	0.454	J	1	0.129	0.161	0.643	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010
7440-43-9	Cadmium	4.46	1	0.129	0.161	0.643	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-70-2	Calcium	1420	1	2.29	53.6	214	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-47-3	Chromium	54.3	1	0.268	0.268	1.07	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-48-4	Cobalt	11	1	0.803	0.803	3.21	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-50-8	Copper	146	1	0.536	0.536	2.14	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7439-89-6	Iron	15500	1	2.68	2.68	10.7	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7439-92-1	Lead	919	1	0.257	0.536	1.29	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7439-95-4	Magnesium	1230	1	9.81	53.6	214	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7439-96-5	Manganese	113	1	0.407	0.536	2.14	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7439-97-6	Mercury	0.526	1	0.015	0.015	0.03	mg/Kg	11/13/17 18:09	11/14/17 18:32	SW7471A	
7440-02-0	Nickel	49.5	1	0.985	1.07	4.28	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-09-7	Potassium	390	1	7.5	53.6	214	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7782-49-2	Selenium	4.85	1	0.536	0.536	2.14	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-22-4	Silver	1.07	U	1	0.268	0.268	1.07	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010
7440-23-5	Sodium	80.9	J	1	5.4	53.6	214	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010
7440-28-0	Thallium	1.04	J	1	0.578	1.07	4.28	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010
7440-62-2	Vanadium	51.2	1	1.07	1.07	4.28	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	
7440-66-6	Zinc	578	1	1.07	1.07	4.28	mg/Kg	11/14/17 10:08	11/15/17 14:39	SW6010	

Color Before:	Brown	Clarity Before:	Medium
Color After:	Yellow	Clarity After:	No
Comments:	Metals Group1		

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 D = Dilution  
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 \* = indicates the duplicate analysis is not within control limits.  
 E = Indicates the reported value is estimated because of the presence of interference.  
 OR = Over Range  
 N = Spiked sample recovery not within control limits









## Report of Analysis

Client:	Cashin Associates, P.C.	Date Collected:	10/31/17
Project:	Hempstead Lake State Park	Date Received:	11/03/17
Client Sample ID:	HL-7A	SDG No.:	I6340
Lab Sample ID:	I6340-05	Matrix:	SOIL
Level (low/med):	low	% Solid:	23

Cas	Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units(Dry Weight)	Prep Date	Date Ana.	Ana Met.
7429-90-5	Aluminum	19000	1		3.07	4.57	18.3	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-36-0	Antimony	2.14	JN	1	2.05	2.28	9.13	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-38-2	Arsenic	24.1	1		0.913	0.913	3.65	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-39-3	Barium	137	N	1	1.46	4.57	18.3	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-41-7	Beryllium	0.809	J	1	0.219	0.274	1.1	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-43-9	Cadmium	7.84	1		0.219	0.274	1.1	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-70-2	Calcium	2960	1		3.91	91.3	365	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-47-3	Chromium	99.8	1		0.457	0.457	1.83	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-48-4	Cobalt	21.2	1		1.37	1.37	5.48	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-50-8	Copper	319	1		0.913	0.913	3.65	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7439-89-6	Iron	28900	1		4.57	4.57	18.3	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7439-92-1	Lead	1900	1		0.438	0.913	2.19	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7439-95-4	Magnesium	2770	1		16.7	91.3	365	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7439-96-5	Manganese	247	1		0.694	0.913	3.65	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7439-97-6	Mercury	1.5	1		0.026	0.026	0.052	mg/Kg	11/13/17 18:09	11/14/17 18:21	SW7471A
7440-02-0	Nickel	87.9	1		1.68	1.83	7.31	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-09-7	Potassium	1080	1		12.8	91.3	365	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7782-49-2	Selenium	8.71	1		0.913	0.913	3.65	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-22-4	Silver	1.06	J	1	0.457	0.457	1.83	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-23-5	Sodium	244	J	1	9.21	91.3	365	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-28-0	Thallium	1.72	J	1	0.986	1.83	7.31	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-62-2	Vanadium	97.2	1		1.83	1.83	7.31	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010
7440-66-6	Zinc	1140	1		1.83	1.83	7.31	mg/Kg	11/14/17 10:08	11/15/17 14:28	SW6010

Color Before:	Brown	Clarity Before:	Texture:	Medium
Color After:	Yellow	Clarity After:	Artifacts:	No
Comments:	Metals Group1			

U = Not Detected  
 LOQ = Limit of Quantitation  
 MDL = Method Detection Limit  
 LOD = Limit of Detection  
 D = Dilution  
 Q = indicates LCS control criteria did not meet requirements

J = Estimated Value  
 B = Analyte Found in Associated Method Blank  
 \* = indicates the duplicate analysis is not within control limits.  
 E = Indicates the reported value is estimated because of the presence of interference.  
 OR = Over Range  
 N = Spiked sample recovery not within control limits















**Method 1613B Sample Analysis Results**

Client - Chemtech

Client's Sample ID	01 HL-5A		
Lab Sample ID	10411168001		
Filename	U171203A_11		
Injected By	BAL		
Total Amount Extracted	15.7 g	Matrix	Solid
% Moisture	76.9	Dilution	NA
Dry Weight Extracted	3.63 g	Collected	11/01/2017 12:00
ICAL ID	U171107	Received	11/15/2017 09:50
CCal Filename(s)	U171202B_19	Extracted	11/17/2017 17:45
Method Blank ID	BLANK-58812	Analyzed	12/03/2017 13:16

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	—	2.7 A	2,3,7,8-TCDF-13C	2.00	62
Total TCDF	130	—	2.7	2,3,7,8-TCDD-13C	2.00	62
				1,2,3,7,8-PeCDF-13C	2.00	61
2,3,7,8-TCDD	ND	—	2.4 A	2,3,4,7,8-PeCDF-13C	2.00	58
Total TCDD	8.4	—	2.4	1,2,3,7,8-PeCDD-13C	2.00	60
				1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	28	—	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	71
2,3,4,7,8-PeCDF	36	—	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	68
Total PeCDF	460	—	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	66
				1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	15	—	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	59
Total PeCDD	37	—	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	49
				1,2,3,4,7,8,9-HpCDF-13C	2.00	45
1,2,3,4,7,8-HxCDF	35	—	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	51
1,2,3,6,7,8-HxCDF	46	—	5.0	OCDD-13C	4.00	32
2,3,4,6,7,8-HxCDF	29	—	5.0			
1,2,3,7,8,9-HxCDF	6.3	—	5.0 J	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	710	—	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	23	—	5.0	2,3,7,8-TCDD-37Cl4	0.20	63
1,2,3,6,7,8-HxCDD	60	—	5.0			
1,2,3,7,8,9-HxCDD	43	—	5.0			
Total HxCDD	510	—	5.0			
1,2,3,4,6,7,8-HpCDF	1000	—	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	55	—	5.0	Equivalence: 99 ng/Kg		
Total HpCDF	2300	—	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	1600	—	5.0			
Total HpCDD	3400	—	5.0			
OCDF	2200	—	10			
OCDD	19000	—	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
EMPC = Estimated Maximum Possible Concentration  
RL = Reporting Limit

ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.

J = Estimated value

A = Reporting Limit based on signal to noise

**REPORT OF LABORATORY ANALYSIS**

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### Method 1613B Sample Analysis Results

Client - Chemtech

Client's Sample ID	02 HL-5B		
Lab Sample ID	10411168002		
Filename	U171203A_12		
Injected By	BAL		
Total Amount Extracted	12.7 g	Matrix	Solid
% Moisture	38.6	Dilution	NA
Dry Weight Extracted	7.80 g	Collected	11/01/2017 12:00
ICAL ID	U171107	Received	11/15/2017 09:50
CCal Filename(s)	U171202B_19	Extracted	11/17/2017 17:45
Method Blank ID	BLANK-58812	Analyzed	12/03/2017 14:00

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.4	—	1.0	2,3,7,8-TCDF-13C	2.00	63
Total TCDF	24	—	1.0	2,3,7,8-TCDD-13C	2.00	59
				1,2,3,7,8-PeCDF-13C	2.00	61
2,3,7,8-TCDD	ND	—	1.0	2,3,4,7,8-PeCDF-13C	2.00	53
Total TCDD	2.2	—	1.0	1,2,3,7,8-PeCDD-13C	2.00	55
				1,2,3,4,7,8-HxCDF-13C	2.00	79
1,2,3,7,8-PeCDF	ND	—	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	69
2,3,4,7,8-PeCDF	7.9	—	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	62
Total PeCDF	72	—	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	61
				1,2,3,4,7,8-HxCDD-13C	2.00	65
1,2,3,7,8-PeCDD	ND	—	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	54
Total PeCDD	ND	—	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	46
				1,2,3,4,7,8,9-HpCDF-13C	2.00	45
1,2,3,4,7,8-HxCDF	ND	—	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	50
1,2,3,6,7,8-HxCDF	ND	—	5.0	OCDD-13C	4.00	37
2,3,4,6,7,8-HxCDF	ND	—	5.0			
1,2,3,7,8,9-HxCDF	ND	—	5.0	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	22	—	5.0	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	—	5.0	2,3,7,8-TCDD-37Cl4	0.20	70
1,2,3,6,7,8-HxCDD	ND	—	5.0			
1,2,3,7,8,9-HxCDD	ND	—	5.0			
Total HxCDD	34	—	5.0			
1,2,3,4,6,7,8-HpCDF	71	—	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	5.7	—	5.0 J	Equivalence: 8.2 ng/Kg		
Total HpCDF	250	—	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	120	—	5.0			
Total HpCDD	230	—	5.0			
OCDF	470	—	10			
OCDD	1700	—	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).  
EMPC = Estimated Maximum Possible Concentration  
RL = Reporting Limit

ND = Not Detected  
NA = Not Applicable  
NC = Not Calculated

Results reported on a dry weight basis and are valid to no more than 2 significant figures.  
J = Estimated value

## REPORT OF LABORATORY ANALYSIS

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## Attachment B. Additional Details

### Hempstead Lake State Park - Part 1. FEAF

#### **A. Project and Sponsor Information**

The proposed project is located at Hempstead Lake State Park. The purpose of the Proposed Hempstead Lake State Park Project, as a component of LWTB Project and Resiliency Strategy, is to improve stormwater management, enhance natural ecosystems, provide connectivity among diverse populations, enhance safety, and promote education programs at the Park.

To achieve these goals the proposed project spans the park and focuses on several key components: dams, ponds and wetlands, trails and waterfront access, and education. Project components are broken into four categories below: Ponds, Dams, Education and Resiliency Center, Greenways /Gateways/ Waterfront.

#### *Ponds*

Project elements proposed for the two northern most ponds (Northwest and Northeast Ponds) include, the installation of up to two (2) new sediment basins and two (2) new floatables catchers at the inlet streams of both ponds. A new paved road of 0.41 acres is proposed and will be used as an access to and from the floatables catchers. Open grid pavers are proposed to be laid in the channel of Mill Creek up to the new floatables catcher to reduce erosion of the creek bed. Combined, the proposed wetland enhancement activities at NW Pond and NE Pond would require removal of approximately 1,203 trees. The project would result in the permanent loss of 2.87 acres of open waters and wetlands and gain 1.15 acres of new open waters and wetlands. Improvements to the NW and NE Ponds would also improve water quality in Hempstead Lake and South Pond.

This component will result in 2,500 cubic yards of material to be dredged. Based on the preliminary sediment sampling findings, this material contains contamination from upstream urban runoff, and as such it would be hauled off-site and disposed at an appropriate facility. The project would also entail 39,000 cubic yards to be excavated from upland areas. It is proposed that all this material will be reused on-site. Any debris/trash within this material would be removed and taken off-site for disposal.

#### *Dams*

A full hydrological and hydraulic assessment was conducted for Hempstead Lake State Park waterbodies. Hempstead Lake State Park has three earthen dams: Hempstead Lake Dam, South Pond Dam, and Northwest Pond Dam. Per DEC dam safety criteria, vegetation growing on the dams and embankments must be removed. The project would remove 1,297 trees to meet this criterion.

The NW Pond dam is breached. The project proposes to restore this dam with a sheet pile dam that would be 5 feet in height. Twin culverts which allow flow from NW Pond to enter Hempstead Lake would be replaced by a singular open bottom structure.

The project proposes to remove all vegetation from South Pond Dam and regrade to provide a uniform crest elevation and width to improve dam safety. The embankment would be seeded with native grass mix. The inlet gatehouse would be restored (roof, door, windows) and the deteriorated outlet gatehouse demolished to grade and backfilled with suitable fill. Gatehouse work would be conducted in accordance with Historic Preservation guidelines and consultation.

Hempstead Lake Dam would have vegetation and sediment deposits removed. Trees on the upstream side of the dams that cannot be removed without damaging the stone facing would be cut to a 4-inch stump. On the dams, areas of tree removal would be reestablished with pollinator habitat. These actions would reduce erosion effects. The dam gatehouse would be restored in a historically accurate but also functional manner. All sluice gates and control valves would be returned to an operational status so that water level in the lake can be adjusted on a seasonal basis. New water level monitoring equipment is proposed to be installed in the gatehouse and a new catwalk, similar in design to the original, would be installed on the east and north sides to allow for visual inspection and clearing of debris. Roof, doors, and windows of the gatehouse would be replaced with durable materials designed to replicate the historic look of the structure. Debris and abandoned piping within the gatehouse chamber would be removed to improve flow.

Educational signage is also proposed on the history and working of the structure. The pipe arch between Hempstead Lake and South Pond would be repaired in localized damaged areas. Gatehouse and pipe arch repairs would be accomplished through use of a coffer dam to block flow, with water pumped around the work area and discharged downstream.

Proposed pedestrian bridges would be installed over Mill Creek near where it enters NE Pond and over the open stream channel between the Southern State Parkway and Hempstead Lake. The bridge over Mill Creek would be new; the bridge over the open-channel stream between the Southern State Parkway and Hempstead Lake would replace the existing 5-foot-diameter culverts, which would be removed. The bridges would be designed to fit into the Park aesthetic. The bridges would have a width of 11.5 feet, or 1.25 times the bank full width, and would be designed to handle a load of 15,000 pounds to accommodate emergency and maintenance vehicles. The elevation of the bridges would be coordinated with the adjacent multi-use paths and would maintain stormwater flows for most rainfall events.

#### *Education and Resiliency Center*

A new, approximately, 8,000-sq.-ft. building is proposed to be built in a mowed grass field by Parking Field 1. The building will be designed to reduce environmental demands. Utilities would be connected to the building through underground boring and trenching. Staging areas would be in Parking Field 1. Eleven trees would be removed to allow for construction of the building. Any grass damaged during construction would be reseeded.

*Greenways/Gateways/Waterfront*

The proposed project seeks to enhance and expand access to the waterfront and trails for the local community. It would include approximately 6 miles of new and enhanced trails which would include a Greenway trail that would accommodate pedestrians, bicyclists, and equestrians, as well as a new trail leading to a new kayak launch and a new elevated trail leading to a lake observation pavilion.

The proposed trail plan would cover approximately 8 acres (335,947 square feet). Of this, 5.2 acres of existing trails would be resurfaced, 2.3 acres of existing trails would be widened, and 0.8 acre of new trails would be constructed. Areas of disturbance adjacent to the trails would be replanted with native herbaceous materials.

It would also include a formalized 0.91-acre parking area with 4 stormwater retention basins to replace an informal parking area used by park patrons. In addition, the project proposes to place along Hempstead Lake a new 416-square-foot kayak launch, as well as a 400-square foot observational pavilion, and four stairways for lake access. Three existing access points into the Park, Eagle Avenue, Graham Avenue, and Peninsula Boulevard, would be formalized as gateways for way-finding purposes.

**B. Government Approvals, Funding, or Sponsorship**

B.e/q/h

*e. County agencies:* Nassau County DOT – Road Opening Permit (driveway to access floatables container @ Peninsula Blvd.)

*g. State agencies:* NYS DEC –

- Article 15 Protection of Waters Permit,
- Article 24 Freshwater Wetlands Permit,
- 401 Water Quality Certification,
- SPDES General Permit (GP-0-15-002),
- Dam and Impoundment Structures: Part 608 Use and Protection of Waters

NYSOPRHP – Section 106 (will also cover 14.09)

GOSR – Funding/ Sponsorship

OGS – Construction of docks or piers on or above state-owned lands under water

*h. Federal agencies:* USFWS – ESA Section 7

Consultation HUD – Funding

ACOE – Section 404 of the Clean Water Act

## D. Project Details

### D.1. Proposed and Potential Development

#### *D.1.a: What is the general nature of the proposed action?*

To increase community resilience by improving drainage and water control to address impacts from flooding due to extreme weather and sea level rise. Proposed actions will improve existing infrastructure to help maintain the natural environment and improve ecosystems through water quality benefits, while enhancing stormwater retention. It will also provide increased public environmental awareness, accessibility and education, as well as access to waterfront locations. Improvements will decrease vulnerability to disaster impacts while also providing increased ecologic, economic and social benefits to the surrounding community.

#### *D.1.h.ii: If a water impoundment, what is the principal source of the water?*

A hydraulic and hydrological analysis of the watershed has indicated that groundwater has a significant influence on some of the waterbodies. Northeast Pond lies within groundwater; Northwest Pond is slightly above groundwater and can go dry during extended drought periods. Hempstead Lake fluctuates with groundwater levels. South Pond is fed by Schodack Creek.

#### *D.1.h.iv/v/vi (refer to table below)*

Question # and Question	Hempstead Lake	Northwest Pond	South Pond
<i>D.1.h.iv.</i> : Approximate size of the <b>proposed</b> impoundment. Volume (million gallons) & surface area(acres)	<b>Volume(m.g.)</b> : Normal (seasonal)= 64.7 MG or 198 ac-ft @ EL 17 to 214.7 MG or 658 ac-ft @ EL 22; same as existing <b>Surface Area(acres)</b> : Normal = 64 to 115; Max = 178	<b>Volume(m.g.)</b> : Normal = 5.7 MG or (17.4 ac-ft) @ EL 21; Max = 25.9 MG or 79.4 ac-ft @ EL 25 <b>Surface Area(acres)</b> : Normal = 6.7 Ac @ EL 21; Max = 25 AC @ EL 25	Same as existing see Question E.1.e.i in next Table <b>Volume(m.g.)</b> : <b>Surface Area(acres)</b> :
<i>D.1.h.v.</i> : Dimensions of the <b>proposed</b> dam or impounding structure. Height(ft) & Length (ft)	<b>Height(ft)</b> : 17 <b>Length(ft)</b> : 1500	<b>Height(ft)</b> : 5 <b>Length(ft)</b> : 230	Same as existing see Question E.1.e.i in next Table <b>Height(ft)</b> : 10 <b>Length(ft)</b> : 750
<i>D.1.h.vi.</i> : Construction method & materials	Tree removal (including root balls on downstream side), sediment removal, sluiceway replacement, dewatering area to repair sluiceway gate and pipe arch outlet, gatehouse rehab including windows, doors, roof, pipe arch. Re-grading	Tree removal, removal of concrete top slab and wooden and concrete pilings, installation of steel sheet pile dam with earthen embankment behind it. Re-grading	Tree removal including root balls, regrading of embankment

### D.2 Project Operations

*D.2.a.iii.: Describe the nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them.*

This project will dredge 2,500 CY of bottom sediments from Northeast pond using a self-propelled dredging system and excavator to improve flood resiliency and habitat/water quality. Materials can be characterized as mud, sediment, and bottom sediments with some debris and garbage present. Preliminary sampling results (**Attachment F**) indicate this material is contaminated with urban runoff, and as such will be hauled off-site to an appropriate disposal facility.

Approximately 39,000 CY of excavation using excavators and backhoes will take place in upland areas. These soils will be used on-site in creation of wetlands.

These new filtering wetlands will provide treatment of the storm runoff to reduce and slow the runoff volume and remove debris, floatables, sediments and nutrients from the pond system and parklands.

Additionally, 1,500 CY of sediment will be excavated from the stone face of the Hempstead Lake Dam. This sediment, as well as trees and root balls removed from Hempstead Lake Dam and South Pond Dam will be taken and disposed of offsite.

*D.2.a.iv. Will there be onsite dewatering or processing of excavated materials?*

*Describe.*

The 39,000 CY of upland materials will be reused on site. Debris and waste materials found in the dredge materials and soils will be disposed of as municipal solid waste (msw) at a legal landfill; the location will be identified during the construction phase based on the awarded contractor. If soils are required to be dewatered before reuse in the project, they will be dewatered on-site. Dewatering locations will be authorized under a SPDES Permit for stormwater associated with Construction Activities.

*D.2.a.v.: Total area to be dredged or excavated*

Approximately 39,000 cubic yards of soils (over approximately 19 acres) will be excavated from the NE Pond and NW Pond upland areas. In addition, 2,500 cubic yards of sediment would be dredged from NE Pond, and approximately 1,500 cubic yards of accumulated sediment will be removed from the stone facing of the dam, each over limited areas (< 2 acre total). There will be no dredging occurring at Hempstead Lake. There will be no dredging or excavation work at South Pond.

Excavation work occurring for the construction of the education center will be part of the general site preparation, grading and installation of foundation and all material will remain and be re-used on site.

*D.2.a.ix.: Summarize site reclamation goals and plan:*

Preliminary sampling results (**Attachment F**) indicate that sediment in NE Pond is contaminated with urban runoff. All sediments (2,500 CY from NE Pond and 1,500 CY from Hempstead Lake Dam) would be hauled off-site to an appropriate disposal facility in accordance with NYSDEC standards.

Following excavation of 39,000 CY of upland soils, fill and regrading of the soils to the proposed elevation much of the disturbed areas will be planted with wetland vegetation to the limits shown on the plans to create the filtering wetlands. Other area, including trail edges, berms, staging areas, dewatering areas or unvegetated locations, will be graded and seeded with a native seed mix to revegetate.

*D.2.b. i: Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number, or geographic description)*

Wetland assessments were conducted at the two northern ponds in fall 2016. NYSDEC staff conducted a wetland delineation at the NE and NW Ponds in May 2017 to establish the limit of NYSDEC-regulated wetlands in this portion of the project area. NYSDEC staff flagged wetland limits in the field, and Cashin Associates surveyed them. The field assessments indicate that there are more extensive vegetated wetlands associated with each pond than were included in the NWI mapping.

Approximately 18.09 acres of emergent wetlands and 2.51 acres of scrub shrub wetlands are associated with NW Pond and 1.24 acres of emergent wetlands, 2.32 acres of scrub shrub wetlands, and 2.18 acres of forested wetland occur at NE Pond, for a total of 26.34 acres of vegetated wetlands. See **Attachment D** for a location map of NWI and State wetland areas on the project site with associated wetland ID numbers. From south to north, the waterbodies are: South Pond, Schodack Pond, McDonald Pond, Hempstead Lake, Northwest Pond, and Northeast Pond. DEC wetland areas are Class 1 and identified as L- 1, L-2, L-3. NWI wetlands are indicated by a string of letters and numbers and identified as open water (Lake & Freshwater Pond), Freshwater Emergent, and Freshwater Forested/Shrub Wetland.

*D.2.b.ii. - Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres*

*D.2.b.iii. - Describe disturbance to bottom sediment*

*D.2.b.v - Describe any proposed reclamation/mitigation following disturbance*

Proposed stormwater filtering project work in the Northern Ponds will affect the wetlands and waterbodies through dredge, excavation, and fill actions in the open pond and associated wetland areas, shorelines and uplands, to create filtering wetlands as well as installation of floatables collectors, sediment basins and repairs to the breached dam at Northwest Pond. The objective of the proposed project is to increase flood resiliency and improve water quality and habitat through enhanced wetland filtration, sediment capture, and removal of garbage (floatables) that come from the upper watershed and flow down through the system out to the bay and ocean. In total, project work in the NW and NE Ponds would remove 2.87 acres of wetlands and open water and create 1.15 acres of wetlands and open water from existing uplands, for a net loss of 1.72 acres.

- NW Pond: The project would remove 0.78 acre of emergent and scrub-shrub wetland and 0.2 acre of open water and add 0.17 acre of emergent wetland and open water from uplands for a net loss of 0.63 acre.
- NE Pond: The project would remove 1.82 acres of open water and 0.25 acre of a mix of emergent scrub shrub and forested wetland. The project would create 0.35 acre of open water and 0.63 acre of emergent wetland from uplands for a net loss of 1.09 acres.
- NE Pond: The project would convert 1.13 acres of a disturbed forested wetlands to emergent wetland and shallow open water, and permanently fill 0.13 acre, for a net loss of 1.26 acres of forested wetland.

An alternatives analysis and wetland functional assessment was prepared (see NEPA EA, Appendix F). During the design process multiple design options for different aspects of the design were considered. The design options were developed through discussions with project partners, input from community members and feedback from field meetings with NYSDEC wetland representatives. Concepts were presented at public meetings and at meetings with the NYSDEC. Designs were modified based on location, design concept, limitations and constraints and agency input. The proposed project as presented has avoided and minimized impact to the extent possible, while remaining

functional to meet the project purpose and need. The wetland functional assessment was performed to evaluate potential changes to wetland functions with four separate wetland systems affected by the proposed project. Collectively, the planned wetland changes associated with the project would result in a net benefit and functional uplift within the collective wetland systems of the northern ponds to offset the permanent and temporary impacts to the wetlands and open waters in the project area. The functional assessment indicates that no additional project measures are warranted to achieve a goal of no-net-loss of wetland functions (see NEPA EA, Appendix F).

The creation of additional recreational trails would not have direct impacts on wetlands and open water.

A Freshwater Wetlands Permit, Protection of Waters Permit, and 401 Water Quality Certification from NYSDEC would be required to physically disturb the wetlands. Prior to construction, the project sponsor would be required to secure Clean Water Act Section 404 Authorization from the U.S. Army Corps of Engineers.

The alternatives analysis and impact assessment are also required as part of the permit applications to compare a no-build alternative with design alternatives that were considered to avoid and minimize impacts and still accomplish the goals of project.

NYSDEC and the U.S. Army Corps of Engineers will determine the need for compensatory mitigation during the permitting process.

*D.2.m.ii - Will proposed action remove existing natural barriers that could act as a noise barrier or screen? Describe.*

Up to 2,555 trees would be removed. Main locations for removal are at Hempstead Lake Dam and South Pond Dam, as well as in the Northern Pond areas. Tree removal will decrease the buffering capacity of noise from the nearby roadways.

*D.2.n.ii - Will proposed action remove existing natural light barriers that could act as a light barrier or screen? Describe.*

Up to 2,555 trees will be removed. Main locations for removal are at Hempstead Lake Dam and South Pond Dam, as well as in the Northern Pond areas. Tree removal will open the viewscape. Headlights of cars would be more visible; however, the park closes at dusk and thereby will not result in an increased impact from the opened area.

## **E. Site and Setting of Proposed Action**

### **E.1 Land uses on and surrounding the project site**

*E.1.e.i./ii/iii (refer to table below)*

Question # and Question	Hempstead Lake	Northwest Pond	South Pond
<i>E.1.e.i.</i> : Dimensions of existing dam and impoundment. Height & Length (ft), Volume (million gallons) & surface area(acres)	Top gates are cut open and lower sluice gates inoperable <b>Volume(m.g.):</b> Normal = 175,308,068 (538 acre-ft) Max = 818,864,636 (2513 acre-ft) <b>Surface Area(acres):</b> 105 @ EL 21 <b>Height(ft):</b> 17 <b>Length(ft):</b> 1500	Dam is breached <b>Volume(m.g.):</b> 0 <b>Surface Area(acres):</b> 0 <b>Height(ft):</b> 4 <b>Length(ft):</b> 230	<b>Volume(m.g.):</b> Normal = (110 acre-ft); Max = (198 acre-ft) (LKB) <b>Surface Area(acres):</b> Normal = 22, Max = 27 (LKB) <b>Height(ft):</b> 10 (LKB) <b>Length(ft):</b> 750 (LKB)
<i>E.1.e.ii.</i> : Existing hazard classification	Class C	Dam is Unclassified earthen embankment	Class A
<i>E.1.e.iii.</i> : Date and summary of results of last inspection	11/3/2016 - Inspection noted that dam is overgrown with trees and brush which need to be removed to allow for proper inspection. The low-level outlets (sluice gates) are not operable	NA	11/3/2016 - There are trees and brush covering the entire dam. The crest of the dam is uneven and narrow in some locations

### **E.3: Designated Public Resources on or Near Project Site**

#### **E.3.g.: Have additional archaeological or historic site(s) or resources been identified on the project site?**

Hempstead Lake State Park was determined eligible for listing in the National Register of Historic Places by the Office of Parks, Recreation and Historic Preservation on June 5, 2017. The Park meets Criterion A in the areas of recreation, conservation, and Park planning as one of a network of state parks established on Long Island in 1924 as part of New York's comprehensive state park and parkway plan. The Park also meets Criterion C in the area of design. Resources in the Park that could be affected by the project include the Hempstead Lake Dam and South Pond inlet gatehouse.