DuPont Pompton Lakes Works
2000 Cannonball Road
Pompton Lakes, NJ 07442

August 28, 2013

Mr. Perry Katz, Remedial Project Manager
New Jersey Remediation Branch
USEPA Region 2
290 Broadway
New York, New York 10007-1866

RE: Draft Sediment Sampling Plan – July 2013
USEPA Review/Conditional Approval Response to Comments

Dear Mr. Katz:

DuPont is in receipt of your email dated August 20, 2013 which provided a copy of the subject approval and figure. As required, DuPont is providing the following responses to the outstanding comments outlined in the approval letter to the Sediment Sampling Plan submitted to USEPA on July 3, 2013.

1. DuPont has collected the four additional sample locations as shown on the figure contained in the August 20, 2013 email.

2. The third area of uncertainty being referenced on page 2 of the work plan is not specifically referring to the collection of sediment data. The area of uncertainty being referenced is regarding data associated with ecological evaluations to confirm the conceptual site model as well as evaluate potential ecological receptors. Sediment data collected as part of the tasks being completed to address uncertainty #2 appear to be more aligned with the data utilization outlined in the comment, however if sediment data is collected as of part addressing this uncertainty, it is the responsibility of the data user to qualify that data for utilization other than risk evaluation.

3. Historic work plans associated with projects being completed at the DuPont Pompton Lakes Works site have been formatted to contain the critical elements of a Quality Assurance Project Plan such as the precision, accuracy, and detection limits of the specified analytical methods, holding times, sample process design, field collection methods, preservatives, defined samples (e.g., duplicates, field blanks, equipment blanks, etc.) to measure comparability and representativeness, and the process to evaluate data validation and usability.

The plans have been approved by the regulatory agencies and implemented in accordance with the New Jersey Department of Environmental Protection Field Sampling Procedures Manual using certified laboratories. The current work plan has continued this long standing practice, however as requested in the comment letter, attached are applicable worksheets from the Uniform Federal Policy-Quality Assurance Project Plan Manual which provide additional quality assurance documentation related to the project.

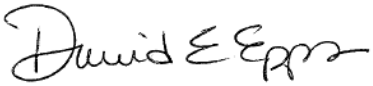
4. DuPont will coordinate with USEPA on holding a meeting to further discuss the sediment stability assessment work being completed by Anchor/QEA. Unfortunately, the date referenced within the comment letter has not been able to been met due to availability of resources for the combined team.

5. In accordance with Section 3.2 of the work plan, the segment below the sediment layer has been archived for future analysis, however there were no provisions discussed during the technical meetings for archiving any additional samples for reanalysis. The laboratory does retain a portion of the sample submitted for the original analysis for 30 days or until the sample results have been evaluated for quality assurance purposes.

6. Attached is the project-specific Health and Safety Plan which includes the Project Safety Analysis completed for the various tasks to be implemented as part of the overall sampling plan.

If you have any questions regarding this letter please do not hesitate to contact me at (973) 492-7733.

Sincerely,



David E. Epps, P.G.
Project Director, Pompton Lakes Works
DuPont Corporate Remediation Group

cc: PLW Central File

QAPP Worksheet #2
(UFP-QAPP Section 2.2.4)
QAPP Identifying Information

Site Name/Project Name: DuPont Pompton Lakes Works

Title: QAPP – Select Worksheets, 2013 Pompton Lake Acid Brook Delta Sediment Sampling Plan

Site Location: Pompton Lakes, NJ
Site Number/Code: NJD002173946
Operable Unit: NA
Contractor Name: ARCADIS and O'Brien & Gere

Revision Number: 0
Revision Date: 07 August 2013
Pages: 13

1. Identify regulatory program: U.S. Environmental Protection Agency – RCRA
2. Identify approval entity: USEPA Region 2 and NJDEP
3. The QAPP is (select one): ☐Generic ☒Project Specific
4. List dates of scoping sessions that were held: A series of meetings took place during April and June 2013 with technical resources from regulatory agencies and DuPont to discuss the scope of additional investigative work.
5. List dates and titles of QAPP documents written for previous site work, if applicable:

Title	Approval Date
NA	NA

6. List organizational partners (stakeholders) and connection with lead organization:
   DuPont Corporate Remediation group (CRG) – Responsible Party
   ARCADIS – contractor, project lead for 2013 Pompton Lake Acid Brook Delta Sediment Sampling
   O'Brien & Gere – contractor, designated site representative for DuPont
   URS – contractor, lead on ecological investigation of Pompton Lake
   USEPA Region 2 – lead agency for Site (under RCRA program)
   NJDEP – support agency for Site
7. List data users:
   Same entities listed in #6.
8. If any required QAPP elements and required information are not applicable to the project, then circle the omitted QAPP elements and required information on the attached table. Provide an explanation for their exclusions below:

   Only applicable worksheets are included herein. Worksheets not included are based on established site history, volume of historical documentation, consistency with previous use of Lancaster Laboratories on numerous projects with USEPA and NJDEP oversight, and the fact that current sampling is being conducted as follow-on to previously collected sediment samples. See details provided in remainder of this worksheet (table on corresponding pages). Worksheets that are included are considered specific to the discrete sediment sampling being conducted in accordance with the *2013 Sediment Sampling Plan* (ARCADIS 2013), hereinafter referred to as the SAP.

QAPP Worksheet #2
QAPP Identifying Information
(continued)

Required QAPP Element(s) and Corresponding QAPP Section(s)	Required Information	QAPP Worksheet # or Crosswalk to Related Documents
Project Management and Objectives		
2.1 Title and Approval Page	- Title and Approval Page	See SAP, Approvals pending
2.2 Document Format and Table of Contents 2.2.1 Document Control Format 2.2.2 Document Control Numbering System 2.2.3 Table of Contents 2.2.4 QAPP Identifying Information	- Table of Contents - QAPP Identifying Information	#2
2.3 Distribution List and Project Personnel Sign-Off Sheet 2.3.1 Distribution List 2.3.2 Project Personnel Sign-Off Sheet	- Distribution List - Project Personnel Sign-Off Sheet	Same as previous Pompton Lake Acid Brook Delta Work
2.4 Project Organization 2.4.1 Project Organizational Chart 2.4.2 Communication Pathways 2.4.3 Personnel Responsibilities and Qualifications 2.4.4 Special Training Requirements and Certification	- Project Organizational Chart - Communication Pathways - Personnel Responsibilities and Qualifications Table - Special Personnel Training Requirements Table	Same as previous Pompton Lake Acid Brook Delta Work special training not required for this project
2.5 Project Planning/Problem Definition 2.5.1 Project Planning (Scoping) 2.5.2 Problem Definition, Site History, and Background	- Project Planning Session Documentation(including data needs tables) - Project Scoping Session Participants Sheet - Problem Definition, Site History, and Background - Site Maps (historical and present)	See Section 1 of SAP #10 See Figures 3-1 through 3-4 of SAP
2.6 Project Quality Objectives and Measurement Performance Criteria 2.6.1 Development of Project Quality Objectives Using the Systematic Planning Process 2.6.2 Measurement Performance Criteria	- Site-Specific PQOs - Measurement Performance Criteria Table	#11 See Section 3.4 of SAP
2.7 Secondary Data Evaluation	- Sources of Secondary Data and Information - Secondary Data Criteria and Limitations Table	See previous documents including RIR, CMS, and CMIWP
2.8 Project Overview and Schedule 2.8.1 Project Overview 2.8.2 Project Schedule	- Summary of Project Tasks - Reference Limits and Evaluation Table - Project Schedule/Timeline Table	See SAP Section 3.2 Not needed based on follow-on sampling DQOs see Section 3.5 of SAP

QAPP Worksheet #2
QAPP Identifying Information
(continued)

Required QAPP Element(s) and Corresponding QAPP Section(s)	Required Information	QAPP Worksheet # or Crosswalk to Related Documents
Measurement/Data Acquisition		
3.1 Sampling Tasks 3.1.1 Sampling Process Design and Rationale 3.1.2 Sampling Procedures and Requirements 3.1.2.1 Sampling Collection Procedures 3.1.2.2 Sample Containers, Volume, and Preservation 3.1.2.3 Equipment/Sample Containers Cleaning and Decontamination Procedures 3.1.2.4 Field Equipment Calibration, Maintenance, Testing, and Inspection Procedures 3.1.2.5 Supply Inspection and Acceptance Procedures 3.1.2.6 Field Documentation Procedures	- Sampling Design and Rationale - Sample Location Map - Sampling Locations and Methods/SOP Requirements Table - Analytical Methods/SOP Requirements Table - Field Quality Control Sample Summary Table - Sampling SOPs - Project Sampling SOP References Table - Field Equipment Calibration, Maintenance, Testing, and Inspection Table	See SAP Section 3.1-3.3, Figures 3-5 and 3-6 See SAP Appendix A See SAP Section 3.4 #18 To be conducted in accordance with previously established sampling protocols
3.2 Analytical Tasks 3.2.1 Analytical SOPs 3.2.2 Analytical Instrument Calibration Procedures 3.2.3 Analytical Instrument and Equipment Maintenance, Testing, and Inspection Procedures 3.2.4 Analytical Supply Inspection and Acceptance Procedures	- Analytical SOPs - Analytical SOP References Table - Analytical Instrument Calibration Table - Analytical Instrument and Equipment Maintenance, Testing, and Inspection Table	#19 To be conducted in accordance with previously established sampling and procedures using Lancaster Laboratories (same lab as previous sampling) and DuPont's ADQM processes
3.3 Sample Collection Documentation, Handling, Tracking, and Custody Procedures 3.3.1 Sample Collection Documentation 3.3.2 Sample Handling and Tracking System 3.3.3 Sample Custody	- Sample Collection Documentation Handling, Tracking, and Custody SOPs - Sample Container Identification - Sample Handling Flow Diagram - Example Chain-of-Custody Form and Seal	To be conducted in accordance with previously established sampling and procedures using DuPont's ADQM processes
3.4 Quality Control Samples 3.4.1 Sampling Quality Control Samples 3.4.2 Analytical Quality Control Samples	- QC Samples Table - Screening/Confirmatory Analysis Decision Tree	#20 See SAP Section 3.4
3.5 Data Management Tasks 3.5.1 Project Documentation and Records 3.5.2 Data Package Deliverables 3.5.3 Data Reporting Formats 3.5.4 Data Handling and Management 3.5.5 Data Tracking and Control	- Project Documents and Records Table - Analytical Services Table - Data Management SOPs	See SAP, Appendix B, and previous project documentation

QAPP Worksheet #2
QAPP Identifying Information
(continued)

Required QAPP Element(s) and Corresponding QAPP Section(s)	Required Information	QAPP Worksheet # or Crosswalk to Related Documents
Assessment/Oversight		
4.1 Assessments and Response Actions 4.1.1 Planned Assessments 4.1.2 Assessment Findings and Corrective Action Responses	- Assessments and Response Actions - Planned Project Assessments Table - Audit Checklists - Assessment Findings and Corrective Action Responses Table	To be conducted in accordance with previously established sampling and procedures
4.2 QA Management Reports	- QA Management Reports Table	To be conducted in accordance with previously established sampling and procedures using DuPont's ADQM processes
4.3 Final Project Report	- QA Management Reports Table	Not applicable, follow-on work to support CSM
Data Review		
5.1 Overview		
5.2 Data Review Steps 5.2.1 Step I: Verification 5.2.2 Step II: Validation 5.2.2.1 Step IIa Validation Activities 5.2.2.2 Step IIb Validation Activities 5.2.3 Step III: Usability Assessment 5.2.3.1 Data Limitations and Actions from Usability Assessment 5.2.3.2 Activities	- Verification (Step I) Process Table - Validation (Steps IIa and IIb) Process Table - Validation (Steps IIa and IIb) Summary Table - Usability Assessment	To be conducted in accordance with previously established sampling and procedures using DuPont's ADQM processes
5.3 Streamlining Data Review 5.3.1 Data Review Steps To Be Streamlined 5.3.2 Criteria for Streamlining Data Review 5.3.3 Amounts and Types of Data Appropriate for Streamlining		Not Applicable

QAPP Worksheet #10
(UFP-QAPP Manual Section 2.5.2)
Problem Definition

THE PROBLEM TO BE ADDRESSED BY THE PROJECT: USEPA has recently requested additional sediment investigations to assess current conditions of the sediments within Pompton Lake and Acid Brook Delta. These additional sediment investigations are designed to address the uncertainties identified during a review of the current CSM and existing data as provided in the draft CSM Technical memorandum (ARCADIS et al., June 2013).
THE ENVIRONMENTAL QUESTIONS BEING ASKED: The primary questions to be addressed for this follow-on sampling are: (1) is historical core data collected representative of current sediment conditions and (2) is the extent of mercury in sediment consistent with the current CSM?
OBSERVATIONS FROM ANY SITE RECONNAISSANCE REPORTS: These environmental questions being asked are primarily predicated on changes in sediment deposition identified between multiple bathymetry surveys and potential uncertainties associated with the survey areas. Sampling will be specifically performed to validate historical data outside the 26-acre remedial area, obtain additional data in areas with profile changes, and supplement existing data in the lower Ramapo River Channel. These are further detailed in the SAP. In addition, multiple sampling and reporting activities have been conducted for the Pompton Lake Acid Brook Delta project. Please consult the *Draft Technical Memorandum: Conceptual Site Model, Pompton Lake Acid Brook Delta Area Project* (CSM Tech Memo) (ARCADIS et al., June 2013) and associated documentation for details.
THE POSSIBLE CLASSES OF CONTAMINANTS AND THE AFFECTED MATRICES: Sediment within Pompton Lake is being evaluated for mercury (inorganic) during this follow-on sampling and reporting effort.
THE RATIONALE FOR INCLUSION OF CHEMICAL AND NONCHEMICAL ANALYSES: During previous investigation activities, mercury (inorganic) was identified as the primary contaminant of concern (COC) in Pompton Lake Acid Brook Delta sediment. Details are provided in the CSM Tech Memo (ARCADIS et al., June 2013).
PROJECT DECISION CONDITIONS (“IF..., THEN...” STATEMENTS): The primary decision statement for this project is, based on the follow-on sampling and analysis conducted in sediments, whether the current CSM is confirmed or further refined. If the results of this follow-on sampling indicate a need to further refine the CSM, the CSM will be further refined.

QAPP Worksheet #11
(UFP-QAPP Manual Section 2.6.1)
Project Quality Objectives/Systematic Planning Process Statements

WHO WILL USE THE DATA? ARACDIS, O'Brien & Gere, URS, DuPont, USEPA Region 2, and NJDEP
WHAT WILL THE DATA BE USED FOR? The data will be used to assess the current nature of the sediments in Pompton Lake and to confirm or further refine the CSM.
WHAT TYPE OF DATA ARE NEEDED? Sediment core samples will be collected in Pompton Lake using the same sampling and analysis methodology used in previous sampling conducted there. Sediment samples will be analyzed for mercury (inorganic).
HOW "GOOD" DO THE DATA NEED TO BE IN ORDER TO SUPPORT THE ENVIRONMENTAL DECISION? This sampling event is identified as a critical step in confirming or further refining the CSM. Data need to be as "good" as data collected previously to develop the CSM.
HOW MUCH DATA ARE NEEDED? Approximately 105 sediment cores will be collected and approximately two to five sediment samples from each core will be collected and analyzed for inorganic mercury. Additionally, geologic logging of the cores will be conducted. Details are included in Section 3.2 of the SAP.
WHERE, WHEN, AND HOW SHOULD THE DATA BE COLLECTED/GENERATED? The data will be generated from sediment samples taken at 105 coring locations in Pompton Lake. A total of 54 sediment cores will be collected at historic core locations, 26 cores will be collected at noted areas of changed sediment elevation, and 25 additional cores will be collected in the lower Ramapo River channel of Pompton Lake to increase spatial frequency of samples in this area near historical core locations. Samples will be collected in accordance with sampling protocols utilized during earlier coring efforts and the SOP attached to the SAP. Sampling is scheduled for August 2013.
WHO WILL COLLECT AND GENERATE THE DATA? ARCADIS will collect samples. Lancaster Laboratories will analyze the samples and produce data reports for the decision team.
HOW WILL THE DATA BE REPORTED? The data will be reported in laboratory analytical reports and data validation will be completed using the DuPont Analytical Data Quality Management (ADQM) process used for all Pompton Lakes Works data.
HOW WILL THE DATA BE ARCHIVED? Data archival will be conducted by DuPont's ADQM process in the same manner as all data generated by the Pompton Lakes Works site.

QAPP Worksheet #18

(UFP-QAPP Manual Section 3.1.1)
Sampling Locations and Methods/SOP Requirements Table

Sampling Location/ID Number	Matrix	Depth	Analytical Group	Concentration Level	Number of Samples (identify field duplicates	Sampling SOP Reference[1]	Rationale for Sampling Location
SD08____13-537-240B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-249B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-253B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-278B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-280B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-282B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-291B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-316B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-318B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-320B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-321B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-325B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-330B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-342B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-343B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-344B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-377B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-404B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-405B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-427B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-431B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-432B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-435B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-437B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-443B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-445B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-449B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-451B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-453B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-454B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-457B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP

Sampling Location/ID Number	Matrix	Depth	Analytical Group	Concentration Level	Number of Samples (identify field duplicates	Sampling SOP Reference[1]	Rationale for Sampling Location
SD08____13-537-461B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-462B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-465B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-467B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-470B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-472B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-474B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-475B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-476B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-478B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-480B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-482B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-485B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-487B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-489B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-491B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-499B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-506B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-510B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-518B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-527B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-531B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-TR-6B	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-641	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-642	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-643	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-644	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-645	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-646	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-647	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-648	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-649	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-650	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-651	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-652	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-653	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-654	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-655	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP

Sampling Location/ID Number	Matrix	Depth	Analytical Group	Concentration Level	Number of Samples (identify field duplicates	Sampling SOP Reference[1]	Rationale for Sampling Location
SD08____13-537-656	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-657	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-658	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-659	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-660	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-661	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-662	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-663	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-664	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-665	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-666	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-667	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-668	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-669	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-670	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-671	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-672	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-673	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-674	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-675	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-676	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-677	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-678	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-679	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-680	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-681	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-682	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-683	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-684	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-685	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-686	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-687	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-688	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-689	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-690	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP
SD08____13-537-691	Sediment	TBD in field	Inorganic Hg, % Moisture	Low	2 or more, TBD in field	See SAP	See SAP

QAPP Worksheet #19
(UFP-QAPP Manual Section 3.1.1)
Analytical SOP Requirements Table

Matrix	Analytical Group	Concentration Level	Analytical and Preparation Method/SOP Reference[1]	Sample Volume	Containers (number, size, and type)	Preservation Requirements (chemical, temperature, light protected)	Maximum Holding Time (preparation/ analysis)
Sediment	Inorganic Hg	Low	USEPA Methods 7470/7471	300 ml	1 -300 ml glass jar	Cool, 4 deg C	28 days
Sediment	% Moisture	NA	ASTM D2216	300 ml	1 -300 ml glass jar	Cool, 4 deg C	28 days

QAPP Worksheet #20
(UFP-QAPP Manual Section 3.1.1)
Field Quality Control Sample Summary Table

Matrix	Analytical Group	Concentration Level	Analytical and Preparation SOP Reference	No. of Sampling Locations	No. of Field Duplicates	No. of MS//MSD Pairs	No. of Trip Blanks	No. of Field (Rinsate) Blanks	Total No. of Samples to Lab
Sediment	Inorganic Hg	Low	USEPA Methods 7470/7471	105, 2 samples/ core minimum	One per 20 samples (11 min)	One per 20 samples (11 min)	None required	One per day of sampling (estimate 10)	242 (minimum)
Sediment	Moisture	NA	ASTM D2216	105, 2 samples/ core minimum	One per 20 samples (11 min)	None required	None required	None required	221 (minimum)

QAPP Worksheet #37
(UFP-QAPP Manual Section 5.2.3)
Data Usability Assessment

Summarize the usability assessment process and all procedures, including interim steps and any statistics, equations, and computer algorithms that will be used: The electronic data resulting from the sampling efforts will be reviewed via the DuPont Data Review (DDR) process. The DDR is an automated internal review process used by the ADQM group to determine if the data are usable. The data are run through an automated program and a series of checks are performed. The data are evaluated against hold time criteria, checked for blank contamination, and assessed against matrix spike (MS)/matrix spike duplicate (MSD) recoveries, relative percent differences (RPDs) between these samples, and laboratory control sample (LCS)/control sample duplicate (LCSD) recoveries, RPDs between these samples, RPDs between laboratory replicates, and surrogate spike recoveries. The DDR applies the following data qualifiers to analysis results, as warranted.
Describe the evaluative procedures used to assess overall measurement error associated with the project: Determine if quality control data is within criteria established in DuPont's ADQM process and the SAP.
Identify the personnel responsible for performing the usability assessment: DuPont's ADQM process and ARCADIS Project Manager
Describe the documentation that will be generated during usability assessment and how usability assessment results will be presented so that they identify trends, relationships (correlations), and anomalies: Once DuPont's ADQM process validates the data, a usability summary will be generated and included in the project documentation.

DUPONT PLW HASP ADDENDUM 4
POMPTON LAKE SEDIMENT SAMPLING
JULY 26, 2013

Purpose

The purpose of this addendum is to amend the existing approved Site-specific Health and Safety Plan (HASP) for work at the DuPont Pompton Lakes Works (PLW) Site in Pompton Lakes, New Jersey. This addendum identifies potential hazards associated with the additional field tasks listed below to be completed as part of the Pompton Lake investigation. The Site-specific HASP, this addendum, and the attached Project Safety Analysis (PSA) outline the project safety parameters. The PSA is the primary field document and includes a detailed breakdown of hazards and their mitigation. All field staff are required to read the HASP and relevant addenda prior to the start of field work.

The six project activities covered under this addendum are:

1. Boat Operation, Launching, and Retrieval
2. Sediment Sampling via Vibracoring
3. Sediment Sampling via Lexan® Tubing
4. Sediment Sampling via Hand-held Dredge
5. Sediment Sampling Transporting
6. Sediment Sample Processing

Scope of Work

Project activities are focused around the collection and processing of sediment samples from identified locations in Pompton Lake. This will be completed using a 24-foot aluminum boat equipped with a derrick and winch to collect the samples. GPS will be used for locating and navigating to targeted sampling locations. The sediment depth for each sampling location will be tested to verify that it meets the sampling requirements by using a calibrated steel pipe and manually pressing it into the sediment until refusal. Once acceptable sediment depth is confirmed, the sample will be collected using one of three planned methods: Vibracore, Lexan® tubing, or hand-held dredge (e.g. petite ponar). The samples will be recovered, prepped, and stored vertically on the boat until they are transported to the PLW Site for processing. The transport of the samples will entail the use of a designated vehicle equipped with the appropriate containers to secure the samples and prevent spilling or leaking. Once onsite, samples will be processed by cutting the core barrel open using electric shears or a similar cutting tool, characterizing and containerizing sediment samples, packaging sample coolers, and managing remaining sediment for appropriate disposal.

The shore of the lake is predominantly private residences with a number of public access points including parks and boat ramps. Poor ergonomics and physical hazards have been identified as the most significant potential hazards while performing the scope of work. Team members will take care not to overextend themselves or reach too far while performing their job tasks. Proper lifting techniques will be used, and if possible, the team members will alternate job tasks to minimize physical strain. Proper lifting techniques are described in Section 4.4 of the Site-specific HASP (which precludes lifting items over 50 lbs by a single person).

Slips/trips/falls are always present and team members will follow good housekeeping practices while on the boat, as well as on land, in order to minimize clutter and foot hazards. This includes proper stowage of vessel lines, coolers, equipment, and personal belongings so they do not cause tripping hazards on board the boat or while loading/unloading vehicles and at the sample processing area. All field team members will focus on foot placement when walking around the boat ramp and while maneuvering on the boat. Appropriate footwear for the terrain will be worn at all times.

The primary biological concerns around the lake include poison ivy, ticks, stinging insects, snakes, and spiders. Team members will perform a thorough inspection of the boat for the presence of bee/wasp nests that may be present in obscure locations (i.e. under gunnels, inside consoles). Biological hazards are discussed in depth in Section 4.3 of the Site-wide HASP.

Hands will not be placed in areas that are not visible and leather or similar type work gloves will be worn while launching and recovering the boat as well as when performing work that does not require a fine sense of touch or chemical resistance. For all activities that entail the collection and processing of sediment samples, team members will wear Nitrile gloves. More details on physical hazard mitigation, including hand safety, can be found in Section 4.4 of the Site-wide HASP.

Situational awareness is a control which is critical to all aspects of this field work and will be discussed regularly during tailgate meetings. Proper task-specific personal protective equipment (PPE) will be donned and worn at all times. For major tasks to be performed during this scope of work, a job safety analysis (JSA) identifying the primary hazards and control methods are described below.

Tasks Include the Following:

Boat Operation and Launching/Retrieval – As discussed earlier, sampling will be conducted using a 24-foot aluminum boat. The boat will be equipped with a winch and derrick for retrieval of sediment samples as well as equipment and tools needed for additional sampling methods. The boat may be docked at night on the lake or it may be retrieved and launched on a daily basis. During launching and operation, radio contact will be maintained with the boat in case of emergency and to maintain weather awareness. The primary hazards associated with boat operation, launching, and retrieval are: traffic accidents, man overboard, inclement weather, struck-by hazards, and navigation hazards (dam). Working over water and boating safety are discussed in further detail in Section 4.4 of the Site-specific HASP.

Potential Hazard	Control
Traffic Accidents	The team will have two spotters while maneuvering the trailer/boat into and out of the boat ramp (one to flag traffic, the other to direct the vehicle operator). Ensure proper securing of all equipment on vehicle and boat prior to transport. Comply with all driving policies in the Site-specific HASP.
Man Overboard	USCG personal floatation devices (PFDs) in good condition will be worn. Remain seated or keep a low center of gravity when deploying tools over the side of the boat whenever possible. Move around only when the boat is stationary and it is safe to do so. Follow lead of vessel Captain at all times.
Inclement Weather	Work will not take place in inclement weather when it is unsafe to do so. Any observable lightning or thunder - stop work and return to shore. Tornado warnings in the general area will require a stop work and return to shore. Maintain radio contact with designated shore watch.
Struck-by Hazards	Be aware of proper boating operation (right-of-ways), drive defensively at posted speeds (<10mph), keep a wide berth from other boats/equipment. Designate bow person to watch for floating or submerged debris. Observe and comply with all safety markers. Boat must be operated in accordance with USCG regulations.
Navigation Hazards	Pay attention to posted signs, buoys, or markers and do not go beyond them. Have two anchors on boat to prepare for casting if vessel shuts down. Prior to leaving the dock, check to ensure adequate gas is in tanks for duration of trip (and recheck regularly), that throw ring/rope, oars, and signal device are in good working condition, and that anchors are in good working condition and adequate for observed

	field conditions (water depth, velocity, substrate type).
Engine Failure	Perform engine inspection daily and ensure adequate fueling and proper maintenance. If an engine failure occurs, deploy anchors on upstream side of boat and tie off. Radio to notify of conditions. Install trolling motor and retrieve anchors. Use trolling motors (and oars if necessary) to move upstream and towards nearest shoreline.

Sediment Sampling via Vibracoring – Sampling procedures entail the use of a vibracoring (Rossfelder P-3C) device with the associated equipment. Once the location has been selected, the vibracore will be used to collect a sediment sample. The vibracore is loaded with a coring tube and lowered to the beginning (top) of the sediment (core tubing may be required to be cut from 12-foot lengths). The vibracore is activated and the tube is vibrated to refusal. The core is then recovered by the onboard winch. The bottom of the tube is capped before it breaks the surface of the water. The tube is then brought on board, prepped for storage, and placed vertically on the boat until transported to the processing area. The primary hazards associated with this procedure are poor ergonomics or physical injuries (sprains and strains) while sampling, pinch and crush hazards operating the winch or vibracore, hazards while operating generator and vibracore device and steel spuds for vessel positioning, overhead hazards from derrick framework, noise from vibracore, and hand safety while cutting the coring tubes to required lengths.

Potential Hazard	Control
Poor Ergonomics while Sampling	Team member(s) that test the sediment and cap the bottom of the tube will take care not to overreach. They will make sure that their foot placement is stable and their body is square to the pipe. Before reaching down to cap the tube, the team member will place their body in a position with good stability. They will maintain 3-point contact with the boat at all times possible.
Pinch and Crush Points	Work gloves (leather or mechanics style) will be worn as necessary and reinforced toe boots will be worn. In addition, a first aid kit will accompany the field crew. Situational awareness of where hands and feet are in relation to pinch and crush points will be maintained and reviewed regularly during tailgates.
Vibracore Operation	Only trained personnel should operate vibracore and associated equipment.
Overhead Obstruction (Derrick)	Watch for overhead hazards near derrick and wear hardhat as necessary. Use situational awareness.
Noise	Wear hearing protection during vibracoring.
Hand Safety While Cutting Core Tubes	The team will only use a safety cutting device such as an automatic retracting safety knife of pipe/tube cutter to cut the core tubes. The cutting device will be stored so that inadvertent contact with the cutting blade is not possible.

Sediment Sampling via Lexan® Tubing – Once the sample location has been selected and verified, a section of Lexan® tube is lowered vertically until it reaches the top of the sediment. The Lexan® tube is then pressed (by hand) into the sediment to a depth that is representative of the sediment conditions. The tube is then driven to refusal using a steel core driver. A pump is used to create a vacuum in the tube to prevent any sediment from escaping and the tube is pulled vertically back into the boat. The bottom of the Lexan® tube is capped before it breaks the surface of the water. Once on board, the top of the tube is capped and a

horizontal cut is made above the sediment using a hacksaw. The tube is then prepped and stored vertically on board pending transport to the processing area. The primary hazards associated with this procedure are poor ergonomics or physical injuries (sprains and strains) while sampling, hazards while operating the steel core driver and vacuum pump (pinch/crush points), and cutting the tube to length using a hacksaw.

Potential Hazard	Control
Poor Ergonomics while Sampling	Team member(s) that test the sediment and cap the bottom of the tube will take care not to overreach. They will make sure that their foot placement is stable and their body is square to the pipe. Before reaching down to cap the tube, the team member will place their body in a position with good stability. They will maintain 3-point contact with the boat at all times possible. .
Pinch and Crush Hazards	Work gloves (leather or mechanics style) will be worn as necessary and reinforced toe boots will be worn. In addition, a first aid kit will accompany the field crew. Situational awareness of where hands and feet are in relation to pinch and crush points will be maintained and reviewed regularly during tailgates.
Cutting Tool Hazards (using Hacksaw)	Care will be taken to stabilize the tube while it is being cut. The team member will be sure to have a stable footing and not have to reach into an awkward position while cutting. In the event of slipping, the cutting direction will not be towards anyone including the person doing the cutting. When not in use, the saw will be stored so that it does not pose a hazard.

Sediment Sampling via Hand-Held Dredge – Once the sample location has been tested and verified, the open dredge is lowered from the side of the boat into the water. The dredge is positioned just above the top of the sediment and then dropped into the sediment. Once the dredge has settled into the sediment, the attached rope is given a hard pull to close the dredge. The dredge is then pulled back up and held over the water to allow for excess water to drain back into the lake. The dredge is then brought back into the boat and emptied into a disposable aluminum pan. This will be repeated for each location until a sufficient volume has been collected. The primary hazards associated with sampling by hand-held dredge are physical injuries or poor ergonomics including hand injuries while handling the dredge in the boat (e.g. pinch and crush points), lowering and raising the dredge from the side of the boat (e.g. back strain, loss of balance), and emptying the contents into a container (e.g. twisting strain, pinch and crush points).

Potential Hazard	Control
Poor Ergonomics While Sampling	Team members will make sure that they are in a stable position when lifting or maneuvering dredge. They will not overreach for the dredge and will use good lifting techniques. (While the dredge is not excessively heavy, back strain is a cumulative injury and the weight of the dredge is enough to put stress on the back muscles if not lifted correctly.) Care will be taken to avoid twisting from the waist while carrying the dredge but to move entire body position in order to maintain stability.
Pinch and Crush Hazards	Work gloves (leather or mechanics style) will be worn as necessary and reinforced toe boots will be worn. In addition, a first aid kit will accompany the field crew. Situation awareness of where hands and feet are in relation to pinch and crush points will be maintained and reviewed regularly during tailgates.

Sediment Sample Transporting – Sample core tubes will be capped on both ends and stored in a vertical position on the boat. When there are a sufficient number of sample tubes, the boat will return to a designated position to offload the tubes onto the transportation vehicle. The vehicle will be equipped with plastic containers to contain the tubes and prevent them from spilling. The tubes will be secured in the containers so that they won't move or shift during transport. The tubes will then be transported to the processing site located in the PLW Site. Once onsite, the tubes will be removed from the vehicle and brought into the processing facility. The primary hazards identified with this task are physical injury resulting from a slip/trip/fall while moving the sample tubes from the boat to the truck and from the truck into the processing location, cuts/abrasions from handling the core tubes, poor ergonomics while lifting and carrying the sample tubes, and traffic hazards.

Potential Hazard	Control
S/T/F	Team members will stay focused and be conscious of where they place their feet. They will recon the path from the boat to the truck and, from the truck to the processing facility. They will identify and mark all hazards in the path and if necessary, select a clearer path. Team members will move as slowly as necessary and not take too many tubes at one time.
Poor Ergonomics	Team members will use good lifting techniques and will not carry too many tubes at one time. All routes will be pre-selected and any hazards identified prior to moving the tubes. Use dollies if possible.
Cuts/Abrasions	Select proper gloves for the task, usually leather or mechanic-style gloves.
Traffic	Ensure proper securing of cores on vehicle prior to transport. Comply with all driving policies in the Site-specific HASP.

Sediment Sample Processing – Sample core tubes will be split longitudinally using either pipe cutters or electric shears, photographed, and observed for physical characterization (e.g., color, texture, material type, and classification). Samples will then be collected from target intervals, homogenized, processed, and shipped for laboratory analysis. Any materials not needed for analysis will be disposed by DuPont. The primary hazards identified with this task are poor ergonomics while lifting and carrying the sample tubes, noise during operation of power tools, and improper use of tools such as electric shears or pipe cutters.

Potential Hazard	Control
S/T/F	Team members will stay focused and be conscious of where they place their feet. They will recon any route needed to move cores, samples, cuttings and if necessary, select a clearer path.
Poor Ergonomics	Establish work surfaces at comfortable heights to alleviate excessive bending or stretching. Setup work area to be efficient and organized to minimize the need to move samples and equipment any more than necessary.
Noise	Wear hearing protection as needed.
Improper Tool Use (shears/cutters)	Inspect tools prior to use. Do not use tools (including power cords) that are in disrepair. Wear cut resistant gloves while cutting tubes. Only use tools in accordance with manufacturer's instructions.

Background Information

Note: The Background Information, Documentation, and the DuPont Site Representative (DSR) Preparation Checklist pages will be completed PRIOR TO ASSEMBLING PSA team. The Background Information page WILL be discussed during the PSA meeting.
The purpose of the Background Information page is to

- Introduce key project team members,
- Verify that adequate and appropriate resources have been assigned, and
- Provide a background on the scope of work to facilitate discussion.

The Documentation and DuPont Site Representative (DSR) Preparation Checklist WILL NOT be discussed with the contractor during the call. The purpose of the Documentation and DuPont Site Representative Preparation Checklist are to verify that:

- The appropriate front end loading of the project has been completed,
- Appropriate support documents are in place, and
- The assigned DSR is properly equipped and prepared to meet project and Client expectations.

PSA Date:	**August 8, 2013**	
Site Name:	**DuPont-Pompton Lakes Works**	
Project Name:	**Summer 2013 Pompton Lake/Ramapo River Sediment Sampling (Lakeside Avenue to Dam)**	
	List Names Below. If present during the PSA meeting, also Check Box	
PSA Participants * If these key participants are not available, the PSA should be postponed.	Project Director*:	David Epps ☒
	Project Manager*:	Sarah Hill ☒
	DuPont Site Rep*.	Norma Eichlin, Christina Faust ☒
	Site Supervisor*:	Tom O'Rourke (supported by Ron Kuhn and Todd Merrell) ☒
	Scribe for PSA*:	Sarah Hill ☒
	H&S Professional*:	Andrew Port or delegate ☐
	Contractor Representatives*:	Todd Merrell, Ron Kuhn, Tom O'Rourke, Marcus Eriksson, Nicole Monroe, and Nicole Pitkorchemny ☒
	Field Team Members:	Tom O'Rourke, Marcus Eriksson, Nicole Monroe, Fabricio Yumiguano, Christina Faust, and Nicole Pitkorchemny ☒
	Site Safety Officer:	Tom O'Rourke ☒
	Facility Representatives:	None ☐

Are there any Short Service Employees (SSEs) who will be working on this project? An SSE is any partner or contractor personnel with less than 6 months experience in the same job type, with his/her present employer. If so, list the names of SSEs below.	☐	Yes	☒	No

Who is serving as the field mentor for those individuals? List names below.

-N/A-

Background Information

Note: The Background Information, Documentation, and the DuPont Site Representative (DSR) Preparation Checklist pages will be completed PRIOR TO ASSEMBLING PSA team. The Background Information page WILL be discussed during the PSA meeting.
The purpose of the Background Information page is to

- Introduce key project team members,
- Verify that adequate and appropriate resources have been assigned, and
- Provide a background on the scope of work to facilitate discussion.

The Documentation and DuPont Site Representative (DSR) Preparation Checklist WILL NOT be discussed with the contractor during the call. The purpose of the Documentation and DuPont Site Representative Preparation Checklist are to verify that:

- The appropriate front end loading of the project has been completed,
- Appropriate support documents are in place, and
- The assigned DSR is properly equipped and prepared to meet project and Client expectations.

Are there specific training or certification requirements to perform the work (i.e., HAZWOPER 40-hour training, heavy equipment operator credentials, forklift training, etc.)? If so, list requirements below. Requirements: HAZWOPER, drug testing and background checks, US Coast Guard certification (boat captain), DuPont site orientation	☒	Yes	☐	No

Brief Summary of the Scope of Work: Sediment core and grab sample collection, transport, and processing. Efforts will include mobilization and launching boat, navigation to/from sample locations and sediment collection, transport of cores/sediment to DuPont facility, and core/sample processing. Core locations will be determined using GPS positioning. Sediment will be collected via vibracoring or petite ponar. Cores will be transported by back to the facility for processing. Cores will be split longitudinally using electric shears for observation and sampling.

Checklist A
Physical Hazards

Category	Item	Subject	No	Yes (add comments below)
Physical Hazards	A	Terrain, Topography		X
	B	Overhead obstructions		X
	B1	If yes, has an OHOP been prepared?	X	
	C	Underground obstructions (e.g. electric, water, gas, cable)		X
	C1	Will intrusive activities be performed?		X
	C2	If yes, review Underground Obstructions SOP and complete flowchart.		X
	D	Elevated work (over 5 feet) to be performed?	X	
	D1	Has a fall protection plan been developed?	X	
	D2	Has a rescue plan been developed?	X	
	E	Excavation, Trenches	X	
	E1	If yes, who is the competent person?	X	
	E2	How will the excavation be sloped/shored/barricaded?	X	
	F	Will heavy equipment be used?	X	
	F1	Equipment should be inspected under both static and loaded conditions.	X	
	G	Traffic (flow and congestion)		X
	G1	If yes, has this been discussed with the contractor?		X
	G2	What requirements will there be for spotters?		X
	H	Slip, Trip, or Fall Potential		X
	I	Weather (heat, ice and rain)		X

	I1	Has heat stress or cold stress been identified?		X
J		Rigging, Suspended Loads	X	
	J1	If yes, who is the qualified rigger?	X	
K		Confined Space Activity	X	
	K1	If yes, has a rescue team been trained and notified?	X	
L		Heat/ignition sources (powered tools, torches, lamps)		X
M		Explosion potential (static, vapor, storage)		X
N		Is there a potential for a fire?		X
O		Rotating Equipment/Moving Parts		X
	O1	Will personnel be exposed to rotating/moving parts?		X
	O2	What additional guards can be installed to minimize exposure?		X
P		Pinch Points		X
Q		Drill Rigs	X	
	Q1	If a drill rig will be used, does the potential exist to encounter flammable/combustible gases (methane, etc.)	X	
	Q2	If the answer to Q2 is "yes" specify what type of Combustible Gas Indicator will be used, how often and where the monitoring will take place, and the action limit.	X	
R		Will there be work over / adjacent to water?		X
S		Will drum handling be performed?	X	
T		Are there any noise sources?		X
U		Will there be any use of high pressure water or steam?	X	
V		What hand safety concerns are associated with the SOW?		X
	V1	What hand PPE is required?		X
	V2	Is there special tool(s) to be used to reduce the hazard?		X
	V3	Are additional precautions, techniques, etc. to be used?		X
W		What ergonomic concerns are associated with the SOW (i.e., lifting, repetitive motion, materials handling)?		X
X		What hand or power tools will be used?		X
	X1	Who will perform initial inspection of hand tools?		X
	X2	Who will perform initial inspection of power cords & GFCIs?		X

Checklist A **Physical Hazards**	
Comments	
Item	
A – Terrain	Field work will be conducted by boat. Terrain surrounding boat ramps is sloped and frequently wet with algae, mud, debris, etc. Use of appropriate waterproof footwear with non-slip soles will be worn. Be aware of surroundings. Crew to review and inspect the condition of the ramp prior to launching/retrieving the boat and do a walkthrough of activities.
B – Overhead Hazard	Care will be taken to identify and avoid overhead branches when close to shore. Staff will have hard hats onboard when navigating around other potential overhead obstructions. Telephone and power lines at ramp ~20' high should not create an overhead hazard for launching/retrieving the boat. Spuds and derrick will be in the down position during transport, boat launching, and boat retrieval (spuds and derrick raised once boat is on the water). Crew to review condition at boat launch to assess potential hazards associated with overhanging trees or limbs (note that the trees have been trimmed).
B1 – OHOP	-N/A-
C – Underground Haz	ARCADIS contacted One Call for utility locate/mark-out, results indicated all clear/no conflict or utilities are marked in the field.
C1 - Intrusive Activity	Sediment core collection will be performed to refusal where at depth information needed. See

	information above (item C) on utilities.
C2 – Underground Obstruction Summary of findings & avoidance measures	See information above (item C) on utilities.
D - Elevated Work	-N/A-
D1 - Fall Protection	-N/A-
D2 - Rescue Plan	-N/A-
E – Excavation	-N/A-
E1 – Competent	-N/A-
E2 - Slope/shored	-N/A-
F - Heavy Equipment	-N/A-
G - Traffic	The access point to the lake will be at the existing boat launch at Lakeside Park; parking will be on Schuyler or Jefferson Ave. Spotters will be used when backing the boat down the ramp and during boat retrieval. A spotter will be used whenever the truck/trailer is being backed into position, or being maneuvered in tight and/or restricted areas. Total weight of truck/trailer/boat ranges from 6 to 8 tons, so travel must avoid bridge crossing with weight restriction – DuPont to provide directions on appropriate roads from facility to boat launch. During core transport, aluminum core tubes will be placed into a secondary containment. Be aware of ordinance of the lake requiring nothing greater than a 9.9HP motor and speed restriction of 10 mph. DuPont contacted town regarding larger boat motor on ARCADIS pontoon boat, speed limit will be followed.
G1 – Discussed	Yes.
G2 - Spotter	Spotters will be used when backing, passing through gates, and when maneuvering vehicles in tight spaces.
H - S/T/F	Walking on wet boat ramps and decks present the potential for S/T/F. Awareness of foot placement (be deliberate about where you step), in combination with shoes with adequate traction, will be used to minimize S/T/F potential. S/T/F hazards will be avoided first; select locations and walk paths that are clear of obstructions. When at all possible remove S/T/F hazards in the work area; gear will be minimized to the extent possible and stowed appropriately on the vessel. All gear will be stowed when underway. Never carry a load that impairs your vision. Walk with hands out of your pockets in case you have to catch your balance. If falling, roll with head tucked into the body to avoid impact on arm or wrist; do not stand on the tongue of the trailer to launch the boat. Identify route for carrying cores from boat to truck and truck to facility. Flag generator cord on the pontoon boat. When transporting boat captain to pontoon boat, smaller boat will tie-off to pontoon boat and boat captain will step from boat to boat maintaining 3 point contact.
I - Weather	Monitor weather and lake conditions and temps. Be aware of changing conditions and dress appropriately. Bring extra clothes in case personnel get wet. Boat equipped with radio to monitor weather conditions. Keep communication with shoreline watch in the event of observed adverse weather conditions. OBG admin person to also track weather conditions and notify field crew in the event of changing conditions. Cell phone application will be used to notify crew regarding lightening strike and a lightning detector is also available on site; these should not be relied on as the sole indicator of severe weather. Work will not be performed during severe rain or lightning, field crews also have the authority to stop work in other inclement or severe weather conditions as determined necessary.
I1 - H/C Stress	Work anticipated for August. There is the potential for very warm temperatures. It is important to wear appropriate clothing to minimize both heat stress and sunburn. Signs and symptoms of heat stress will be discussed in morning tailgates and include but are not limited headache, nausea, vertigo, weakness, thirst, and giddiness. Heat stress can be serious. Workers will employ the buddy system and notify the appropriate supervisor if a coworker shows signs of heat stress. Work schedules will be modified if temperature extremes present increased risk of heat stress. Sufficient amounts of non-carbonated liquids (e.g., water, Gatorade) will be available to the crew on the boat (in an appropriately labeled cooler located in a "clean zone") to avoid dehydration. Sunscreen will be used as appropriate.
J - Rig/Sus. Loads	-N/A-
J1- Qualified Rigger	-N/A-
K - Confined Space	-N/A-
K1 - Rescue Team	-N/A-
L - Heat/Ignition	The boat is equipped with a gasoline powered engine which generates heat and poses a potential ignition source. Engine cowling will be kept in place at all times to minimize the potential for contacting hot engine parts and potential ignition sources. Gas refilling will be done through use of canisters with pour spots and absorbent pads around the port – spill kits will also be available on the boat.

M - Explosion	The boat is equipped gas tank(s) that pose an explosion risk if they come in contact with an ignition source. All gas tanks will be filled on land, while on the ground and not in the bed of the truck or boat. Batteries to be charged only in the established battery charging station within DuPont facility (Building 568). Ground generator to boat.
N - Fire	Fire extinguishers will be available in each vehicle, on boat, and at DuPont facility.
O - Rotating/Moving	Boat propeller and winches for spuds/vibracore unit. There is a dedicated area around each winch for the spuds to keep personnel clear. Spud operation done using control on a pendant outside of this area.
O1 – Exposure	Keep hands clear of all moving/rotating parts. Turn off power source if access needed for these parts.
O2 - Guards	Never reach hand in water to clear prop. Always use boat hook and extend motor out of the water.
P - Pinch Points	Many potential pinch points. Pinch points are associated with vehicle doors and tailgates, coolers, trailer winches, and any situation where two pieces of equipment come together. Use caution and be aware of hand placement. Wear appropriate gloves for the task but be aware that gloves **DO NOT PROTECT FROM PINCH HAZARDS!** Cover pinch points at every tailgate safety meeting to keep awareness level high. Boat personnel should verbally indicate when winches will be engaged, and wait for response from others on the boat before engaging.
Q - Drill Rigs	-N/A-
R - Water Work	All work will be conducted from a US Coast Guard approved vessel by a certified boat captain. The boat is equipped with all necessary safety equipment including: PFDs, sound producing device, fire extinguisher, bilge pump, visual distress signals, VHF radio, GPS, throw rings and throw bags. Complete ARCADIS boat inspection checklist daily. A float plan will be filled out prior to work and filed with the shore watch. Shore watch will be in contact with the boat crew, and will check in periodically. Boat will not operate within 150 feet of the buoy line upstream of the dam; spuds and anchors will be deployed in the event power is lost; secondary anchors and means of propulsion will be at the ready (can use vibracore unit itself as an anchor). DuPont to notify Pompton Lakes Police and Fire Department personnel of on-water work activities. Float plan will include indication of work area such that in the event of an emergency the shoreline watch/facility staff will know approximate work location. In the event of an emergency on the water, boat personnel will pull to closest shoreline (targeting the Pompton side) and contact 911. DuPont to provide map with lots/blocks to boat captain for boat personnel to use in notifying emergency personnel of their location.
S - Drum Handling	Drum handling is not expected to be part of this scope of work. Waste materials that require placement in drums will be taken to PLW Building 1047 in 5-gallon buckets with lids where these buckets will be emptied into designated drums that are staged on plastic.
T - Noise	Hearing protection required during operation of vibracore unit.
U - High Press. H20	-N/A-
V - Hand Safety	Personnel will be exposed to various hand hazards during the performance of the scope of work. Hand hazards will be mitigated first by proper hand placement. All personnel will have and wear the appropriate gloves for their specific assignments (cut resistant, chemical resistant). The gloves will be inspected prior to use to verify their condition.
V1 - PPE Req.	Leather gloves (or applicable) will be worn when loading/unloading gear, operating the ponar sediment dredge, and cutting cores. Safety glasses will be worn at all times. Hard hats will be worn when overhead obstructions are present. Nitrile gloves will be worn when collecting sediment grabs samples and during sediment core processing.
V2 - Special tools	Pipe cutter for cutting aluminum core tubes on boat and electric shears for cutting aluminum core tubes during processing.
V3 - Add. Precaution	Cut core tubes in 2 places to allow core to be "opened" and be aware of cut edge and avoid potential contact. A protective layer (e.g., foam insulation) will be placed on the core tube cut edges to mitigate personnel contact with the sharp edges.
W - Ergo concerns	Personnel will be performing physical activities that will place a strain on their legs, arms, and back. Precautions will be taken to minimize strain including moving feet and not twisting body; not overreaching for materials; stretching in advance of work activities; avoiding awkward work positions; and practice good lifting techniques (using legs, not back). Personnel will alternate during physical activities. Use cart and position truck as close to pick-up/drop-off location during sediment core transport.
X- What hand tools	Electric shears and vibracore unit. Personnel will be adequately trained to safely use any of the required tools. Proper PPE will be worn at all times. No straight and exposed open blades will be used at any time.
X1- Hand tool insp.	Individual personnel will inspect the tools that they will be using prior to the start of each day's work. Any issues regarding the tool condition will be addressed prior to conducting field work.
X2- Power tool insp.	Individual personnel will inspect the tools that they will be using prior to the start of each day's work. Any issues regarding the tool condition will be addressed prior to conducting field work.

Checklist B Chemical Hazards				
Category	**Item**	**Subject**	**No**	**Yes (add comments below)**
Chemical Hazards	**A**	Are contaminants present (most recent data)?		X
	B	What are the concentration levels?		X
	C	Are the contaminants toxic (e.g. carcinogen, mutagen, neurotoxin)?		X
	D	Do routes of exposure include inhalation, ingestion, and dermal absorption?		X
	E	Are there PPE requirements? If yes, what are the levels of protection? Specify Levels A, B, C, D, or modified D below and describe any specific non-typical requirement.		X
	F	Are there air monitoring requirements?		X
	G	Is there a potential that respirator use will be required to complete this work?	X	
	G1	If so, list the names of the individuals who will wear respirators and be prepared to provide documentation of fit tests and medical clearances.	X	
	H	Are there products to be used in the execution of the work?		X
	H1	Are Material Safety Data Sheets available and have they been reviewed?		X
	H2	Will chemical addition or treatment be performed?	X	
	H3	Will the use of any products or materials result in heat generation or off-gassing?	X	
	I	Will sample preservatives be prepared in the field?	X	
	J	Is there proximity to Site Chemical Operations? If yes, specify the hazards if exposed to these operations.	X	
	K	Are area orientations required?		X
	L	Are additional permits/notifications required?		X

Checklist B Chemical Hazards	
Comments	
Item	
A - Contaminants	Mercury is the primary contaminant present in sediment.
B - Concentration	Mercury concentrations are variable but no dermal contact with sediments should occur by field personnel as nitrile gloves should be worn for all tasks involving hand to sediment contact.
C - Toxicity	Although mercury and its compounds are neurotoxins, primary concern is exposure to methyl mercury by developing organisms via diet or exposure to elemental mercury vapors via inhalation.
D - Exposure Routes	Inhalation, ingestion, and dermal. These pathways are not anticipated to be complete for field personnel during sampling activities.
E - PPE	Level D that may include Tyvek® coveralls or rains suits. Nitrile gloves when exposure to sediment shall be used; cut-resistant gloves when handling sharp materials/objects. Nitrile gloves can be worn under work gloves if needed.
F - Air Monitoring	Based on previous site characterizations including field testing and laboratory analysis, mercury vapor levels are not expected to meet or exceed the current Action level of 0.025 mg/m^3. A Jerome mercury vapor analyzer will be used to screen sample cores during processing. If mercury vapor levels do meet or exceed the Action Level, corrective actions will be taken.
G - Respirator Use	-N/A-
G1 - Names, etc.	-N/A-
H - Work Products	Gasoline (trucks, boat) and sulfuric acid (batteries). Spill kit will be available. Coordinate with vegetation treatment (herbicide application) as necessary (treatment done April through July).
H1 - MSDS	The MSDS for gasoline and sulfuric acid is available in the HASP.
H2 - Chemical Add.	-N/A-
H3 - Off Gassing	-N/A-
I - Sample preserve	-N/A-

J- Chem. Operations	-N/A-
K - Orientation	Site orientation will be conducted for all field personnel prior to the start of the work.
L - Permits Required	CRG Work Permit will be completed daily prior to work. Tailgate discussions will focus on high risk tasks: launching/retrieving boat; navigation hazards (including dam); and driving to/from field site.

Checklist C Other Hazards				
Category	**Item**	**Subject**	**No**	**Yes (add comments below)**
Driving	**A**	Will transportation involve personal, rental or company car? If yes, be specific as to type of car.		X
	A1	Are drivers familiar with vehicle to be used (e.g., brakes, mirrors, lights, small vs. large vs. SUV)?		X
	A2	Will equipment / cargo be transported in the backs of vehicles being used by the project team?		X
	A3	Are directions to the site available?		X
	A4	Is the vehicle in good condition, inspection current, and well maintained (tires, windshield wipers and fluid, brakes, etc.)?		X
Site Access Req.	**B**	Are there any special security requirements for work at the site (i.e., Homeland Security)?	X	
	B1	Is Maritime Security Act training required?	X	
	B2	Are security background checks required for site entry?		X
	B3	Is substance abuse testing required?		X
	B4	Is local Area Safety Council Training required?	X	
Project Audits	**C**	What is the audit requirement for this project based on project duration (< or > 2 weeks)? Note: A minimum of 1 audit is required for EVERY project regardless of project length.		☒ Self Audit ☒ Scheduled Audits
	C1	Who will develop the required audit schedule?		X
Biological Hazards	D	Are there biological hazards present (e.g., poisonous plants, vectors, wild animals, snakes, ticks, bees)?		X
Communications	**E**	Have adequate means of communication been established (cell phones, plant radios, etc.)?		X
	E1	Means of communication with facility?		X
	E2	Means of communication between field team members?		X
	E3	Have cell phone numbers been exchanged as appropriate?		X
Buddy System	**F**	If there are circumstances where individuals must work alone?	X	
	F1	Has a buddy system been developed for the work?		X
	F2	Have adequate provisions regarding check in and communication been made to assure individual safety?		X
Other Hazards	**G**	Are there any other hazards applicable to the fieldwork being performed?		X
Management of Change	**H**	Do all parties understand the importance of and the process to identify and/or manage changing field conditions?		X
Unexpected Occurrences	**I**	Do all parties understand the the definition of an Unexpected Occurrence and are they familiar with the expected reporting and investigation process?		X

Checklist C Other Hazards	
Comments	
Item	
A - Transportation	Company or rental vehicles will be used.
A1 - Driver Familiar	Drivers are familiar with vehicles being used for the project. Complete the ARCADIS vehicle check list daily. Drivers will not use cell phone while driving. No hands free cell phone or radio use is permitted while driving. Allow passenger to take call or pull over to safe parking position before using phone. Return travel will be planned to avoid traffic hazards as applicable; travel/work will be within a 12 hr day.
A2 - Cargo	Cargo stored in the vehicles and on towed vessel will be properly secured with the appropriate straps (e.g., locking ratchet straps). **NOTE**: bungee-type cords are not allowed on this project.
A3 - Directions.	Directions to the site are available. Directions to new locations will be communicated and personnel will follow or ride with lead truck.
A4 - Car Requirements	Vehicles meet DuPont requirements: air bags, no cracked mirror or glass, emergency brake, horn, and seatbelts for all passengers. Complete the ARCADIS vehicle check list daily to confirm car condition.
B – Security	-N/A-
B1 - Maritime Act	-N/A-
B2 - Background Cks	The employer(s) for all personnel will submit a letter confirming that the individual(s) have successfully completed the required DuPont background checks.
B3 - Drug Test	The employer(s) for all personnel will submit a letter confirming that the individual(s) participate and have successfully passed an acceptable substance testing program.
B4 - ASCT Require	-N/A-
C- Audit Frequency	Self audits will be done on a daily basis; scheduled audits will be done per the schedule to be defined by Andrew Port.
C1- Audit Schedule	The audit schedule will be developed and distributed to all affected personnel prior to project start.
D - Bio Hazard	Poison ivy may be present in the areas covered by the scope of work. Workers will be alert for the signs of a nest or the presence of dangerous insects, and be familiar with the seasonal appearance of poison ivy. Confirm with field crew allergies to bee stings prior to mobilization, and notify on-site staff along with measures to be implemented in the event of a sting. Add sting kill swab (or equivalent) to first aid kit.
E- Communications	Communication between team members, site security, and site contacts will be maintained by cell phone and/or site radios. Individual cell phone numbers will be exchanged between all individuals prior to the start of the project. Site radios operate on an open channel. Be aware of possible community interest in activities and answer questions as possible or refer them to the staff at the DuPont facility.
E1 - Facility Com.	Communication between team members, site security, and site contacts will be maintained by cell phone and/or site radios. Individual cell phone numbers will be exchanged between all individuals prior to the start of the project.
E2 - Field Com.	Communication between team members, site security, and site contacts will be maintained by cell phone and/or site radios. Individual cell phone numbers will be exchanged between all individuals prior to the start of the project.
E3 - Cell phone #s	Individual cell phone numbers will be exchanged between all individuals prior to the start of the project.
F - Alone Worker	Work is not anticipated to require individual team members to work out of site/direct communication with other team members.
F1- Buddy System	All team members will stay in direct site/communication with the other members of the field team and will not wander off by themselves.
F2 – Check in policy	Field personnel will check in with designated site contacts once every 60 minutes by either cell phone or by site radio.
G - Other Hazards	Be aware of the dam at the downstream extent of sampling activities. Boat equipped with multiple emergency stop mechanisms (anchors, spuds) in the event of a power failure (see Checklist A, item R).
H - Change Management	If conditions change in the work area from previous discussions, personnel will stop work and contact either the Site Supervisor or the DSR, who will contact the PD, the PM and the SSO to discuss the change. The team will discuss the change, associated hazards and path forward.
I- Unexpected Occurrence	Unexpected Occurrence (UO) are defined as any unplanned event or action that could cause: injury or illness, property damage, an environmental release, work interruption, or occurrences indicative of a pattern. This would include incidents that may be classified as a near miss, first aid, incident, or injury and requires that the UO be reported and investigated.

Checklist D
Project Security Planning

Note: This section may be omitted if deemed unnecessary by the Project Team

Category	Item	Subject	No	Yes (add comments below)
Project Security Planning	**A**	Is this project located in an area where the personal security of the field team may be a concern? (Refer to current DuPont travel restrictions)	X	
	A1	Is it necessary to have a stand alone Project Security Plan developed?	X	
	B	Have project personnel exchanged contact information (phone numbers)?	X	
	B1	Has Emergency Contact information (back home) been exchanged?	X	
	C	Have preferred and varied travel routes travel to and from the site/hotel etc. been identified and communicated	X	
	C1	Have areas to be avoided been identified (seek guidance from regional Security Manager)	X	

Checklist D
Project Security Planning

Comments

Item	
A -	-N/A-
A1	-N/A-
B -	-N/A-
B1	-N/A-
C-	-N/A-
C1	-N/A-

Checklist E
Non Regulated Process Hazards

Note: This section to be completed if a non-regulated process is involved.

Category	Item	Subject	No	Yes (add comments below)
Non Regulated Process	**A**	Is there an O&M Manual?	X	
	A1	Does it address requirements such as safety interlock/valve inspection frequency?	X	
	B	Pipe code and classification	X	
	B1	Are materials of construction consistent throughout?	X	
	B2	Are valves and sample ports easily accessible?	X	
	B3	Are valves and joints adequately supported?	X	
	C	Electrical classification and codes	X	
	D	Are there lockout/tagout requirements (electrical, mechanical, hydraulic, and pneumatic)?	X	

Checklist E
Non Regulated Process Hazards

Comments

Item	
A - O&M manual	-N/A-
A1 - Valves	-N/A-
B - Pipes	-N/A-
B1 - Construction	-N/A-
B2 - Accessible	-N/A-
B3 - Supported	-N/A-
C - Electrical	-N/A-
D - Lock out/tag out	-N/A-

Checklist F
Process Safety Hazards

Note: This section **only applies if** the project involves a process that is covered by 29 CFR 1910.119. If so, then a formal Process Hazards Assessment (PHA) must be conducted.

Category	Item	Subject	No	Yes (add comments below)
Process Safety Hazards	A	Highly Hazardous Chemicals as determined by 1910.119	X	
	B	Steam Processes	X	
	C	High Pressure >3000 psi	X	
	D	Heat Generation	X	
	E	Chemical Addition	X	
	F	Management of Change		X

Checklist
Process Safety Hazards

Comments

Item	
A - Hazardous Chem.	X
B - Steam	X
C - High Pressure	X
D - Heat Generation	X
E - Chem. addition	X
F- Mgmt Change	If conditions change in the work area from previous discussions, personnel will stop work and contact either the Site Supervisor or the DSR, who will contact the PD, the PM and the SSO to discuss the change. The team will discuss the change, associated hazards and path forward.

Documentation

(These sections are not to be covered during the PSA but are a planning tool to be used by the PD/PM/DSR for project planning & preparation.)

Category	Item	Subject	No	Yes (add comments below)
HASP	A1	Is the HASP current for the scope of work? Provide date and title of HASP in the comments section.		X
	A2	Is there a HASP addendum that addresses the scope of work? Provide date, number, and title of Addendum in the comments section.		X
	A3	Has a copy of the pertinent document(s) been made available to the project team?		X
Scope of Work	B1	Is there a written scope of work for the project? Provide date and title of document.		X
	B2	Has a copy of the scope of work been made available to key project members?		X
WMP	C1	Is the waste management plan current for said activities? If yes, list date and title of WMP.		X
	C2	Has the WMP been reviewed by a member of the WM Network and the field team? If yes, list the names of the individuals.		X

Comments

Item	
A1 - HASP Title	Environmental Health and Safety Plan (E-HASP) Acid Brook Delta, Pompton Lakes, New Jersey (Arcadis, May 2010)
A2 - HASP Add.	DuPont PLW HASP Addendum 4, Pompton lakes Sediment Sampling (July 2013) and Environmental Health and Safety Plan (E-HASP) – Addenda No. 1-4, Acid Brook Delta, Pompton Lakes, New Jersey (Arcadis, May 2010, October 2010, and May 2013 – only Addendum No. 2 applicable to work covered herein)
A3 - HASP Received	HASP Addendum and PSA specific to this work will also be uploaded to Parsons site and provided to all field crew members prior to mobilization. The HASP and HASP Addenda will become part of the DuPont Site Plan.
B1 - SOW Title	2013 Sediment Sampling Plan, Pompton Lake ABD Project (July 2013)
B2 - SOW Reviewed	Currently under USEPA review with comments pending; scope may be modified
C1 - WMP Title	Appropriate personnel have been notified and the document has been updated as necessary.
C2 - WMP Reviewed	Appropriate personnel have been notified and the document has been updated as necessary.

Variance

Supply justification for not completing geophysical survey in accordance with CRG SHE Procedure for Underground Obstruction.

Documentation **(These sections are not to be covered during the PSA but are a planning tool to be used by the PD/PM/DSR for project planning & preparation.)**	
Justification	
PD Signature	
PM Signature	
Date	

DSR Preparation Checklist

Instructions: To be completed by PM and DSR prior to mobilization as part of the front-end loading process. Note: The DSR is the individual on site who represents DuPont. While the DSR's responsibilities may vary by project, a basic understanding of the following items is required on all projects, regardless of the DSR's project-specific responsibilities (e.g. Site Supervisor, Site Safety Officer, Construction Manager, Sampler).

Check the box (place an X in the Item field) once the item is discussed.	
Item	
	Review project goals and objectives with DSR and how current scope fits in with overall project
	Permit requirements related to the work (e.g. federal, state, local, E&S, plant, internal)
	Technical Specifications/Drawings/Work Plan
	Contract-type (lump sum, unit price, or T&M) and how they relate to field management responsibilities
	Contract administration (responsibility as a "Receiver" in the **B**uy/**R**elease, **R**eceive, **P**ay process, Cost Tracking, Progress Meetings, Meeting Minutes, etc.)
	Health and Safety Plan
	Waste Management Plan
	Fieldwork Documentation Requirements
	Communication 1. Lines of Communication within the Project Team (CRG, plant, contractor, subcontractors) 2. How to address regulatory visits/questions if they arise 3. How to address Community issues/visits/questions if they arise

Together, we have thoroughly reviewed the project related information and requirements listed above for the project:

Site Name	
Project/Task	
Project Manager	
DSR(s)	
Date	