SEDIMENT CHARACTERIZATION STUDY REPORT (RE01)

Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project

Project ID No. 1-18-3-21-8R

Cecil and Harford Counties, Maryland

Prepared For:

Maryland Environmental Service
259 Najoles Road
Millersville, Maryland 21108

Prepared By:

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47 East All Saints Street
Frederick, Maryland 21701

May 28, 2021

Project No. 3037.02

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ACRONYMS AND ABBREVIATIONS

ATC	Anticipated Typical Concentration
BMPs	Best Management Practices
BTV	background threshold values
CBEMP	Chesapeake Bay Environmental Modeling Package
CBPO	Chesapeake Bay Program Office
cfs	cubic feet per second
COC	chain-of-custody
CPMBM	Conowingo Pond Mass Balance Model
Dam	Conowingo Dam
DGA	Data Gap Analysis Report
DNR	Maryland Department of Natural Resources
DQIs	Data Quality Indicators
DRO	diesel range organics
EDDs	electronic data deliverables
EPA Method	United States Environmental Protection Agency Method
ERDC	Engineering Research and Development Center
Exelon	Exelon Power Corporation
ft	foot or feet
GL	glass
GPS	global positioning system
HDR	HDR, Inc.
IR	Innovative Reuse
IR/BU	Innovative Reuse and Beneficial Use
IR/BU Guidance	MDE, 2019 Innovative Reuse and Beneficial Use Guidance Document
LCS	laboratory control samples
LSRWA	Lower Susquehanna River Watershed Assessment
MDE	Maryland Department of the Environment
MES	Maryland Environmental Service
ug/kg	micrograms per kilogram
mg/kg	milligrams per kilogram
MGS	Maryland Geological Survey
MQOs	Measurement quality objectives
MS	matrix spike

NOM	natural organic matter
Northgate-Dutra JV	Northgate-Dutra Joint Venture
PAHs	polycyclic aromatic hydrocarbons
PCBs	polychlorinated biphenyls
Phase Labs	Phase Separation Science Laboratory
PID	photoionization detector
Project	Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project
Project Area	The portion of the Conowingo Reservoir between the MD/PA State line and the Conowingo Dam
QA/QC	Quality Control/Quality Assurance
Reservoir	Conowingo Reservoir
RPD	relative percent difference
RSD	relative standard deviation
RSLs	USEPA Regional Screening Levels
SaLUT	Soil and Land Use Technology Inc.
SAP	Sampling and Analysis Plan
SOPs	Standard operating procedures
State	State of Maryland
State Line	Maryland/Pennsylvania Line
SVOCs	semi-Volatile Organic Compounds
TMDL	Total Maximum Daily Load
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TPH-DRO	total petroleum hydrocarbons as diesel range organics
UMCES	University of Maryland Center for Environmental Science
USACE	United States Army Corps of Engineers
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USGS	United States Geological Service
VOCs	volatile organic compounds
WQSTM	Water Quality and Sediment Transport Model

EXECUTIVE SUMMARY

The Maryland Environmental Service retained the Northgate-Dutra Joint Venture to conduct the Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use (IR/BU) Pilot Project (Project). The Project contains two main components: the Sediment Characterization Study, which includes characterization of the sediment in the Conowingo Reservoir from the Maryland/Pennsylvania state line to the Dam (Project Area); and the Demonstration Project, which includes the evaluation of and demonstration of the feasibility of using reservoir sediment for IR/BU. This report presents the findings of the Sediment Characterization Study.

The objectives of the Sediment Characterization Study included the following:

- Characterize the overall thickness and volume of the sediment wedge contained behind the Conowingo Dam (the Dam) within the Project Area;
- Characterize the grain size distribution of the sediment in the Project Area to inform future decisions regarding selective dredging and sediment reuse options;
- Analyze the sediment core samples for a broad panel of chemical constituents to assess the suitability of the material for potential sediment reuse options;
- Assess the abundance and distribution of granular coal layers identified in previous investigations; and
- Provide data for understanding nutrient and sediment transport to assess the potential to reduce the ongoing nutrient and sediment loads to the upper Chesapeake Bay.

Sediment sample collection was conducted in December 2020 at 19 coring locations. One hundred fifty sediment core intervals were collected from 19 coring locations and analyzed for a broad panel of physical and chemical constituents. All 150 core intervals were analyzed for grain size distribution, percent moisture, priority pollutant metals, and total organic carbon. Thirty-two core intervals were analyzed for hexavalent chromium, total and free cyanide, sulfide, sulfate, total organic carbon, volatile organic compounds, semi-volatile organic compounds, organochlorine pesticides, PCBs, dioxins, furans, total petroleum hydrocarbons, total nitrogen, ammonia, total phosphorus, and soluble salts. The Sediment Characterization Study results revealed the following:

Lithology: Four predominant soil types were observed interbedded: lean clay, elastic silt, sand/silt mixtures and granular coal with silt. A larger percentage of the coarser sediment fraction (sand) was found in the northern portion of the Project Area as well as adjacent to the main flow channel. The finer sediment fraction (silt and clay) was predominantly found closer to the Dam and adjacent to the eastern shoreline where water flow velocities are lower.

Presence of Coal: All cores contained sediment with elevated total organic carbon (TOC) concentrations, indicative of the presence of coal. Coal granules were observed in thin discreet layers in most cases while a few thicker accumulations up to 2 feet thick were observed. Coal was also found interspersed throughout the sediment. The highest TOC concentrations were in the northern portion of the Project Area while lower TOC concentrations were found closer to the Dam.

Chemical Analytical Results: The laboratory analytical results have been compared to the Maryland Innovative Reuse (IR) screening criteria from the IR/BU Guidance document to support evaluation of potential sediment reuse options. Results have also been compared to the Central Maryland Anticipated Typical Concentration (ATC) and background threshold values (BTVs) for New York and Pennsylvania (when available).

All analytes detected in samples were at concentrations below screening levels with the exception of three metals and select semi-volatile organic compounds. Exceedances for these constituents are summarized below:

- Arsenic: Concentrations generally exceeded the two most restrictive IR categories and the Central Maryland ATC value; however, concentrations are all at or below BTVs for New York and Pennsylvania, the predominant source of the sediment.
- Manganese: Concentrations generally exceeded the most restrictive IR screening level, and exceeded the second most restrictive screening level in 10% of the samples. Fifty percent of detections were below the Central Maryland ATC.
- Thallium: Concentrations generally exceeded the most stringent IR screening level; however, all detections were below the Central Maryland ATC.
- Semi-volatile Organic Compounds (SVOCs): Three SVOCs (benzo(a)anthracene, dibenz(a,h)anthracene, and benzo(a)pyrene) exceeded the most restrictive IR screening level. Central Maryland ATC values have not been established for SVOCs. The detected SVOCs are likely due to the presence of coal in the samples.

Other analytes including volatile organic compounds, polychlorinated biphenyls, organochlorine pesticides, dioxins and furans, petroleum hydrocarbons, and metals not listed above, were detected in samples at concentrations below Project screening levels.

Based on the analytical results, these analytes must be further assessed to evaluate appropriate reuse options and will be evaluated in further detail during bench scale testing and be presented in the Demonstration Project report.

Conclusions and Recommendations

Findings and further recommendations for each of the five Sediment Characterization Study objectives are summarized as follows:

- The estimated sediment volume in the Project Area is approximately 200 million cubic yards of material. A limited number of control points for the reservoir bottom elevation could result in variations in the volume calculation up to +/- 40 million cubic yards.
- Grain size distribution tests indicate that the sediment is predominantly composed of silt and clay with occasional layers or lenses of coarser grained silt/sand. Coarser grain sediments are more prevalent in the central (adjacent to flow channel) and the northern portion of the Project Area, while finer sediments are more prevalent in the southern, downstream portion of the Project Area (closer to the Dam) and along the eastern flank of the reservoir (lower flow velocity areas). The results of the Sediment Characterization Study provide a robust dataset for supporting future sediment management decisions. Depending on the objectives of future projects, additional localized lithologic characterization is likely necessary.
- Granular coal was observed throughout the Project Area in the form of sand-sized particles (1 to 2 mm) as well as fine coal dust and comprise approximately 20% to 40% of the sediment. Higher percentages of coal were found in the upstream northern portion of the Project Area. The presence of coal at varying concentrations and its influence on the performances of various reuse alternatives will be further evaluated in the Demonstration Project.
- Results from metals and SVOC analyses are generally below Category 1 IR requirements, and are consistent with regional background levels. Laboratory analytical results for select metals (arsenic, manganese, and thallium) exceed the most stringent IR thresholds, however are consistent with upstream background source soil. The detected SVOCs are likely due to the presence of coal in the samples.
- Data collected during the Sediment Characterization study will facilitate the refinement of nutrient and sediment transport modeling in the Reservoir by providing much greater granularity about sediment grain size distribution than previously available. These data can help calibrate future modeling simulations leading to greater confidence in nutrient and sediment flux projections. The Sediment Characterization Study data will be used to update the Conowingo Pond Mass Balance Model which can then be used to evaluate specific dredging scenarios and their impact on nutrient and sediment flux into the Chesapeake Bay.

The Demonstration Project will consider the presence of coal, chemicals, and nutrients, and how these constituents influence potential reuse performance and marketplace potential. The influence of coal on different reuse alternatives will consider whether coal factors into the

performance of each respective technology. We recommend that further work be conducted, outside the scope of the Project, on solid separation technologies to evaluate and create reuse opportunities for both the coal and separated sediment.

1.0 BACKGROUND AND OBJECTIVES

1.1 Introduction

The Maryland Environmental Service (MES) retained the Northgate-Dutra Joint Venture (Northgate-Dutra JV) to conduct the Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use (IR/BU) Pilot Project (Project). The Project contains two main components: the Sediment Characterization Study, which includes characterization of the existing sediment in the Conowingo Reservoir (Reservoir), and the Demonstration Project, which includes the evaluation of and demonstration of feasibility of the Reservoir sediment for IR/BU. The Project Area is comprised of the Conowingo Reservoir between the Maryland/Pennsylvania state line (State Line) and the Conowingo Dam (Dam) as shown on Figure 1.

The Project is a key step in the State's initiative to reduce sediment and nutrient loads released from the Susquehanna River watershed (Figure 2) including from the Reservoir to the Chesapeake Bay. The Draft Conowingo Watershed Implementation Plan includes 2025 targeted nutrient reductions, including 6 million pounds of nitrogen reduction and 260,000 pounds of phosphorous reduction per year for the Susquehanna River (CWP, 2020). When coupled with Best Management Practices (BMPs) and other nutrient management strategies, sediment removal from the Reservoir is one component of a multifaceted approach to improve water quality in the Chesapeake Bay. The ultimate goal is to meet United States Environmental Protection Agency (USEPA) Total Maximum Daily Load (TMDL) requirements for the Chesapeake Bay (USEPA, 2010). Studies performed by the United States Geological Survey (USGS; USGS, 2012) and Gomez and Sullivan (2012) indicate the Reservoir has reached dynamic equilibrium and has minimal capacity to impound additional sediment. Studies performed by the United States Geological Survey (USGS; USGS, 2012) and Gomez and Sullivan (2012) indicate the Reservoir has reached dynamic equilibrium and has minimal capacity to impound additional sediment. During high-flow and wet-weather events this condition results in intermittent releases of significant scoured sediments and nutrients into the Chesapeake Bay. Contingent on the time period between scour events and amount scoured (capacity increase), there are periods of less significant yet continual releases of suspended sediment and dissolved nutrients.

During the development of the Sediment Characterization Study, Northgate-Dutra JV incorporated strategies conforming to the 2017 Maryland Department of the Environment (MDE) *Innovative Reuse and Beneficial Use of Dredged Material Guidance Document* (IR/BU Guidance); updated December 2019 (MDE, 2019). Northgate worked closely with multiple staff at MES, their technical consultant Anchor QEA, and MDE to develop the scope of the Sediment Characterization Study. In addition, Northgate-Dutra JV collaborated with numerous

stakeholders on this Sediment Characterization Study report, including the University of Maryland Center for Environmental Science (UMCES), the Maryland Department of Natural Resources, the Maryland Geological Survey, the United States Geological Survey - Chesapeake Bay Program Office (CBPO), as well as Project partners Ramboll US Consulting, Inc. and Ecosystem Services.

This report describes activities performed as part of the Sediment Characterization Study and presents the findings. This report will be followed by the Demonstration Project, which will include IR/BU bench scale testing, nutrient and sediment transport modeling evaluations, as well as an economic market analysis of reuse options that are suitable for future consideration based on the findings of the bench scale tests. The IR/BU Materials Management Plan (Northgate, 2019c) further describes the tasks to be completed during the Demonstration Project. The finding of the Demonstration Project will be presented in an IR/BU Evaluation and Demonstration Study Report.

1.2 Project Objectives

The overarching objectives of the Project are to identify potential solutions for reducing nitrogen, phosphorous, and sediment loads from the Reservoir into the Chesapeake Bay and to determine the feasibility of using dredged sediment for IR/BU. The objective of the Sediment Characterization Study is to supplement existing Reservoir sediment data in an effort to support the development of a long-term sediment and nutrient management strategy. The objective of the IR/BU Demonstration Project is to evaluate the suitability of Conowingo Reservoir sediment for a variety of potential end uses. The findings of the Sediment Characterization Study and the IR/BU Demonstration Project will be used to evaluate potential sediment management strategies as one solution to mitigate the downstream flux of nutrients.

1.3 Sediment Characterization Study Objectives

The Sediment Characterization Study was conducted according to the Sampling and Analysis Plan (SAP, Northgate, 2019a) prepared for the Project. The SAP was approved by MES and MDE in August 2019. The objectives of the Sediment Characterization Study included the following:

- Characterize the overall thickness and volume of the sediment wedge contained behind the Conowingo Dam (the Dam) within the Project Area;
- Characterize the grain size distribution of the sediment in the Project Area to inform future decisions regarding selective dredging and sediment reuse options;

- Analyze the sediment core samples for a broad panel of chemical constituents to assess the suitability of the material for potential sediment reuse options;
- Assess the abundance and distribution of granular coal layers identified in previous investigations; and
- Provide data for understanding nutrient and sediment transport to assess the potential to reduce the ongoing nutrient and sediment loads to the upper Chesapeake Bay.

The Project will evaluate the feasibility and logistics of utilizing the impounded sediment as a resource as described in the IR/BU Materials Management Plan.

1.4 Site Background

The Conowingo Dam was built in 1928, resulting in the largest reservoir on the Susquehanna River. The Dam was constructed by the Philadelphia Electric Company (now part of Exelon Power Corporation [Exelon]) to control floods and provide a source of hydroelectric power. Over time, sediment from the Susquehanna River watershed (Figure 2) deposited behind the Dam, filling the Reservoir and reducing its sediment-trapping and water-holding capacity. During storms, high water flows result in additional scoured sediment being transported into the Chesapeake Bay. Table 1 presents a summary of flood events between 1993 and 2018. As shown, during that time, eight flood events exceeded the scour threshold of 400,000 cubic feet per second (cfs).

Several studies of sedimentation and scour within the Reservoir have been conducted over the past 25 years or more (USGS, 1995, 1996, 1997, 2009, 2012; USACE, 2015; and Gomez and Sullivan, 2012). These studies indicate that the Reservoir now has minimal capacity to impound additional sediment. A review of bathymetric survey data from 1960, 1993, 1996, 2008, and 2014 (Figures 3 through 7) support findings of continued loss of infill capacity. The bathymetric surveys also indicate a consistent pattern of channelized flow. Near the State Line, higher velocity water flow is found in two channels that funnel together to form a single higher-velocity channel aligned along the western side of the Reservoir leading into the Conowingo Hydroelectric Generating Station (Figure 1). This channelized flow is a consistent component in the overall scour and deposition patterns observed in the Project Area. The extensive scour that can take place during a major high flow event is illustrated on Figure 8. This figure shows changes in the bathymetric surface between 1993 and 1996; after a major flood event in January of 1996. Scour occurred in large portions of Reservoir during this 909,000 cfs flood event. Since then, there have been two decades of additional sediment deposition punctuated by episodic scour events. The combination of reduced sediment trapping capacity with high water flow

events is resulting in increased transport of sediment and nutrients from the Reservoir to the upper Chesapeake Bay.

Table 1. List of Susquehanna River Flood Events at Conowingo, MD: 1993 - 2018

Date of Flood	Crest (ft)	Streamflow (cfs)	Category	Above Scour Threshold (400k cfs)*
4/2/1993	28.06	500,000	Moderate	YES
3/23/1994	26.16	403,000	Moderate	YES
1/20/1996	34.18	909,000	Major	YES
11/11/1996	24.04	303,000	Minor	NO
1/10/1998	25.55	372,000	Moderate	NO
3/22/2003	24.15	308,000	Minor	NO
1/16/2004	23.88	Not Available	Minor	Not Available
9/19/2004	30.07	620,000	Major	YES
4/4/2005	26.70	430,000	Moderate	YES
6/29/2006	27.31	461,000	Moderate	YES
3/6/2008	25.64	379,000	Moderate	NO
1/27/2010	24.37	325,000	Minor	NO
3/8/2011	24.17	317,000	Minor	NO
3/12/2011	27.79	487,000	Moderate	YES
4/29/2011	25.06	354,000	Moderate	NO
9/9/2011	32.41	778,000	Major	YES
7/26/2018	NA	353,000	Moderate	NO

Source: National Weather Service: https://www.weather.gov/media/marfc/FloodClimo/MSL/Conowingo.pdf
**Approximate flow at which sediment is known to be mobilized from the lower Susquehanna River reservoirs (Lang, 1982; Reed and Hoffman, 1997)*

The transport of nutrients from the Susquehanna River to the upper Chesapeake Bay has contributed to eutrophication in the Chesapeake Bay (USACE, 2015). There are multiple effects of eutrophication, including excessive algal growth, loss of submerged aquatic grasses, and bottom water hypoxia/anoxia (Kemp et al., 2005). Chesapeake Bay eutrophication results from the input of nitrogen and phosphorus from point and non-point sources, with inputs of both freshwater and nutrients, resulting in stratification (Boicourt, 1992) and the algal growth/organic deposition within the mesohaline region that leads to bottom water hypoxia and accumulation of hydrogen sulfide (Fennel and Testa, 2018; Hagy et al., 2004). The Susquehanna River drainage dominates the input of nutrients and freshwater and has the largest influence on the biogeochemistry of the mid- Chesapeake Bay region. Dissolved nitrogen is the dominant form of nitrogen followed by the particulate forms of nitrogen associated with living organisms and

detritus. Phosphorus inputs are predominantly particulate, with potential post-depositional mobility of sediment inorganic phosphorus evident from field studies (Hartzell and Jordan, 2012; Hartzell et al., 2017).

1.5 Previous Investigations and Data Gap Analysis

There have been several previous studies characterizing the physical and chemical properties of the sediment within the Reservoir. As part of developing the SAP for the Sediment Characterization Study, these previous studies were reviewed, and a detailed data gap analysis was performed as described in the Data Gap Analysis Report (DGA Report, Northgate, 2019b). A summary of the findings from the data gap analysis is presented below. The experimental design and rationale for the SAP was based on the data gap analysis, observations regarding channelized flow, and previous reports on sediment deposition and scour zones within the Project Area.

As described in the DGA Report, previous investigations of sediment characteristics and bathymetry for the Reservoir are limited. Sediment characterization studies are limited to approximately five sampling events where sediment core data were collected (Figure 9). Data from shallow cores collected in 2000 and reported by the Watershed Assessment and Protection Program (Edwards, 2006), helped guide the identification of target analytes and provided a greater understanding of the distribution of coal layers throughout the Reservoir. However, five major flood events (Table 1) have resulted in scour since those cores were collected, reducing spatial and temporal confidence in those data. Two core sampling events conducted by the Maryland Geologic Survey in 2017 (Van Ryswick et. al., 2017a, 2017b) were conducted to specifically support the solicitation for this Project and were limited to two localized areas of the Reservoir.

Key observations from the DGA Report include:

- Limited core depth - Most of the cores previously collected were shallow surface cores that penetrated the sediment to a depth of an average of 3 feet below the sediment surface. The deepest available core was collected from approximately 11 feet below the sediment surface. Given the sediment behind the Dam can approach 80-90 feet thick, the deeper portions of the sediment prism (the wedge of sediment impounded by the Dam) were largely uncharacterized prior to this Sediment Characterization Study.
- Temporal variation - Previous sample collection occurred over the span of three decades. During that time, the Reservoir was transitioning into a state of dynamic equilibrium as described in the Lower Susquehanna River Watershed Assessment (LSRWA): *"In this dynamic equilibrium state, sediment and associated nutrients will continue to accumulate in the reservoirs until an episodic flood (scouring) event occurs. That is, there is no*

absolute capacity or point at which the reservoir is "full" and will no longer trap sediment and associated nutrients. Storage capacity will increase after a scouring event, allowing for more deposition within the reservoir in the short term" (US Army Corps of Engineers [USACE 2015]). Data from shallow sample cores collected in one decade cannot easily be compared with data from cores collected during a different decade given the likelihood of sediment disturbance between sampling events.

- Varied analytical suites - Previous investigations were performed with varying objectives resulting in varied analytical suites. Nearly half of the available cores do not have grain size distribution data and most of the chemical analyses were limited to select suites of analytes.
- Dynamic bathymetry - Comparison of bathymetry data collected over the last 30 years indicates episodes of scour followed by temporary localized deposition. One consistent trend is the deep channel along the western side of the Reservoir leading to the power plant as shown on Figures 3 through 8. Because episodes of significant scour and deposition occur in this deep channel relatively frequently during and after storm events, this area was avoided during collection of sediment cores for the Sediment Characterization Study.
- Exceedances of Regulatory Thresholds - Several of the previous investigations included extensive chemical analyses with only limited findings of constituents above Project screening levels (refer to Section 1.7 for a description of screening levels). As presented in the DGA Report, Table A16, constituents exceeding screening levels are summarized as follows:
    - **Metals.** Metals analyzed were below Category 1 (unrestricted residential) screening levels with the exception of arsenic, manganese, and thallium, which were detected in most samples at concentrations above Category 1 or Category 2 (commercial, industrial) screening levels, and hexavalent chromium, which was detected in approximately half the samples at concentrations above Category 1 screening levels. Observed concentrations of all four metals appear to be consistent with regional background soil concentrations.
    - **Semi-volatile organic compounds (SVOCs).** With the following exceptions SVOCs were not detected or were well below Category 1 unrestricted screening levels. Benzo(a)pyrene, benzo(a)anthracene, benzo(a)fluoranthene, dibenz(a,h)anthracene, ideno(1,2,3-cd)pyrene, and naphthalene were detected at concentrations below Category 2 screening levels but were slightly above Category 1 residential screening levels. The potential association between coal and observed SVOC concentrations is discussed in Section 4.3.2.
    - **Total petroleum hydrocarbons (TPH).** TPH as diesel range organics (TPH-DRO) was detected well below Category 2 and 3 (restricted use, cap required) screening

level. Several samples were detected at concentrations slightly above Category 1 screening levels and may be associated with coal layers.

- **Coal.** Granular coal was found in sample cores in the form of discrete coal layers and as coal particles interspersed throughout the sediment. Previous investigators estimated the coal content of the sediment, excluding the visible coal layers, to be approximately 11% of sample volume on average. Results of coal observed during previous investigations listed are listed in the DGA, Table A3.
- **Other analytes.** Other analytes including volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), pesticides, herbicides, dioxins and furans, and the metals not listed above were not detected in historical samples at concentrations above Category 1 unrestricted use.

Given the spatial and temporal variations in the data combined with relatively small number of target analytes identified, attempts at presenting the chemical analytical data in maps was not insightful. The analytical data from previous investigations, which are presented in the DGA Report, Tables A2 to A14, were used to inform the selection and frequency of sample collection and analysis presented below.

1.6 Study Design and Rationale

Northgate-Dutra JV developed the SAP for the Sediment Characterization Study with input and concurrence from MES, MDE, Maryland Department of Natural Resources (DNR), and other stakeholders. The scope of the study was based on the review of historic data presented in the DGA Report and supported the following objectives and considerations:

- Development of lithologic cross sections (longitudinal and transverse) in the Project Area;
- Further define the bottom elevation of the Reservoir in the Project Area;
- Provide chemical characterization of target analytes identified in prior investigations;
- Provide physical and chemical characterization data pertinent to IR/BU to facilitate future sediment management planning; and
- Avoid restricted areas, utilities, potable water intakes, and identified wildlife habitats.

1.6.1 Proposed Core Locations

Figure 10 shows the 28 possible sample core locations submitted to Exelon for access approval, with 19 core locations proposed for drilling and nine locations proposed as alternates. Of these, 19 proposed core sample collection locations were selected for core sample collection in coordination with MES, MDE, and the DNR. Figure 10 also presents the estimated thickness of the sediment at each core location as well as the number of 5-foot cores that were anticipated to be collected during the development of the SAP. The bottom of the sediment prism was

estimated based on data from historical investigations. Continuous coring at the 19 selected locations was anticipated to result in the collection of approximately 150, 5-foot core segments.

1.6.2 Analytical Methods

Target analytes for the Project are defined as the analytes detected in prior investigations at concentrations exceeding IR/BU screening criteria. The target analytes for the Project, which are presented in Table 2, include select metals, SVOCs, and TPH-DRO. Total Organic Carbon (TOC) was added to help assess the presence of granular coal.

As shown in Table 3, all cores included analysis for grain size distribution, moisture content, priority pollutant metals plus mercury, and TOC. In addition, samples collected from 32 select cores were analyzed for an expanded suite of constituents, which included target analytes SVOCs and TPH-DRO as well as various nutrients, and additional organic and inorganic compounds. As described in the SAP, the suite of analyses was selected to provide important data for developing lithologic cross sections and characterizing the extent and concentration of target analytes, as well as other sediment constituents, for IR/BU purposes. Historical data appear to indicate that there is a correlation between coal content and polycyclic aromatic hydrocarbons (PAH) concentrations, and the sampling program has been designed to further evaluate the correlation between coal content, as represented by TOC and PAH concentrations. The method used for each analytical or physical test is also cited in Table 3.

Table 2. Target Analyte List

Target Analyte (Metals)	***Analysis SOP #***	***Method Detection Limit***
Arsenic	EPA Method 6020A	0.25 mg/kg
Chromium (total)	EPA Method 6020A	1.25 mg/kg
Chromium VI Hexavalent	EPA Method 7196A	1.00 mg/kg
Manganese	EPA Method 6020A	1.25 mg/kg
Mercury	EPA Method 6020A	0.05 mg/kg
Thallium	EPA Method 6020A	1.00 mg/kg

Target Analyte (SVOCs)	Analysis SOP #	Method Detection Limit
Benzo(a)pyrene	EPA Method 8270D	83.33 ug/kg
Benzo(a)athracene	EPA Method 8270D	83.33 ug/kg
Dibenz(a,h)athracene	EPA Method 8270D	83.33 ug/kg
Indeno(1,2,3-cd)pyrene	EPA Method 8270D	83.33 ug/kg
Naphthalene	EPA Method 8270D	83.33 ug/kg
Target Analyte Petroleum	**Analysis SOP #**	**Method Detection Limit**
Total Petroleum Hydrocarbons – Diesel Range Organics (DRO)	EPA Method 8015C	4 mg/kg
Target Analyte Coal/TOC	**Visual Inspection* ASTM D2974**	**Estimate % present**

*The approved SAP indicated visual inspection would be used to estimate the percentage of coal in each core. Loss on ignition testing (ASTM D2974) was later added to further quantify coal content.

mg/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

Section 2.1 (Sampling Methods) provides additional detail regarding how lithologic intervals were selected for chemical analysis. The 32 cores selected for the broader analytical suite was adjusted, in consultation with MDE, from those presented in the SAP based on observations by field geologists during drilling and core sample processing.

Table 3. Sampling and Analysis Matrix

	Physical Geotech	Metals and Inorganics							Organics								Nutrients			
Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project ID No. 1-18-3-21-8R	Grain Size Distribution (ASTM D422)	Percent Moisture (SM 2540G, ASTM D422, D2974-87)	Priority Pollutant Metals + Hg (EPA 6020A & 7471)	Hexavalent Chromium (EPA 7196A)	Cyanide , Total (EPA 9014)	Cyanide , Free (EPA 9016)	Sulfate (EPA 300.0)	Sulfide, Total (AM 4500 -S2 D200)	Total Organic Carbon - (EPA 9060)	Volatile Organic Compounds (EPA 8260B)	Semi-Volatile Organic Compounds (EPA 8270C)	Organochlorine Pesticides (EPA 8081B)	PCBs Aroclors (EPA 8082A)	Dioxins / Furans (EPA 8290 / 1631)	Total Petroleum Hydrocarbons - DRO (EPA 8015C)	Total Petroleum Hydrocarbons - GRO (EPA 8015C/5035 prep)	Total Kjeldahl Nitrogen (EPA 351.2)	Ammonia, Nitrogen (SM4500-NH3B or F/EPA 350.1)	Total Phosphorus (EPA 365.3)	Soluble Salts EC - : 2 (V:V) (Lab SOP)
All Cores Analyzed / # Samples Included	150	150	150						150											
IR/BU Analyses / # Samples Included				32	32	16	32	32		32	32	32	32	16	32	32	32	32	32	32

Note: Laboratory analysis for VOCs and TPH-GRO may be reduced based on PID response after consultation with MDE.

1.7 Evaluation Criteria and Data Quality Objectives

Screening levels to evaluate chemical properties of the sediment include concentrations presented in Appendix 3 of the MDE Innovative Reuse and Beneficial Use of Dredge Material Guidance Document (IR/BU Guidance; MDE, 2019.) In addition, Central Maryland Anticipated Typical Concentrations (ATCs) will be considered, when available. Sediment characterization results will inform evaluation of inputs of nutrient concentrations and grain size for Reservoir sediments in existing predictive models of nutrient and sediment transport. In accordance with the conceptual approach identified in the framework for the Conowingo Watershed Implementation Plan, it is anticipated that the various dredging scenarios and successful IR/BU end uses will be a component of meeting the Watershed Implementation Plan.

1.7.1 Screening Criteria

The following regulations and guidance documents may apply to IR/BU planning for sediments dredged from the Project Area:

- MDE Innovative Reuse and Beneficial Use of Dredge Material Guidance Document, December 2019. https://mde.maryland.gov/programs/Marylander/Documents/Dredging/FINAL_IBR_GUIDANCE_12.05.2019_MDE.pdf

- MDE Cleanup Standards for Soil and Groundwater, Interim Final Guidance (Update No. 3) October 2018 (COMAR 26.13) https://mde.state.md.us/programs/LAND/MarylandBrownfieldVCP/Documents/www.mde.state.md.us/assets/document/MDE Soil and Groundwater Cleanup Standards 10-2018 Interim Final Update 3-2.pdf

- USEPA Regional Screening Levels (RSLs) Generic Tables, November 2020 (40CFR260) https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables

- MDE Fill Material and Soil Management Guidance Document, August 2017 https://mde.maryland.gov/programs/LAND/MarylandBrownfieldVCP/Documents/FillMaterial_andSoilManagementFactSheet82217.pdf

For the Sediment Characterization Study, laboratory analytical results are compared to the Maryland Innovative Reuse screening criteria from the IR/BU Guidance (Appendix 3, Table A3-1) to support evaluation of potential sediment reuse options. The screening criteria are derived from the USEPA Regional Screening Levels (USEPA, 2020).

- Category 1 – Residential Unrestricted Use Soil and Fill Material
- Category 2 – Non-Residential Restricted Use Soil and Fill Material

- Category 3 – Restricted Use Soil and Fill Material, Cap Required
- Category 4 – Ineligible Soil and Fill Material

Category 3 Screening Criteria includes thresholds for Composite Worker and Construction Worker. Comparison to Beneficial Use thresholds (IR/BU Guidance; Table A3-2) have not been evaluated under the scope of this Sediment Characterization Study.

In addition to the IR/BU screening criteria, results are compared to the Central Maryland ATC when available. The State has identified background chemical concentrations for metals and trace elements, referred to as their respective ATC (MDE, 2018). In this document, the State also established cleanup standards for residential sites which are consistent with the IR Category 1 screening criteria. As shown in Table 4, ATC concentrations for the metals that have historically exceeded their Category 1 screening levels, including arsenic, manganese, and thallium, are higher than their respective Category 1 criteria. No ATC is available for hexavalent chromium.

Table 4. Comparison of Anticipated Typical Concentrations to Proposed Maryland Residential Cleanup Standards.

Analyte	Anticipated Typical Concentration (ATC) (mg/kg)			Proposed Maryland Cleanup Standards
	Eastern MD	Central MD	Western MD	(residential)
Arsenic	3.6	4.9	11	0.68
Manganese	480	1,400	1,500	180
Thallium	3.9	1.5	4.6	0.078

Adapted from MDE, 2018. All values are reported in parts per million.

The watershed draining to Conowingo Reservoir is located almost entirely in the states of Pennsylvania and New York. Accordingly, background concentrations of elevated metals, specifically arsenic, are appropriate for consideration when evaluating concentrations detected in the sediment. Based on an arsenic background study performed in 2010 (Vosnakis et al, 2010), background threshold values (BTVs) for arsenic in the states of New York and Pennsylvania (all soils) are 24.2 and 23.4 milligrams per kilogram (mg/kg) respectively. BTVs for surface soils for New York and Pennsylvania area are 22.8 and 23.7 mg/kg, respectively. A BTV is defined as "a concentration in soil that is representative of the sample results and may be used to describe the background conditions for a particular area or geologic characteristics" (Vosnakis et al, 2010).

The findings of this study are not intended to be compared directly to published standards to establish regulatory compliance for a *specific* IR/BU project, but rather are intended to be used to broadly evaluate characteristics of the Reservoir sediments such that future sediment management plans and strategies can be developed. It is understood that prior to any future

specific sediment removal and reuse project, additional characterization will be required consistent with the IR/BU Guidance in connection with MDE and all other applicable agency regulations, permits, and approvals.

1.7.2 Data Quality Indicators and Measurement Quality Objectives

Data Quality Indicators (DQIs) and their methods of assessment for new data collected during this Project are presented in Table 5. Measurement Quality Objectives (MQOs) for assessing the quantitative DQIs (completeness, accuracy, precision, and sensitivity) are established by the laboratory and method-specific quality assurance protocols. These MQOs establish the minimum acceptability standards for data generated during this investigation. The Quality Assurance Manual for Phase Separation Science Laboratory (Phase Labs) is provided in Appendix A. The Quality System Manual for Soil and Land Use Technology, Inc., (SaLUT) is included in Appendix B. The analytical methods proposed for the individual physical and chemical testing performed during this study are described in Section 2.3 below.

Table 5. Data Quality Indicators and Assessment Methods

DQI	Description	Evaluation Method
Representativeness	A qualitative assessment of the degree to which data accurately and precisely represent an environmental condition.	Collect samples from locations and depths that have been established based on the DGA Report (Northgate, 2019b).
Comparability	A qualitative assessment of the measure of confidence that one dataset can be compared to another and can be combined for decision making.	Utilize similar sampling and analysis methods, equipment, QA/QC protocols, and data acceptance criteria across all sampling locations.
Completeness	A quantitative measure of the amount of valid data needed to be obtained from a measurement system for decision making.	The percentage of samples for a given constituent/analyte providing acceptable data. ***Target is 90% for all constituents.***
Accuracy	A quantitative measure of the overall agreement of a measurement to a known value.	Percent recovery[1] of laboratory matrix spikes (MS) and laboratory control samples (LCS).
Precision	A quantitative measure of agreement among repeated measurements of the same property under identical, or substantially similar conditions.	Multiple MS and LCS duplicate samples are run for each laboratory analysis. Precision of the analysis is calculated as the relative standard deviation (RSD)[2] of the MS and LCS samples.

DQI	Description	Evaluation Method
Sensitivity	The "detection limit" of the method – the capability of a method or instrument to discriminate between measurement responses representing different levels of the variable of interest.	The detection limit of the analysis method and reporting limit for this study.

Notes:
[1]Percent MS/LCS recovery is calculated as:

$$\text{Recovery}\,(\%) = \frac{\text{spike sample result - parent sample results}}{\text{concentration of spike addition}} \text{x}100\%$$

[2]RSD is calculated as:

$$\text{RSD}\,(\%) = \frac{\text{standard deviation of spike concentration}}{\text{mean spike concentration}} \text{x}100\%$$

1.8 Sediment and Nutrient Transport Modeling

One of the objectives of the Sediment Characterization Study is to supplement the data available to inform evaluations of sediment and associated nutrient loads entering the Lower Susquehanna River from the Conowingo Reservoir. At present, two modeling packages, including the Conowingo Pond Mass Balance Model (CPMBM) and the Chesapeake Bay Environmental Modeling Package (CBEMP), represent our best understanding of nutrient and sediment dynamics within the Lower Susquehanna River.

- The CPMBM, developed by HDR, Inc. (HDR) on behalf of Exelon, is an integrated hydrodynamic, sediment transport and nutrient fate and transport model. This model is reportedly the most efficient and effective model to evaluate how the magnitude, composition, and reactivity of nutrient loads discharged from the Reservoir to the upper Chesapeake Bay vary under different conditions including potential sediment removal scenarios (i.e., various bathymetries). Access to this model and required funding could not be secured for the Project. However, future modeling efforts, may take advantage of the Sediment Characterization Study data to modify or update sediment data model inputs.
- The CBEMP, operated by the Chesapeake Bay Program Office, includes the Phase 6 Hydrological Simulation Program – FORTRAN Watershed Model, and a Bay Water Quality and Sediment Transport Model (WQSTM). This modeling package is reportedly the most effective tool to understand how changes to sediment and nutrient transport may affect downstream water quality and the associated load reduction that can be accounted for within the Chesapeake Bay TMDL.

These two model packages, CPMBM and CBEMP were utilized as part of the Chesapeake Bay TMDL 2017 midpoint assessment. Given that the HDR model will not be available, changes in water quality resulting from dredging will need to be assessed utilizing previous scenario modeling in combination with improvements of our understanding of reservoir sediment characterization and sediment and nutrient dynamics. As part of the LSRWA, completed in 2015, the USACE Engineering Research and Development Center (ERDC) developed a 2D model of the Conowingo Reservoir using the Adaptive Hydraulics modeling system. This effort also explored dredging scenarios, which were in turn modeled as inputs to the CBEMP. These scenarios will act as the basis for evaluations of new strategic dredging scenarios through the development of a regression relationship between bathymetric changes and sediment and nutrient loads to the Chesapeake Bay.

2.0 FIELD SAMPLING AND ANALYTICAL METHODS

The Sediment Characterization Study field work was conducted from December 1 to 18, 2020. Work included coring and sampling at 19 locations (Figure 11). Eighteen of the 19 locations were proposed in the SAP; however, due to shallow water, the barge was not able to core location A1, so the core location was adjusted to contingency location D1. Sampling and analysis protocols, which were outlined in the SAP and implemented during the Sediment Characterization Study, were intended to ensure consistent, defensible methods and were employed from core sample collection and laboratory analysis, through data management and reporting. As part of these protocols, field notes and activity logs were submitted on preapproved field forms on a daily basis to MES and MDE summarizing the activities completed. In addition, separate field forms were submitted summarizing the core processing and sampling activities completed each day.

Equipment required to support the field work was mobilized out of Dorsey Park Boat Launch in Delta, Pennsylvania from December 1 to 3, 2020. Field activities were conducted according to a project specific Health and Safety Plan previously approved by MES. A project safety briefing was conducted by Exelon for site supervisors on December 3, 2020.

Prior to investigative activities, 16 marker buoys were deployed on December 3, 2020 to mark an exclusion zone defined by Exelon in the Right of Entry Agreement established between Exelon and Northgate Environmental Management. In addition, utility crossings, potable water intakes, and other potential near shore or overhead utilities were identified by contacting Maryland Miss Utility and conducting site visits with utility company representatives.

Core sample collection was conducted from December 4 to 12, 2020. During coring at location B8, a complication with the drilling equipment required that coring cease for the day with only two cores collected. The following day, the barge and drill rig setup again at location B8 and core collection proceeded without incident until refusal. Cores collected on the first day are referred to as B8 and cores from the second day are referred to as B8A on boring logs and in sample nomenclature.

Once core sample collection was completed, all equipment was demobilized from Dorsey Park Boat Launch by December 18, 2020.

2.1 Sampling Methods

Sediment core samples were collected by SaLUT of Glen Burnie, Maryland. A track mounted drill rig was secured on a spud barge and positioned with a support boat to access each boring location. The barge was equipped with two 60-foot spuds to allow drilling in up to approximately 55’ of water depth. A photograph of barge and associated drilling equipment is presented below.

The barge position was documented at each boring location using a Trimble Geo 7x handheld Global Positioning System (GPS) device. Water stage was recorded at each boring location to set the vertical control point for boring depth. Borings for sediment core collection were advanced using a CME 55 drill rig equipped with a Geoprobe DT325 dual tube sampling system with 3.25 inch probe rods. Sediment samples were obtained in 5-foot long, 2-inch plastic sleeves inserted into the inner core barrel.

Aerial Image of Coring Operations

To collect each sample core, the dual tube sampler was pushed/driven into the sediment to the target sampling depth. The inner casing with the core liner was then removed while the outer casing remained in place. Once retrieved, each core was capped, labeled, and placed on ice on the barge immediately after collection. A new 5-foot PVC core sleeve was then inserted into the inner core barrel and both the inner and outer barrels were advanced to the next sampling depth. Core sampling continued in this manner until the bottom of the sediment prism was encountered. This interface was determined by the field geologist when refusal occurred or the field geologist observed a distinct change in the material in the tip of the steel drive tip (e.g., saprolite or rock fragments).

At the end of each day, the sample cores were transported to SaLUT's Glen Burnie, Maryland laboratory for processing. The cores were processed and described by a geologist experienced in sediment core description and sampling. Sample collection occurred within 24 hours of core collection to remain within chemical laboratory analytical holding times. During processing, the sediment cores were split lengthwise from top to bottom, and immediately screened with a photoionization detector (PID) along the entire length of the core. PID readings are presented on the boring logs (Appendix C). PID readings above background were not typically observed. This

was consistent with previous investigations. One of the core halves was then photographed, and the sediment stratigraphy and other observations (including the presence of coal or bituminous layers) were recorded on standardized boring logs using the Unified Soil Classification System (USCS). Samples for laboratory analysis were collected from the other core half. In consultation with MDE, 10 samples representing a variety of grain sizes were selected for VOC analysis based on PID readings described above. If VOC analysis was prescribed for the sample, a discreet sample was collected using a Terra Core sampler. Discreet samples are shown on boring logs and in laboratory analytical result tables as having the same top and bottom depth recorded for the sample interval given the small size of the Terra Core sampler.

Representative samples were collected from each core for analysis. The sampling frequency and depth interval within each core was adjusted as needed to match the lithology of the core. Samples were generally collected where distinct horizons were apparent based on sediment grain size, organic matter, and/or the presence of coal. For example, if a 2-foot thick layer of sand was overlying a 3-foot thick layer of clay, then the sand layer was composited separately from the clay layer, even if the layer extended into an adjacent core.

As summarized in Table 3, samples of 32 select lithologic core-layers were analyzed for the broader suite of IR/BU Guidance analytes to assess whether constituents beyond the target analytes are present in deeper sediment. The 32 cores were selected based on observations by the field geologists during drilling, core sample processing and PID readings.

As noted above, past investigations have identified the presence of coal layers and coal grains dispersed throughout the sediment in the Reservoir. Observations regarding coal content were recorded by the field geologist during the core description.

Samples were collected where coal was observed to evaluate potential correlations between PAHs or arsenic, with the presence of coal. Historical data appears to indicate that there is a correlation between coal content and PAH concentrations. Accordingly, samples were collected for SVOCs analysis that displayed a wide range of visible coal content in the core.

Once the sampling for the parameters shown in Table 3 was completed, bulk samples were collected from the remaining core materials for IR/BU Bench Scale Testing. Methods and findings of the IR/BU Bench Scale Evaluation will be presented in a separate report. Once the core processing and sampling was completed, remaining cores were transported to the Maryland Geologic Survey to be archived.

2.2 Sample Handling and Chain of Custody

At the end of each day, sealed sediment cores were transported to SaLUT for processing. Once the cores are opened, photographed and described, they were sampled for physical and chemical analyses as described above. Sediment samples for chemical analysis and physical parameters analysis were transported to three separate locations, including the SaLUT laboratory, Phase Labs, and Rutgers University, for analysis. Sediment samples for physical and chemical analysis were placed in laboratory provided sample containers, labeled, and placed in iced coolers for transport to the appropriate analytical laboratory for analysis. Samples were transported and delivered under standard chain-of-custody (COC) procedures and documented on COC forms. The COC form indicates the requested set of analyses for each individual sample.

2.3 Analytical Methods

Physical property testing of the sediment samples was performed by SaLUT's laboratory in Glen Burnie, Maryland. Organic and inorganic chemical analyses was performed by Phase Labs of Baltimore, Maryland, a State Certified Water Quality Laboratory. Phase Labs sent some samples to be analyzed by partner specialty labs including Pace Analytical, Waypoint Analytical, and Alpha Analytical. The laboratory certification documents for both laboratories are provided in Appendix A and Appendix B. In addition, duplicates of nearly all of the grain size samples were sent to Rutgers University in New Brunswick, NJ for loss on ignition testing to assess the percentage of ignitable organic material present in each sample. Table 6 provides detailed information on the suite of physical and chemical analyses that were run on the selected samples.

Table 6. Laboratory Analytical Summary

Analytical Parameter	Analysis SOP #	Sample Volume	Preservation Requirements	Receiving Lab	Hold Times
Grain Size Distribution	ASTM D422	600g	None	SaLUT Labs	None
Total Organic Carbon (Loss on Ignition)	ASTM D2974	60g	None	Rutgers University	None
Percent Moisture	ASTM D422 SM2540G D2974-87	4oz GL (glass) Wide Mouth / 25g	Cool, ≤ 6°C	SaLUT/Phase Labs/Pace Labs	28 Days
Priority Pollutant Metals	EPA Method 6020A	4oz GL Wide Mouth / 25g	Cool, ≤ 6°C	Phase Labs	28 Days

Analytical Parameter	Analysis SOP #	Sample Volume	Preservation Requirements	Receiving Lab	Hold Times
Hexavalent Chromium	EPA Method 7196A	4oz GL Wide Mouth / 25g	Cool, ≤ 6°C	Phase Labs	30 Days
Cyanide, Total	EPA Method 9014	4oz GL Wide Mouth / 25g	Cool, ≤ 6°C	Phase Labs	14 Days
Cyanide, Free	EPA Method 9016	4oz GL Wide Mouth / 25g	Cool, ≤ 6°C	Phase Labs/Alpha Analytical	14 Days
Sulfate	EPA Method 300.0	4oz GL Wide Mouth / 25g	Cool, ≤ 6°C	Phase Labs	28 Days
Sulfide, Total	SM 4500-S2	4oz GL Wide Mouth / 5g	Cool, ≤ 6°C	Phase Labs	14 Days
Total Organic Carbon	EPA Method 9060 Modified	4oz GL Wide Mouth / 50g	Cool, ≤ 6°C	Phase Labs	28 Days
Volatile Organic Compounds	EPA Method 8260B	Terra Core	Methanol/Sodium Bisulfate Cool, ≤ 6°C	Phase Labs	14 Days
Semi-Volatile Organic Compounds	EPA Method 8270C	4oz GL Wide Mouth / 90g	Cool, ≤ 6°C	Phase Labs	14 Days
Organochlorine Pesticides	EPA Method 8081B	4oz GL Wide Mouth / 50g	Cool, ≤ 6°C	Phase Labs	14 Days
PCBs (Aroclors)	EPA Method 8082A	4oz GL Wide Mouth / 30g	Cool, ≤ 6°C	Phase Labs	None
Dioxins/Furans	EPA Method 8290	4oz GL Wide Mouth / 100g	Cool, ≤ 6°C	Phase Labs	30 Days
Total Petroleum Hydrocarbons - DRO	EPA Method 8015C	4oz GL Wide Mouth / 90g	Cool, ≤ 6°C	Phase Labs	14 Days
Total Petroleum Hydrocarbons - GRO	EPA Method 8015C/5035 prep	Terra Core	Methanol/Sodium Bisulfate Cool, ≤ 6°C	Phase Labs	14 Days

Analytical Parameter	Analysis SOP #	Sample Volume	Preservation Requirements	Receiving Lab	Hold Times
Nitrogen (Total Kjeldahl Nitrogen)	EPA Method 351.2	4oz GL Wide Mouth/ 25g	Cool, ≤ 6°C	Phase Labs	14 Days
Nitrogen, Ammonia	SM4500-NH3F	4oz GL Wide Mouth / 25g	Cool, ≤ 6°C	Phase Labs/Pace Labs	28 Days
Total Phosphorous	EPA Method 365.1	4oz GL Wide Mouth/ 25g	Cool, ≤ 6°C	Phase Labs	14 Days
Soluble Salts	1:2 (V:V) Soil: Water Extract Method	4oz GL Wide Mouth/ 25g	Cool, ≤ 6°C	Phase Labs/Waypoint Analytical	28 Days

2.4 Quality Control

This section describes the quality control procedures for the physical and chemical analyses that were performed on the samples collected and analyzed during the Sediment Characterization Study.

2.4.1 Physical Analyses

Quality control procedures for physical analyses performed on the samples at SaLUT's laboratory are described in their laboratory Quality Systems Manual (Appendix B). Field quality control involves the calibration of field instruments, sample management procedures, and sample storage and handling. SaLUT's activities were limited to core sample collection, and laboratory analysis for grain size distribution. Laboratory quality control methods which include the analysis of matrix spikes, laboratory control samples, laboratory duplicates and method blanks to assess analytical quality were not applicable for the portion of the project scope completed by SaLUT. This also applied to the loss on ignition samples analyzed at Rutgers University.

2.4.2 Chemical Analyses

Quality control procedures for chemical analyses performed on the samples are described in the Phase Labs' Quality Assurance Manual (Appendix A) and the individual analytical method Standard Operating Procedures (SOPs). Field quality control includes the laboratory analysis of field duplicate samples, field blanks, and equipment blanks to assess field sampling consistency and method adherence. Laboratory quality control procedures include the analysis of matrix

spikes, laboratory control samples, laboratory duplicates and method blanks to assess analytical consistency and quality. The number and frequency of analysis of these samples is determined in the individual analytical method SOPs (Table 6) but will generally conform to the requirements presented in Table 7.

Table 7. Laboratory and Field Quality Control Procedures

Quality Control Method	Frequency of Analysis
Laboratory Quality Control	
Calibration Standard	Per method or manufacturers specification
Calibration Verification	Per method
Laboratory Blank	Per 20 samples or per analytical batch, whichever is more frequent
Laboratory Control Sample	Per 20 samples or per analytical batch, whichever is more frequent
Matrix Spike	Per 20 samples or per analytical batch, whichever is more frequent
Matrix Spike Duplicate	Per 20 samples or per analytical batch, whichever is more frequent
Laboratory Duplicate	Per 20 samples or per analytical batch, whichever is more frequent
Surrogate Spikes	Per Method
Field Quality Control	
Field Duplicate	5% of total project sample count for chemical analyses
Field Blank, Travel Blank, Equipment Blank	Per Method

2.5 Data Management

All field sampling activities were recorded on-site on field forms and data sheets. Field forms and datasheets were scanned and stored electronically on a Northgate-Dutra JV central file server. All data collected and generated for this project have been stored on a Northgate-Dutra JV secure file server. Individual core samples collected for lithologic description, and physical and laboratory analysis were assigned a unique identifier and input into an environmental database to allow tracking throughout the Project.

Phase Labs provided results on a dry weight basis and issued analytical reports and data files in the form of electronic data deliverables (EDDs) upon completion of the analyses. A description of the laboratory reporting deliverables is provided in the laboratory Quality Assurance Plan (Appendix A). Upon receipt and validation of the EDDs, the analytical results were entered into the environmental database. SaLUT provided electronic versions of the physical test results.

2.5.1 Data Review and Validation

Validation was performed on the data using the USEPA Region 3 Inorganic Level 1 and Organic Level 1 criteria. The validation process included but was not limited to:

- Calculation of relative percent difference (RPD) for lab data;
- Comparison to holding times, project detection limits and project accepted QC frequency;
- Method blank contamination, matrix spike and matrix spike duplicate RPDs, trip blank, field blank, equipment contamination as needed; and
- Comparison to laboratory control sample and laboratory control sample duplicates to rejection limits.

Data Validation Reports are presented in Appendix D. Validation flags were assigned to the data during the validation process and reports were generated identifying samples requiring manual review.

The data generated during the Project was reviewed in accordance with the measurement quality objectives in Section 1.7 and sample analytical results were placed in one of the following three categories: (1) data meeting all measurement quality objectives, (2) data failing precision or recovery criteria, and (3) data failing to meet accuracy criteria. Data validation procedures were performed in accordance with the Preliminary Data Review Decision Tree (USEPA, 1998). Data meeting all measurement quality objectives, but with failures of quality assurance/quality control practices, was set aside until the impact of the failure on data quality was determined. Data analytical results were moved into either the first category or the last category (with appropriate validation flags). Data in the first and second category was determined usable by the Project team. Data in the last category may have been considered not usable and based on the usability of the data could be flagged as rejected.

Data that did not meet all validation criteria applicable for the project primarily were the result of accuracy issues in the laboratory matrix spike analyses. Laboratory control samples were generally within the control limits applied, which is described in Appendix D. The validation excursions were most probably caused by matrix interference which is not unusual in a reconnaissance level investigation. Considering the usability of the data, for this reconnaissance

level investigation, none of the data were rejected. Subsequent sampling and analysis programs can be designed to minimize the impacts of matrix interference on sediments analytical results.

3.0 SEDIMENT CHARACTERIZATION RESULTS

The results of the Sediment Characterization Study are presented below and summarized in Tables 8 through 15.

3.1 Lithology and Coal Content

3.1.1 Lithology

Sediment collected during the investigation was logged by a field geologist in general accordance with ASTM 2788 Standard Practice for Description and Identification of Soils (Visual-Manual Procedures). Upon receipt of laboratory data, the boring logs were updated as appropriate in accordance with ASTM 2787 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). Boring logs (Appendix C) and core photographs (Appendix E) have been prepared for each core location. The results of the physical analysis conducted by SaLUT are presented in the boring logs, and the laboratory data sheets are included in Appendix F. In addition, grain size distribution is presented in Table 8 as percent sand and percent fines (silt and clay) and in the lithologic cross sections (Figures 12 to 15). Hydrometer and Plasticity Index testing were conducted on two samples (C7 47.0-50.8 and C7 61.8-65.8) to confirm field observations. Horizontal and vertical positioning data for the core locations are presented in Appendix G.

In general, four predominant lithologies were observed in the cores:

- Lean clay
- Elastic silt
- Sand and silt mixtures
- Granular coal with silt

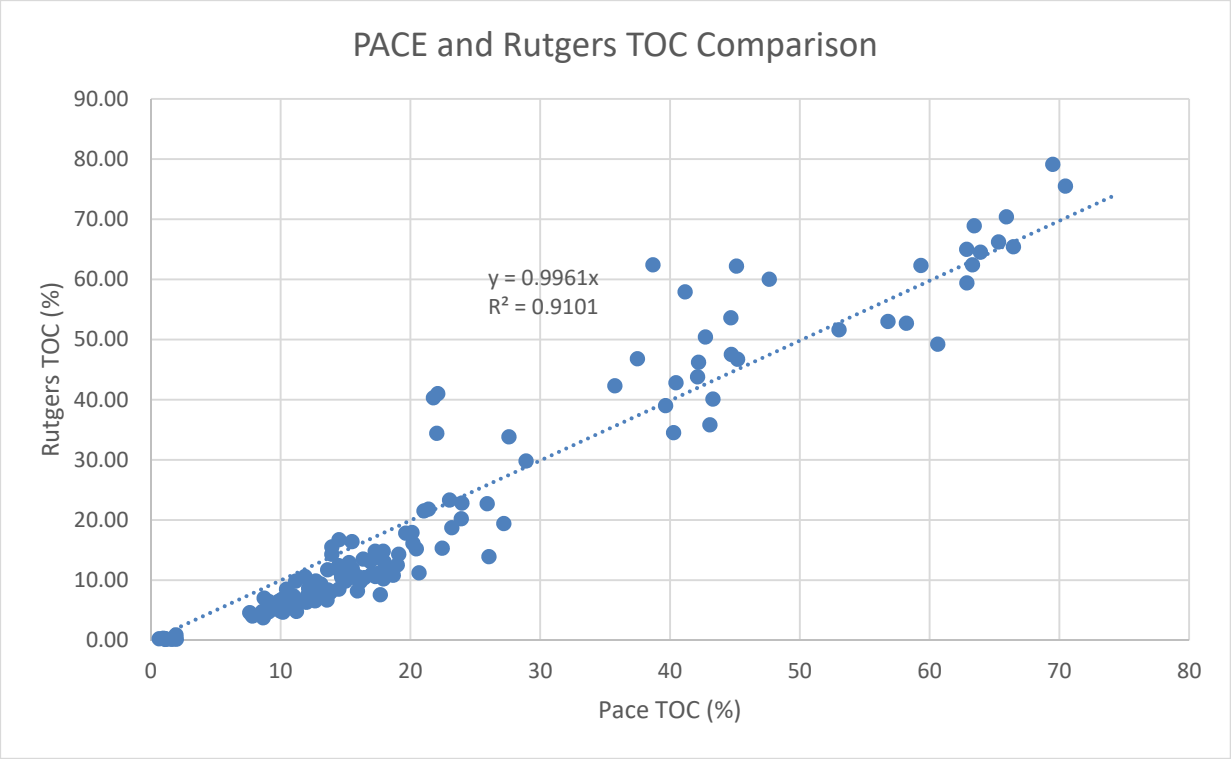
Most of the cores were interbedded with lithologic changes occurring every few feet. Cores were predominantly dark gray to greenish black. Coal was found in cores in the form of discrete coal layers and as coal interspersed throughout the sediment. The presence of coal is further discussed in Section 3.1.2. Results from the sieve analysis are presented on the boring logs as percent sand and percent fines (silt/clay). Percent organic matter (based on loss on ignition testing) is presented on the logs as well. While not a defined USCS soil classification group, granular coal observed in core samples was compared to the Rutgers loss on ignition results. Samples with observed coal granules and organic matter greater 50% were logged as granular coal and not assigned a USCS soil classification group.

Four lithologic cross sections for Transects 1, 3, 8 and C (Figures 12, 13, 14 and 15) have been prepared to provide a visual representation of lithologic sequencing, water depth, and sediment thickness. The orientation of the transects for the four cross sections is shown on Figure 11. These four transects were selected because there were three or more boring locations in each transect supporting a meaningful visual presentation. The coarse fraction of the sediment (sand-sized particles and larger) is presented on the cross sections in two forms; sand layers with organic matter less than 50% and granular coal layers with organic matter greater than 50 %. This distinction was made to provide a visual presentation of sand-sized particles with granular coal versus predominantly granular coal material.

3.1.2 Presence of Coal

Given the importance of identifying and quantifying the presence of coal, two TOC analytical methods were performed on split samples (Table 8). Pace Analytical Laboratories used EPA Method 9060 and Rutgers University used the ASTM D2974. A comparison of the two methods shows that results were comparable and the methods appear interchangeable (Figure 16).

Figure 16. Comparison of TOC analytical results from Pace Analytical and Rutgers University



The ~1.0 slope and the r^2 value of 0.9 indicate that both the Pace and Rutgers methods generated comparable results. Pace used EPA Method 9060. Rutgers used ASTM D2974

All cores contained sediment with elevated TOC concentrations. Some of the highest TOC concentrations were measured in Transect 1 (Core C1 with 66%, 62%, 70%, and 57% in the bottom four cores). Generally, the lowest TOC concentration was measured in Transect 8 (Core B8, 7.9%). The middle of the Project Area (Transect C) had the highest TOC levels, while the cores nearest the banks (A and D cores) had the lowest.

Coal was found in cores in the form of discrete coal layers and as coal interspersed throughout the sediment. Visible coal granules (+/- one mm grain size) were observed in thin discreet layers in most cases while a few thicker accumulations up to 2 feet thick (e.g., sample D1 20.8 to 22.7 feet) were present in several cores in the northern part of the Project Area. The thickest accumulations observed were in Core C1 (Appendix C) where most of the core samples contained visible granular coal with fine sand and silt. Two discreet samples were collected from layers observed by field geologists to be almost exclusively composed of coal granules. The TOC concentrations measured in those two samples were 74.29% (D1 22.7 feet) and 73.88% (B5 30.6 – 31.0 feet). Conversely, this finding indicates that the apparent coal layers contain approximately 25% of other not combustible clastic material such as fine sand and silt.

3.2 Chemical Analytical Results

Laboratory analytical results are described in the following subsection and are summarized in Tables 8 through 15.

The analytical summary tables include screening criteria based on the Maryland Innovative Reuse Categories 1, 2, 3 Composite, and 3 Construction Worker (IR/BU Guidance; Table A3-1). In addition, the Central Maryland ATC is presented when available.

The complete Phase Labs laboratory analytical report for chemical analyses is presented in Appendix H. Completed COCs are included in the laboratory analytical report.

3.2.1 Metals

All sediment samples were analyzed for metals. Laboratory analytical results for metals are presented in Table 8. As shown, metals were detected at concentrations below Project screening levels with the exception of arsenic, manganese, and thallium. Antimony was also detected slightly above the Category 1 screening level in one sample. Exceedances of arsenic, manganese, and thallium can be summarized as follows:

- Arsenic: Concentrations generally exceeded both Category 1 and Category 2 screening levels, and the Central Maryland ATC value; however, concentrations are all at or below BTVs for New York and Pennsylvania, the predominant source of the sediment.

- Manganese: Concentrations generally exceeded Category 1 screening levels, with some exceedances of Category 2 screening levels. Close to 50 % of the manganese detections were at or below the ATC value.
- Thallium: Concentrations generally exceeded Category 1 screening levels; however, all detections were below the ATC value.

These findings are consistent with the findings presented in the previous analysis of historical data (Northgate, 2019b). The metals detected in sediment also appear to be consistent with regional background (ATC or BTV) soil concentrations. Implications of the metals results will be discussed in greater detail in Section 4.3.

3.2.2 Volatile Organic Compounds

After consultation with MDE, 10 samples were collected for VOC analysis across a range of grain sizes. Laboratory analytical results are presented in Table 9. VOCs were not detected at concentrations above detection limits in any of the samples.

3.2.3 Semi-volatile Organic Compounds

Thirty-two sediment samples were analyzed for SVOCs. Laboratory analytical results for SVOCs are presented in Table 10. The SVOCs benzo(a)anthracene and dibenz(a,h)anthracene slightly exceed Category 1 screening levels in one sample each; benzo(a)pyrene exceeds Category 1 screening levels in approximately a third of the samples. This is consistent with the findings of previous investigations (Northgate, 2019b). Detected concentrations of these three PAH compounds are likely associated with the coal particles present in the soil. Bioavailability of these compounds should be assessed for BU purposes. Further analysis of this potential relationship is presented in Section 4.3.2.

3.2.4 Other Chemical Analytes

Other analytes including polychlorinated biphenyls (PCBs) (Table 11), organochlorine pesticides (Table 12), dioxins and furans (Table 13), TPH-DRO, TPH as Gasoline (Table 14), and metals (Table 8) not listed above were detected in samples at concentrations below all Project screening levels. This is consistent with historical data presented in the DGA Report (Northgate, 2019b).

3.3 Nutrient Analytical Results

Thirty-two sediment samples were analyzed for nutrients according to the analytical methods shown in Table 6. These methods were congruent with the IR/BU Guidance Nutrient analytical results are presented in Table 15. The Sediment Characterization Study samples were collected

from cores typically 5 to 40 feet below the mudline. Nutrient results will be assessed during evaluation of each IR/BU end use. The presence of nutrients may be beneficial for select IR end uses. Nutrient concentrations could be used in future transport modeling efforts. While the results reported in Table 15 are appropriate for IR/BU evaluations, they are not interchangeable with previous studies undertaken for different purposes.

4.0 DATA EVALUATION AND INTERPRETATION

The objectives of the Sediment Characterization Study included the following:

- Characterize the overall thickness and volume of the sediment wedge contained behind the Dam within the Project Area;
- Characterize the grain size distribution of the sediment in the Project Area to inform future decisions regarding selective dredging and sediment reuse options;
- Analyze the sediment core samples for a broad panel of chemical constituents to assess the suitability of the material for potential sediment reuse options;
- Assess the abundance and distribution of granular coal layers identified in previous investigations; and
- Provide data for understanding nutrient and sediment transport to assess the potential to reduce the ongoing nutrient and sediment loads to the upper Chesapeake Bay.

Each of these objectives is addressed in the following subsections.

4.1 Sediment Volume Determination

The sediment volume was estimated by comparing the difference between the original surface topography (that existed prior to construction of the Dam) and the current top of the sediment in the Reservoir. Precise estimations of the elevations of these two surfaces were not available. However, written descriptions of elevations at points on the pre-reservoir ground surface and transects that have been constructed over time provide some information regarding the geometry of the pre-construction topography. In addition, sediment core collection at 19 boring locations provides current data of both the top of the sediment (mudline) and the depth of refusal (interpreted as the original topography) at locations throughout the Project Area (Figure 11). Additionally, the mudline was measured at one incomplete coring location (B8). Table 16 shows the estimated elevations of the mudline and refusal in each of the cores as well as the previous estimates of the sediment thickness which were presented in the SAP.

Table 16 - Measured Sediment Thickness vs Previously Estimated Sediment Thickness

Boring ID	Mudline Elevation (NGVD29)	Refusal Elevation (NGVD29)	Sediment Thickness (ft)	Original Estimated Sediment Thickness (ft)
A-2	99.6	67.4	32.2	45
A-3	89.4	59.4	30.0	43
A-8	70.4	32.4	38.0	46
B-1	83.6	63.6	20.0	21
B-5	86.4	51.9	34.5	50
B-6	75.9	55.8	20.1	40
B-7	71.3	38.8	32.5	39
B-8	53.7	36.2	17.5	30
B-8A	52.5	--	--	32
C-1	87.0	62.0	25.0	27
C-2	84.9	62.6	22.3	33
C-3	81.3	56.3	25.0	35
C-4	89.0	44.0	45.0	50
C-5	94.6	56.4	38.2	58
C-6	90.8	50.8	40.0	59
C-7	81.3	34.8	46.5	51
C-8	67.3	30.8	36.5	43
D-1	90.4	65.4	25.0	28
D-3	86.2	53.9	32.3	41
D-8	68.8	28.8	40.0	48

The approximate volume of sediment in the Project Area was estimated by creating a geologic model of the surfaces representing the elevation of mudline and the elevation of drilling refusal at the 20 core locations by applying estimation methods to the data using the Earth Volumetric Studio (C Tech Development Corporation, 2020). From those surfaces, a 3-dimensional solid layer was created allowing visualization of the stratigraphic layering in the model. The model was bounded by the Project Area shoreline at the approximate stage during the period of coring, the State Line on the north and the Conowingo Dam on the south. The model consisted of a convex hull grid with a resolution of 484 cells in the north-south direction and 242 cells in the east-west direction. The vertical resolution was set as 20 cells. The estimated sediment volume in the Project Area is approximately 200 million cubic yards of material. However, there are only 19 control points for the reservoir bottom elevation which could result in variations in volume calculation up to +/- 40 million cubic yard.

4.2 Grain Size Distribution Assessment

The following generalizations can be made regarding the sediment encountered:

- Overall, the sediment was predominantly composed of silt and clay with occasional layers or lenses of sand. Only a few very thin lenses of gravel were encountered in the borings.
- The fine-grained sediment was comprised of both low and high in plasticity layers (ML or MH). High plasticity silty layers were predominant especially in the deeper portions of the core profiles.
- The coarse fraction of the sediment is generally poorly graded (well sorted) and includes medium to fine-grained sand partially comprised of coal granules.
- Near the upstream edge of the Project Area, sand content in the cohesive sediments is generally less than 15%. Coarse-grained sediments generally contain less than 15 % fines, but lenses with higher fines content were encountered locally.
- Closer to the Dam, (Transects 7 and 8), the sediment is more heavily dominated by fines. Sand content in the cohesive sediments is generally less than 5 %. Thin lenses of coarse-grained sediment generally contain greater than 15% fines.
- Cores samples collected along the flanks of the Reservoir generally graded from sandy silt in the northern portion of the Project Area to elastic silt and lean clay in the southern portion of the Project Area. Water flow velocities tend to be the slowest on the eastern flank of the Reservoir and as such, thicker accumulations of silt and clay were observed (e.g., core D3 from 30.9 to 53.2 feet)
- Core locations B5, B6, B7 and B8 were collected adjacent to the higher flow velocity channel (Figure 7) and tended to exhibit sandier layers interbedded with silt and clay layers (e.g., B5 29.4 to 35.4 feet; B6 41.0 to 45.3 feet; and B7 48.2 to 52.5 feet). This pattern likely indicates a history or repeated scour and deposition adjacent to the main channel.
- The only thick accumulation of sand was observed in Boring Location C1 from 0.8 to 45.5 feet. Boring C1 is located at the confluence of two higher velocity flow channels that join at the State Line. This is the only core that was not highly interbedded.
- Core samples collected closer to the Dam (Transect 8) indicate that a thick accumulation of elastic silt and clay (greater than 95% fines) is present.
- The highly interbedded sediment sequences and the variations in water flow velocities make it difficult to prepare lithologic cross sections that present definitive continuous layers between borings. Continuous lithologic layers shown in cross sections are presented with dashed lines indicating they are interpretive.

4.3 IR/BU Category Evaluation

The laboratory analytical results presented above indicate that several target analytes including select metals and SVOCs must be further assessed to evaluate appropriate reuse options. Nutrients are not expected to hinder any of the IR options. Implications of target analytes above screening levels will be evaluated in further detail once the bench scale testing is complete and will be presented in the Demonstration Study report.

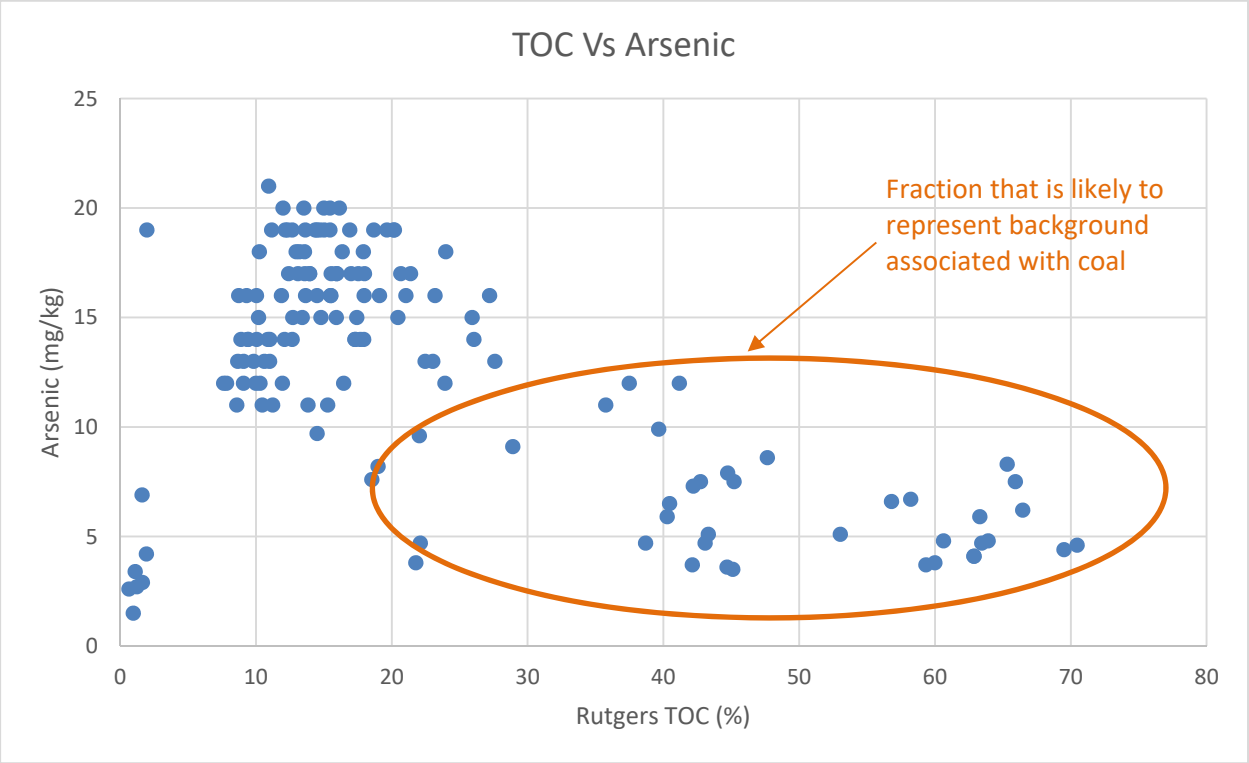
4.3.1 Metals

Metals of interest include arsenic, manganese and thallium:

- *Arsenic*. The Central Maryland ATC for arsenic (4.9 mg/kg) exceeds the IR Category 1 Threshold of 0.68 mg/kg as well as the IR Category 2 threshold of 3 mg/kg. Arsenic concentrations observed in the Conowingo sediment ranged from 1.5 mg/kg to 20 mg/kg with the mean of 12.5 ±5.4 mg/kg. Upstream to downstream, average arsenic concentrations in Transects 1 through 8 ranged from 11±5 in Transect 3 to 13±5 mg/kg in Transect 8, indicating arsenic levels were relatively uniform throughout the Reservoir. It appears that arsenic is naturally occurring in Conowingo sediment which is consistent with background soil concentrations observed in New York and Pennsylvania (22.8 to 24.2 mg/kg).

  To assess potential relationships between the arsenic and the presence of coal particles in the sediment, Figure 17 shows arsenic concentrations plotted against TOC. The highest arsenic concentrations occur at low TOC concentrations suggesting that elevated levels are related to non-coal derived sediment particles. Visual observation of arsenic on Figure 17 suggests the presence of arsenic in two compartments: 1) arsenic associated with coal and 2) arsenic associated with non-coal sediment particles. The coal associated arsenic concentrations reflect uniform background thresholds of <15 mg/kg and the non-coal derived arsenic concentrations are generally <20 mg/kg. Most measured arsenic samples exceed the Central Maryland ATC and IR 1 threshold, and several samples also exceed IR Category 2 threshold. For these reasons, arsenic will require consideration for potential future sediment reuse options to ensure that it does not act as a deterrent for the potential end use.

Figure 17. Arsenic concentrations plotted against TOC



- *Manganese*. Consistent with the findings from previous studies, manganese was detected at concentrations above the Category 1 threshold of 1,800 mg/kg. However, about half the samples (48%) were below the Central Maryland ATC for manganese of 1,400, and most samples (66%) were below the Category 1 threshold. The average manganese concentration detected during the Sediment Characterization Study was 1,436 ±776 mg/kg, which is consistent with the ATC for manganese and is below the Category 1 threshold.

  Manganese is found naturally-occurring in minerals in the region and it does not appear that the trace amounts of manganese detected are anthropogenic. Manganese will require consideration for each respective IR/BU endpoint, to ensure that it does not act as a deterrent for future potential end uses.

- *Thallium*. The Central Maryland ATC for thallium is 1.5 mg/kg which is above the IR Category 1 Threshold of 0.078 mg/kg. Samples collected during the Sediment Characterization Study exhibited a mean concentration of 0.32 ±0.08 mg/kg. These levels are well below the Central Maryland ATC indicating that the occurrence of thallium is naturally occurring. None of the thallium concentrations exceeded Category 2 requirements. For these reasons, thallium is an unlikely deterrent for IR Category 1.

4.3.2 SVOCs

As described in Section 3.3.3, PAHs are suspected to be associated with the presence of coal in the core samples. Figure 18 shows benzo(a)pyrene plotted against TOC concentrations. Figure 19 shows total PAH concentrations, measured as the sum of PAH concentrations, plotted against TOC concentrations.

Figure 18. Benzo(a)pyrene concentrations plotted against percent TOC concentrations

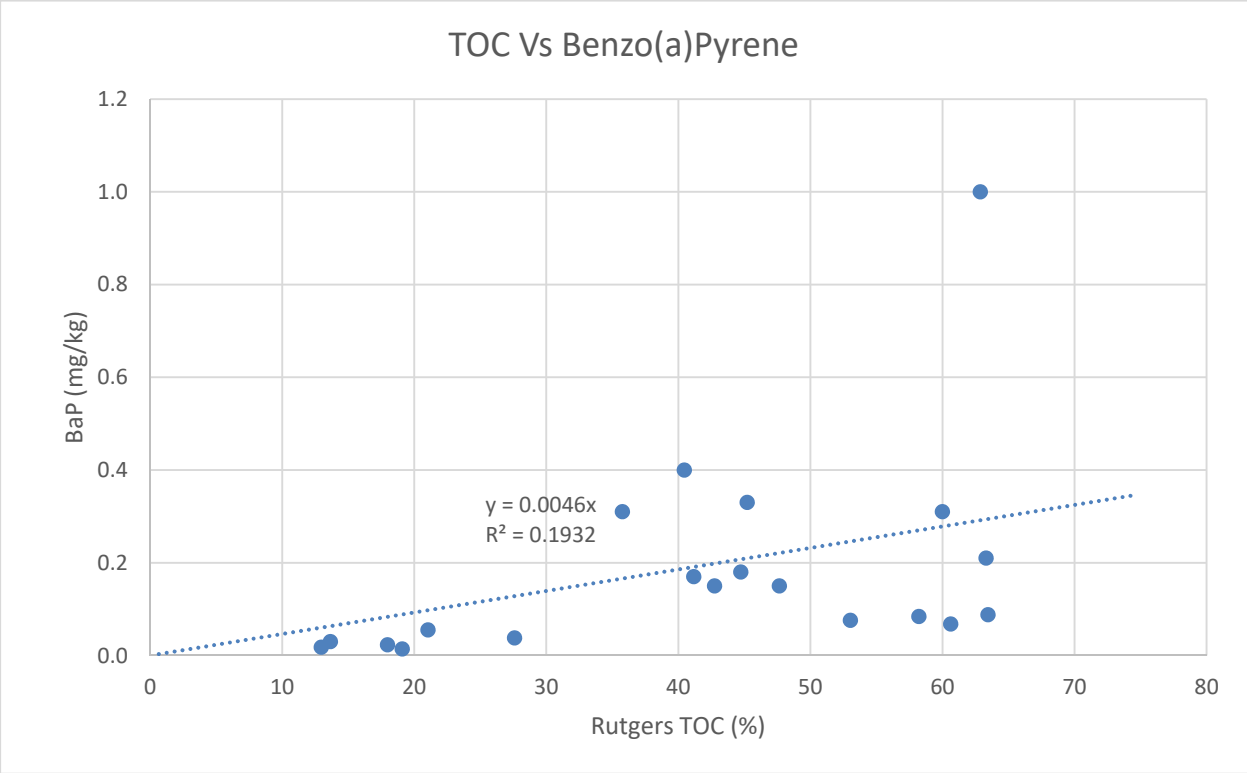
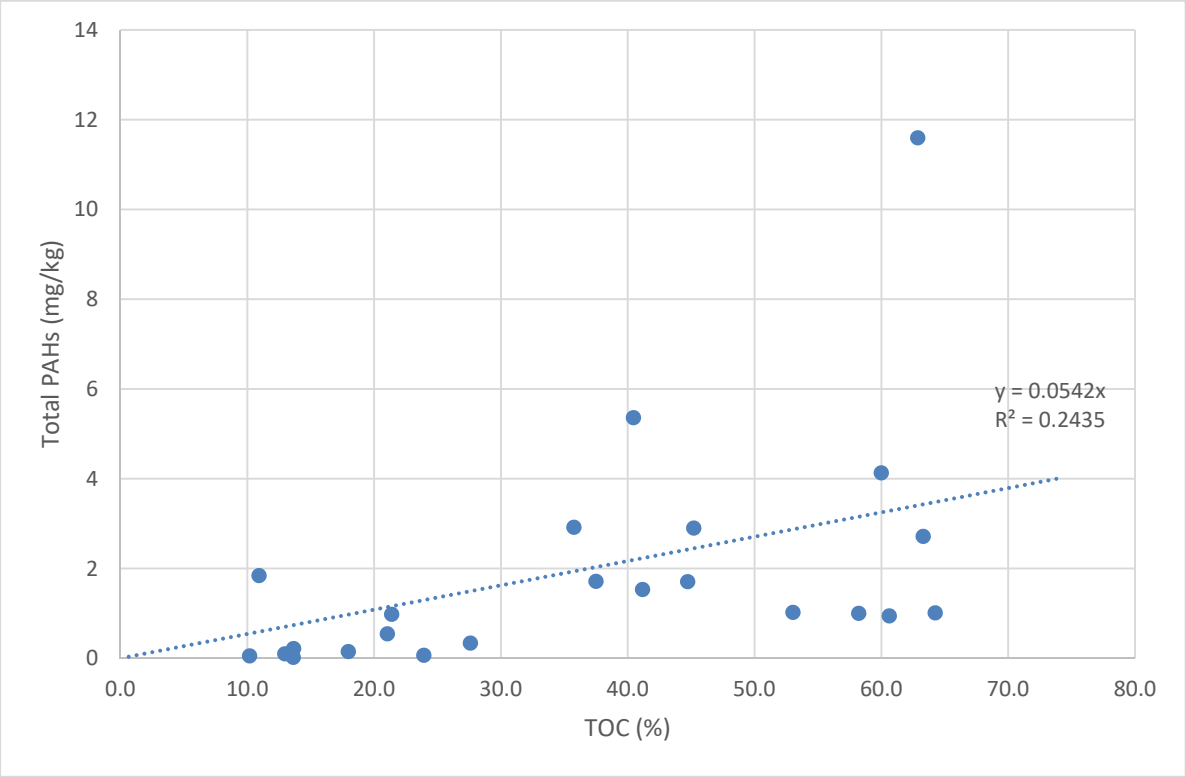


Figure 19. Total PAH concentrations plotted against percent TOC



Although a relatively weak relationship exists ($r^2 = 0.5$), benzo(a)pyrene and total PAH concentrations increase with increasing TOC. This increase is likely due to partially combusted coal present in the sediment. The high TOC levels indicate that TOC is likely dominated by coal in Conowingo sediment samples, and it is not possible to use the TOC data to make an association between PAHs and naturally occurring (decaying plant matter) organic carbon. The presence of PAHs in Conowingo sediment could influence decisions on some future Innovative Reuse options (e.g., residential soil blending), while being of little concern for others (e.g., asphalt or concrete).

Measurement of PAH bioavailability is of interest when evaluating PAH concentrations in the presence of coal, and reliance on bulk sediment PAH concentrations may not adequately inform the level of risk associated with PAHs in sediment. PAH bioavailability is strongly dependent on the sorbent type (Ghosh et al. 2003). Black carbon particles (e.g., coal, coke, cenospheres, and charcoal) are strong sorbents that can substantially limit PAH bioavailability. PAHs sorbed on coal-derived particles and aged for years in the field are strongly bound, not easily desorbable, and unavailable for biological uptake. In situations where PAH concentrations exceed screening-level guidelines, (USEPA, 1999) Guidance recommends conducting bioavailability

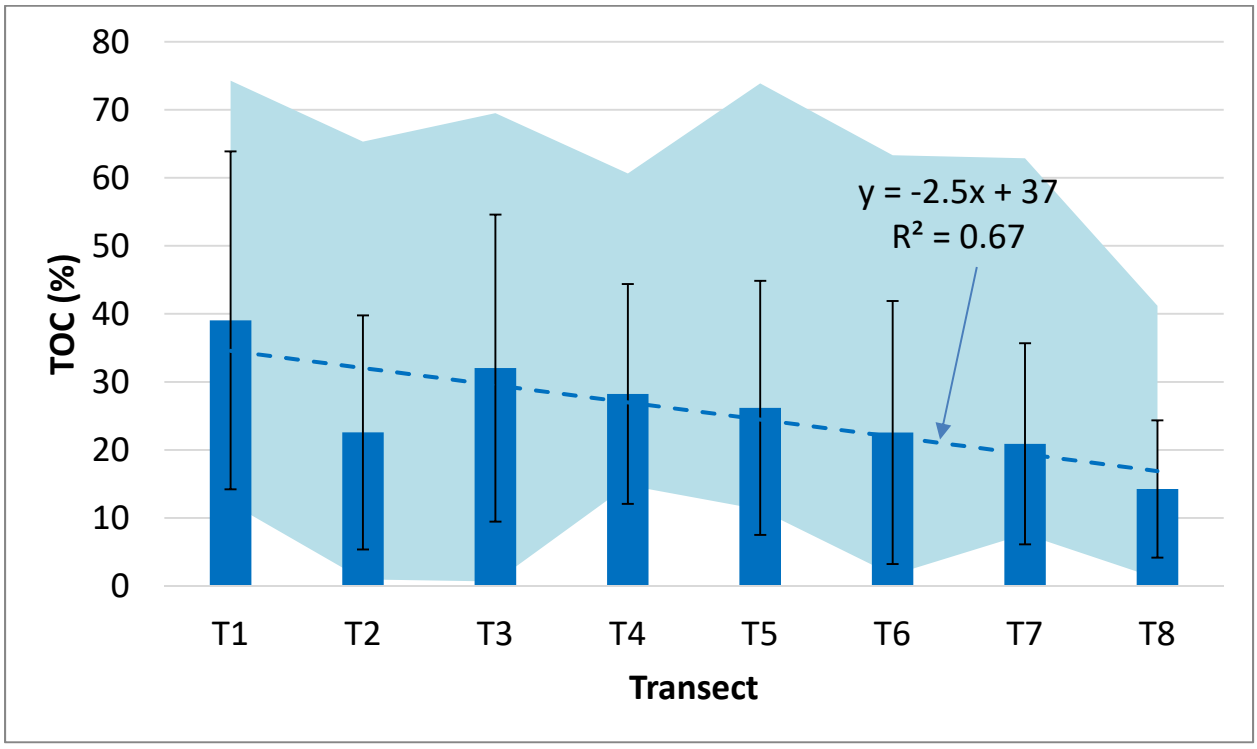
measurements to more accurately assess the level of risk associated with bulk-sediment PAHs in sediment. Consistent with USEPA's Risk Assessment Guidance, bioavailability studies may need to be conducted to determine the bioavailable fraction of PAHs in dredged sediment and under future Beneficial Use scenarios. PAHs also should be compared to background, both as associated with the Conowingo Reservoir and with the proposed IR/BU end use.

4.4 Coal Content Assessment

Further analyses presented below using TOC results are based on the Rutgers University measurements using ASTM D2974. The TOC analytical methods were unable to differentiate between organic carbon types, such as natural organic matter (NOM) and black carbon materials (e.g., coal, coke, cenospheres, and charcoal). In similar environments, NOM typically represents approximately <10% of TOC but can be as high as 20% in surface sediment of large rivers (Ouyang, 2006). However, the high TOC results in the Sediment Characterization Study combined with visual observations suggest that coal is likely the dominant contributor to the TOC matrix in the Project Area.

TOC levels for each transect are shown on Figure 20. A general trend of decreasing TOC levels from upstream to downstream is evident, as indicated by an r^2 of 0.67 for a linear regression of average values. Figure 20 also shows minimum and maximum TOC values in each transect. Natural organic carbon usually resulting from decaying plant material is typically present at low percent levels (<10%) (Snyder 2004). The average TOC levels ranging from 14% to 40% on average (maximum values range from 41% to 64%) are likely to represent coal particles interbedded with the sediment.

Figure 20. Average TOC concentrations along the eight reservoir transects



Error bars represent one standard deviation. Shading represents minimum and maximum TOC values at each respective transect.

Coal was found in cores in the form of discrete coal layers and as coal interspersed throughout the sediment. Visible coal granules (+/- 1 mm grain size) were observed in thin discreet layers in most cases while a few thicker accumulations of coal ranging from 1 to 2-feet thick were present in several cores in the northern part of the Project Area. Loss on ignition testing was performed to quantify total organic carbon concentrations to help estimate percent coal fraction, and confirm visual observations made while logging the cores. Observed coal in the cores explains the high TOC concentrations indicating TOC can be used as an approximate indicator for coal content. Note that granular coal layers mapped on the cross sections are based interpretations of the Rutgers TOC data and therefore may appear thicker than the visible coal documented in individual cores.

Observations of coal cited in previous investigations are presented in the DGA Report (Northgate, 2019b). Previous investigators estimated the coal content of the sediment, excluding visible coal layers, to be approximately 11% of sample volume on average. Historical core samples were biased to shallow depths (less than 3 feet). The results of the Sediment Characterization Study, which now includes deeper core samples, indicate that the average TOC

concentrations (ranging from 14% to 40%, Figure 20) are higher than those observed in historical shallow core samples.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

This report demonstrates that the objectives of the Sediment Characterization Study have been achieved. The Project is now well-positioned to complete the final phases of the Project and present the IR/BU Evaluation and Demonstration Study Report.

Findings for each of the five Sediment Characterization Study objectives listed in Section 1.3 are summarized as follows:

- The volume of the sediment wedge within the Project Area was estimated based on data collected from 19 cores organized into eight transects. This coring data, combined with historical bathymetric surveys, were used to estimate the volume of sediment in the Reservoir. The estimated sediment volume in the Project Area is approximately 253 million cubic yards of material.
- Grain size distribution analyses of the sediment in the Project Area indicate that the sediment was predominantly composed of silt and clay with occasional layers or lenses of sand. Only a few very thin lenses of gravel were encountered in the borings. In conjunction with field observations, the grain size analyses confirm the general trend that coarser sediment (sand and granular coal) is more prevalent in northern portion of the Project Area, while finer sediment (silt and clay) is more prevalent in the southern, downstream portion of the Project Area closer to the Dam. In addition, cores from the eastern portion of the Reservoir tended to be finer grained which is consistent with the lower water flow velocities observed in portions of the Reservoir that are not in proximity to the main flow channel.
- Granular coal was observed throughout the Project Area in the form of sand-sized particles (1 to 2 mm) as well as fine coal dust. Historical coring studies identified the presence of coal layers less than a meter thick, while the Sediment Characterization Study identified thicker layers of predominantly coal material, especially in the northern portion of the Project Area. The presence of coal at varying concentrations and its influence on the performances of various reuse alternatives will be evaluated in the IR/BU study.
- Results from metals and SVOC analyses are consistent with results from historical studies. Chemical concentrations are generally below Category 1 IR/BU requirements, or are consistent with regional background levels. Laboratory analytical results for select metals (arsenic, manganese, and thallium) exceed IR Category 1 or 2 thresholds. Manganese and Thallium are consistent with background Central Maryland ATC. Arsenic concentrations are generally above the Central Maryland ATC. However, the arsenic sediment concentrations are consistent with background arsenic in Pennsylvania and New York, which is not surprising given the bulk of Conowingo sediments is from

upstream of the State Line. Arsenic concentrations will need to be further evaluated when considering potential end uses.

- Data collected during the Sediment Characterization study will facilitate the refinement of nutrient and sediment transport modeling in the Reservoir by providing much greater granularity about sediment grain size distribution than previously available. These data can help calibrate future modeling simulations leading to greater confidence in nutrient and sediment flux projections. The interbedded sediment sequences, fractions of fines and coarse-grained sediments, and their spatial extents can be used to support updates to current or future hydrodynamic/sediment transport model inputs, critical shear stress thresholds, and erosion rates within the Reservoir to improve the accuracy of dredging scenarios within the Reservoir. Nutrient analyses differed from previous studies, though mostly due to differing analytical methods driven by differing study objectives. Analysis of nutrients using the methods prescribed in the IR/BU Guidance Table 4 is suitable for assessing the material for potential upland IR options to assess potential for vegetative growth. The nutrient analytical method used by UMCES and MGS and resulting data sets will be suitable for informing future sediment and nutrient flux evaluation.

The objective of the Sediment Characterization Study was developed to assess suitability of the Conowingo sediment for potential upland reuse products, not in-water applications. Consideration of using Conowingo sediment for in-water BU projects will require additional testing (e.g. bioavailability studies) to determine if the material can meet the thresholds identified in the IR/BU Guidance for BU applications.

5.2 Recommendations

The results of the Sediment Characterization Study combined with historical evaluation (Northgate, 2019b) provide a robust dataset for supporting future sediment management decisions. Depending on the objectives of future project, additional assessment may be required.

- *Focused Lithologic Evaluation:* As shown in the cross sections (Figures12-15), lithologic variations are common both horizontally and vertically. Areas being considered for potential future dredging will require additional localized characterization to support the objectives of that project.
- *Beneficial Use Evaluation:* This Sediment Characterization Study performed analytical testing of the sediment to assess the potential suitability of the material for potential future upland IR projects. The next phase of work involves an assessment of IR/BU alternatives. The efficacy of those alternatives will consider the presence of coal, chemical constituents screened against IR/BU Categories, and nutrients, and how those constituents influence IR/BU performance and marketplace potential. This assessment will be conducted during bench scale testing and economic and market assessment as described in the IR/BU Materials Management Plan. Additional assessment of the

material will be required to assess the suitability of the material for in-water Beneficial Use applications. This will include assessing the influence of coal and the bioavailability of PAH compounds present in coal.

- *Options to Manage Coal*: The influence of coal on different IR/BU alternatives will consider whether coal factors into the performance of each respective technology. Solids separation technologies may be evaluated, creating opportunities to evaluate different IR alternatives for coal and non-coal sediment fractions.
- *Dredging Scenario Modeling:* Sediment grain size and layer characteristics may be appropriate to update the CPMBM, developed by HDR, and used for future TMDL assessments or to evaluate specific dredging scenarios. Dredging alters the bathymetry of the Reservoir and changes the age and composition of sediments exposed to scour and resuspension. The critical shear stress of sediments along with their erosion rates and settling rates are important characteristics for sediment transport modeling and are influenced by grain size, cohesiveness, and density. If the sediment characterization data should support changing these variables in the hydrodynamic/sediment transport model setup, differences in scour and deposition within the Reservoir at different flows could inform dredging scenarios.

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TABLES

TABLE 8
Laboratory Analytical Results - Metals, TOC, % Moisture, Grain Size
Conowingo, Maryland

				Lab Name	SALUT	SALUT	PACE	PHASE	SALUT	PACE	RUTGERS	PHASE	ALPHA	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	ASTM D422	ASTM D422	D2974-87	SM2540G	ASTM D422	SW-846 9060	ASTM D2974	SW-846 9014	9016	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 7196 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A
				Units	%	%	%	%	%	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Coarse Grain	Fine Grain	Percent moisture	Percent moisture	Percent moisture	Total Organic Carbon (mean)	Organic Matter	Cyanide	Cyanide, Free	Antimony	Arsenic	Beryllium	Cadmium	Chromium*	Hexavalent Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Central Maryland ATC														**4.9**			**30**				**1,400**					**1.5**	
Category 1 RSL											**23**		**3.1**	**0.68**	**16**	**7.1**	**12,000**	**0.3**	**310**	**400**	**180**	**1.1**	**150**	**39**	**39**	**0.078**	**2,300**
Category 2 RSL											**150**		**47**	**3**	**230**	**98**	**180,000**	**6.3**	**4,700**	**800**	**2,560**	**4.6**	**2,200**	**580**	**580**	**1.2**	**35,000**
Category 3 RSL Composite											**147**		**467**	**30**	**2290**	**982**	**1,750,000**	**63.3**	**46,700**	**800**	**25,600**	**46**	**22,400**	**5,840**	**5,840**	**11.7**	**350,000**
Category 3 RSL Construction											**32.6**		**136**	**142**	**618**	**277**	**509,000**	**425**	**13,600**	**800**	**5,530**	**9.49**	**5,570**	**1,700**	**1,700**	**3.39**	**102,000**
Transect 1																												
B1	36.6	38.8	ft	47	53	32.1	31.2	41.9	344,000	22.04	--	--	0.47 J	9.6	1.5	0.49 J	19	--	49	35	590	0.34	42	4.3	0.13 J	0.19 J	170
B1	41.2	43.8	ft	15	85	44.2	44.6	48.9	119,000	14.37	--	--	0.44 J	19	3.7	1.2	61	--	100	73	1500 E	0.7	94	5	0.45 J	0.4 J	440
C1	24.7	25.5	ft	77	23	31.2	31.5	38.7	125,000	18.99	--	--	0.56 J	8.2	1.2	0.53 J	24	--	28	20	710 E	0.12 J	49	0.95	0.16 J	0.18 J	180
C1	27.9	30.5	ft	89	11	30.0	37.3	40.2	654,000	66.46	--	--	0.37 J	6.2	1.6	0.66	15	--	34	31	510	0.28	37	2.5	0.33 J	<0.56	190
C1	33.3	35.5	ft	89	11	39.2	36.5	43.1	669,000	61.54	--	--	0.63 J	6	1.5	0.53 J	14	--	34	27	490	0.31	33	2.7	0.28 J	<0.55	140
C1	38.8	40.5	ft	81	19	32.2	31.9	46.9	755,000	70.48	--	--	<3.1	4.6	1.3	0.41 J	25	--	30	21	500	0.28	26	2	0.15 J	<0.62	110
C1	44.5	45.5	ft	81	19	31.5	30.0	46.1	530,000	56.81	--	--	0.58 J	6.6	1.8	0.59 J	61	--	41	27	680 E	0.29	40	2.9	0.28 J	<0.65	180
D1	20.8	22.7	ft	77	23	30.5	28.4	40.0	143,000	--	--	--	<2.9	7	1.2	0.48 J	15	--	27	21	600 E	0.11 J	45	1.5	0.25 J	<0.57	160
D1	22.7	22.7	ft	--	--	--	--	--	--	74.29	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D1	24.7	26.7	ft	9	91	39.6	43.1	45.2	105,000	14.71	--	--	0.44 J	19	3.4	3.9	60	--	85	72	2900 E	0.34	110	2.5	5	0.38 J	570
D1	26.7	27.7	ft	88	12	25.7	25.8	34.0	704,000	65.93	--	--	0.4 J	7.5	1.6	0.55 J	11	--	33	24	590	0.25	39	2.7	0.25 J	<0.61	150
D1	28.5	30.2	ft	7	93	44.6	44.4	33.9	86,300	12.16	--	--	0.52 J	19	3.5	4	97	--	90	60	1900 E	0.38	120	2.7	3.6	0.31 J	610
D1	30.2	32.7	ft	19	81	38.0	38.7	33.4	194,000	27.21	--	--	0.43 J	16	3.3	2.9	55	--	85	58	1700 E	0.39	97	3.4	2.3	0.29 J	530
D1	33.0	37.7	ft	12	88	42.3	45.6	70.9	93,700	--	--	--	<3.5	23	4.7	3.5	100	--	120	84	1700 E	0.62	120	5.3	3.7	0.41 J	790
D1	35.0	35.0	ft	--	--	--	--	--	--	27.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D1	38.0	42.7	ft	5	95	42.7	42.8	61.9	124,000	14.49	--	--	0.56 J	19	4.7	4.2	85	--	110	84	2000 E	0.59	110	3.3	5.3	0.36 J	750
Transect 2																												
A2	7.8	12.8	ft	14	86	39.0	41.7	56.4	79,500	13.84	--	--	<4.2	11	2.1	1.3	34	--	44	52	2100 E	0.19	63	1.2	0.65 J	0.33 J	230
A2	13.2	16.4	ft	90	10	27.5	27.4	37.1	401,000	43.31	--	--	<2.8	5.1	1.1	0.29 J	9.8	--	22	18	550	0.13	27	1.7	0.11 J	<0.57	110
A2	16.4	17.8	ft	2	98	46.3	46.3	53.6	69,600	10.26	--	--	0.48 J	18	3.8	4.1	64	--	89	82	2600 E	0.39	100	2.1	6	0.4 J	570
A2	18.0	20.2	ft	87	13	23.2	23.2	31.1	358,000	43.08	--	--	<2.8	4.7	0.89	0.24 J	16	--	25	15	560 E	0.12	29	1.4	0.087 J	<0.56	100
A2	20.2	22.8	ft	5	95	43.2	43.3	40.2	67,300	10.06	--	--	<4	14	3.6	2.7	58	--	81	70	1700 E	0.54	79	1.8	2.1	0.35 J	540
A2	23.4	27.8	ft	3	97	38.7	38.5	61.7	115,000	13.59	--	--	0.3 J	17	3.4	1.7	48	--	83	70	1400 E	0.41	73	3.5	1.4	0.35 J	430
A2	28.4	32.8	ft	4	96	37.0	36.5	57.8	82,000	15.92	--	--	<3.7	15	2.5	0.8	39	--	62	57	1600 E	0.39	59	2.7	0.31 J	0.33 J	260
A2	33.6	35.8	ft	5	95	37.1	37.4	54.6	153,000	22.46	--	--	<3	13	2.7	0.76	43	--	69	60	1200 E	0.51	54	3.2	0.24 J	0.29 J	300
A2	38.0	40.0	ft	93	7	17.3	18.0	20.2	3,250	0.97	--	--	<2	1.5	0.23 J	0.051 J	6	--	3.7	7.2	**57**	<0.079	10	0.077 J	<0.4	<0.4	29
C2	24.5	27.3	ft	93	7	19.8	20.1	27.3	624,000	38.69	--	--	<2.9	4.7	0.9	2	4.9	--	19	13	260	0.099 J	23	1.8	<0.57	<0.57	87
C2	29.8	32.2	ft	5	95	44.1	42.3	42.9	75,000	12.10	--	--	<3.4	14	3	3.6	56	--	73	67	2300 E	0.33	83	1.8	3.7	0.33 J	450
C2	34.1	34.9	ft	24	76	39.8	41.4	67.5	167,000	14.50	--	--	<4.2	9.7	2.1	1.6	41	--	50	43	1400 E	0.3	56	2.2	1.2	<0.83	300
C2	35.3	37.3	ft	4	96	39.1	39.7	55.3	106,000	17.32	--	--	<2.9	14	3.3	2.2	48	--	76	63	1500 E	0.42	78	2.6	1.8	0.32 J	440
C2	38.4	39.3	ft	10	90	34.5	39.2	53.2	148,000	17.29	--	--	0.4 J	14	2.6	1	42	--	65	60	1500 E	0.35	61	3.1	0.52 J	0.33 J	250
C2	39.3	42.3	ft	66	34	29.3	31.6	26.9	662,000	65.32	--	--	<2.7	8.3	1.6	0.39 J	16	--	41	36	630 E	0.41	32	3.5	0.1 J	0.17 J	140
Transect 3																												
A3	24.6	26.0	ft	84	16	24.4	24.5	25.2	536,000	44.70	--	--	<2.9	3.6	0.86	0.22 J	7.8	--	18	15	550	0.14	21	1.2	<0.57	<0.57	71
A3	26.0	28.4	ft	23	77	34.6	36.0	45.7	104,000	16.47	--	--	<2.9	12	2.2	1.4	30	--	53	47	1700 E	0.3	63	2	0.83	0.24 J	260
A3	28.6	29.9	ft	88	12	24.2	25.8	30.0	622,000	45.12	--	--	<2.4	3.5	0.8	0.27 J	12	--	19	15	<0.48	0.13	24	1.2	0.07 J	<0.48	87
A3	29.9	33.4	ft	8	92	40.9	41.4	52.6	65,500	12.67	--	--	0.58 J	19	3.5	2.2	55	--	82	76	2500 E	0.36	100	2.7	1.5	0.42 J	410
A3	34.7	36.2	ft	72	28	25.4	27.4	28.4	623,000	59.34	--	--	0.24 J	3.7	0.88	0.23 J	13	--	110	16	460	0.16	21	1.4	0.11 J	0.16 J	80
A3	41.6	43.4	ft	71	29	15.1	14.6	16.3	2,360	0.65	--	--	0.32 J	2.6	0.3 J	<0.41	8.9	--	5.5	4.9	**130**	<0.082	11	0.089 J	<0.41	<0.41	35
A3	44.6	47.4	ft	75	25	15.2	18.2	18.0	1,680	1.23	--	--	<2.2	2.7	0.27 J	<0.43	12	--	5.5	4.6	**150**	<0.087	9.9	0.064 J	<0.43	<0.43	33
C3	29.3	30.5	ft	7	93	44.5	42.7	72.5	85,000	14.49	--	--	0.5 J	16	2.5	3	37	--	63	62	2600 E	0.3	94	1.8	2.4	0.28 J	400

TABLE 8
Laboratory Analytical Results - Metals, TOC, % Moisture, Grain Size
Conowingo, Maryland

			Lab Name	SALUT	SALUT	PACE	PHASE	SALUT	PACE	RUTGERS	PHASE	ALPHA	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
			Analytic Method	ASTM D422	ASTM D422	D2974-87	SM2540G	ASTM D422	SW-846 9060	ASTM D2974	SW-846 9014	9016	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 7196 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A
			Units	%	%	%	%	%	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Coarse Grain	Fine Grain	Percent moisture	Percent moisture	Percent moisture	Total Organic Carbon (mean)	Organic Matter	Cyanide	Cyanide, Free	Antimony	Arsenic	Beryllium	Cadmium	Chromium*	Hexavalent Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Central Maryland ATC														**4.9**			**30**				**1,400**					**1.5**	
Category 1 RSL											**23**		**3.1**	**0.68**	**16**	**7.1**	**12,000**	**0.3**	**310**	**400**	**180**	**1.1**	**150**	**39**	**39**	**0.078**	**2,300**
Category 2 RSL											**150**		**47**	**3**	**230**	**98**	**180,000**	**6.3**	**4,700**	**800**	**2,560**	**4.6**	**2,200**	**580**	**580**	**1.2**	**35,000**
Category 3 RSL Composite											**147**		**467**	**30**	**2290**	**982**	**1,750,000**	**63.3**	**46,700**	**800**	**25,600**	**46**	**22,400**	**5,840**	**5,840**	**11.7**	**350,000**
Category 3 RSL Construction											**32.6**		**136**	**142**	**618**	**277**	**509,000**	**425**	**13,600**	**800**	**5,530**	**9.49**	**5,570**	**1,700**	**1,700**	**3.39**	**102,000**
C3	30.6	35.5	ft	90	10	23.8	22.2	32.0	692,000	64.25	<6.383	<1.3	0.27 J	6.8	1.2	0.81	14	<1.3	32	23	560 E	0.16	34	1.7	0.71	<0.51	150
C3	38.2	40.5	ft	10	90	41.2	42.5	74.4	139,000	26.06	--	--	0.53 J	14	2.8	3	54	--	68	55	1700 E	0.3	84	2.1	3.1	0.23 J	430
C3	40.5	41.8	ft	90	10	25.8	28.9	29.2	791,000	69.50	--	--	0.31 J	4.4	0.79	0.32 J	14	--	31	13	290	0.12	21	1.5	0.33 J	<0.59	89
C3	46.7	50.5	ft	15	85	39.1	36.8	64.7	187,000	23.20	--	--	0.53 J	16	2.6	1.1	36	--	72	55	1000 E	0.34	61	3.7	0.88	0.26 J	330
C3	47.7	47.7	ft	--	--	--	45.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D3	24.4	25.9	ft	92	8	31.2	31.0	44.0	645,000	63.92	--	--	<3.2	4.8	0.93	0.22 J	6.2	--	22	14	300	0.17	19	1.8	0.099 J	<0.65	74
D3	26.2	30.9	ft	93	7	23.9	23.5	32.4	689,000	63.45	<6.522	<1.3	0.3 J	4.7	0.99	0.22 J	6.4	<1.3	24	16	320	0.15	22	1.7	0.098 J	<0.59	80
D3	32.0	35.9	ft	17	83	43.5	44.8	79.8	218,000	21.39	--	--	0.92 J	17	3.6	4.9	63	--	95	73	2000 E	0.42	110	2.8	4.9	0.34 J	600
D3	36.1	40.9	ft	11	89	43.6	46.0	72.7	126,000	18.00	--	--	0.78 J	17	3.9	3.7	66	--	98	75	2000 E	0.44	100	3.1	3.6	0.46 J	610
D3	40.9	45.9	ft	16	84	43.0	41.5	73.3	228,000	23.98	--	--	0.96 J	18	3.7	2.7	48	--	100	73	1400 E	0.5	84	3.8	2.4	0.32 J	540
D3	45.9	50.9	ft	3	97	39.4	39.2	65.4	178,000	19.64	--	--	0.78 J	19	3.4	1.4	43	--	92	71	1200 E	0.45	70	5.4	1.3	0.37 J	390
D3	50.9	53.2	ft	6	94	42.7	41.0	68.2	152,000	20.45	--	--	0.66 J	15	2.8	0.98	36	--	81	62	1200 E	0.7	63	3.5	0.34 J	0.3 J	330
Transect 4																											
C4	24.9	26.4	ft	54	46	35.9	38.7	45.5	438,000	42.13	--	--	<3	3.7	0.37 J	<0.59	16	--	7.3	6.1	200	<0.12	13	0.059 J	<0.59	<0.59	44
C4	26.4	28.0	ft	15	85	45.1	43.9	78.7	75,500	17.68	--	--	0.55 J	14	2.4	2.7	37	--	57	55	1700 E	0.23	77	1.4	3	0.27 J	340
C4	28.4	31.9	ft	88	12	21.1	22.5	26.0	492,000	60.63	<6	<1.5	0.32 J	4.8	0.91	0.25 J	7.6	<1.3	24	15	370	0.12	24	1.7	0.13 J	<0.58	88
C4	36.4	38.0	ft	6	94	43.3	43.8	80.8	111,000	17.53	--	--	0.73 J	17	3.2	4.5	62	--	85	71	2000 E	0.36	100	2.7	5.3	0.31 J	550
C4	41.4	43.0	ft	7	93	44.0	43.6	77.5	102,000	14.79	--	--	0.58 J	15	3.3	3.7	60	--	88	66	1700 E	0.36	88	2.2	3.1	0.29 J	560
C4	44.6	48.0	ft	2	98	45.3	44.8	80.5	101,000	15.95	--	--	0.69 J	17	4.3	3.3	56	--	110	78	1600 E	0.56	96	3	3.3	0.32 J	660
C4	48.0	53.0	ft	4	96	39.1	37.3	68.7	179,000	20.13	--	--	0.58 J	19	3	1.3	41	--	87	64	1000 E	0.37	65	5.1	1.3	0.31 J	380
C4	53.4	55.5	ft	51	49	35.4	35.1	48.8	462,000	42.21	--	--	0.48 J	7.3	1.4	0.34 J	12	--	41	30	570	0.34	31	3.1	0.11 J	<0.64	120
C4	55.5	58.0	ft	13	87	37.0	35.8	53.0	233,000	23.03	--	--	0.54 J	13	2.6	0.88	36	--	71	58	1300 E	0.45	77	3.4	0.34 J	0.3 J	310
Transect 5																											
B5	24.4	25.4	ft	12	88	46.1	50.0	89.1	47,900	11.23	--	--	0.43 J	11	2.2	1.2	28	--	42	39	2800 E	0.16 J	78	1.2	0.61 J	0.25 J	300
B5	27.0	27.0	ft	--	--	--	38.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	29.4	30.4	ft	88	12	21.3	21.0	28.4	345,000	40.29	--	--	0.32 J	5.9	1.1	0.32 J	7.9	--	27	18	370	0.12	30	2.2	0.12 J	<0.54	110
B5	30.6	31.0	ft	--	--	--	--	--	--	73.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B5	31.0	35.4	ft	89	11	34.8	35.7	32.4	400,000	--	--	--	0.28 J	4.7	0.93	0.26 J	6.5	--	23	16	310	0.14	22	1.7	0.11 J	<0.5	82
B5	35.4	40.4	ft	8	92	42.6	42.6	77.7	130,000	17.98	<6.186	<1.8	0.73 J	16	3.3	3.4	55	<1.8	85	66	1800 E	0.36	91	2.5	3.5	0.31 J	500
B5	40.4	45.4	ft	7	93	40.8	40.2	72.5	105,000	15.54	--	--	0.62 J	17	4.6	3.7	67	--	110	81	2100 E	0.5	110	2.9	4.8	0.69 J	700
B5	45.4	50.4	ft	2	98	43.0	42.9	68.2	135,000	16.36	--	--	0.9 J	18	4.5	2.8	58	--	110	80	1500 E	0.55	87	2.8	4.5	0.36 J	620
B5	50.4	51.9	ft	3	97	37.6	39.4	64.4	102,000	17.94	--	--	0.45 J	14	2.6	0.83	38	--	70	55	1300 E	0.43	57	3.2	0.63	0.28 J	280
B5	51.9	54.1	ft	40	60	29.9	34.8	46.0	338,000	27.60	<6.522	<1.4	0.42 J	13	2	0.65	25	<1.5	62	50	1100 E	0.4	51	3.7	0.3 J	0.22 J	230
C5	22.1	26.7	ft	86	14	27.2	27.6	38.9	527,000	58.22	<6.122	<1.4	0.52 J	6.7	1.6	0.45 J	11	<1.4	35	50	590 E	0.28	31	2.9	0.2 J	<0.59	190
C5	29.4	31.7	ft	1	99	38.7	43.2	83.0	66,700	13.58	--	--	0.74 J	18	3.2	4.1	55	--	85	75	2400 E	0.36	98	2	5.9	0.36 J	550
C5	34.0	36.7	ft	2	98	40.2	41.7	73.5	92,500	12.41	--	--	0.71 J	17	3.6	3.8	65	--	86	71	1900 E	0.38	98	2.5	3.6	0.33 J	580
C5	36.7	41.7	ft	6	94	39.6	39.5	70.9	143,000	19.10	<5.66	<1.7	0.59 J	16	3.2	1.9	43	<1.7	83	67	1200 E	0.42	69	3.4	1.9	0.3 J	420
C5	43.5	46.7	ft	18	82	37.1	36.7	55.1	202,000	23.92	--	--	0.59 J	12	2.4	0.76	30	--	69	57	1100 E	0.61	56	3.8	0.27 J	0.25 J	260
C5	49.0	49.9	ft	29	71	26.0	25.3	36.0	118,000	18.53	--	--	0.3 J	7.6	1.1	0.25 J	15	--	30	25	870 E	0.2	27	2	0.079 J	<0.58	100
Transect 6																											
B6	41.0	45.3	ft	88	12	26.1	25.4	36.7	516,000	53.03	<6.316	<1.5	0.37 J	5.1	0.98	0.3 J	6.9	<1.3	27	18	450	0.14	24	2.1	0.16 J	<0.48	93
B6	46.6	48.5	ft	8	92	42.5	43.8	76.2	141,000	17.44	--	--	0.47 J	15	3.4	2.7	53	--	90	66	1600 E	0.45	90	2.4	3.2	0.31 J	550

TABLE 8
Laboratory Analytical Results - Metals, TOC, % Moisture, Grain Size
Conowingo, Maryland

				Lab Name	SALUT	SALUT	PACE	PHASE	SALUT	PACE	RUTGERS	PHASE	ALPHA	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	ASTM D422	ASTM D422	D2974-87	SM2540G	ASTM D422	SW-846 9060	ASTM D2974	SW-846 9014	9016	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 7196 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A
				Units	%	%	%	%	%	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Coarse Grain	Fine Grain	Percent moisture	Percent moisture	Percent moisture	Total Organic Carbon (mean)	Organic Matter	Cyanide	Cyanide, Free	Antimony	Arsenic	Beryllium	Cadmium	Chromium*	Hexavalent Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Central Maryland ATC														**4.9**			**30**				**1,400**					**1.5**	
Category 1 RSL											**23**		**3.1**	**0.68**	**16**	**7.1**	**12,000**	**0.3**	**310**	**400**	**180**	**1.1**	**150**	**39**	**39**	**0.078**	**2,300**
Category 2 RSL											**150**		**47**	**3**	**230**	**98**	**180,000**	**6.3**	**4,700**	**800**	**2,560**	**4.6**	**2,200**	**580**	**580**	**1.2**	**35,000**
Category 3 RSL Composite											**147**		**467**	**30**	**2290**	**982**	**1,750,000**	**63.3**	**46,700**	**800**	**25,600**	**46**	**22,400**	**5,840**	**5,840**	**11.7**	**350,000**
Category 3 RSL Construction											**32.6**		**136**	**142**	**618**	**277**	**509,000**	**425**	**13,600**	**800**	**5,530**	**9.49**	**5,570**	**1,700**	**1,700**	**3.39**	**102,000**
B6	48.5	50.3	ft	1	99	39.7	41.8	65.8	97,500	16.15	--	--	0.59 J	20	3.5	1.4	45	--	95	73	1500 E	0.41	88	4.5	1.6	0.38 J	450
C6	19.7	19.7	ft	--	--	--	48.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C6	19.7	20.1	ft	37	63	40.5	43.5	77.8	298,000	28.92	--	--	<4.2	9.1	1.7	0.74 J	21	--	36	28	1600 E	0.23	54	1.5	0.41 J	<0.84	200
C6	20.1	20.8	ft	2	98	48.9	50.6	92.6	48,500	10.00	--	--	0.48 J	12	2.4	1.2	33	--	46	37	2800 E	0.17	84	1.1	0.84	0.27 J	330
C6	21.8	23.4	ft	87	13	29.2	30.7	43.0	624,000	63.31	0.12	<1.5	3.5	5.9	1.6	0.4 J	11	<1.4	33	27	1100 E	0.3	35	2.3	0.23 J	<0.61	120
C6	23.4	26.1	ft	7	93	45.8	44.0	80.3	66,300	11.95	--	--	0.41 J	12	2.2	1.3	30	--	50	39	2600 E	0.2	82	1.5	0.81	0.24 J	320
C6	27.2	28.3	ft	83	17	30.8	30.0	49.9	650,000	62.87	0.1		<2.8	4.1	0.93	0.25 J	10	<1.4	34	17	630 E	0.18	23	1.5	0.13 J	<0.56	82
C6	28.3	31.1	ft	3	97	43.4	43.7	75.0	64,400	9.09	--	--	0.49 J	12	2.8	1.8	38	--	54	51	2500 E	0.21	80	1.2	1.4	0.45 J	320
C6	31.1	33.9	ft	7	93	41.2	42.6	73.1	93,500	13.10	--	--	0.78 J	17	3.1	2.4	52	--	68	66	2600 E	0.28	84	1.6	2.1	0.44 J	350
C6	33.9	35.0	ft	19	81	34.3	37.6	59.4	227,000	25.93	--	--	0.8 J	15	2.8	1.8	42	--	74	52	1700 E	0.35	70	3.2	1.8	0.29 J	330
C6	35.0	36.1	ft	62	38	33.4	31.6	48.2	475,000	44.74	0.38	--	0.51 J	7.9	2	0.8	18	<1.4	45	32	830 E	0.28	40	3.3	0.59 J	0.19 J	180
C6	36.6	38.8	ft	71	29	29.6	31.7	41.9	504,000	42.74	0.28	--	0.55 J	7.5	1.8	0.66	51	<1.5	43	28	810 E	0.25	41	2.9	0.53 J	0.18 J	170
C6	38.8	39.8	ft	1	99	42.3	45.5	75.2	59,300	10.94	--	--	0.79 J	21	4.3	4.8	74	--	110	80	3200 E	0.41	120	2.1	7.2	0.47 J	660
C6	39.8	41.1	ft	3	97	40.7	41.2	68.9	98,300	15.00	--	--	0.88 J	20	4.4	3.9	74	--	100	69	2200 E	0.45	110	3.3	4	0.41 J	630
C6	41.5	43.6	ft	9	91	42.4	39.3	74.9	143,000	13.95	--	--	0.76 J	17	4.2	3.3	76	--	96	63	2100 E	0.42	99	3.1	3.1	0.36 J	600
C6	43.6	46.1	ft	1	99	42.3	42.5	70.2	98,200	11.16	--	--	0.74 J	19	4.7	2.8	64	--	110	71	1700 E	0.55	100	3.2	3.1	0.4 J	630
C6	46.1	49.5	ft	4	96	39.8	37.8	63.4	148,000	17.91	--	--	0.88 J	18	4	0.93	51	--	94	67	1300 E	0.68	90	4.5	0.48 J	0.45 J	380
C6	49.5	51.1	ft	36	64	18.7	18.0	22.9	8,770	1.94	--	--	<2.2	4.2	0.74	0.095 J	17	--	11	10	170	0.043 J	18	0.35 J	<0.43	<0.43	54
C6	52.3	54.2	ft	24	76	18.0	16.9	22.0	2,120	1.62	--	--	<2.8	6.9	0.73	<0.56	22	--	10	12	230	<0.11	18	0.31 J	<0.56	0.18 J	58
C6	54.2	56.1	ft	24	76	18.2	16.6	21.9	1,650	1.97	--	--	0.25 J	19	2.2	0.13 J	39	--	10	16	1200 E	0.034 J	58	0.36 J	<0.44	0.15 J	76
Transect 7																											
B7	37.6	39.6	ft	5	95	49.3	45.0	87.4	84,900	10.47	--	--	0.42 J	11	2.1	0.9	31	--	41	32	1900 E	0.14 J	64	1.1	0.5 J	0.26 J	250
B7	39.6	39.6	ft	70	30	--	--	37.5	--	21.94	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B7	39.6	40.6	ft	4	96	44.5	47.6	82.5	46,600	10.19	--	--	0.5 J	15	3	1.9	45	--	66	47	2600 E	0.18	110	1.3	1.1	0.37 J	430
B7	41.0	43.3	ft	7	93	42.3	40.7	67.0	82,500	12.68	0.21	--	0.55 J	14	2.7	1.7	39	<1.7	62	52	2100 E	0.26	69	2.2	1.3	0.3 J	330
B7	42.0	42.0	ft	--	--	--	43.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B7	43.3	45.6	ft	4	96	45.0	37.9	69.0	63,200	12.00	--	--	0.88 J	20	3.9	3.2	59	--	85	75	3600 E	0.35	110	2.4	3.1	0.44 J	470
B7	47.4	48.2	ft	49	51	32.9	34.5	51.7	468,000	37.50	--	--	0.75 J	12	2.9	1.1	28	--	67	46	1300 E	0.39	58	4.5	0.94	0.26 J	250
B7	48.2	50.6	ft	81	19	26.3	25.9	38.6	600,000	47.66	0.17	<1.6	0.61 J	8.6	2.1	0.59	15	<1.4	44	31	860 E	0.28	42	3.7	0.34 J	0.19 J	160
B7	51.0	52.5	ft	74	26	34.7	32.5	47.5	390,000	39.66	--	--	0.73 J	9.9	2.4	1	22	--	54	37	1200 E	0.31	54	3.6	0.63	0.21 J	230
B7	52.5	54.5	ft	1	99	46.3	44.3	76.5	58,300	9.41	--	--	0.53 J	14	2.9	2.8	55	--	71	65	2200 E	0.23	77	1.6	4.1	0.48 J	440
B7	54.5	55.6	ft	4	96	40.8	44.3	75.3	101,000	15.03	--	--	0.77 J	19	3.9	4	75	--	98	74	2300 E	0.4	110	3.3	5.2	0.41 J	630
B7	55.6	58.1	ft	8	92	44.5	44.5	78.0	164,000	15.50	--	--	0.76 J	16	3.4	3.2	76	--	80	62	2000 E	0.33	96	2.9	4	0.34 J	510
B7	58.1	60.6	ft	4	96	43.3	42.7	74.4	87,300	12.96	0.37	--	0.76 J	18	4.6	3.6	70	<1.7	100	79	2100 E	0.45	110	3.2	4	0.4 J	690
B7	60.6	63.1	ft	6	94	42.8	44.1	76.9	106,000	11.89	--	--	0.63 J	16	4	2.5	80	--	89	65	1400 E	0.46	86	2.9	3.2	0.37 J	590
B7	63.1	65.6	ft	2	98	43.0	43.5	67.1	108,000	15.45	--	--	0.74 J	20	4	1.6	50	--	92	70	1400 E	0.44	83	4.9	1.8	0.44 J	460
B7	65.6	66.7	ft	1	99	43.7	38.2	63.4	109,000	17.00	--	--	0.6 J	17	3.3	1	43	--	72	59	1200 E	0.33	62	4.4	0.85	0.4 J	330
B7	66.7	68.1	ft	2	98	39.2	39.3	63.7	119,000	15.53	--	--	0.59 J	16	3.1	0.99	40	--	74	58	1900 E	0.4	73	3.8	0.5 J	0.36 J	350
C7	29.3	30.0	ft	1	99	58.7	53.5	124.4	45,900	7.63	--	--	<3.6	12	2	0.73	30	--	41	36	2100 E	0.12 J	62	0.87	0.35 J	0.25 J	240
C7	30.0	30.8	ft	78	22	27.1	24.7	38.2	410,000	22.11	--	--	<3	4.7	1	0.28 J	7.7	--	24	16	550	0.13	26	1.4	0.11 J	<0.59	86
C7	33.9	35.8	ft	5	95	44.5	45.3	74.7	64,500	9.84	--	--	0.42 J	13	2	0.91	32	--	43	39	2100 E	0.15	67	0.91	0.63 J	0.24 J	270
C7	36.5	37.3	ft	87	13	27.7	29.4	38.8	594,000	62.88	--	--	<3	4.1	0.96	0.24 J	7.8	--	24	19	620 E	0.18	24	2	0.14 J	<0.6	83

TABLE 8
Laboratory Analytical Results - Metals, TOC, % Moisture, Grain Size
Conowingo, Maryland

				Lab Name	SALUT	SALUT	PACE	PHASE	SALUT	PACE	RUTGERS	PHASE	ALPHA	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	ASTM D422	ASTM D422	D2974-87	SM2540G	ASTM D422	SW-846 9060	ASTM D2974	SW-846 9014	9016	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 7196 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A
				Units	%	%	%	%	%	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Coarse Grain	Fine Grain	Percent moisture	Percent moisture	Percent moisture	Total Organic Carbon (mean)	Organic Matter	Cyanide	Cyanide, Free	Antimony	Arsenic	Beryllium	Cadmium	Chromium*	Hexavalent Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Central Maryland ATC														**4.9**			**30**				**1,400**					**1.5**	
Category 1 RSL												**23**		**3.1**	**0.68**	**16**	**7.1**	**12,000**	**0.3**	**310**	**400**	**180**	**1.1**	**150**	**39**	**39**	**0.078**	**2,300**
Category 2 RSL												**150**		**47**	**3**	**230**	**98**	**180,000**	**6.3**	**4,700**	**800**	**2,560**	**4.6**	**2,200**	**580**	**580**	**1.2**	**35,000**
Category 3 RSL Composite												**147**		**467**	**30**	**2290**	**982**	**1,750,000**	**63.3**	**46,700**	**800**	**25,600**	**46**	**22,400**	**5,840**	**5,840**	**11.7**	**350,000**
Category 3 RSL Construction												**32.6**		**136**	**142**	**618**	**277**	**509,000**	**425**	**13,600**	**800**	**5,530**	**9.49**	**5,570**	**1,700**	**1,700**	**3.39**	**102,000**
C7	37.3	38.7	ft	82	18	25.4	25.7	29.5	403,000	21.78	--	--	<2.9	3.8	0.81	0.25 J	9.9	--	22	19	700 E	0.12	28	1.6	0.11 J	<0.58	97
C7	38.7	40.8	ft	3	97	42.5	41.5	79.4	57,300	10.30	--	--	0.38 J	12	2.1	1.3	32	--	50	46	2700 E	0.18	83	1.3	1	0.27 J	320
C7	41.7	43.4	ft	88	12	25.6	25.3	35.1	610,000	60.00	0.089	<1.3	<2.9	3.8	0.88	0.22 J	17	<1.4	21	15	540	0.17	22	1.6	0.12 J	<0.58	130
C7	43.4	45.8	ft	2	98	38.1	42.3	68.2	55,800	9.32	--	--	0.54 J	16	2.9	2.1	43	--	66	66	2900 E	0.28	90	1.6	2	0.32 J	380
C7	46.3	47.0	ft	4	96	37.0	38.6	64.4	98,500	12.72	--	--	0.46 J	15	2.4	2.1	41	--	62	59	2600 E	0.26	75	2.1	2.1	0.28 J	340
C7	47.0	50.8	ft	5	95	--	--	63.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C7	53.2	55.3	ft	68	32	33.4	31.1	49.6	467,000	45.21	0.53	--	0.46 J	7.5	1.5	0.66	15	<1.5	42	30	830 E	0.26	39	2.9	0.56 J	<0.62	160
C7	55.8	58.3	ft	11	89	43.8	42.7	79.0	112,000	20.67	--	--	0.66 J	17	3	3.1	56	--	89	70	2200 E	0.37	93	2.6	4.3	0.32 J	520
C7	58.3	60.8	ft	3	97	40.3	41.9	78.0	155,000	13.95	--	--	0.67 J	17	3.6	2.9	56	--	91	69	2100 E	0.37	110	2.8	3.3	0.3 J	580
C7	60.8	65.8	ft	2	98	43.0	43.5	80.8	106,000	15.94	--	--	0.73 J	17	4.1	2.7	63	--	97	71	1600 E	0.52	110	2.6	3.4	0.35 J	610
C7	61.8	65.8	ft	1	99	--	--	74.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C7	65.8	68.8	ft	1	99	36.2	38.3	63.5	131,000	16.92	--	--	0.62 J	19	3.7	1.2	52	--	100	68	1400 E	0.56	75	5.1	0.91	0.48 J	400
C7	67.0	67.0	ft	--	--	--	37.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C7	68.8	70.8	ft	16	84	32.0	31.4	46.3	215,000	21.05	0.25	--	0.57 J	16	2.8	0.82	38	<1.4	80	57	1300 E	0.56	60	4.1	0.36 J	0.32 J	300
C7	70.8	71.9	ft	0	100	38.9	39.1	65.6	82,000	13.53	--	--	0.61 J	20	3.8	0.91	46	--	110	80	1700 E	0.81	100	4.5	0.55 J	0.4 J	460
C7	71.9	72.3	ft	93	7	--	--	36.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Transect 8																											
A8	41.2	42.3	ft	1	99	54.8	52.1	115.3	40,300	7.84	--	--	<5	12	2.2	0.91 J	35	--	42	36	1800 E	0.15 J	61	1.2	0.5 J	0.28 J	250
A8	45.2	47.3	ft	3	97	52.1	53.3	110.8	47,600	8.59	--	--	<4.3	11	2.3	1	33	--	40	36	2100 E	0.14 J	64	1.1	0.45 J	0.27 J	260
A8	50.5	52.3	ft	3	97	48.0	47.9	92.1	47,400	9.09	--	--	0.47 J	13	2.7	1.1	36	--	46	40	2500 E	0.17	78	1.3	0.64 J	0.3 J	320
A8	53.1	57.3	ft	6	94	50.3	49.6	95.9	61,200	11.01	--	--	0.51 J	13	3.2	1.5	37	--	53	46	3000 E	0.2	100	1.4	1	0.32 J	400
A8	57.8	62.3	ft	2	98	45.9	50.4	86.2	51,900	9.41	0.24	<2	0.56 J	14	3	2	46	<2	63	63	2200 E	0.21	84	1.5	1.5	0.38 J	370
A8	62.3	62.3	ft	--	--	--	43.8	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A8	62.9	67.3	ft	2	98	45.6	42.8	82.0	70,000	8.74	--	--	0.81 J	16	3.6	2.9	59	--	78	63	2000 E	0.33	91	2.7	3.3	0.35 J	500
A8	67.3	72.3	ft	1	99	44.6	41.6	76.9	77,000	12.33	--	--	0.75 J	19	3.6	1.3	51	--	84	65	1200 E	0.37	81	4.1	0.99	0.39 J	420
A8	72.3	74.8	ft	5	95	41.9	40.8	66.0	108,000	18.68	--	--	0.82 J	19	3.8	1.1	62	--	90	72	1700 E	0.51	83	3.9	0.56 J	0.43 J	400
B8	63.7	66.7	ft	3	97	48.1	46.1	87.6	78,600	13.41	--	--	0.57 J	15	3.1	1.7	43	--	70	60	1900 E	0.36	73	2.9	1.5	0.34 J	370
B8	66.7	66.7	ft	--	--	--	16.2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
B8	66.7	67.2	ft	83	17	21.2	16.9	18.8	5,870	--	--	--	<2.4	2.2	0.41 J	0.082 J	6.8	--	6.5	5.9	280	<0.098	13	0.14 J	<0.49	<0.49	45
B8	67.2	68.7	ft	68	32	12.8	12.4	14.8	1,330	1.11	<0.065	<1.2	<2	3.4	0.31 J	<0.41	11	<1.1	6.5	5.7	200	<0.082	9.8	0.18 J	<0.41	<0.41	29
B8	69.6	71.2	ft	--	--	12.6	14.1	--	1,500	1.64	--	--	<2.4	2.9	0.38 J	<0.48	11	--	6	5.3	220	<0.096	12	0.08 J	<0.48	<0.48	32
B8A	58.8	60.0	ft	2	98	54.8	55.1	110.8	37,400	8.67	--	--	<4.6	13	2.8	1.2	38	--	49	42	2500 E	0.17 J	81	1.2	0.81 J	0.44 J	330
B8A	68.7	70.0	ft	77	23	28.4	26.1	39.8	428,000	40.46	0.21	--	0.48 J	6.5	1.8	0.53	15	<1.4	37	27	810 E	0.23	35	2.5	0.48 J	0.17 J	150
B8A	71.9	75.0	ft	7	93	47.1	45.5	94.5	83,500	13.66	0.36	--	0.6 J	16	4	3	62	<1.9	83	64	1900 E	0.34	93	2.6	3.9	0.33 J	550
B8A	75.3	80.0	ft	1	99	41.7	43.1	67.9	117,000	13.64	0.43	--	0.66 J	19	4.4	1.7	60	<1.7	94	71	1400 E	0.45	79	4.3	1.7	0.4 J	470
B8A	81.1	82.4	ft	51	49	36.3	35.7	58.2	423,000	35.76	0.24	--	0.64 J	11	2.3	0.73	23	<1.5	55	41	800 E	0.42	48	4.6	0.2 J	0.23 J	210
B8A	81.5	81.5	ft	--	--	--	43.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
C8	48.6	49.7	ft	5	95	55.6	56.4	100.6	45,200	8.90	0.21	--	<4.3	14	2.3	0.66 J	38	<2.3	40	33	2100 E	0.11 J	62	0.96	0.26 J	0.26 J	230
C8	61.6	65.6	ft	5	95	45.5	46.1	93.5	73,100	11.02	0.18	--	0.37 J	14	2.9	1.5	38	<1.8	53	45	2500 E	0.19	89	1.4	1.1	0.28 J	360
C8	65.6	70.6	ft	5	95	45.4	42.2	81.1	60,300	10.63	0.25	--	0.47 J	13	2.8	1.6	44	<1.7	60	56	1800 E	0.2	78	1.5	1.4	0.33 J	320
C8	72.7	75.0	ft	62	38	38.0	35.5	58.8	579,000	41.18	0.36	<2.1	0.77 J	12	3	1.5	31	<1.6	60	55	1300 E	0.34	59	3.4	1.6	0.26 J	300
C8	76.2	76.2	ft	--	--	--	52.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 8
Laboratory Analytical Results - Metals, TOC, % Moisture, Grain Size
Conowingo, Maryland

			Lab Name	SALUT	SALUT	PACE	PHASE	SALUT	PACE	RUTGERS	PHASE	ALPHA	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
			Analytic Method	ASTM D422	ASTM D422	D2974-87	SM2540G	ASTM D422	SW-846 9060	ASTM D2974	SW-846 9014	9016	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 7196 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A	SW-846 6020 A
			Units	%	%	%	%	%	mg/kg	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Coarse Grain	Fine Grain	Percent moisture	Percent moisture	Percent moisture	Total Organic Carbon (mean)	Organic Matter	Cyanide	Cyanide, Free	Antimony	Arsenic	Beryllium	Cadmium	Chromium*	Hexavalent Chromium	Copper	Lead	Manganese	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
Central Maryland ATC														**4.9**			**30**				**1,400**					**1.5**	
Category 1 RSL											**23**		**3.1**	**0.68**	**16**	**7.1**	**12,000**	**0.3**	**310**	**400**	**180**	**1.1**	**150**	**39**	**39**	**0.078**	**2,300**
Category 2 RSL											**150**		**47**	**3**	**230**	**98**	**180,000**	**6.3**	**4,700**	**800**	**2,560**	**4.6**	**2,200**	**580**	**580**	**1.2**	**35,000**
Category 3 RSL Composite											**147**		**467**	**30**	**2290**	**982**	**1,750,000**	**63.3**	**46,700**	**800**	**25,600**	**46**	**22,400**	**5,840**	**5,840**	**11.7**	**350,000**
Category 3 RSL Construction											**32.6**		**136**	**142**	**618**	**277**	**509,000**	**425**	**13,600**	**800**	**5,530**	**9.49**	**5,570**	**1,700**	**1,700**	**3.39**	**102,000**
D8	47.2	49.0	ft	--	--	47.0	47.1	--	129,000	15.28	0.22	--	0.43 J	11	2.5	1.1	31	<1.9	47	43	1800 E	0.24	65	1.9	0.67 J	0.24 J	270
D8	48.0	48.0	ft	--	--	--	44.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D8	55.0	59.0	ft	3	97	47.7	50.2	102.1	74,200	10.88	0.2	--	0.52 J	14	2.9	1.5	39	<2	54	46	2700 E	0.19	89	1.8	1.1	0.29 J	360
D8	60.6	64.0	ft	1	99	48.8	47.8	96.1	50,300	10.04	0.26	<2	0.57 J	16	3.4	2	51	<1.9	69	66	2500 E	0.23	90	2	1.7	0.38 J	390
D8	64.0	69.0	ft	8	92	42.3	43.8	80.2	79,500	13.20	--	--	0.61 J	18	4.1	2.8	65	--	84	68	2200 E	0.34	96	2.9	3.1	0.38 J	490
D8	69.0	74.0	ft	1	99	43.6	44.2	74.3	112,000	15.45	--	--	0.67 J	19	4.8	2.3	64	--	98	73	1500 E	0.41	94	4.2	2.4	0.39 J	570
D8	75.5	79.0	ft	3	97	41.4	39.9	69.6	161,000	20.20	0.45	--	0.85 J	19	4.3	1.1	47	<1.7	100	72	1500 E	0.72	77	5.2	0.48 J	0.38 J	400

Analyte concentration exceeds the standard for:

- Central Maryland Anticipated Typical Concentration
- Maryland Dredging Category 1 RSL
- Maryland Dredging Category 2 RSL
- Maryland Dredging Category 3 RSL Composite
- Maryland Dredging Category 3 RSL Construction

Source:

2008 November 2020 November 2020 December 2019 December 2019

Abbreviations:

% - percent
mg/kg - milligrams per kilogram
ft - feet
-- not analyzed

Notes:

E - the data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
J - the analyte was positively identified below the reporting limit but greater than the method detection limit.
* - screening levels for chromium based on chromium III

TABLE 9
Laboratory Analytical Results - VOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	1,1,2-Trichlorotrifluoroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane
Category 1 RSL				810,000	600	150	670,000	3,600	23,000	6,300	5,800	30,000	5
Category 2 RSL				3,600,000	2,700	630	2,800,000	16,000	100,000	93,000	26,000	180,000	64
Category 3 RSL Composite				35,600,000	26,700	6,310	28,100,000	155,000	995,000	934,000	256,000	1,770,000	643
Category 3 RSL Construction				7,430,000	152,000	1,310	5,860,000	849,000	208,000	272,000	53,700	384,000	3,510
Transect 3													
C3	47.7	47.7	ft	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Transect 5													
B5	27.0	27.0	ft	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Transect 6													
C6	19.7	19.7	ft	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
Transect 7													
B7	42.0	42.0	ft	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
C7	67.0	67.0	ft	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Transect 8													
A8	62.3	62.3	ft	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8
B8	66.7	66.7	ft	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
B8A	81.5	81.5	ft	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
C8	76.2	76.2	ft	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4
D8	48.0	48.0	ft	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2

Analyte concentration exceeds the standard for:	**Source:**
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:

µg/kg - micrograms per kilogram

ft - feet

TABLE 9
Laboratory Analytical Results - VOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone	Benzene
Category 1 RSL				**180,000**	**460**	**1,600**	**27,000**		**2,600**	**2,700,000**	**20,000**	**3,300,000**	**6,100,000**	**1,200**
Category 2 RSL				**930,000**	**2,000**	**6,600**	**150,000**		**11,000**	**19,000,000**	**130,000**	**14,000,000**	**67,000,000**	**5,100**
Category 3 RSL Composite				**9,330,000**	**20,400**	**12,400**	**1,510,000**		**114,000**	**193,000,000**	**1,340,000**	**139,000,000**	**670,000,000**	**50,800**
Category 3 RSL Construction				**1,990,000**	**28,800**	**13,800**	**327,000**		**623,000**	**43,700,000**	**299,000**	**28,900,000**	**170,000,000**	**90,200**
Transect 3														
C3	47.7	47.7	ft	<2	<2	<2	<2	<2	<2	<9.9	<2	<2	<40	<2
Transect 5														
B5	27.0	27.0	ft	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<8.1	<1.6	<1.6	**51**	<1.6
Transect 6														
C6	19.7	19.7	ft	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<11	<2.1	<2.1	**51**	<2.1
Transect 7														
B7	42.0	42.0	ft	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<9.4	<1.9	<1.9	**63**	<1.9
C7	67.0	67.0	ft	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<8.1	<1.6	<1.6	**36**	<1.6
Transect 8														
A8	62.3	62.3	ft	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<9.2	<1.8	<1.8	**83**	<1.8
B8	66.7	66.7	ft	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<4.7	<0.94	<0.94	<19	<0.94
B8A	81.5	81.5	ft	<2	<2	<2	<2	<2	<2	<9.8	<2	<2	<39	<2
C8	76.2	76.2	ft	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<12	<2.4	<2.4	**170**	<2.4
D8	48.0	48.0	ft	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<11	<2.2	<2.2	**170**	<2.2

Analyte concentration exceeds the standard for:	**Source:**
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:

µg/kg - micrograms per kilogram

ft - feet

TABLE 9
Laboratory Analytical Results - VOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units		Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon disulfide	Carbon tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene
Category 1 RSL					**15,000**	**290**	**19,000**	**680**	**77,000**	**650**	**28,000**	**1,400,000**	**320**	**11,000**	**16,000**
Category 2 RSL					**63,000**	**1,300**	**86,000**	**3,000**	**350,000**	**2,900**	**130,000**	**5,700,000**	**1,400**	**46,000**	**230,000**
Category 3 RSL Composite					**628,000**	**12,800**	**857,000**	**30,100**	**3,470,000**	**28,700**	**1,330,000**	**56,700,000**	**13,800**	**463,000**	**2,340,000**
Category 3 RSL Construction					**131,000**	**70,000**	**4,940,000**	**6,280**	**728,000**	**124,000**	**282,000**	**11,800,000**	**75,300**	**96,400**	**679,000**
Transect 3															
C3	47.7	47.7	ft		<2	<2	<2	<2	<2	<2	<2	<2	<9.9	<2	<2
Transect 5															
B5	27.0	27.0	ft		<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<8.1	<1.6	<1.6
Transect 6															
C6	19.7	19.7	ft		<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<11	<2.1	<2.1
Transect 7															
B7	42.0	42.0	ft		<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<9.4	<1.9	<1.9
C7	67.0	67.0	ft		<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<8.1	<1.6	<1.6
Transect 8															
A8	62.3	62.3	ft		<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<9.2	<1.8	<1.8
B8	66.7	66.7	ft		<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<4.7	<0.94	<0.94
B8A	81.5	81.5	ft		<2	<2	<2	<2	<2	<2	<2	<2	<9.8	<2	<2
C8	76.2	76.2	ft		<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<12	<2.4	<2.4
D8	48.0	48.0	ft		<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<11	<2.2	<2.2

Analyte concentration exceeds the standard for:	**Source:**
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:

µg/kg - micrograms per kilogram

ft - feet

TABLE 9
Laboratory Analytical Results - VOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	cis-1,3-Dichloropropene	Cyclohexane	Cyclohexane, Methyl-	Dibromo-chloromethane	Dichloro-difluoromethane	Ethylbenzene	Ethylene dibromide	Isopropylbenzene	m,p-Xylene	Methyl Acetate
Category 1 RSL					**650,000**		**8,300**	**8,700**	**5,800**	**36**	**190,000**		**7,800,000**
Category 2 RSL					**2,700,000**		**39,000**	**37,000**	**25,000**	**160**	**990,000**		**120,000,000**
Category 3 RSL Composite					**27,400,000**		**389,000**	**368,000**	**254,000**	**1,590**	**9,950,000**		**1,170,000,000**
Category 3 RSL Construction					**5,700,000**		**2,950,000**	**76,500**	**1,410,000**	**8,890**	**2,120,000**		**339,000,000**
Transect 3													
C3	47.7	47.7	ft	<2	<2	<2	<2	<2	<2	<2	<2	<4	<49
Transect 5													
B5	27.0	27.0	ft	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<3.2	<40
Transect 6													
C6	19.7	19.7	ft	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<4.3	<54
Transect 7													
B7	42.0	42.0	ft	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<3.7	<47
C7	67.0	67.0	ft	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<3.2	<41
Transect 8													
A8	62.3	62.3	ft	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<3.7	<46
B8	66.7	66.7	ft	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<1.9	<24
B8A	81.5	81.5	ft	<2	<2	<2	<2	<2	<2	<2	<2	<3.9	<49
C8	76.2	76.2	ft	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<4.7	<59
D8	48.0	48.0	ft	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<4.4	<55

Analyte concentration exceeds the standard for:	**Source:**
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:

µg/kg - micrograms per kilogram

ft - feet

TABLE 9
Laboratory Analytical Results - VOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B	SW-846 8260 B
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units		Methylene chloride	MTBE	o-Xylene	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichloro-fluoromethane	Vinylchloride
Category 1 RSL					**35,000**	**47,000**	**65,000**	**600,000**	**8,100**	**490,000**	**7,000**		**410**	**2,300,000**	**59**
Category 2 RSL					**320,000**	**210,000**	**280,000**	**3,500,000**	**39,000**	**4,700,000**	**30,000**		**1,900**	**35,000,000**	**1,700**
Category 3 RSL Composite					**3,160,000**	**2,050,000**	**2,790,000**	**34,800,000**	**389,000**	**46,800,000**	**23,400,000**		**18,700**	**350,000,000**	**16,800**
Category 3 RSL Construction					**754,000**	**11,500,000**	**583,000**	**7,570,000**	**82,100**	**11,400,000**	**6,790,000**		**3,930**	**656,000**	**80,200**
Transect 3															
C3	47.7	47.7	ft		<9.9	<2	<2	<2	<2	<2	<2	<2	<2	<2	<9.9
Transect 5															
B5	27.0	27.0	ft		<8.1	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<8.1
Transect 6															
C6	19.7	19.7	ft		<11	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1	<11
Transect 7															
B7	42.0	42.0	ft		<9.4	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<9.4
C7	67.0	67.0	ft		<8.1	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<8.1
Transect 8															
A8	62.3	62.3	ft		<9.2	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<1.8	<9.2
B8	66.7	66.7	ft		<4.7	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<4.7
B8A	81.5	81.5	ft		<9.8	<2	<2	<2	<2	<2	<2	<2	<2	<2	<9.8
C8	76.2	76.2	ft		<12	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4	<12
D8	48.0	48.0	ft		<11	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<2.2	<11

Analyte concentration exceeds the standard for: **Source:**

Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:

µg/kg - micrograms per kilogram

ft - feet

TABLE 10
Laboratory Analytical Results - SVOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Biphenyl, 1,1'-	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline
Category 1 RSL				**4,700**	**630,000**	**6,300**	**19,000**	**130,000**	**13,000**	**1,700**	**360**	**480,000**	**39,000**	**24,000**	**320,000**	**63,000**
Category 2 RSL				**20,000**	**8,200,000**	**82,000**	**250,000**	**1,600,000**	**160,000**	**7,400**	**1,500**	**6,000,000**	**580,000**	**300,000**	**4,100,000**	**800,000**
Category 3 RSL Composite				**200,000**	**82,100,000**	**821,000**	**2,460,000**	**16,400,000**	**1,640,000**	**73,700**	**15,400**	**60,300,000**	**5,840,000**	**3,010,000**	**41,000,000**	**7,990,000**
Category 3 RSL Construction				**41,500**	**25,700,000**	**257,000**	**771,000**	**5,140,000**	**514,000**	**60,000**	**77,300**	**19,200,000**	**1,700,000**	**958,000**	**12,800,000**	**2,240,000**
Transect 3																
C3	30.6	35.5	ft	<43	<43	<43	<43	<43	<210	<86	<86	<43	<43	<11	<43	<86
D3	26.2	30.9	ft	<43	<43	<43	<43	<43	<220	<87	<87	<43	<43	**14**	<43	<87
Transect 4																
C4	28.4	31.9	ft	<43	<43	<43	<43	<43	<220	<86	<86	<43	<43	<11	<43	<86
Transect 5																
B5	35.4	40.4	ft	<58	<58	<58	<58	<58	<290	<120	<120	<58	<58	<15	<58	<120
B5	51.9	54.1	ft	<51	<51	<51	<51	<51	<260	<100	<100	<51	<51	<13	<51	<100
C5	22.1	26.7	ft	<46	<46	<46	<46	<46	<230	<92	<92	<46	<46	**16**	<46	<92
C5	36.7	41.7	ft	<55	<55	<55	<55	<55	<270	<110	<110	<55	<55	<14	<55	<110
Transect 6																
B6	41.0	45.3	ft	<45	<45	<45	<45	<45	<220	<90	<90	<45	<45	**34**	<45	<90
C6	21.8	23.4	ft	<48	<48	<48	<48	<48	<240	<96	<96	<48	<48	**34**	<48	<96
C6	27.2	28.3	ft	<47	<47	<47	<47	<47	<240	<94	<94	<47	<47	**52**	<47	<94
C6	35.0	36.1	ft	<49	<49	<49	<49	<49	<240	<98	<98	<49	<49	**27**	<49	<98
C6	36.6	38.8	ft	<48	<48	<48	<48	<48	<240	<97	<97	<48	<48	**23**	<48	<97
Transect 7																
B7	41.0	43.3	ft	<56	<56	<56	<56	<56	<280	<110	<110	<56	<56	<14	<56	<110
B7	48.2	50.6	ft	<45	<45	<45	<45	<45	<230	<90	<90	<45	<45	**32**	<45	<90
B7	58.1	60.6	ft	<58	<58	<58	<58	<58	<290	<120	<120	<58	<58	<15	<58	<120
C7	41.7	43.4	ft	<44	<44	<44	<44	<44	<220	<89	<89	<44	<44	**36**	<44	<89
C7	53.2	55.3	ft	<49	<49	<49	<49	<49	<240	<97	<97	<49	<49	**47**	<49	<97
C7	68.8	70.8	ft	<49	<49	<49	<49	<49	<240	<97	<97	<49	<49	**23**	<49	<97
Transect 8																
A8	57.8	62.3	ft	<67	<67	<67	<67	<67	<330	<130	<130	<67	<67	<17	<67	<130
B8	67.2	68.7	ft	<38	<38	<38	<38	<38	<190	<76	<76	<38	<38	<9.5	<38	<76
B8A	68.7	70.0	ft	<45	<45	<45	<45	<45	<220	<90	<90	<45	<45	**28**	<45	<90
B8A	71.9	75.0	ft	<61	<61	<61	<61	<61	<300	<120	<120	<61	<61	<15	<61	<120
B8A	75.3	80.0	ft	<59	<59	<59	<59	<59	<290	<120	<120	<59	<59	<15	<59	<120
B8A	81.1	82.4	ft	<51	<51	<51	<51	<51	<260	<100	<100	<51	<51	**21**	<51	<100
C8	48.6	49.7	ft	<76	<76	<76	<76	<76	<380	<150	<150	<76	<76	<19	<76	<150
C8	61.6	65.6	ft	<62	<62	<62	<62	<62	<310	<120	<120	<62	<62	<15	<62	<120
C8	65.6	70.6	ft	<57	<57	<57	<57	<57	<290	<110	<110	<57	<57	<14	<57	<110
C8	72.7	75.0	ft	<52	<52	<52	<52	<52	<260	<100	<100	<52	<52	<13	<52	<100
D8	47.2	49.0	ft	<63	<63	<63	<63	<63	<320	<130	<130	<63	<63	<16	<63	<130
D8	55.0	59.0	ft	<66	<66	<66	<66	<66	<330	<130	<130	<66	<66	<17	<66	<130
D8	60.6	64.0	ft	<64	<64	<64	<64	<64	<320	<130	<130	<64	<64	<16	<64	<130
D8	75.5	79.0	ft	<56	<56	<56	<56	<56	<280	<110	<110	<56	<56	<14	<56	<110

Analyte concentration exceeds the standard for:

	Source:
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
µg/kg - micrograms per kilogram
ft - feet

TABLE 10
Laboratory Analytical Results - SVOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	2-Nitrophenol	3&4-Methylphenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl-phenylether	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Acetophenone
Category 1 RSL						**1,200**		**510**		**6,300,000**	**2,700**		**25,000**		**360,000**		**780,000**
Category 2 RSL						**5,100**		**6,600**		**82,000,000**	**11,000**		**110,000**		**4,500,000**		**12,000,000**
Category 3 RSL Composite						**51,100**		**65,700**		**82,100,000**	**115,000**		**1,150,000**		**45,200,000**		**117,000,000**
Category 3 RSL Construction						**417,000**		**20,600**		**25,700,000**	**938,000**		**1,030,000**		**14,400,000**		**33,900,000**
Transect 3																	
C3	30.6	35.5	ft	<43	<43	<43	<86	<210	<43	<43	<43	<43	<86	<210	**15**	<11	<43
D3	26.2	30.9	ft	<43	<43	<43	<87	<220	<43	<43	<43	<43	<87	<220	<11	**22**	<43
Transect 4																	
C4	28.4	31.9	ft	<43	<43	<43	<86	<220	<43	<43	<43	<43	<86	<220	<11	**16**	<43
Transect 5																	
B5	35.4	40.4	ft	<58	<58	<58	<120	<290	<58	<58	<58	<58	<120	<290	<15	<15	<58
B5	51.9	54.1	ft	<51	<51	<51	<100	<260	<51	<51	<51	<51	<100	<260	<13	**25**	<51
C5	22.1	26.7	ft	<46	<46	<46	<92	<230	<46	<46	<46	<46	<92	<230	<11	**18**	<46
C5	36.7	41.7	ft	<55	<55	<55	<110	<270	<55	<55	<55	<55	<110	<270	<14	<14	<55
Transect 6																	
B6	41.0	45.3	ft	<45	<45	<45	<90	<220	<45	<45	<45	<45	<90	<220	<11	**24**	<45
C6	21.8	23.4	ft	<48	<48	<48	<96	<240	<48	<48	<48	<48	<96	<240	**13**	**47**	<48
C6	27.2	28.3	ft	<47	<47	<47	<94	<240	<47	<47	<47	<47	<94	<240	**41**	**140**	<47
C6	35.0	36.1	ft	<49	<49	<49	<98	<240	<49	<49	<49	<49	<98	<240	<12	**55**	<49
C6	36.6	38.8	ft	<48	<48	<48	<97	<240	<48	<48	<48	<48	<97	<240	<12	**38**	<48
Transect 7																	
B7	41.0	43.3	ft	<56	<56	<56	<110	<280	<56	<56	<56	<56	<110	<280	<14	<14	<56
B7	48.2	50.6	ft	<45	<45	<45	<90	<230	<45	<45	<45	<45	<90	<230	<11	**33**	<45
B7	58.1	60.6	ft	<58	<58	<58	<120	<290	<58	<58	<58	<58	<120	<290	<15	<15	<58
C7	41.7	43.4	ft	<44	<44	<44	<89	<220	<44	<44	<44	<44	<89	<220	**24**	**86**	<44
C7	53.2	55.3	ft	<49	<49	<49	<97	<240	<49	<49	<49	<49	<97	<240	<12	**100**	<49
C7	68.8	70.8	ft	<49	<49	<49	<97	<240	<49	<49	<49	<49	<97	<240	<12	**20**	<49
Transect 8																	
A8	57.8	62.3	ft	<67	<67	<67	<130	<330	<67	<67	<67	<67	<130	<330	<17	<17	<67
B8	67.2	68.7	ft	<38	<38	<38	<76	<190	<38	<38	<38	<38	<76	<190	<9.5	<9.5	<38
B8A	68.7	70.0	ft	<45	<45	<45	<90	<220	<45	<45	<45	<45	<90	<220	<11	**90**	<45
B8A	71.9	75.0	ft	<61	<61	<61	<120	<300	<61	<61	<61	<61	<120	<300	<15	<15	<61
B8A	75.3	80.0	ft	<59	<59	<59	<120	<290	<59	<59	<59	<59	<120	<290	<15	<15	<59
B8A	81.1	82.4	ft	<51	<51	<51	<100	<260	<51	<51	<51	<51	<100	<260	<13	**84**	<51
C8	48.6	49.7	ft	<76	<76	<76	<150	<380	<76	<76	<76	<76	<150	<380	<19	<19	<76
C8	61.6	65.6	ft	<62	<62	<62	<120	<310	<62	<62	<62	<62	<120	<310	<15	<15	<62
C8	65.6	70.6	ft	<57	<57	<57	<110	<290	<57	<57	<57	<57	<110	<290	<14	<14	<57
C8	72.7	75.0	ft	<52	<52	<52	<100	<260	<52	<52	<52	<52	<100	<260	<13	**39**	<52
D8	47.2	49.0	ft	<63	<63	<63	<130	<320	<63	<63	<63	<63	<130	<320	<16	<16	<63
D8	55.0	59.0	ft	<66	<66	<66	<130	<330	<66	<66	<66	<66	<130	<330	<17	<17	<66
D8	60.6	64.0	ft	<64	<64	<64	<130	<320	<64	<64	<64	<64	<130	<320	<16	<16	<64
D8	75.5	79.0	ft	<56	<56	<56	<110	<280	<56	<56	<56	<56	<110	<280	<14	<14	<56

Analyte concentration exceeds the standard for: **Source:**

Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
µg/kg - micrograms per kilogram
ft - feet

TABLE 10
Laboratory Analytical Results - SVOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	bis(2-Chloroethoxy)methane	bis(2-Chloroethyl)ether	bis(2-Chloroisopropyl)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Caprolactam	Carbazole
Category 1 RSL				**1,800,000**	**1,100**	**110**	**1,100**		**11,000**	**19,000**	**230**	**310,000**	**39,000**	**290,000**	**3,100,000**	
Category 2 RSL				**23,000,000**	**21,000**	**2,100**	**21,000**		**210,000**	**250,000**	**1,000**	**4,700,000**	**160,000**	**1,200,000**	**40,000,000**	
Category 3 RSL Composite				**226,000,000**	**206,000**	**21,100**	**211,000**		**2,110,000**	**2,460,000**	**10,300**	**46,700,000**	**1,640,000**	**12,100,000**	**398,000,000**	
Category 3 RSL Construction				**71,900,000**	**1,690,000**	**65,100**	**1,750,000**		**17,500,000**	**771,000**	**62,100**	**13,600,000**	**5,140,000**	**51,400,000**	**110,000,000**	
Transect 3																
C3	30.6	35.5	ft	**43**	**83**	**62**	**54**	**35**	**46**	<43	<43	<43	<43	<43	<86	<43
D3	26.2	30.9	ft	**30**	**91**	**88**	**64**	**43**	**49**	<43	<43	<43	<43	<43	<87	<43
Transect 4																
C4	28.4	31.9	ft	**35**	**85**	**68**	**42**	**30**	**54**	<43	<43	<43	<43	<43	<86	<43
Transect 5																
B5	35.4	40.4	ft	<15	**23**	**23**	<15	<15	**15 J**	<58	<58	<58	<58	<58	<120	<58
B5	51.9	54.1	ft	<13	**29**	**38**	**24**	**26**	**26**	<51	<51	<51	<51	<51	<100	<51
C5	22.1	26.7	ft	**41**	**95**	**84**	**52**	**38**	**61**	<46	<46	<46	<46	<46	<92	<46
C5	36.7	41.7	ft	<14	**15**	**14 J**	<14	<14	<14	<55	<55	<55	<55	<55	<110	<55
Transect 6																
B6	41.0	45.3	ft	**35**	**84**	**76**	**48**	**42**	**60**	<45	<45	<45	<45	<45	<90	<45
C6	21.8	23.4	ft	**94**	**250**	**210**	**180**	**100**	**140**	<48	<48	<48	**190**	<48	<96	<48
C6	27.2	28.3	ft	**450**	**1100**	**1000**	**700**	**550**	**720**	<47	<47	<47	**97**	<47	<94	**64**
C6	35.0	36.1	ft	**47**	**160**	**180**	**81**	**79**	**120**	<49	<49	<49	<49	<49	<98	<49
C6	36.6	38.8	ft	**60**	**150**	**150**	**99**	**76**	**110**	<48	<48	<48	<48	<48	<97	<48
Transect 7																
B7	41.0	43.3	ft	<14	<14	<14	<14	**21**	<14	<56	<56	<56	<56	<56	<110	<56
B7	48.2	50.6	ft	**56**	**150**	**150**	**110**	**71**	**82**	<45	<45	<45	<45	<45	<90	<45
B7	58.1	60.6	ft	<15	**20**	**18**	<15	<15	<15	<58	<58	<58	<58	<58	<120	<58
C7	41.7	43.4	ft	**180**	**370**	**310**	**250**	**140**	**220**	<44	<44	<44	<44	<44	<89	<44
C7	53.2	55.3	ft	**90**	**300**	**330**	**160**	**140**	**210**	<49	<49	<49	<49	<49	<97	<49
C7	68.8	70.8	ft	**14**	**49**	**55**	**28**	**26**	**36**	<49	<49	<49	<49	<49	<97	<49
Transect 8																
A8	57.8	62.3	ft	<17	<17	<17	<17	<17	<17	<67	<67	<67	<67	<67	<130	<67
B8	67.2	68.7	ft	<9.5	<9.5	<9.5	<9.5	<9.5	<9.5	<38	<38	<38	<38	<38	<76	<38
B8A	68.7	70.0	ft	**110**	**1200**	**400**	**320**	**190**	**310**	<45	<45	<45	<45	<45	<90	<45
B8A	71.9	75.0	ft	<15	**24**	**30**	**22**	**36**	**28**	<61	<61	<61	<61	<61	<120	<61
B8A	75.3	80.0	ft	<15	<15	<15	<15	<15	<15	<59	<59	<59	<59	<59	<120	<59
B8A	81.1	82.4	ft	**90**	**290**	**310**	**200**	**160**	**200**	<51	<51	<51	<51	<51	<100	<51
C8	48.6	49.7	ft	<19	<19	<19	<19	<19	<19	<76	<76	<76	<76	<76	<150	<76
C8	61.6	65.6	ft	<15	<15	<15	<15	<15	<15	<62	<62	<62	<62	<62	<120	<62
C8	65.6	70.6	ft	<14	<14	<14	<14	<14	<14	<57	<57	<57	<57	<57	<110	<57
C8	72.7	75.0	ft	**35**	**160**	**170**	**86**	**78**	**120**	<52	<52	<52	<52	<52	<100	<52
D8	47.2	49.0	ft	<16	<16	<16	<16	<16	<16	<63	<63	<63	<63	<63	<130	<63
D8	55.0	59.0	ft	<17	<17	<17	<17	<17	<17	<66	<66	<66	<66	<66	<130	<66
D8	60.6	64.0	ft	<16	<16	<16	<16	<16	<16	<64	<64	<64	<64	<64	<130	<64
D8	75.5	79.0	ft	<14	<14	<14	<14	<14	<14	<56	<56	<56	<56	<56	<110	<56

Analyte concentration exceeds the standard for:

	Source:
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
µg/kg - micrograms per kilogram
ft - feet

TABLE 10
Laboratory Analytical Results - SVOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Chrysene	Dibenz(a,h)anthracene	Dibenzofuran	Diethylphthalate	Dimethyl phthalate	Di-N-Butyl phthalate	Di-N-Octyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorocyclopentadiene	Hexachloroethane
Category 1 RSL				**110,000**	**110**	**7,800**	**5,100,000**		**630,000**	**63,000**	**240,000**	**240,000**	**210**	**180**	**1,800**
Category 2 RSL				**2,100,000**	**2,100**	**120,000**	**66,000,000**		**8,200,000**	**820,000**	**3,000,000**	**3,000,000**	**960**	**750**	**8,000**
Category 3 RSL Composite				**21,100,000**	**21,100**	**1,040,000**	**657,000,000**		**82,100,000**	**8,210,000**	**30,100,000**	**30,100,000**	**9,600**	**7,450**	**80,500**
Category 3 RSL Construction				**175,000,000**	**175,000**	**310,000**	**206,000,000**		**25,700,000**	**2,570,000**	**9,580,000**	**9,580,000**	**60,100**	**1,550**	**114,000**
Transect 3															
C3	30.6	35.5	ft	**83**	**18**	<43	<43	<43	<43	<86	**180**	**24**	<43	<86	<43
D3	26.2	30.9	ft	**87**	**16**	<43	<43	<43	<43	<87	**140**	**12**	<43	<87	<43
Transect 4															
C4	28.4	31.9	ft	**76**	**15**	<43	<43	<43	<43	<86	**170**	**27**	<43	<86	<43
Transect 5															
B5	35.4	40.4	ft	**17**	<15	<58	<58	<58	<58	<120	**27**	<15	<58	<120	<58
B5	51.9	54.1	ft	**27**	<13	<51	<51	<51	<51	<100	**28**	<13	<51	<100	<51
C5	22.1	26.7	ft	**90**	**19**	<46	<46	<46	<46	<92	**150**	**17**	<46	<92	<46
C5	36.7	41.7	ft	<14	<14	<55	<55	<55	<55	<110	<14	<14	<55	<110	<55
Transect 6															
B6	41.0	45.3	ft	**86**	**16**	<45	<45	<45	<45	<90	**150**	**18**	<45	<90	<45
C6	21.8	23.4	ft	**250**	**37**	<48	<48	<48	<48	<96	**460**	**36**	<48	<96	<48
C6	27.2	28.3	ft	**1100**	**140**	<47	<47	<47	<47	<94	**2000**	**90**	<47	<94	<47
C6	35.0	36.1	ft	**170**	**23**	<49	<49	<49	<49	<98	**210**	**21**	<49	<98	<49
C6	36.6	38.8	ft	**160**	**22**	<48	<48	<48	<48	<97	**290**	**27**	<48	<97	<48
Transect 7															
B7	41.0	43.3	ft	<14	**14 J**	<56	<56	<56	<56	<110	<14	<14	<56	<110	<56
B7	48.2	50.6	ft	**150**	**20**	<45	<45	<45	<45	<90	**260**	**26**	<45	<90	<45
B7	58.1	60.6	ft	**16**	<15	<58	<58	<58	<58	<120	**20**	<15	<58	<120	<58
C7	41.7	43.4	ft	**360**	**51**	<44	<44	<44	<44	<89	**750**	**69**	<44	<89	<44
C7	53.2	55.3	ft	**310**	**43**	<49	<49	<49	<49	<97	**350**	**25**	<49	<97	<49
C7	68.8	70.8	ft	**49**	<12	<49	<49	<49	<49	<97	**56**	<12	<49	<97	<49
Transect 8															
A8	57.8	62.3	ft	<17	<17	<67	<67	<67	<67	<130	<17	<17	<67	<130	<67
B8	67.2	68.7	ft	<9.5	<9.5	<38	<38	<38	<38	<76	<9.5	<9.5	<38	<76	<38
B8A	68.7	70.0	ft	**1100**	**50**	<45	<45	<45	<45	<90	**520**	**26**	<45	<90	<45
B8A	71.9	75.0	ft	**20**	**25**	<61	<61	<61	<61	<120	<15	<15	<61	<120	<61
B8A	75.3	80.0	ft	<15	<15	<59	<59	<59	<59	<120	<15	<15	<59	<120	<59
B8A	81.1	82.4	ft	**310**	**55**	<51	<51	<51	<51	<100	**370**	**26**	<51	<100	<51
C8	48.6	49.7	ft	<19	<19	<76	<76	<76	<76	<150	<19	<19	<76	<150	<76
C8	61.6	65.6	ft	<15	<15	<62	<62	<62	<62	<120	<15	<15	<62	<120	<62
C8	65.6	70.6	ft	<14	<14	<57	<57	<57	<57	<110	<14	<14	<57	<110	<57
C8	72.7	75.0	ft	**160**	**21**	<52	<52	<52	<52	<100	**200**	**13 J**	<52	<100	<52
D8	47.2	49.0	ft	<16	<16	<63	<63	<63	<63	<130	<16	<16	<63	<130	<63
D8	55.0	59.0	ft	<17	<17	<66	<66	<66	<66	<130	<17	<17	<66	<130	<66
D8	60.6	64.0	ft	<16	<16	<64	<64	<64	<64	<130	<16	<16	<64	<130	<64
D8	75.5	79.0	ft	<14	<14	<56	<56	<56	<56	<110	<14	<14	<56	<110	<56

Analyte concentration exceeds the standard for: **Source:**

Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
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TABLE 10
Laboratory Analytical Results - SVOCs
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C	SW-846 8270 C
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units		Indeno(1,2,3-cd)pyrene	Isophorone	Nitrobenzene	N-Nitroso-di-N-propylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	Hexachlorobutadiene	Naphthalene	Pyridine	Atrazine
Category 1 RSL					**1,100**	**570,000**	**5,100**	**78**	**110,000**	**1,000**		**1,900,000**	**180,000**	**1,200**	**2,000**	**7,800**	**2,400**
Category 2 RSL					**21,000**	**2,400,000**	**22,000**	**330**	**470,000**	**4,000**		**25,000,000**	**2,300,000**	**5,300**	**8,600**	**120,000**	**10,000**
Category 3 RSL Composite					**211,000**	**24,200,000**	**224,000**	**3,280**	**4,690,000**	**39,700**		**246,000,000**	**22,600,000**	**52,600**	**167,000**	**1,170,000**	**99,900**
Category 3 RSL Construction					**1,750,000**	**51,400,000**	**319,000**	**26,800**	**5,140,000**	**344,000**		**77,000,000**	**7,190,000**	**296,000**	**123,000**	**339,000**	**816,000**
Transect 3																	
C3	30.6	35.5	ft		**35**	<43	<43	<43	<43	<86	**170**	<43	**140**	<43	**21**	<43	<86
D3	26.2	30.9	ft		**50**	<43	<43	<43	<43	<87	**76**	<43	**170**	<43	**25**	<43	<87
Transect 4																	
C4	28.4	31.9	ft		**34**	<43	<43	<43	<43	<86	**150**	<43	**140**	<43	<11	<43	<86
Transect 5																	
B5	35.4	40.4	ft		<15	<58	<58	<58	<58	<120	<15	<58	**41**	<58	<15	<58	<120
B5	51.9	54.1	ft		**24**	<51	<51	<51	<51	<100	**32**	<51	**36**	<51	**21**	<51	<100
C5	22.1	26.7	ft		**44**	<46	<46	<46	<46	<92	**100**	<46	**150**	<46	**25**	<46	<92
C5	36.7	41.7	ft		<14	<55	<55	<55	<55	<110	<14	<55	**16**	<55	**19**	<55	<110
Transect 6																	
B6	41.0	45.3	ft		**43**	<45	<45	<45	<45	<90	**89**	<45	**150**	<45	**66**	<45	<90
C6	21.8	23.4	ft		**110**	<48	<48	<48	<48	<96	**280**	<48	**420**	<48	**54**	<48	<96
C6	27.2	28.3	ft		**640**	<47	<47	<47	<47	<94	**890**	<47	**1900**	<47	**82**	<47	<94
C6	35.0	36.1	ft		**97**	<49	<49	<49	<49	<98	**130**	<49	**250**	<49	**56**	<49	<98
C6	36.6	38.8	ft		**85**	<48	<48	<48	<48	<97	**220**	<48	**290**	<48	**42**	<48	<97
Transect 7																	
B7	41.0	43.3	ft		**16**	<56	<56	<56	<56	<110	<14	<56	<14	<56	<14	<56	<110
B7	48.2	50.6	ft		**78**	<45	<45	<45	<45	<90	**160**	<45	**280**	<45	**55**	<45	<90
B7	58.1	60.6	ft		<15	<58	<58	<58	<58	<120	<15	<58	**24**	<58	<15	<58	<120
C7	41.7	43.4	ft		**160**	<44	<44	<44	<44	<89	**490**	<44	**570**	<44	**63**	<44	<89
C7	53.2	55.3	ft		**150**	<49	<49	<49	<49	<97	**140**	<49	**420**	<49	**85**	<49	<97
C7	68.8	70.8	ft		**28**	<49	<49	<49	<49	<97	**34**	<49	**71**	<49	**56**	<49	<97
Transect 8																	
A8	57.8	62.3	ft		<17	<67	<67	<67	<67	<130	<17	<67	<17	<67	<17	<67	<130
B8	67.2	68.7	ft		<9.5	<38	<38	<38	<38	<76	<9.5	<38	<9.5	<38	<9.5	<38	<76
B8A	68.7	70.0	ft		**230**	<45	<45	<45	<45	<90	**200**	<45	**540**	<45	**48**	<45	<90
B8A	71.9	75.0	ft		**30**	<61	<61	<61	<61	<120	<15	<61	<15	<61	<15	<61	<120
B8A	75.3	80.0	ft		<15	<59	<59	<59	<59	<120	<15	<59	<15	<59	**21**	<59	<120
B8A	81.1	82.4	ft		**180**	<51	<51	<51	<51	<100	**200**	<51	**380**	<51	**42**	<51	<100
C8	48.6	49.7	ft		<19	<76	<76	<76	<76	<150	<19	<76	<19	<76	<19	<76	<150
C8	61.6	65.6	ft		<15	<62	<62	<62	<62	<120	<15	<62	<15	<62	<15	<62	<120
C8	65.6	70.6	ft		<14	<57	<57	<57	<57	<110	<14	<57	<14	<57	<14	<57	<110
C8	72.7	75.0	ft		**83**	<52	<52	<52	<52	<100	**100**	<52	**250**	<52	**17**	<52	<100
D8	47.2	49.0	ft		<16	<63	<63	<63	<63	<130	<16	<63	<16	<63	<16	<63	<130
D8	55.0	59.0	ft		<17	<66	<66	<66	<66	<130	<17	<66	<17	<66	<17	<66	<130
D8	60.6	64.0	ft		<16	<64	<64	<64	<64	<130	<16	<64	<16	<64	<16	<64	<130
D8	75.5	79.0	ft		<14	<56	<56	<56	<56	<110	<14	<56	<14	<56	**24**	<56	<110

Analyte concentration exceeds the standard for:

	Source:
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
µg/kg - micrograms per kilogram
ft - feet

TABLE 11
Laboratory Analytical Results - PCBs
Conowingo, Maryland

			Lab Name	PHASE						
			Analytic Method	SW-846 8082 A						
			Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
Category 1 RSL				**410**	**200**	**170**	**230**	**230**	**120**	**240**
Category 2 RSL				**5,100**	**830**	**720**	**950**	**940**	**970**	**990**
Category 3 RSL Composite				**51,300**	**8,320**	**7,190**	**9,500**	**9,540**	**9,720**	**9,910**
Category 3 RSL Construction				**16,400**	**62,800**	**51,600**	**76,000**	**76,500**	**4,680**	**81,000**
Transect 3										
C3	30.6	35.5	ft	<63	<63	<63	<63	<63	<63	<63
D3	26.2	30.9	ft	<65	<65	<65	<65	<65	<65	<65
Transect 4										
C4	28.4	31.9	ft	<64	<64	<64	<64	<64	<64	<64
Transect 5										
B5	35.4	40.4	ft	<87	<87	<87	<87	<87	<87	<87
B5	51.9	54.1	ft	<76	<76	<76	<76	<76	<76	<76
C5	22.1	26.7	ft	<67	<67	<67	<67	<67	<67	<67
C5	36.7	41.7	ft	<84	<84	<84	<84	<84	<84	<84
Transect 6										
B6	41.0	45.3	ft	<68	<68	<68	<68	<68	<68	<68
C6	21.8	23.4	ft	<71	<71	<71	<71	<71	<71	<71
C6	27.2	28.3	ft	<71	<71	<71	<71	<71	<71	<71
C6	35.0	36.1	ft	<72	<72	<72	<72	<72	<72	<72
C6	36.6	38.8	ft	<72	<72	<72	<72	<72	<72	<72
Transect 7										
B7	41.0	43.3	ft	<83	<83	<83	<83	<83	<83	<83
B7	48.2	50.6	ft	<69	<69	<69	<69	<69	<69	<69
B7	58.1	60.6	ft	<84	<84	<84	<84	<84	<84	<84
C7	41.7	43.4	ft	<68	<68	<68	<68	<68	<68	<68
C7	53.2	55.3	ft	<72	<72	<72	<72	<72	<72	<72
C7	68.8	70.8	ft	<73	<73	<73	<73	<73	<73	<73

TABLE 11
Laboratory Analytical Results - PCBs
Conowingo, Maryland

			Lab Name	PHASE						
			Analytic Method	SW-846 8082 A						
			Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260
Category 1 RSL				**410**	**200**	**170**	**230**	**230**	**120**	**240**
Category 2 RSL				**5,100**	**830**	**720**	**950**	**940**	**970**	**990**
Category 3 RSL Composite				**51,300**	**8,320**	**7,190**	**9,500**	**9,540**	**9,720**	**9,910**
Category 3 RSL Construction				**16,400**	**62,800**	**51,600**	**76,000**	**76,500**	**4,680**	**81,000**
Transect 8										
A8	57.8	62.3	ft	<100	<100	<100	<100	<100	<100	<100
B8	67.2	68.7	ft	<55	<55	<55	<55	<55	<55	<55
B8A	68.7	70.0	ft	<67	<67	<67	<67	<67	<67	<67
B8A	71.9	75.0	ft	<89	<89	<89	<89	<89	<89	<89
B8A	75.3	80.0	ft	<88	<88	<88	<88	<88	<88	<88
B8A	81.1	82.4	ft	<78	<78	<78	<78	<78	<78	<78
C8	48.6	49.7	ft	<120	<120	<120	<120	<120	<120	<120
C8	61.6	65.6	ft	<94	<94	<94	<94	<94	<94	<94
C8	65.6	70.6	ft	<84	<84	<84	<84	<84	<84	<84
C8	72.7	75.0	ft	<77	<77	<77	<77	<77	<77	<77
D8	47.2	49.0	ft	<90	<90	<90	<90	<90	<90	<90
D8	55.0	59.0	ft	<97	<97	<97	<97	<97	<97	<97
D8	60.6	64.0	ft	<95	<95	<95	<95	<95	<95	<95
D8	75.5	79.0	ft	<81	<81	<81	<81	<81	<81	<81

Analyte concentration exceeds the standard for:

		Source:
	Maryland Dredging Category 1 RSL	November 2020
	Maryland Dredging Category 2 RSL	November 2020
	Maryland Dredging Category 3 RSL Composite	December 2019
	Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
µg/kg - micrograms per kilogram
ft - feet

TABLE 12
Laboratory Analytical Results - Organochlorine Pesticides
Conowingo, Maryland

				Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
				Analytic Method	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B
				Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units		4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	Alpha-BHC	Alpha-chlordane	Beta-BHC	Chlordane	Delta-BHC	Dieldrin	Endosulfan I	Endosulfan II
Category 1 RSL					**190**	**2,000**	**1,900**	**39**	**86**		**300**	**1,700**		**34**		
Category 2 RSL					**2,500**	**9,300**	**8,500**	**180**	**360**		**1,300**	**7,700**		**140**		
Category 3 RSL Composite					**95,700**	**92,800**	**85,300**	**1,840**	**3,650**		**12,800**	**76,600**		**1,440**		
Category 3 RSL Construction					**514,000**	**693,000**	**155,000**	**10,200**	**29,800**		**104,000**	**130,000**		**11,700**		
Transect 3																
C3	30.6	35.5	ft		<5	<5	<5	<5	<5	<5	<5	<130	<5	<5	<5	<5
D3	26.2	30.9	ft		<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<130	<5.2	<5.2	<5.2	<5.2
Transect 4																
C4	28.4	31.9	ft		<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<130	<5.1	<5.1	<5.1	<5.1
Transect 5																
B5	35.4	40.4	ft		<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<170	<6.9	<6.9	<6.9	<6.9
B5	51.9	54.1	ft		<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<150	<6.1	<6.1	<6.1	<6.1
C5	22.1	26.7	ft		<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<130	<5.3	<5.3	<5.3	<5.3
C5	36.7	41.7	ft		<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<170	<6.7	<6.7	<6.7	<6.7
Transect 6																
B6	41.0	45.3	ft		<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<140	<5.4	<5.4	<5.4	<5.4
C6	21.8	23.4	ft		<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<140	<5.7	<5.7	<5.7	<5.7
C6	27.2	28.3	ft		<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<140	<5.6	<5.6	<5.6	<5.6
C6	35.0	36.1	ft		<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<140	<5.7	<5.7	<5.7	<5.7
C6	36.6	38.8	ft		<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<140	<5.8	<5.8	<5.8	<5.8
Transect 7																
B7	41.0	43.3	ft		<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<170	<6.6	<6.6	<6.6	<6.6
B7	48.2	50.6	ft		<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<140	<5.6	<5.6	<5.6	<5.6
B7	58.1	60.6	ft		<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<170	<6.8	<6.8	<6.8	<6.8
C7	41.7	43.4	ft		<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<140	<5.4	<5.4	<5.4	<5.4
C7	53.2	55.3	ft		<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<140	<5.8	<5.8	<5.8	<5.8
C7	68.8	70.8	ft		<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<150	<5.8	<5.8	<5.8	<5.8
Transect 8																
A8	57.8	62.3	ft		<8.1	<8.1	<8.1	<8.1	<8.1	<8.1	<8.1	<200	<8.1	<8.1	<8.1	<8.1
B8	67.2	68.7	ft		<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<110	<4.4	<4.4	<4.4	<4.4
B8A	68.7	70.0	ft		<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<130	<5.3	<5.3	<5.3	<5.3
B8A	71.9	75.0	ft		<7.1	<7.1	<7.1	<7.1	<7.1	<7.1	<7.1	<180	<7.1	<7.1	<7.1	<7.1
B8A	75.3	80.0	ft		<7	<7	<7	<7	<7	<7	<7	<180	<7	<7	<7	<7
B8A	81.1	82.4	ft		<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<160	<6.2	<6.2	<6.2	<6.2
C8	48.6	49.7	ft		<9.2	<9.2	<9.2	<9.2	<9.2	<9.2	<9.2	<230	<9.2	<9.2	<9.2	<9.2
C8	61.6	65.6	ft		<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<190	<7.5	<7.5	<7.5	<7.5
C8	65.6	70.6	ft		<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<170	<6.7	<6.7	<6.7	<6.7
C8	72.7	75.0	ft		<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<150	<6.1	<6.1	<6.1	<6.1
D8	47.2	49.0	ft		<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<180	<7.2	<7.2	<7.2	<7.2
D8	55.0	59.0	ft		<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<190	<7.8	<7.8	<7.8	<7.8
D8	60.6	64.0	ft		<7.6	<7.6	<7.6	<7.6	<7.6	<7.6	<7.6	<190	<7.6	<7.6	<7.6	<7.6
D8	75.5	79.0	ft		<6.5	<6.5	<6.5	<6.5	<6.5	<6.5	<6.5	<160	<6.5	<6.5	<6.5	<6.5

Analyte concentration exceeds the standard for:	Source:
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
µg/kg - micrograms per kilogram
ft - feet

TABLE 12
Laboratory Analytical Results - Organochlorine Pesticides
Conowingo, Maryland

			Lab Name	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE	PHASE
			Analytic Method	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B	SW-846 8081 B
			Units	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg	µg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Endosulfan Sulfate	Endrin	Endrin Aldehyde	Endrin Ketone	Gamma-BHC	Gamma-Chlordane	Heptachlor	Heptachlor Epoxide	Methoxychlor	Toxaphene
Category 1 RSL				**38,000**	**1,900**			**570**		**130**	**70**	**32,000**	**490**
Category 2 RSL				**490,000**	**25,000**			**2,500**		**630**	**330**	**410,000**	**2,100**
Category 3 RSL Composite					**246,000**			**25,400**		**6,260**	**3,300**	**4,100,000**	**20,900**
Category 3 RSL Construction					**77,100**			**90,200**		**45,000**	**4,410**	**1,280,000**	**171,000**
Transect 3													
C3	30.6	35.5	ft	<5	<5	<5	<5	<5	<5	<5	<5	<5	<130
D3	26.2	30.9	ft	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<5.2	<130
Transect 4													
C4	28.4	31.9	ft	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<5.1	<130
Transect 5													
B5	35.4	40.4	ft	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<6.9	<170
B5	51.9	54.1	ft	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<150
C5	22.1	26.7	ft	<5.3	<5.3	**5.9**	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<130
C5	36.7	41.7	ft	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<170
Transect 6													
B6	41.0	45.3	ft	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<140
C6	21.8	23.4	ft	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<140
C6	27.2	28.3	ft	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<140
C6	35.0	36.1	ft	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<5.7	<140
C6	36.6	38.8	ft	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<140
Transect 7													
B7	41.0	43.3	ft	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<6.6	<170
B7	48.2	50.6	ft	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<5.6	<140
B7	58.1	60.6	ft	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<6.8	<170
C7	41.7	43.4	ft	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<5.4	<140
C7	53.2	55.3	ft	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<140
C7	68.8	70.8	ft	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<5.8	<150
Transect 8													
A8	57.8	62.3	ft	<8.1	<8.1	<8.1	<8.1	<8.1	<8.1	<8.1	<8.1	<8.1	<200
B8	67.2	68.7	ft	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<4.4	<110
B8A	68.7	70.0	ft	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3	<130
B8A	71.9	75.0	ft	<7.1	<7.1	<7.1	<7.1	<7.1	<7.1	<7.1	<7.1	<7.1	<180
B8A	75.3	80.0	ft	<7	<7	<7	<7	<7	<7	<7	<7	<7	<180
B8A	81.1	82.4	ft	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<6.2	<160
C8	48.6	49.7	ft	<9.2	<9.2	<9.2	<9.2	<9.2	<9.2	<9.2	<9.2	<9.2	<230
C8	61.6	65.6	ft	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<7.5	<190
C8	65.6	70.6	ft	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<6.7	<170
C8	72.7	75.0	ft	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<6.1	<150
D8	47.2	49.0	ft	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<7.2	<180
D8	55.0	59.0	ft	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<7.8	<190
D8	60.6	64.0	ft	<7.6	<7.6	<7.6	<7.6	<7.6	<7.6	<7.6	<7.6	<7.6	<190
D8	75.5	79.0	ft	<6.5	<6.5	<6.5	<6.5	<6.5	<6.5	<6.5	<6.5	<6.5	<160

Analyte concentration exceeds the standard for:	**Source:**
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
µg/kg - micrograms per kilogram
ft - feet

TABLE 13
Laboratory Analytical Results - Dioxins and Furans
Conowingo, Maryland

			Lab Name	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE
			Analytic Method	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290
			Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Total HPCDD	Total HPCDF	Total HXCDD	Total HXCDF	Total PECDD	Total PECDF	Total TCDD	Total TCDF	1,2,3,4,6,7,8-HPCDD	1,2,3,4,6,7,8-HPCDF	1,2,3,4,7,8,9-HPCDF	1,2,3,4,7,8-HXCDD	1,2,3,4,7,8-HXCDF
Category 1 RSL						100						500	500	500	50	50
Category 2 RSL						470						2,170	2,210	2,210	223	218
Category 3 RSL Composite						4,680						21,700	22,100	22,100	2,230	2,180
Category 3 RSL Construction						36,400						167,000	21,700	21,700	2,170	2,160
Transect 3																
C3	30.6	35.5	ft	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<5	<5	<5
D3	26.2	30.9	ft	**22**	<5	<5	<5	<5	<5	<1	<1	**8.6**	<5	<5	<5	<5
Transect 4																
C4	28.4	31.9	ft	**11**	**32**	<5	<5	<5	<5	<1	<1	**5**	**21**	<5	<5	<5
Transect 5																
B5	35.4	40.4	ft	**55**	**18**	**12**	<5	<5	<5	<1	**13**	**21**	**9.3**	<5	<5	<5
B5	51.9	54.1	ft	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<5	<5	<5
C5	22.1	26.7	ft	**25**	**5.9**	<5	<5	<5	<5	<1	**1.1**	**11**	<5	<5	<5	<5
C5	36.7	41.7	ft	**29**	**15**	<5	<5	<5	<5	<1	**1.3**	**11**	**6.5**	<5	<5	<5
Transect 6																
B6	41	45.3	ft	**15**	<5	<5	<5	<5	<5	<1	<1	**6.8**	<5	<5	<5	<5
C6	21.8	23.4	ft	**43**	<5	<5	<5	<5	<5	<1	**2.2**	**17**	<5	<5	<5	<5
Transect 7																
B7	48.2	50.6	ft	**22**	**23**	<5	<5	<5	<5	<1	**3.4**	**9.8**	**12**	<5	<5	<5
C7	41.7	43.4	ft	**13**	<5	<5	<5	<5	<5	<1	<1	**5**	<5	<5	<5	<5
Transect 8																
A8	57.8	62.3	ft	**34**	<5	<5	<5	<5	<5	**1.1**	<1	**14**	<5	<5	<5	<5
B8	67.2	68.7	ft	<5	<5	<5	<5	<5	<5	<1	<1	<5	<5	<5	<5	<5
C8	72.7	75	ft	**21 J**	<5	<5	<5	<5	<5	<1	<1	**10 J**	<5	<5	<5	<5
D8	60.6	64	ft	**59**	**12**	<5	<5	<5	<5	**1.5**	**5.2**	**25**	**5.4**	<5	<5	<5

Analyte concentration exceeds the standard for:	**Source:**
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
pg/g - picograms per gram
ft - feet

TABLE 13
Laboratory Analytical Results - Dioxins and Furans
Conowingo, Maryland

				Lab Name	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE	PACE
				Analytic Method	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290	SW8290
				Units	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
Parameter	Depth (Top)	Depth (Bottom)	Depth Units		1,2,3,6,7,8-HXCDD	1,2,3,6,7,8-HXCDF	1,2,3,7,8,9-HXCDD	1,2,3,7,8,9-HXCDF	1,2,3,7,8-PECDD	1,2,3,7,8-PECDF	2,3,4,6,7,8-HXCDF	2,3,4,7,8-PECDF	2,3,7,8-TCDD	2,3,7,8-TCDF	OCDD	OCDF
Category 1 RSL					**50**	**50**	**50**	**50**	**50**	**200**	**50**	**16**	**5**	**50**	**16,000**	**16,000**
Category 2 RSL					**223**	**218**	**223**	**223**	**22**	**744**	**223**	**74**	**22**	**217**	**74,400**	**74,400**
Category 3 RSL Composite					**2,230**	**2,180**	**2,230**	**2,230**	**223**	**7,440**	**2,230**	**744**	**216**	**2,170**	**744,000**	**744,000**
Category 3 RSL Construction					**2,170**	**2,160**	**2,170**	**2,170**	**217**	**7,220**	**2,170**	**722**	**216**	**2,160**	**722,000**	**722,000**
Transect 3																
C3	30.6	35.5	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**45**	<10
D3	26.2	30.9	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**150**	<10
Transect 4																
C4	28.4	31.9	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**85**	<10
Transect 5																
B5	35.4	40.4	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	**1.9**	**590**	**16**
B5	51.9	54.1	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**220**	<10
C5	22.1	26.7	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**190**	<10
C5	36.7	41.7	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**310**	<10
Transect 6																
B6	41	45.3	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**150**	<10
C6	21.8	23.4	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**230**	<10
Transect 7																
B7	48.2	50.6	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	**1.2**	**190**	<10
C7	41.7	43.4	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**97**	<10
Transect 8																
A8	57.8	62.3	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**540**	<10
B8	67.2	68.7	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<10	<10
C8	72.7	75	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	**190**	<10
D8	60.6	64	ft		<5	<5	<5	<5	<5	<5	<5	<5	<1	**1.1**	**990**	<10

Analyte concentration exceeds the standard for: **Source:**

Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:
pg/g - picograms per gram
ft - feet

TABLE 14
Laboratory Analytical Results - Total Petroleum Hydrocarbons
Conowingo, Maryland

			Lab Name	PHASE	PHASE
			Analytic Method	SW-846 8015C GRO	SW-846 8015C DRO
			Units	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	TPH as Gasoline (C6-C10)	TPH as Diesel (C10-C28)
Category 1 RSL				**230**	**230**
Category 2 RSL				**620**	**620**
Category 3 RSL Composite				**620**	**620**
Category 3 RSL Construction				**620**	**620**
Transect 3					
C3	30.6	35.5	ft	<0.13	30
D3	26.2	30.9	ft	<0.13	22
Transect 4					
C4	28.4	31.9	ft	<0.13	18
Transect 5					
B5	35.4	40.4	ft	<0.18	15
B5	51.9	54.1	ft	--	37
C5	22.1	26.7	ft	<0.13	45
C5	36.7	41.7	ft	<0.16	18
Transect 6					
B6	41.0	45.3	ft	--	34
C6	21.8	23.4	ft	--	52
C6	27.2	28.3	ft	--	170
C6	35.0	36.1	ft	--	64
C6	36.6	38.8	ft	--	77
Transect 7					
B7	41.0	43.3	ft	--	17
B7	42.0	42.0	ft	<0.17	--
B7	48.2	50.6	ft	--	44
B7	58.1	60.6	ft	--	18
C7	41.7	43.4	ft	--	47
C7	53.2	55.3	ft	--	56
C7	68.8	70.8	ft	--	23
Transect 8					
A8	57.8	62.3	ft	--	6.9
A8	62.3	62.3	ft	<0.18	--
B8	66.7	66.7	ft	<0.11	--
B8	67.2	68.7	ft	--	<3.8
B8A	68.7	70.0	ft	--	53
B8A	71.9	75.0	ft	--	11
B8A	75.3	80.0	ft	--	7.4
B8A	81.1	82.4	ft	--	58
B8A	81.5	81.5	ft	<0.2	--

TABLE 14
Laboratory Analytical Results - Total Petroleum Hydrocarbons
Conowingo, Maryland

			Lab Name	PHASE	PHASE
			Analytic Method	SW-846 8015C GRO	SW-846 8015C DRO
			Units	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	TPH as Gasoline (C6-C10)	TPH as Diesel (C10-C28)
Category 1 RSL				**230**	**230**
Category 2 RSL				**620**	**620**
Category 3 RSL Composite				**620**	**620**
Category 3 RSL Construction				**620**	**620**
C8	48.6	49.7	ft	--	<7.6
C8	61.6	65.6	ft	--	<6.2
C8	65.6	70.6	ft	--	5.9
C8	72.7	75.0	ft	--	62
C8	76.2	76.2	ft	<0.24	--
D8	47.2	49.0	ft	--	<6.2
D8	48.0	48.0	ft	<0.23	--
D8	55.0	59.0	ft	--	<6.7
D8	60.6	64.0	ft	--	7.5
D8	75.5	79.0	ft	--	15

Analyte concentration exceeds the standard for:	**Source:**
Maryland Dredging Category 1 RSL	November 2020
Maryland Dredging Category 2 RSL	November 2020
Maryland Dredging Category 3 RSL Composite	December 2019
Maryland Dredging Category 3 RSL Construction	December 2019

Abbreviations:

mg/kg - milligrams per kilogram

ft - feet

TABLE 15
Laboratory Analytical Results - Nutrients and Salts
Conowingo, Maryland

			Lab Name	Waypoint	PHASE	PHASE	PHASE	PACE	PHASE
			Analytic Method	Standard	EPA 365.3	EPA 300.0	SM 4500-NH3-F -2011	EPA 351.2	SM 4500-S2 D 2000
			Units	ms/cm	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Soluble Salts	Phosphorus, Total (as P)	Sulfate	Nitrogen, Ammonia (As N)	Nitrogen, Kjeldahl[1]	Sulfide[1]
Transect 3									
C3	30.6	35.5	ft	0.08	28	<64	190	380	<12
D3	26.2	30.9	ft	0.09	23	<67	210	470	<13
Transect 4									
C4	28.4	31.9	ft	0.1	30	<63	250	608 J	<13
Transect 5									
B5	35.4	40.4	ft	0.15	81	<86	840	2790	5.9 J
B5	51.9	54.1	ft	0.11	95	<79	310	524	4.5 J
C5	22.1	26.7	ft	0.1	36	<72	210	724	<14
C5	36.7	41.7	ft	0.17	51	<81	590	1990	7.8 J
Transect 6									
B6	41.0	45.3	ft	0.11	31	<69	220	302	<13
C6	21.8	23.4	ft	0.1	65	<68	280	967	<14
C6	27.2	28.3	ft	0.1	56	22 J	210	806	5.6 J
C6	35.0	36.1	ft	0.12	120	<71	280	842	<16
C6	36.6	38.8	ft	0.11	94	<75	280	966	<15
Transect 7									
B7	41.0	43.3	ft	0.12	410	<83	550	2290	11 J
B7	48.2	50.6	ft	0.15	91	<66	210	622 J	<14
B7	58.1	60.6	ft	0.21	270	<83	730	2580	<18
C7	41.7	43.4	ft	0.09	40	<68	180	776	<13
C7	53.2	55.3	ft	0.12	74	<76	310	1340	<14
C7	68.8	70.8	ft	0.13	72	<71	330	2020	<15

TABLE 15
Laboratory Analytical Results - Nutrients and Salts
Conowingo, Maryland

			Lab Name	Waypoint	PHASE	PHASE	PHASE	PACE	PHASE
			Analytic Method	Standard	EPA 365.3	EPA 300.0	SM 4500-NH3-F -2011	EPA 351.2	SM 4500-S2 D 2000
			Units	ms/cm	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Parameter	Depth (Top)	Depth (Bottom)	Depth Units	Soluble Salts	Phosphorus, Total (as P)	Sulfate	Nitrogen, Ammonia (As N)	Nitrogen, Kjeldahl[1]	Sulfide[1]
Transect 8									
A8	57.8	62.3	ft	0.18	500	<100	860	3090	13 J
B8	67.2	68.7	ft	0.06	11	<57	11	189	<11
B8A	68.7	70.0	ft	0.12	80	<67	270	1090	<14
B8A	71.9	75.0	ft	0.21	440	<90	840	2470	8.2 J
B8A	75.3	80.0	ft	0.16	320	<84	620	1720 J	13 J
B8A	81.1	82.4	ft	0.11	99	<75	290	<205	<14
C8	48.6	49.7	ft	0	330	<120	400	1010	11 J
C8	61.6	65.6	ft	0.12	290	<89	840	1460	8.3 J
C8	65.6	70.6	ft	0.12	410	<91	730	1190	19
C8	72.7	75.0	ft	0.15	140	<74	430	788	6.9 J
D8	47.2	49.0	ft	0.16	320	<92	360	1430	6.9 J
D8	55.0	59.0	ft	0.18	320	<100	760	1420	27
D8	60.6	64.0	ft	0.01	490	<93	850	1570	7.2 J
D8	75.5	79.0	ft	0.15	170	<87	410	2080	<17

Abbreviations:

mg/kg - milligrams per kilogram

ms/cm - millisiemens per centimeter

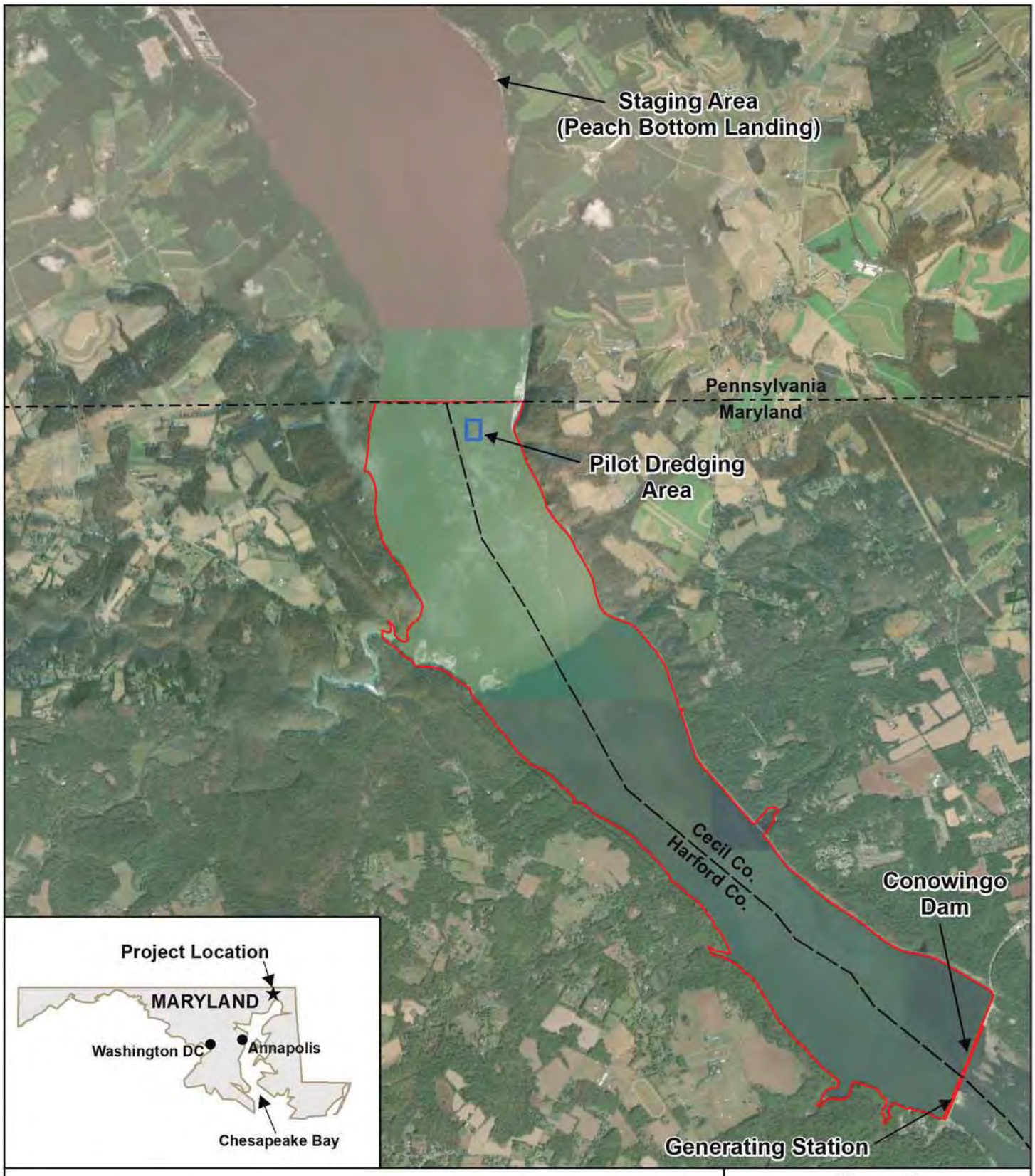
1 - Concentrations are estimated values due to matrix interference due to high organic carbon content; laboratory control samples were within laboratory control limits.

-- not analyzed

ft - feet

J - the analyte was positively identified below the reporting limit but greater than the method detection limit.

FIGURES



Project Area for Sediment Characterization

N

1:54,000 (1" = 4,500 at tabloid size)

0 2,250 4,500 Feet

Data sources: Project Location (Northgate, 2019); Photo (ESRI basemap, 2019)

Figure 1

Project Location

Conowingo Reservoir
Maryland

DATE	PROJECT #
4/26/2021	03037.02

northgate

Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\project-area-map_2021-0426dag.mxd

Figure 2

Legend

- Susquehanna River
- Major Tributaries
- Susquehanna River Watershed

N

1:2,534,400 (1" = 40 mi at letter size)

0 20 40 Mi

Data sources: Watershed (SRBC, 2006); River (Bucknell GIS) Basemap (ESRI, 2019)

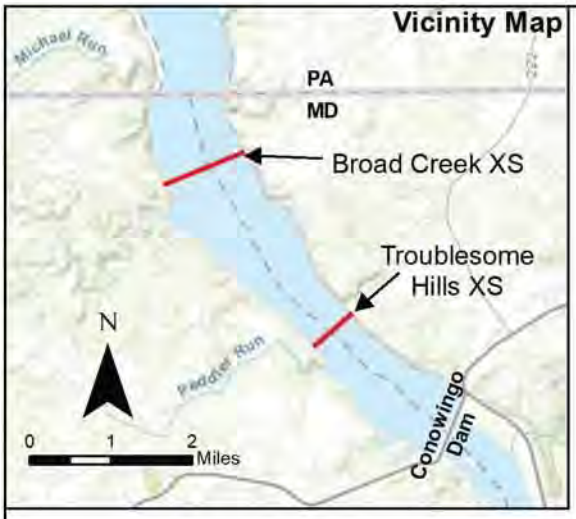
Susquehanna River Watershed

Conowingo Reservoir
Maryland

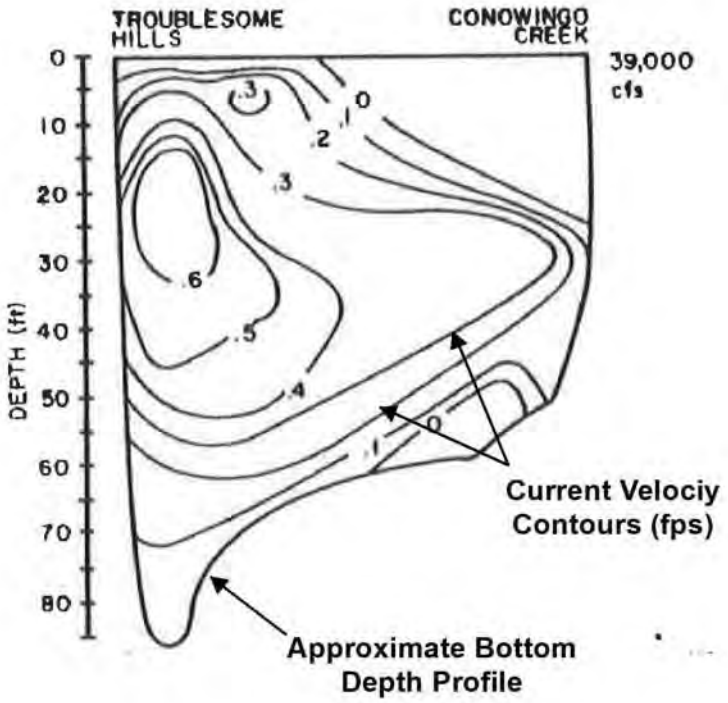
DATE	PROJECT #
6/19/2019	03037.02

northgate

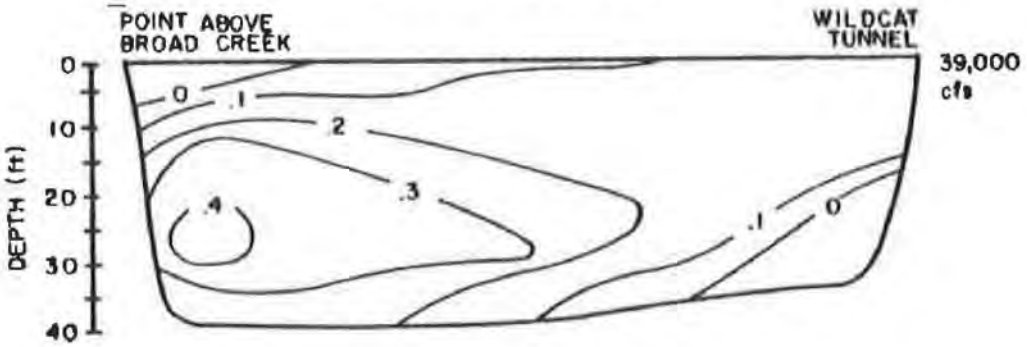
Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\susquehanna-watershed_2019-0716dag.mxd



Troublesome Hills XS



Broad Creek XS



Cross sections are oriented upstream (west to east)

Data sources: Cross sections (Whaley, 1960); Basemap (ESRI, 2019)

Figure 3

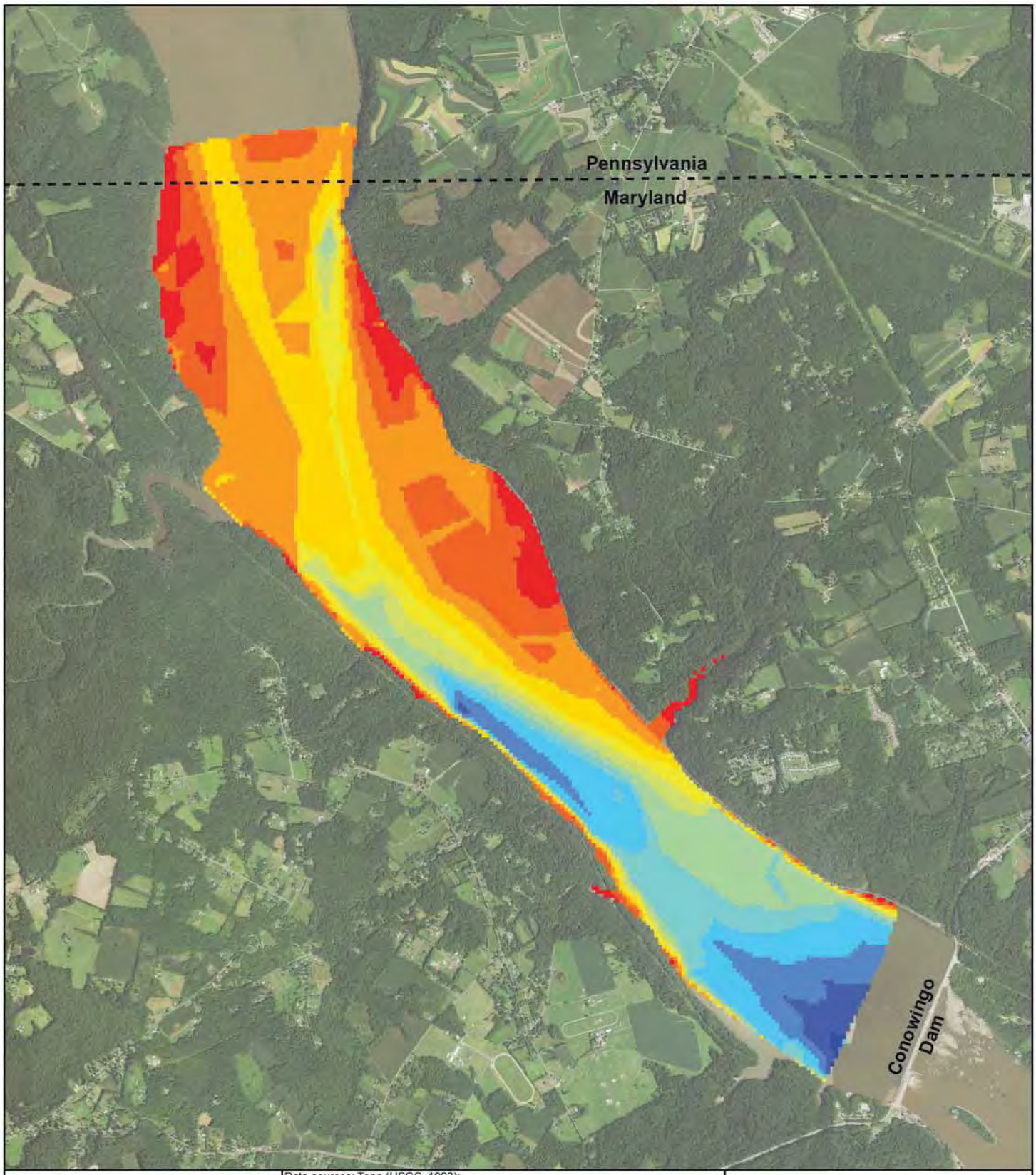
1960 Reservoir Depth Cross Sections

Conowingo Reservoir
Maryland

DATE	PROJECT #
6/19/2019	03037.02

northgate

Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\reservoir-XS-1960_2019-0619dag.mxd



Reservoir Bathymetry
ft NGVD29

>95	65 - 70
90 - 95	60 - 65
85 - 90	55 - 60
80 - 85	50 - 55
75 - 80	45 - 50
70 - 75	40 - 45

Data sources: Topo (USGS, 1993);
Photo (NAIP, 2014)

N

1:42,000 (1" = 3,500 at tabloid size)

0 1,750 3,500 Feet

Figure 4

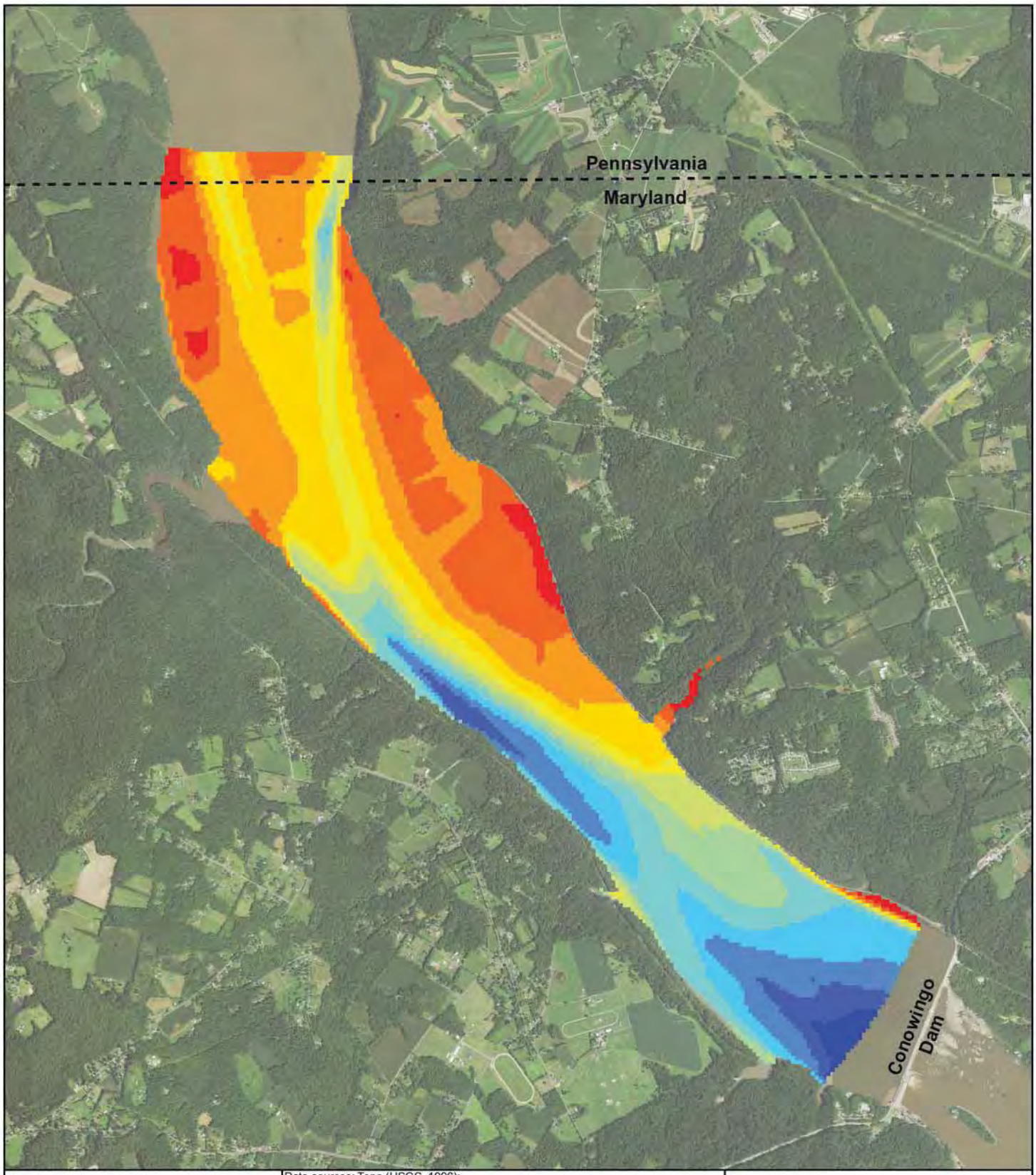
1993 Reservoir Bathymetry

Conowingo Reservoir
Maryland

DATE	PROJECT #
6/18/2019	03037.02

northgate

Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\reservoir-bathy-1993_2019-0618dag.mxd



Reservoir Bathymetry
ft NGVD29

>95	65 - 70
90 - 95	60 - 65
85 - 90	55 - 60
80 - 85	50 - 55
75 - 80	45 - 50
70 - 75	40 - 45

Data sources: Topo (USGS, 1996);
Photo (NAIP, 2014)

N

1:42,000 (1" = 3,500 at tabloid size)

0 1,750 3,500 Feet

Figure 5

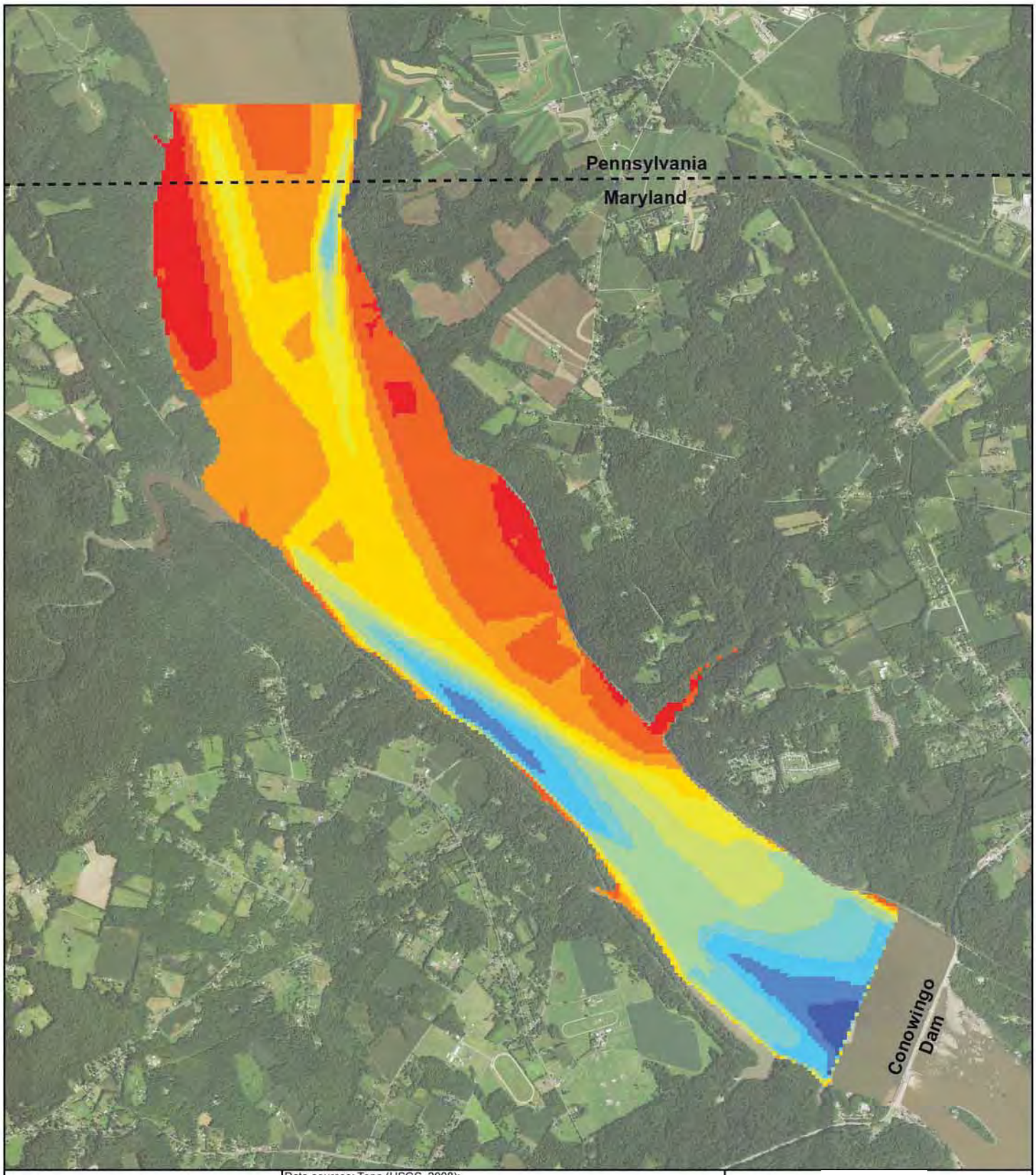
1996 Reservoir Bathymetry

Conowingo Reservoir
Maryland

DATE	PROJECT #
6/18/2019	03037.02

northgate

Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\reservoir-bathy-1996_2019-0618dag.mxd



Reservoir Bathymetry
ft NGVD29

>95	65 - 70
90 - 95	60 - 65
85 - 90	55 - 60
80 - 85	50 - 55
75 - 80	45 - 50
70 - 75	40 - 45

Data sources: Topo (USGS, 2008);
Photo (NAIP, 2014)

N

1:42,000 (1" = 3,500 at tabloid size)

0 1,750 3,500 Feet

Figure 6

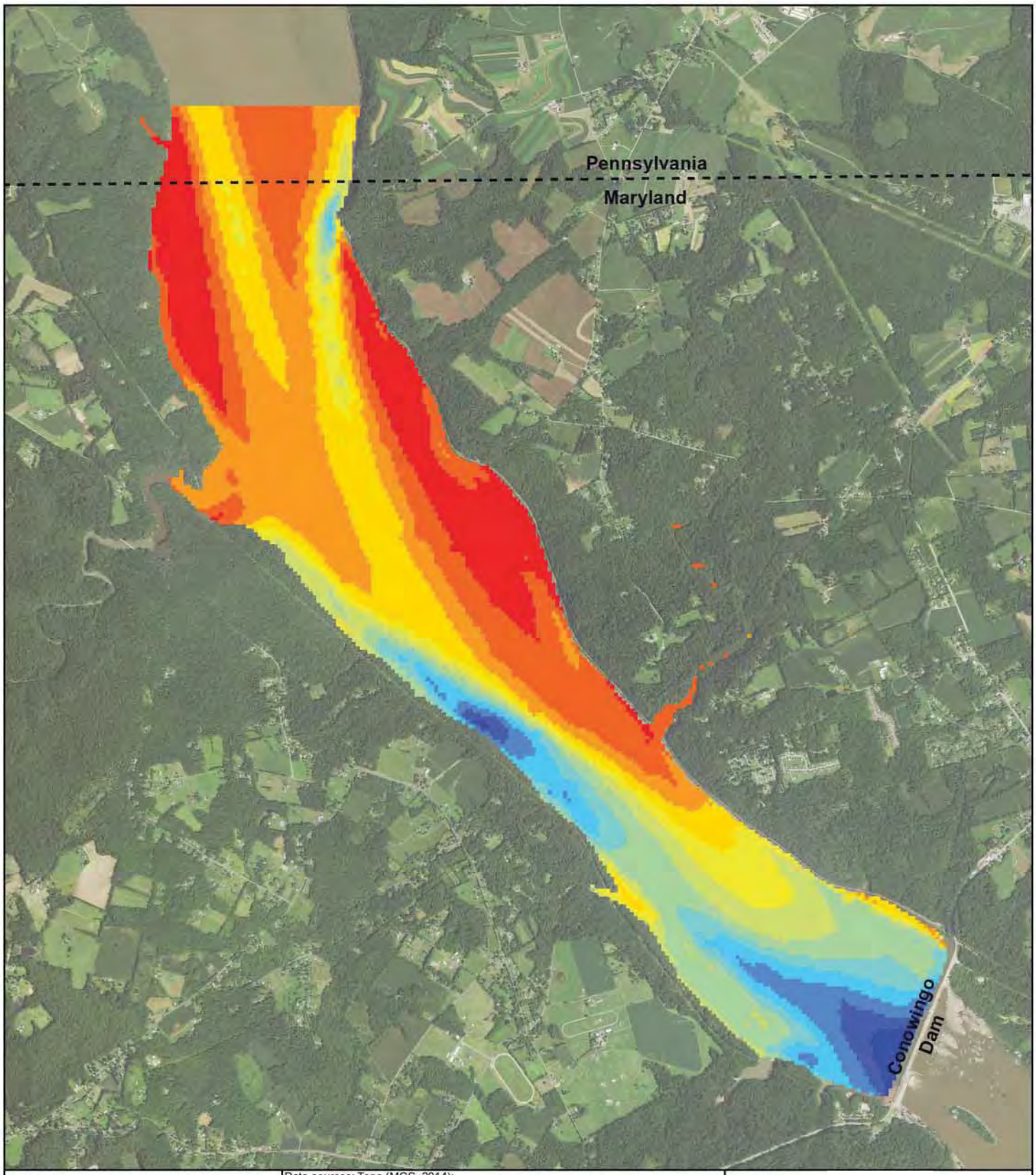
2008 Reservoir Bathymetry

Conowingo Reservoir
Maryland

DATE	PROJECT #
6/18/2019	03037.02

northgate

Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\reservoir-bathy-2008_2019-0618dag.mxd



Reservoir Bathymetry
ft NGVD29

>95	65 - 70
90 - 95	60 - 65
85 - 90	55 - 60
80 - 85	50 - 55
75 - 80	45 - 50
70 - 75	40 - 45

Data sources: Topo (MGS, 2014);
Photo (NAIP, 2014)

N

1:42,000 (1" = 3,500 at tabloid size)

0 1,750 3,500 Feet

Figure 7

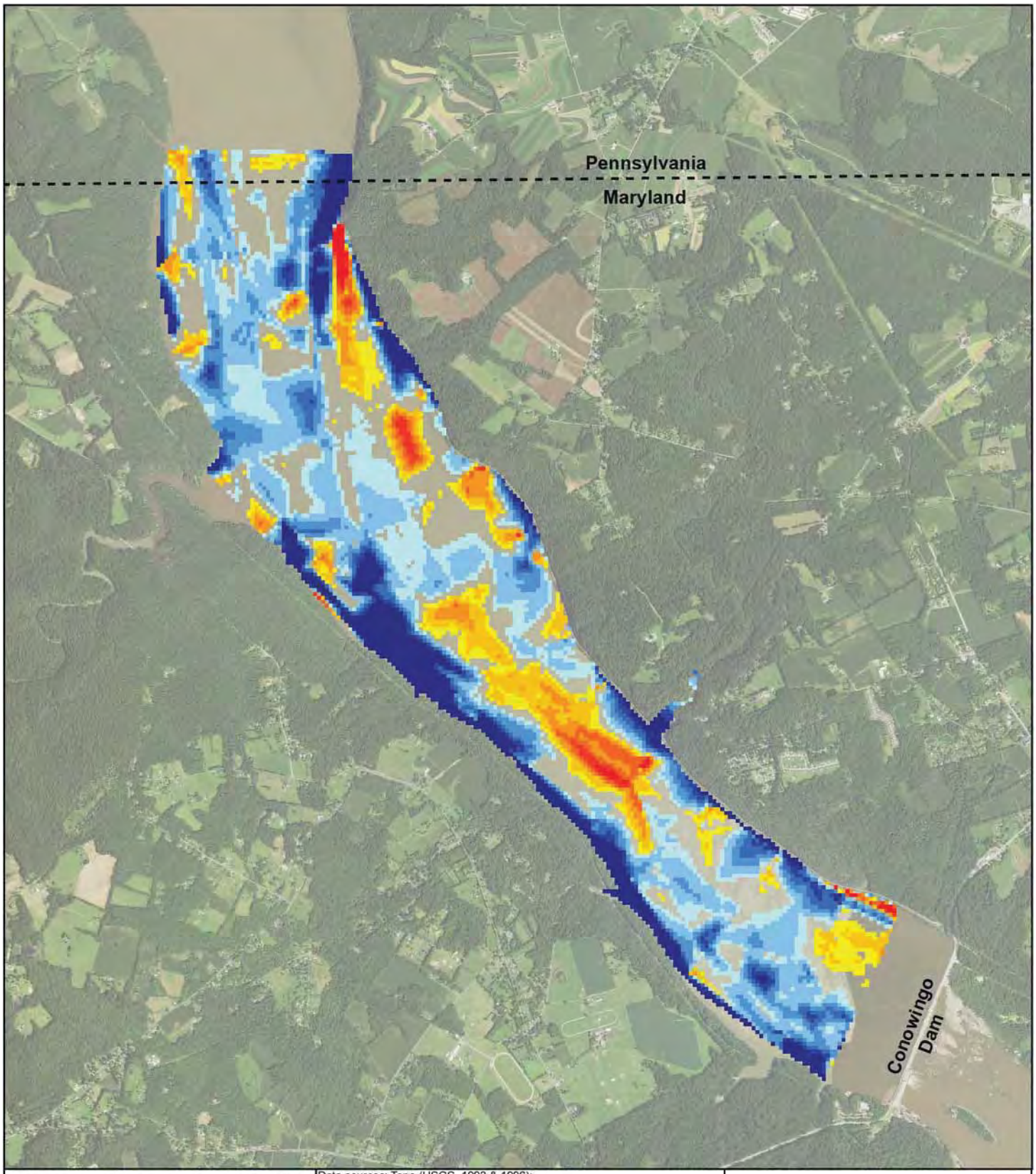
2014 Reservoir Bathymetry

Conowingo Reservoir
Maryland

DATE	PROJECT #
6/18/2019	03037.02

northgate

Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\reservoir-bathy-2014_2019-0618dag.mxd



Elevation Change (ft)*: 1993-1996

Deposition	Erosion
>5	-1 to -0.5
4 to 5	- 2 to -1
3 to 4	-3 to -2
2 to 3	-4 to -3
1 to 2	-5 to -4
0.5 to 1	< -5

Data sources: Topo (USGS, 1993 & 1996); Photo (NAIP, 2014)

N

1:42,000 (1" = 3,500 at tabloid size)

0 1,750 3,500 Feet

**Elevation change between -0.5ft and 0.5ft is considered within the error of the surveys and interpolation - no change*

Figure 8

Reservoir Bottom Elevation Change: 1993 to 1996

Conowingo Reservoir
Maryland

DATE	PROJECT #
7/17/2019	03037.02

northgate

Document Path: C:\Users\Daniel\Box Sync\Susquehanna\Chesapeake Bay\GIS\MXD\1993-1996-bathy-change_2019-0717dag.mxd

N

2,500 1,250 0 2,500 5,000 7,500

Feet

1 inch = 2,500 feet

Legend

Historical Core Locations w/Data Source [1]

- Langland and Hainly, 1997
- Edwards, 2006
- Scott and Sharp, 2014
- Van Ryswick et al., 2017a
- Van Ryswick et al., 2017b

- Avoidance Zone (Mapped)
- Avoidance Zone (Approximate)
- Ground Surface Contour (20 ft)
- County Boundaries

Water Depth 2015 (ft)

High: 68 ft

Low: 4 ft

Note 1:

Not all data source documents are listed in this legend nor are full references provided for space saving. For a full list of data source documents refer to Appendix A - Data Gap Analysis.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 9

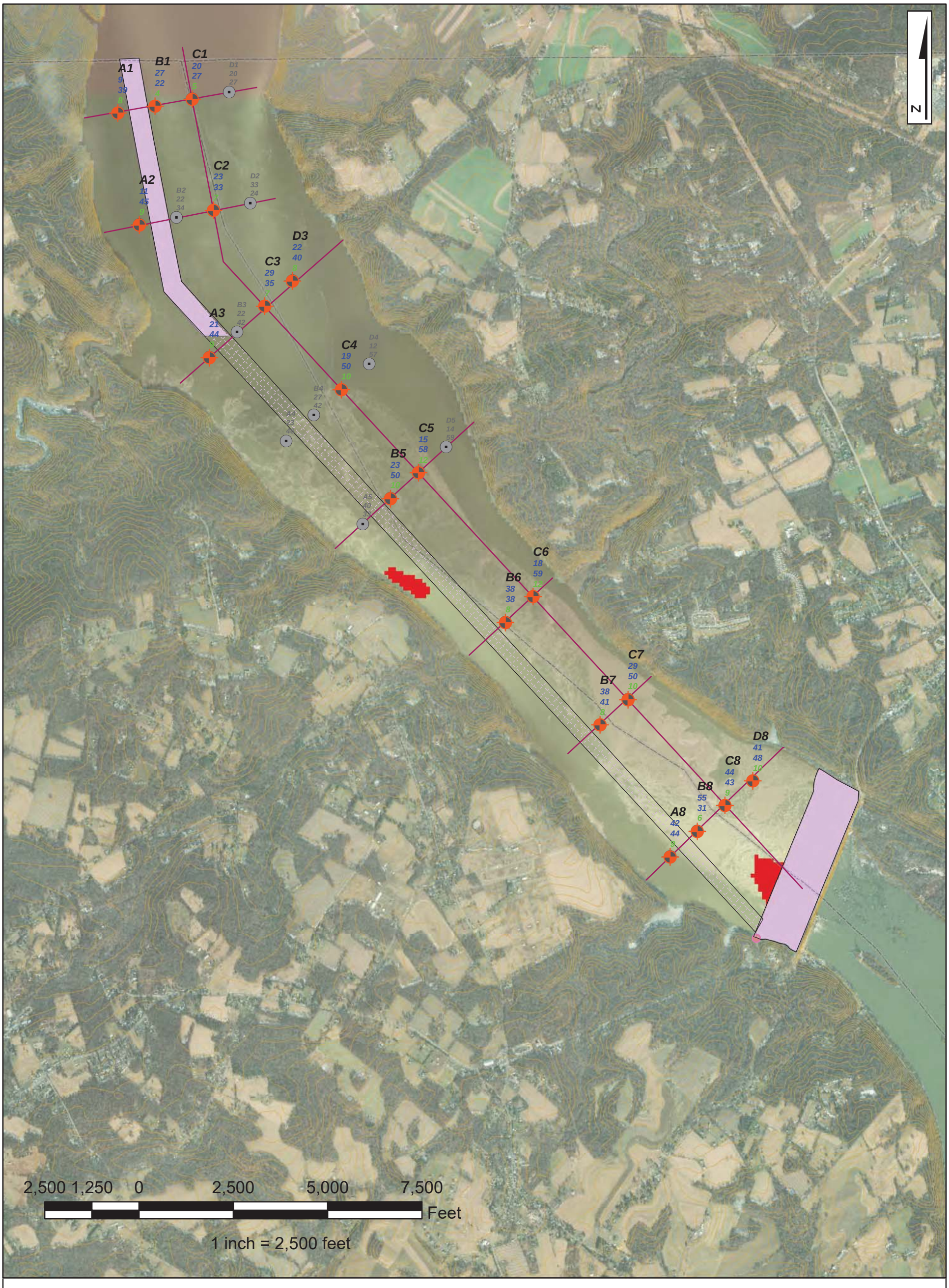
Historic Core Locations Included in the Database

Conowingo Reservoir
Maryland

DATE	PROJECT NUMBER
7/23/2019	5/10/2019

northgate environmental management, inc

Document Path: C:\Projects\Conowingo\GIS\Map Files\2019 locations_0724.mxd



Legend

Continuous Core Locations

- A1 — Station ID
- 15 — Depth of Water (ft)
- 53 — Est. Sediment Thickness (ft)
- 10 — Approximate Number of Cores

Alternate Boring Locations

- A1 — Station ID
- 15 — Depth of Water (ft)
- 53 — Est. Sediment Thickness (ft)

- Proposed Cross Section Transects
- No Drill Zone (Water Depth >=60')
- Avoidance Zone (Mapped)
- Avoidance Zone (Approximate)
- Baltimore City Water Intake Hopkins Cove w 100' Buffer
- Ground Surface Contour (20 ft)
- County Boundaries

Reservoir Bottom (2015)
High : 105.178
Low : 41.3264

28 core locations submitted for approval. Of these, 19 will be continuously cored. Coring depths will be determined in the field based on field observations and drilling conditions.

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 10

Proposed Core Locations Sampling Plan

Conowingo Reservoir
Maryland

DATE	PROJECT NUMBER
7/16/2019	03037.02

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Document Path: C:\Projects\Conowingo\GIS\Map Files\SP-9 V5.mxd

Legend

- **Surveyed Core Locations**
- County Boundaries
- Ground Surface Contour (20 ft)
- No Drill Zone (Water Depth >=60')
- Baltimore City Water Intake Hopkins Cove w 100' Buffer
- Cross Section Transects (Section Included in Report)
- Transects

Figure 11

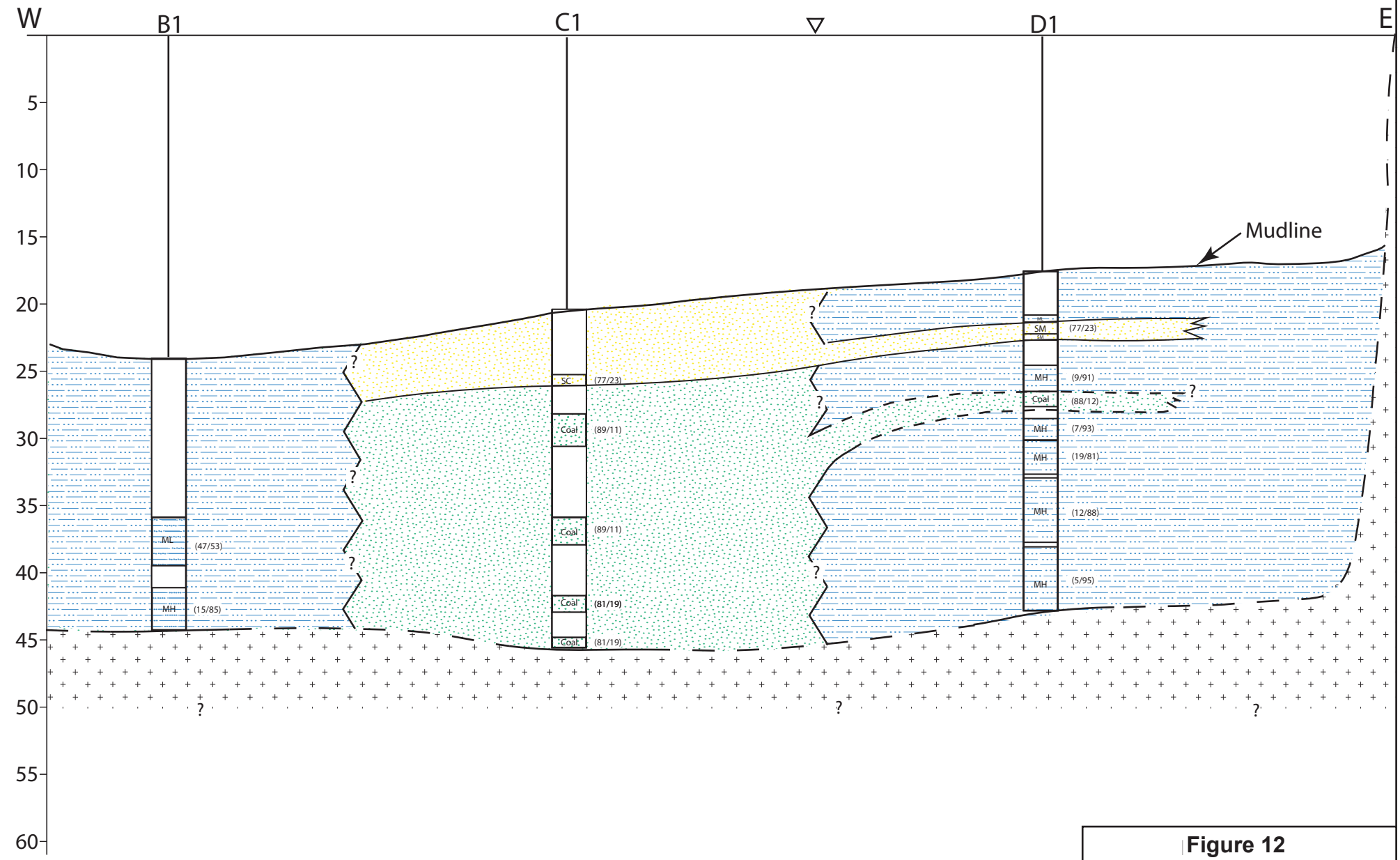
Core Locations As Built

Conowingo Reservoir
Maryland

DATE	PROJECT NUMBER
4/20/2021	03037.02

northgate environmental management, inc.

Document Path: C:\Projects\Conowingo\GIS\Map Files\AsBuilt040621.mxd



Legend

- Sand
- Silt
- Granular Coal Mix with Silt or Sand
- Bedrock
- No Core Recovery
- ML — USCS Group Symbol (47/53) (% sand / % fines)

USCS Group Symbols
SC - Clayey Sand
SM - Silty Sand
SW - Well Graded Sand
SP - Poorly Graded Sand
ML - Silt
MH - Elastic Silt

Note:
USCS - Unified Soil Classification System, ASTM D2487
Shoreline transition not to scale.
Predominantly granular coal layers based on visual observations supported by Total Organic Carbon content greater than 50%.

0 250 500 feet
Horizontal scale

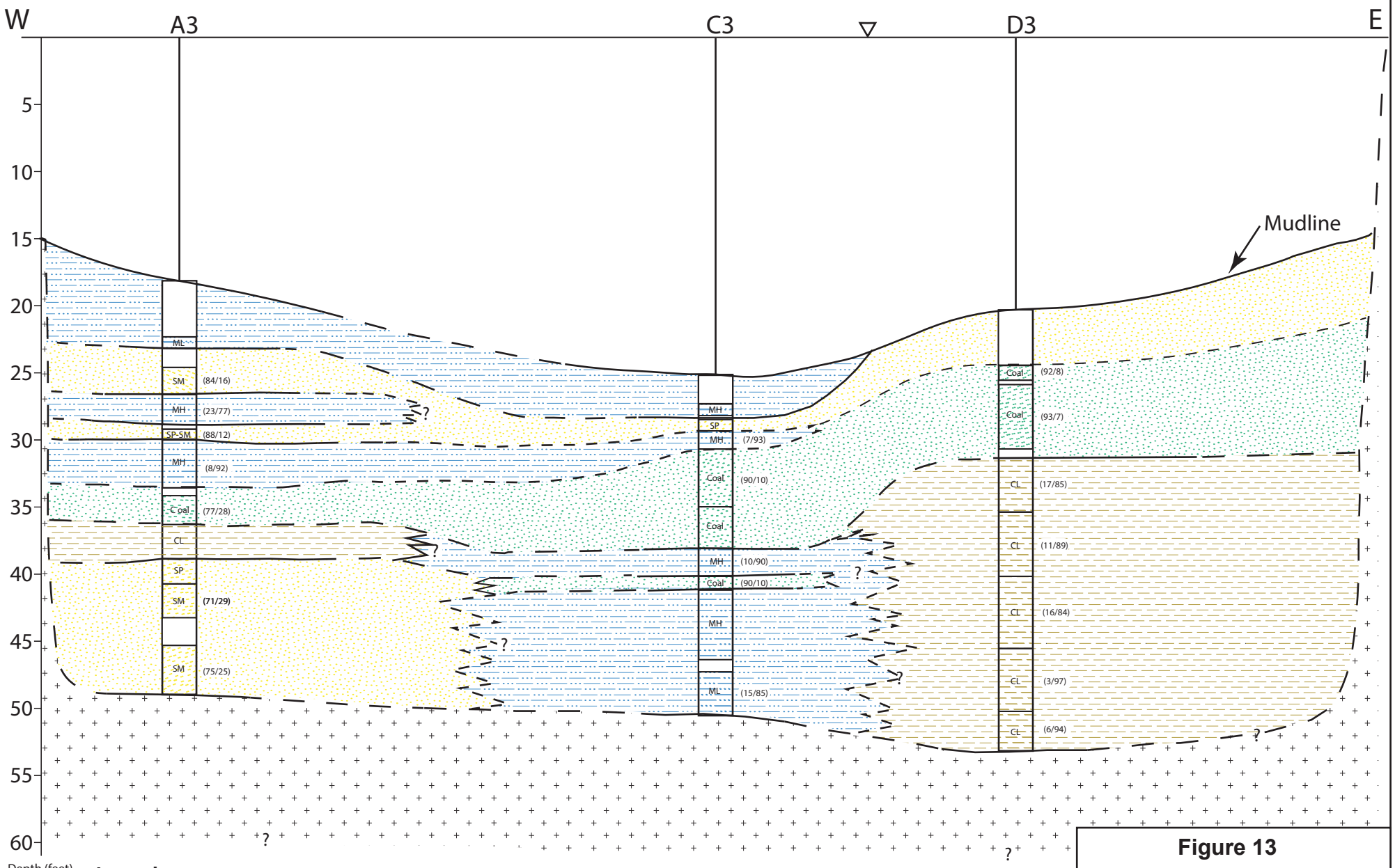
Figure 12

Lithologic Cross Section
Transect 1

Sediment Characterization Study Report
Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project
Cecil and Harford Counties, Maryland

Date	Project Number
4/26/2021	3037.02

northgate environmental management, inc.



Legend

- Sand
- Silt
- Clay
- Granular Coal Mix with Silt or Sand
- Bedrock
- No Core Recovery
- ML USCS Group Symbol (47/53) (% sand / % fines)

USCS Group Symbols
SC - Clayey Sand
SM - Silty Sand
SW - Well Graded Sand
SP - Poorly Graded Sand
ML - Silt
MH - Elastic Silt

Note:
USCS - Unified Soil Classification System, ASTM D2487
Shoreline transition not to scale.
Predominantly granular coal layers based on visual observations supported by Total Organic Carbon content greater than 50%.

0 250 500 feet
Horizontal scale

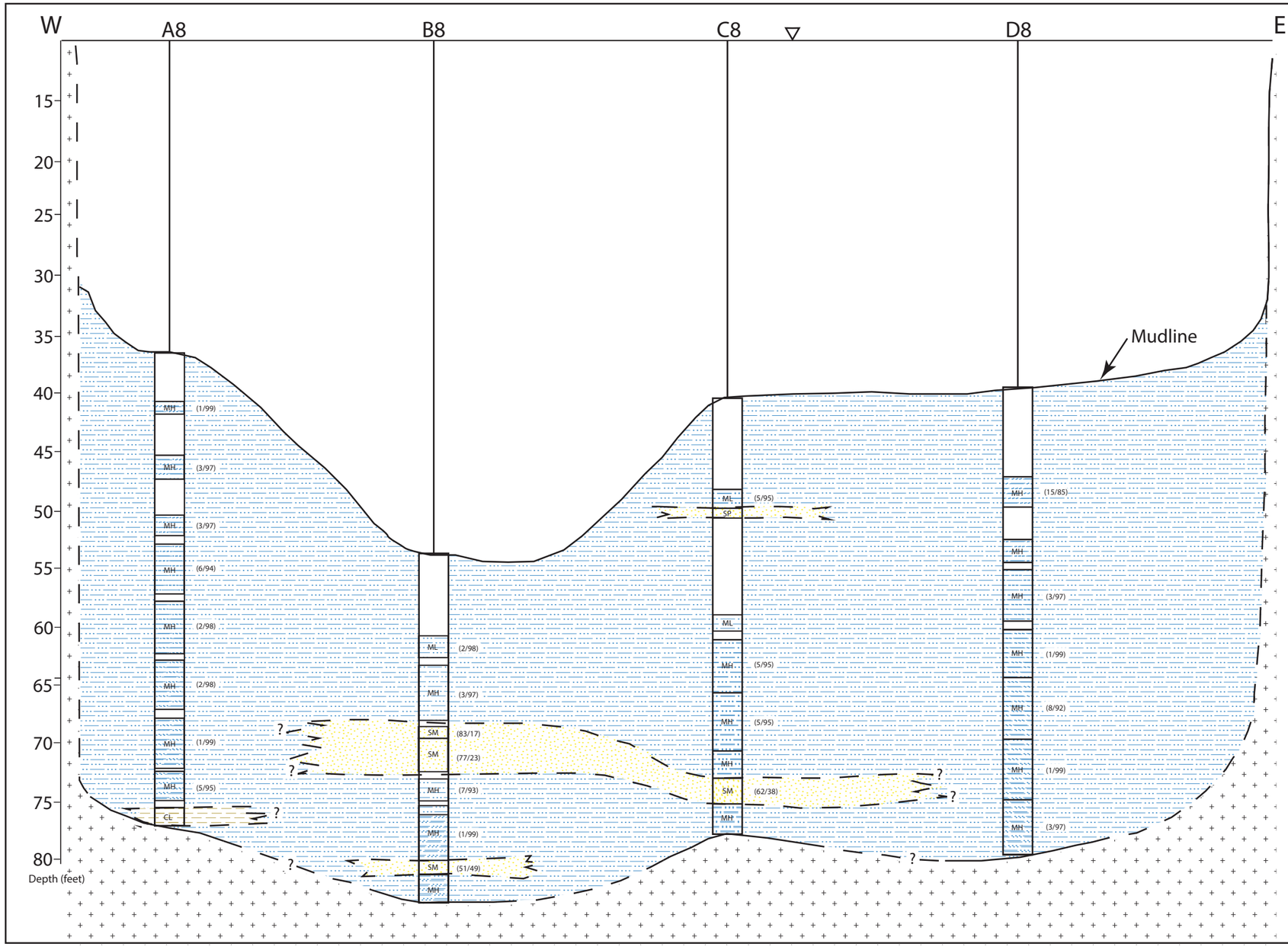
Figure 13

Lithologic Cross Section Transect 3

Sediment Characterization Study Report
Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project
Cecil and Harford Counties, Maryland

Date	Project Number
4/26/2021	3037.02

northgate environmental management, inc.



Legend

- Sand
- Silt
- Clay
- Bedrock
- No Core Recovery
- ML — USCS Group Symbol (5/95) (% sand / % fines)

USCS Group Symbols
SC - Clayey Sand
SM - Silty Sand
SW - Well Graded Sand
SP - Poorly Graded Sand
ML - Silt
MH - Elastic Silt

Note:
USCS - Unified Soil Classification System, ASTM D2487
Shoreline transition not to scale

0 250 500 feet
Horizontal scale

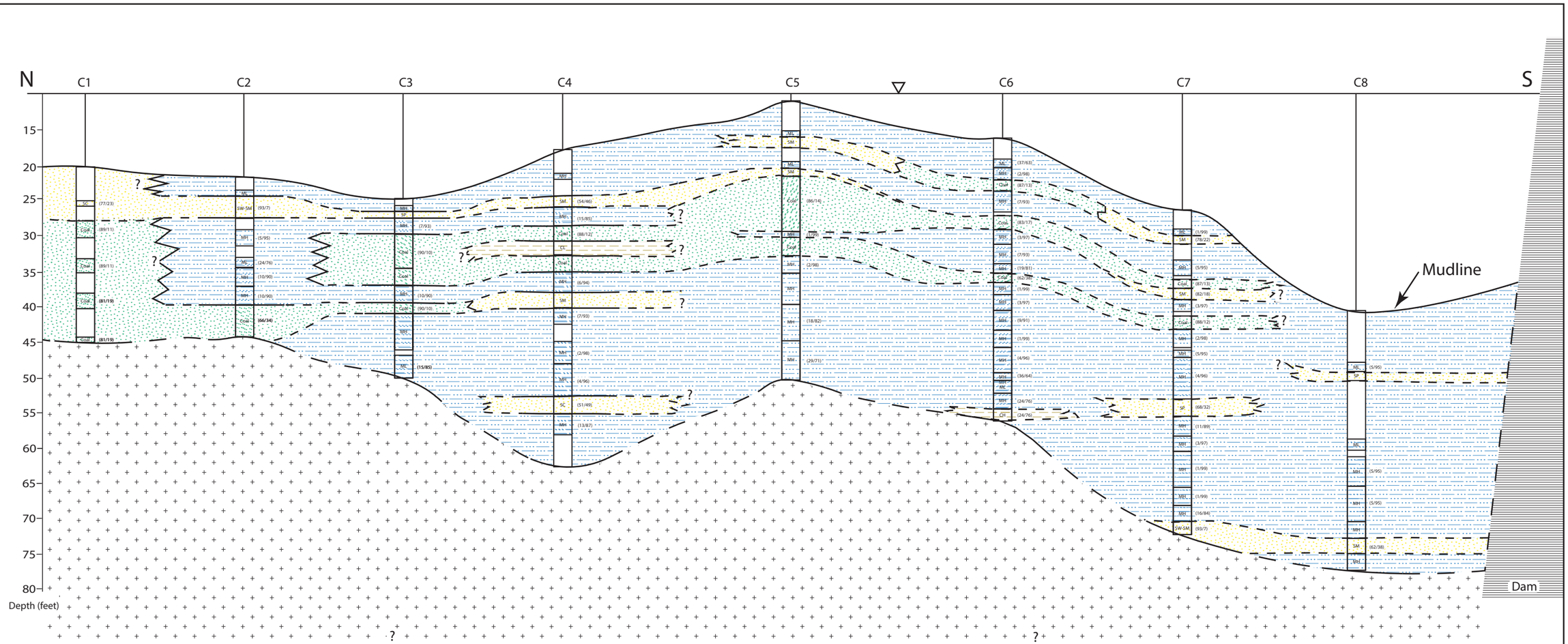
Figure 14

Lithologic Cross Section Transect 8

Sediment Characterization Study Report
Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project
Cecil and Harford Counties, Maryland

Date	Project Number
4/26/2021	3037.02

northgate environmental management inc.



Legend

- Sand
- Silt
- Clay
- Granular Coal Mix with Silt or Sand
- Bedrock
- No Core Recovery
- ML — USCS Group Symbol (47/53) (% sand / % fines)

USCS Group Symbols
SC - Clayey Sand
SM - Silty Sand
SW - Well Graded Sand
SP - Poorly Graded Sand
ML - Silt
MH - Elastic Silt

Note:
USCS - Unified Soil Classification System, ASTM D2487
Predominantly granular coal layers based on visual observations supported by Total Organic Carbon content greater than 50%.

0 500 2000 feet
Horizontal scale

Figure 15

Lithologic Cross Section Transect C

Sediment Characterization Study Report
Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project
Cecil and Harford Counties, Maryland

Date	Project Number
4/26/2021	3037.02

northgate environmental management inc.

APPENDIX A

PHASE SEPARATION SCIENCE LABORATORY
QUALITY ASSURANCE MANUAL

Quality Assurance Manual

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, Maryland 21228
410-747-8770

John Richardson
President and Technical Director

Catherine Thompson
Quality Assurance Officer

Daniel Prucnal
Laboratory Manager

This Quality Assurance Manual governs the operation of the entire PSS laboratory facility

Version: D-01.01.14
Effective Date: December 23, 2020

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1. Quality Policy Statement

Phase Separation Science, Inc. (PSS) is a certified environmental analytical testing laboratory with expertise in a broad range of testing applications for organic and inorganic analysis parameters. Our professional staff offers over 100 years of combined experience in the dynamic field of environmental testing.

Our laboratory operation was established in 1988 with the corporate objective of offering clients a personalized laboratory service, emphasizing close project management coordination with attention to detail and accuracy, from sample receipt to final report submission. PSS maintains its commitment to quality data, responsiveness, and personalized customer attention.

The laboratory staff at PSS consists of degreed chemists, environmental scientists and technicians that are trained in the analytical field. Detailed technical assistance is always available. Our dedication and emphasis to customer service has enabled us to establish sincere, long-term working relationships with our clientele.

The purpose of the Phase Separation Science, Inc. quality manual is to document the laboratory's quality system policies and procedures which ensure accurate, consistent, and reliable data that meets the data usability needs of the client including all statutory and regulatory requirements. Laboratory proficiency is demonstrated through participation in external proficiency testing programs and employee training.

The goal of Phase Separation Science, Inc. is to provide defendable data of known and documented quality, which requires that samples be handled, analyzed, and reported using professional laboratory practices. The laboratory maintains the necessary level of personnel, instrumentation, and quality of testing services to adequately achieve this goal. All laboratory personnel are instructed and required to know and understand the quality documentation and implement the quality policies and procedures as set forth in this document. Deviations that are made from the policies set forth in this manual must have prior written approval by the company's senior management.

This laboratory is committed to following the quality system requirements as set forth in the TNI Standard EL-V1-2016, Volume 1, Management and Technical Requirements for Laboratories Performing Environmental Analysis. As such, the laboratory operates a quality system in conformance with the applicable clauses of ISO/IEC 17025:2005(E). Laboratory management demonstrates its support for the management system through its development and implementation of policies, allocations of resources, and focus on meeting client requirements. Management is committed to continually improving the effectiveness of the management system and enhancing client satisfaction.

John Richardson
President

2. Ethics and Data Integrity

It is the policy of Phase Separation Science, Inc. to promote the highest standard of conduct and ethical behavior in all employees. This behavior is essential to providing clients with consistent, accurate and reliable data. The company has a "zero-tolerance" policy towards issues of misconduct and unethical practices, including the inappropriate manipulation of laboratory data and any other unacceptable actions, which may constitute laboratory fraud. The data integrity system includes four required elements: data integrity training; signed data integrity documentation for all laboratory employees; in-depth, periodic monitoring of data; and data integrity procedure documentation.

Within two months of employment and at least every fourteen months thereafter, all employees are trained in the ethics and data integrity requirements stated in the latest revision of SOP Q-02.09, "Data Integrity and Identification of Inappropriate Laboratory Practices". Initial training is documented on the general training record and with a quiz. Participation in the annual training is documented via a signature attendance sheet which indicates that all staff have participated and understand their obligations related to data integrity and often also includes a quiz. The SOP clearly defines and gives examples of misconduct; states the company's policies and actions taken in the event of discovering any misconduct, including information regarding legal punishment and penalties; and describes the mechanism for detailed investigations of incidents and the procedure used to notify clients of any discrepancies in reported data. The SOP includes a mechanism for employees to discuss and report ethical misconduct issues in a confidential manner. It also includes the requirement for all employees to be trained to the SOP and that the training be documented and kept up-to-date. An integral part of the initial training documentation is a data integrity agreement page that must be signed by each Phase Separation Science, Inc. employee and the company President when the training is complete. This agreement summarizes the company's principles, the employee's responsibilities, and the commitment made between both parties to uphold ethical practices. This signed agreement is maintained in the employee's training file.

The laboratory's data integrity system includes proactive measures such as monitoring for proper manual data manipulations (including peak integrations), peer review of data, semi-annual proficiency testing requirements, and periodic internal audits of test methods and procedures that include evaluation of the documentation related to all aspects of the data generation process such as sample receipt, preparation, equipment, software, calculations, and quality controls. Peer review of initial and continuing calibration, batch quality control (QC) samples, and method QC requirements, including the verification of proper manual data manipulation, is documented on the QC review checklist by another assigned trained analyst. Exceptions to SOP or method requirements require a manager's signed approval. The Quality Assurance Officer and Laboratory Manager periodically verify that manual integration checks are being made during internal audits and report review. Findings from internal audits are documented in a written audit report. Data integrity investigations are documented using the Nonconformance module in the Laboratory Information Management System (LIMS). The Quality Assurance Officer also maintains all employees training documentation. The company's ethics and data integrity policy and SOP, along with any occurrences or findings, are reviewed on an annual basis. Updates or changes to the policy and training procedure are made at that time.

3. Organization and Personnel

Personnel

Phase Separation Science, Inc. (PSS, Inc.) selects candidates carefully, considering education requirements, experience, and background. Hiring authority rests with the Company President / Technical Director and Laboratory Manager for all laboratory staffing. All full-time and part-time personnel are responsible for complying with all quality assurance and quality control requirements that are contained in this manual. Refer to Appendix A for the company organization chart.

Staff Responsibilities and Minimum Job Qualifications

Management Positions

In addition to the responsibilities specific to their management position, managers also work collaboratively to ensure an effective management system that meets the following requirements and objectives.

- Ensures personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the objectives of the management system.
- Ensures that appropriate communication processes are established within the laboratory and that communication takes place regarding the effectiveness of the management system.
- Provides evidence of commitment to the development and implementation of the management system and to continually improving its effectiveness.
- Communicates to the organization the importance of meeting customer requirements as well as statutory and regulatory requirements.
- Ensures the integrity of the management system is maintained when changes to the management system are planned and implemented.
- Seeks feedback, both positive and negative, from its customers to improve the management system, testing activities and customer service.
- Continually improves the effectiveness of its management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

President / Technical Director

- Ultimately responsible for all aspects of the laboratory operation including overseeing and evaluating quality control and quality assurance indicators for data reliability.
- Approved signatory for Certificates of Analysis, SOPs, and other laboratory-produced controlled documents.
- Final decision for additional staffing, adding instrumentation, etc.
- Serves as the laboratory's Technical Director for National Environmental Laboratory Accreditation Program (NELAP).

- Authorizes and approves departures from documented policies and procedures specified in this manual and other controlled laboratory documents.
- Certifies demonstration of capability for all tests for which laboratory is accredited.

Education / Experience: This position requires a minimum of a bachelor's degree in Chemistry or other closely related scientific field with at least 24 hours of college chemistry, and at least two years of experience in organic and inorganic chemical testing (for technical director).

The Laboratory Director if absent for a period of time exceeding fifteen (15) consecutive calendar days shall designate another full-time staff member meeting the qualifications of the technical manager(s) to temporarily perform this function. If this absence exceeds thirty-five (35) consecutive calendar days, the NELAP primary accreditation body, the Pennsylvania Department of Environmental Protection (PADEP), shall be notified in writing. PADEP shall be notified, in writing, within 20 calendar days of a permanent change in Technical Director.

Laboratory Manager

- Maintains a work environment that emphasizes the importance of data quality and provides adequate resources to ensure that the quality assurance policies and procedures can be met.
- Ensures that sample holding times, project turnaround times and other contractual obligations are met and takes appropriate corrective action if non-conformances occur
- Actively participates in the development and implementation of SOP's and enforces their use in the laboratory.
- Ensures that the training of the laboratory staff is adequate to ensure analytical methods and laboratory SOP's, as well as the policies and procedures in the Quality Assurance Manual are consistently followed and that quality control requirements are closely adhered to.
- Authorizes and approves any departures from documented procedures specified in test method SOPs.
- Ensures that instrumentation is properly operated, calibrated, maintained and that adequate documentation is kept for all instruments.
- Reviews data for accuracy and completeness.
- Oversees maintenance of and improvement to laboratory facility and leads in the selection of additional staff.
- Oversight of sample login to ensure client testing needs are addressed.
- Approved signatory for Certificates of Analysis, SOPs, and other laboratory-produced controlled documents.
- Serves as the laboratory's deputy Technical Director or Quality Assurance Officer for National Environmental Laboratory Accreditation Program (NELAP) in the extended absence of the Technical Director or Quality Assurance Officer.

Education / Experience: This position requires a minimum of a bachelor's degree in Chemistry or other closely related scientific field and at least two years of relevant laboratory experience.

QA Officer

- Ensures that all quality policies and procedures are applied and followed in the laboratory.

- Monitors the laboratory for adherence to the Quality Assurance Manual and SOP's via scheduled internal audits.
- Maintains the Quality Assurance Manual as a controlled document and keeps it current and up-to-date.
- Submits reports to management on findings from internal and external audits, proficiency testing, and areas that are identified as needing corrective action.
- Serves as the Data Integrity Officer, and is responsible for fielding concerns about inappropriate practices, disseminates training information (continuing and initial).
- Assists in developing and implementing the laboratory-specific quality assurance SOP's and required quality assurance project plans which meet client data quality objectives, method-specified requirements and are in conformance with the company QA policies and procedures.
- Assists the Laboratory Manager and technical staff in the development and implementation of laboratory standard operating procedures (SOP's).
- Maintains control of SOP's and other technical records and documents, and ensures that the laboratory staff have access to the most current methods and that outdated procedures are not in use in the laboratory.
- Monitors all elements of the training program, including demonstrations of capability and continued proficiency, and quality system requirements.
- Trains laboratory personnel on QA/QC policies and procedures with the Laboratory Manager.
- Oversight of data review and preparing case narratives on quality control non-conformances.
- Investigates occurrences of non-conforming work, out-of-control events, complaints, etc. to determine the root cause and maintains proper documentation using Non-Conformance/Corrective Action Reports. Monitors effectiveness of corrective actions as applicable during internal audits.
- Maintains records of internal laboratory audits, client audits, government agency audits, third party audits, proficiency testing results, and responses to any audit or proficiency test result.
- Approved signatory for Certificates of Analysis, SOPs, and other laboratory-produced controlled documents.
- Maintains a log of names, initials and signatures of all employees who are responsible for signing or initialing any record.

Education/Experience: This position requires a minimum of a bachelor's degree in a closely related scientific field and at least two years of quality assurance experience or relevant laboratory experience. Must have knowledge of quality system requirements as defined in Modules 2 and 4 of Volume 1 of the Environmental Laboratory Sector of the NELAP standard.

Project Manager

- Primary contact for clients for technical questions, including review of incoming work and resolving discrepancies with clients concerning sample testing.
- Facilitates communication between clients, laboratory staff, and business development.
- Provides routine pricing for current clients.
- Promotes and supports the overall mission of PSS by demonstrating courteous and cooperative behavior when interacting with clients and staff.
- Ensures accurate and timely responses to client inquiries.

- Oversees all aspects of client projects and requests to ensure client data quality objectives are met. Includes project set up, pricing, compliance with applicable laws, rules, and regulations, and subcontracting where needed.
- Provides support to sample receiving where needed.
- Supports business development where needed in bid process to gain repeat, and/or new, long-term business.
- Schedules courier deliveries and pick-ups.
- Processes bottle orders for use by clients for various project. This includes completion of appropriate forms to facilitate sample container preparation and delivery, sample pickup, and rush sample notification.
- Works in conjunction with business development to provide information to or about new and existing clients.
- Provide customers with results or information via fax, email, letter, or verbally as required.
- Updates the Laboratory Information Management System (LIMS) regarding projects status, cost, and client account information.
- Generates client reports in a timely and efficient manner.
- Maintains list of current certifications for subcontracting labs.
- Maintains list of current contracts and purchase orders for clients.

Education / Experience: This position requires a bachelor's degree in a scientific discipline and / or information technology with experience in customer service in a scientific or analytical environment and two years of relevant experience.

Director of Business Development

- Builds and maintains relationships with both new and existing clients to help grow the client base, meeting with clients as appropriate.
- Develops new business opportunities by identifying new lines of business, taking the lead role in preparation of proposals and presentations and responds to requests for proposals (RFP) and quotes.
- Updates material needed for proposals (SF-254, SF-255, SF-330, SOQ, service brochure) as well as website.
- Follows industry trends to suggest internal changes/improvements to address customer needs.
- Attends conferences, meeting, webinars, and industry events to build a rapport in the environmental community and increase exposure of Phase Separation Science.
- Sends periodic emails to clients with laboratory news and/or current events as they relate to the environmental industry.
- Reviews invoices prior to client billing as needed.
- Monitors revenue on a quarterly/annual basis and works closely with the owner to identify opportunities for improvement.
- Supports project management and sample receiving as needed.
- Serves as primary contact for client WebLIMS access and support, also provides IT support for website and internet.
- Maintains list of current project managers per client.

Education / Experience: This position requires a minimum of a bachelor's degree in a related scientific field and at least two years of relevant laboratory experience.

Technical Operations Positions

Senior Laboratory Analyst and Laboratory Technicians

- Conduct all analyses and related activities according to written SOPs and method-specific documentation.
- Participate in the development, documentation, and review of laboratory SOPs.
- Introduce the required quality control samples into all sample preparation and analysis activities and thoroughly document quality control activities.
- Ensure that quality control samples meet the acceptance criteria and take appropriate corrective action if the criteria are not met.
- Ensure that analysis documentation and all data entered into LIMS are complete and accurate.
- Promptly inform an appropriate member of the management staff if there are problems in meeting quality control criteria or if there were activities that resulted in non-conformance.
- Participate in the documentation and resolution of non-conformances.

Education/Experience: The laboratory analyst position requires a minimum of a bachelor's degree in a scientific discipline and two years of experience in a scientific or analytical environment. The laboratory technician requires a high school diploma, some college chemistry, or one year laboratory experience and demonstration of basic laboratory skills (e.g., use of pipettes and balances).

Sample Receiving Technician

- Receives samples under proper Chain-of-Custody protocol.
- Verifies sample acceptance criteria are met, documents any deviations, and notifies project managers to contact clients regarding discrepancies.
- Logs samples and testing into the LIMS.
- Labels samples and stores containers under proper conditions.
- Notifies analysts of immediate turn-around-time and/or short holding time samples.
- Prepares bottle orders and ships to clients.
- Ships subcontracted testing as required.

Education/Experience: This position requires a high school diploma with some college chemistry or one year laboratory experience.

Support Personnel Positions

Receptionist/ Administrative Assistant

- Works in conjunction with laboratory manager and project management for test report generation and transmission to client (by email, fax, etc.)
- Takes client requests for sample pick-up and coordinates sample pick-up with courier service.

- Maintains record storage for hard copy records such as login summaries and other non-QA records related to work orders.
- Assists with invoice preparation and review.
- Performs general office duties

Education/Experience: This position requires a high school diploma and 1 year related office experience.

Accreditation

The laboratory maintains primary NELAP accreditation for the drinking water, non-potable water, and solid and chemical materials matrices through the Pennsylvania Department of Environmental Protection (PADEP) and for TO-15 in air through the Virginia Environmental Laboratory Program (VELAP). As such, the laboratory must notify PADEP and VELAP, in writing, within thirty calendar days of a change in the legal name of the laboratory or a change in any item contained on the application for accreditation. The laboratory must notify PADEP and VELAP, in writing, if a change in the laboratory's capability to produce valid analytical results persists for more than 90 calendar days for any field of accreditation listed on the scope of accreditation. As an out -of-state laboratory, Phase must notify PADEP of any changes in its accreditation status from any other primary accreditation body.

The laboratory also maintains accreditation under the West Virginia Department of the Environment (WVDEP), the Maryland Department of the Environment (MDE) drinking water certification program, and secondary accreditation for the NELAP PADEP scope of accreditation through VELAP. Current certificates, with the associated Scope of Accreditation, are displayed on the premises and on the company website, www.phaseonline.com.

The laboratory does not use the PADEP or NELAP logos or the laboratory's accreditation status or certificate to imply endorsement by PADEP or NELAP. As a NELAP accredited laboratory, the phrase NELAP accredited and laboratory's accreditation number shall accompany PADEP's name or the NELAP logo on general literature such as catalogs, advertising, business solicitations, proposals, quotations, and laboratory analytical reports. Upon expiration, suspension, revocation, or voluntary relinquishment of accreditation, the laboratory shall discontinue use of all materials that contain reference to the laboratory's past accreditation status, discontinue use or display of the PADEP or NELAP logos, and return unexpired certificates of accreditation to PADEP within 48 hours.

4. Training

All training is conducted and documented in accordance with the latest revision of SOP A-02.01, "Employee Training Procedures and Documentation". Each employee is instructed using the quality system documents in place at Phase Separation Science, Inc. Within two months of employment and at least ever fourteen months thereafter, training is provided using the latest revisions of the laboratory's Quality Assurance Manual and SOPs relating to Ethics and Data Integrity, the Chemical Hygiene Plan, Hazardous Waste, and laboratory contingency plan and safety requirements. Every employee is instructed to regard the quality of the data produced as one of the most important aspects of their job. Client contact is limited to office and management personnel in an effort to shield the laboratory analysts from undue external client influences. Employees are also instructed to regard each client's test samples, sample results and any client-provided testing protocol and contact information as confidential and proprietary to that client. Ethics and Data Integrity refresher training is conducted annually for all employees. Training may also be conducted when SOPs are updated and when internal audits or nonconformances identify areas for retraining.

Analysts and technicians are trained for sample analysis and data generation using specific test method SOPs. A thorough knowledge of the method and sample handling requirements is essential prior to actual sample analysis. Analysts read and familiarize themselves with the analytical method and SOP before supervised training is conducted. Prior to analysis, the trainer discusses the analytical procedure with the analyst. This discussion includes but is not limited to, proper instrument operation, reagent preparation and standardization procedures, sample preservation and handling requirements, quality control requirements, safety considerations and proper disposal procedures, calculations, and data review. After reviewing the analytical method, analysts receive supervised method training. The new analyst must watch the trainer perform the method from start to finish. Analysts are then given the opportunity to independently perform the procedure under supervision. These actions are documented on the Initial Demonstration of Capability (IDOC) training form, A-02.01.F02.

After the training period, the analyst performs an initial Demonstration of Capability (DOC). The initial DOC documentation includes the analyst(s) involved in preparation and/or analysis; matrix; analyte(s), class of analyte(s); identification of method(s) performed; identification of laboratory-specific SOP used for analysis, including revision number; date(s) of analysis; and summary of analyses. The DOC should be logged into LIMS, routinely with a 30 day due date, so that the DOC may be tracked and completed in a timely manner and so the DOC data may be attached in the LIMS. If DOC requirements are specified in the reference method, that procedure must be performed. In the absence of a method DOC, four spike samples are prepared in a volume of clean quality system matrix at the concentration specified in the method or SOP, or if unspecified, to a concentration of one to four times the LOQ. These aliquots are prepared and analyzed according to the method(s) and evaluated for precision and accuracy using the mean recovery and standard deviations of the sample for each analyte of interest assessed against method limits if applicable or laboratory-generated limits when not. The DOC results are entered into spreadsheets (see the latest revision of the training SOP) which are approved by the laboratory manager. When both the DOC form and spreadsheet have been completed and signed by the analyst and Laboratory Manager, they should be forwarded promptly to the QA Officer and Technical Director who should complete their approval within two weeks. An initial DOC must be performed for new analytes that are added to existing accredited methods. In cases where an individual has prepared and/or analyzed samples using a method that has been in use by the laboratory for at least one (1) year prior to applying for

accreditation, and there have been no significant changes in instrument type or method, the ongoing DOC shall be acceptable as an initial DOC.

The analyst(s) shall demonstrate on-going capability by routinely meeting the QC requirements of the method, laboratory SOP, client specifications, and/or the TNI Standard. If the method has not been performed by the analyst in a twelve (12) month period, an initial DOC shall be performed. Analysts may demonstrate on-going proficiency for a technology / matrix by acceptable analysis of a performance sample or other single blind QC sample, at least four consecutive laboratory control samples with acceptable levels of precision and accuracy, or performance of another initial DOC. On-going proficiency must be demonstrated on an annual basis and is monitored in the spreadsheet "DOC Tracker". The QA Manager maintains documentation of on-going proficiency in the employee training files. Employee training files may consist of paper and electronic records. Initial Demonstrations of Capability are scanned and maintained electronically with the supporting data on the public network drive by year, work area and analyst at P:\Demonstration_of_Capability. SOP revisions, IDOCs, continuing DOCs and other training forms may also be found by employee name at P:\Employee Training Files.

Note: Employees are instructed to follow SOPs as written, however occasional exceptions to test method SOPs and also to Phase Separation Science, Inc. documented policies and procedures are allowed with the appropriate Laboratory Manager, Quality Assurance Officer, or company President approval. Written approval is documented via out-of-control event forms and/or batch data peer review forms and client notification is provided via test report case narratives.

5. Documents and Records Management

Document Control

The Quality Assurance Officer maintains or oversees the control of all documents (internally generated or from external sources) that are considered part of the management system at Phase Separation Science, Inc. These include, but are not limited to, the Quality Assurance Manual, SOPs for the quality system and specific test methods, the Chemical Hygiene Plan, regulations, standards, test methods, software, instrument manuals, etc.

In accordance with the procedure stated in the latest revision of SOP Q-02.02, "Document Control, Generation, and Maintenance", a database of controlled documents is maintained by the Quality Assurance Officer. This database includes such information as the title of the document, the revision number, the effective date, date for scheduled review, date archived, etc. Distribution of controlled documents is also under the control of the Quality Assurance Officer. This procedure ensures that only authorized documents are available for employee use, that the documents are the most recent versions and that these documents are reviewed annually on a scheduled basis. Obsolete versions are promptly removed from all points of issue or use and archived for at least five years. A master list of current SOPs and the SOP review schedule can be printed from the database. Revisions may occur more frequently as dictated by audit findings or changes to the procedures. Revisions may be implemented by the use of an errata sheet for changes that are limited in scope or a new version of the document may be generated when revisions are extensive.

The numbering system for controlled documents is also specified in the document control SOP. The system requires that all documents be uniquely identified by number, with the effective date, revision number, and total number of pages and the signature of the authorizing personnel.

Documents such as logbooks and instrument manuals associated to a given SOP are given the same initial numbers as the reference SOP but instead of the revision number a letter prefix is assigned followed by sequential numbers. Books are designated with a "B". Instrument manuals, reference documents, and forms are designated with an "F". These documents are uniquely identified by effective date.

Controlled Document Changes

The review of controlled documents is accomplished via the procedure stated in the latest revision of SOP Q-02.02, "Document Control, Generation, and Maintenance". After review, any changes that are required are reviewed by the employee working in the same capacity as the originator of the document. Whenever possible, the changes that are made to the original document are identified by underlined or bold print and the version with the changes is saved electronically, as described below. The new document, incorporating the changes, is issued a new revision number and reviewed and approved for use by authorized personnel prior to use.

Changes that are required to update the appendices or forms associated to controlled documents are controlled via the effective date. A record of these changes is kept on file by the Quality Assurance Officer. Each document is updated with the changes that are made. This ensures that the correct version of the appended information is in use, without requiring that the entire document be revised and reissued.

Electronic Documents

Documents that are maintained electronically include items such as the laboratory's Quality Assurance Manual, quality assurance SOPs and test method SOPs. Current, controlled versions are stored as write-protected PDF files, in a public 'controlled documents' directory (P:\Controlled Documents\Current SOPs in PDF for lab use) and are accessible to all laboratory personnel. This directory is maintained on the network and the contents are overseen by the Quality Assurance Officer. When a controlled document is reviewed and revised, the edited version of the word-processed file (with additions and deletions intact) is saved in a restricted, limited access 'archived directory'. The new controlled document file then replaces the previous one in the 'current-controlled documents' directory.

Electronic Signatures

Unique electronic signatures, where applicable, are accessed through unique employee identifiers and user designated passwords. An electronic signature is defined as an electronic sound, symbol, or process, attached to or logically associated with a record and executed or adopted by a person with the intent to sign the record. An electronic signature must be attributable (or traceable) to a person who has the intent to sign the record with the use of adequate security and authentication measures that are contained in the method of capturing the electronic transaction (e.g., use of personal identification number or personal log-in identification username and password), and the recipient of the transaction must be able to permanently retain an electronic record of the transaction at the time of receipt. PSS retains an image, in PDF format, of each employee's hand-written signature on a secure server which is used as the electronic signature. To apply an electronic signature, the employee must input the unique employee identifier and the user designated password at which time the hand-written image will be copied to the record(s) the employee wishes to sign. Some examples of documents using electronic signatures include the PSS Certificate of Analysis and Sample Receipt Checklist.

Record Management, Storage and Disposal

All information necessary to permit historical reconstruction of data shall be maintained for a minimum of five years from generation of the last entry in the records. Records associated to Public Water System (PWS) compliance monitoring must be available to the PWS for a period of ten years. Records associated to samples collected for compliance with the Lead and Copper rule (LCR) must be available for twelve years.

Currently, as an alternative to maintaining paper records, analytical batch data and Certificates of Analysis are maintained electronically. Laboratory instrument data is saved on the company server and is also saved as pdf files. All versions of the Certificates of Analysis, EDDs, and associated subcontractor data are maintained electronically in the client folders on the P (public) drive. Electronic records are backed up in accordance with SOP Q-02.06," Database Management, Maintenance and Archiving". Electronic records are retained indefinitely. Currently retained as paper records are the Login Summary for each work order and any correspondence related to that work order.

Electronic records are stored on a secure server and are protected from unauthorized access or amendment through a variety of layered security measures. Physical access to server equipment is restricted to authorized personnel only. Outside electronic access is restricted to administrative

personnel using encrypted encapsulation. Guest access is not allowed. Clients with approved accounts may retrieve their respective records when granted permission using a web based portal via an industry standard 2048 bit secure socket layer (SSL) channel. This portal can only be used to retrieve records; records cannot be amended in this fashion. Anonymous access via any protocol or port is not allowed and a commercially available security appliance is used to log any intrusion attempts to the network from the outside.

For older data, paper printouts of batch sample data are stored in chronological order by instrument. These records include instrument sequences with initial calibration summary information, continuing calibration data and batch quality control data, peer review checklists, and any analyst and peer reviewer's comments. Older records are kept at a long term secure storage facility that is managed by the laboratory's courier, Trans Time Express, Baltimore, MD. All records are retained in a confidential manner for five years (12 years for PWS and LCR).

For older reports, copies of the Certificates of Analysis, with sample data and any accompanying quality control data packages, are filed in numerical order. Older records are kept at a long term secure storage facility that is managed by the laboratory's courier, Trans Time Express, Baltimore, MD. Off-site records are tracked with an excel spreadsheet that also serves as an access log. All records are retained in a confidential manner for five years (12 years for PWS and LCR). The laboratory notifies Trans Time Express, Baltimore, MD when long-term stored records are ready for disposal. These are disposed of through the paper recycling facility at a local landfill.

Controlled documents and quality assurance records are maintained by the Quality Assurance Department at the laboratory facility for a minimum of five years; twelve years if associated to PWS or LCR compliance. Archived quality assurance records that are ready for disposal are shredded.

In the event that the laboratory goes out of business the current owner is responsible for maintaining records for twelve years. For any changes in ownership, as a contingency of the sale of the business, the new owner must retain all laboratory archived records for twelve years. In the event that the laboratory files for bankruptcy, all federal and state legal requirements and regulations will be followed.

6. Traceability and Control of Supplies and Services

Measurement Traceability

To ensure the traceability of measurements the laboratory has established procedures for calibration and use of reference and support equipment and analytical instruments; receipt and use of purchased standards, reagents, and consumables; use of prepared standards and reagents; documentation of personnel responsible for all aspects of sample handling from receipt to data reporting; and for records of all aspects of sample preparation and analysis. These procedures are described in SOP Q-02.04, "Measurement Traceability".

The laboratory retains records of original observations, derived data, and sufficient information to establish an audit trail, calibration records, staff records and a copy of each test report for at least five years or longer if required by a client or regulatory program. The history of the sample and associated data must be able to be readily understood through the documentation.

Purchasing

All chemicals, reagents, consumables, equipment, services, and general supplies are purchased from pre-approved vendors in order to ensure their quality and reliability. A database of supplies /services, pre-approved vendors, contact information, catalog numbers, etc. is maintained on the laboratory's computer network. The information contained in the database has been reviewed and approved for technical content by the Laboratory Manager, Technical Director, or other appropriate member of the management staff. This ensures control and approval of the quality of the goods and services purchased.

Orders are provided to the company's designated purchasing agent who consolidates items from the same vendors and the order is then placed. If an item is on back-order, the originator of the request is notified, and an alternate selection can be made. Once a shipment is received, the packing slip is verified against the items received. At that time, the date of receipt of the item is completed in the database and a unique inventory number is assigned. Labels (when applicable) can be printed to attach to the items (see below). The purchased items are given to the appropriate personnel and are stored according to SOP requirements. The packing slip is initialed and dated by the person that verified the order. This is then retained to reconcile against the invoice. Invoices are approved for payment by the person that initiated the request.

Analytical Reagents and Reference Materials

To ensure the validity of the results that are determined from each analytical procedure, chemicals and reagents of known quality and purity are used. Every effort is made to obtain standards that are NIST-traceable in quality to achieve measurement traceability. Pure chemical materials are purchased as American Chemical Society (ACS), spectrophotometry, HPLC or chromatography grade. All reagents and standard reference materials are given a lab identification number and a record is maintained in a database. The information in this database includes the ID number, product name, lot number, vendor, catalog number, date received, received by, expiration date, number of items received and the amount. Once the item is in the database, labels are printed. The labels have the ID number, vendor, lot and catalog numbers, received by and date received. Additional items printed on the labels are spaces for handwritten entries for opened by, date opened, and expiration date. These entries are made by the analysts as they occur. The certificates of analysis that accompany any standard solutions or reagents are

labeled with the unique identifier and filed in binders that are divided by area (e.g., Metals, Volatiles, etc.) and are also maintained electronically in the folder Standard_Reagent_COA on the R (PDFs) drive. The certificates that accompany reagents, chemicals, and standards, are reviewed to ensure a level of purity appropriate for the analytical method.

Standard and Reagent Preparation

Analytical standards are either prepared from NIST-traceable reference materials or from commercially prepared certified solutions to ensure traceability of measurement. In-house standards are prepared as directed in the test method SOP, using analytical reagents and NIST-traceable reference materials, which meet the laboratory's guidelines for purity. The preparation log for standards and reagents is used to assign a unique identifier to the prepared material and also contains a description of the material, the initial concentration, initial volume, final concentration, solvent unique ID, the initials of the preparer, date of preparation, expiration date, and unique identifier of the stock/ parent material.

Once prepared, all standards and reagents are stored in appropriate containers and under conditions as defined by the analytical method and the latest revision of each laboratory SOP. All standards and reagents should be labeled with the preparer's initials, date of preparation, unique ID number of standard/reagent, and expiration. At a minimum, the label must include the unique identifier and expiration date. Expiration dates may never exceed the expiration dates of any of the components. For those standards that must be prepared fresh with each use, the stock solution may be documented in the analysis (sequence) log and the standards are prepared as indicated in the test method SOP.

All standards should be warmed appropriately and/or sonicated to assure complete dissolution of target analytes prior to use.

The unique identifier for all purchased and prepared standards and reagents must be documented on all applicable run logs, bench sheets, data review checklists and standard/ reagent preparation logbooks every time the material is used. All standards and reagents associated with a result must be documented, including solid matrices used for quality control samples such as sand or Teflon chips.

Deionized Water

Several reagent water systems are utilized in the laboratory. Neu-Ion maintains carbon exchange tanks in the extractions laboratory. Neu-Ion also maintains a mixed-bed deionized water system in the metals laboratory. The volatiles laboratory utilizes an Oasis reverse osmosis deionized water system. Water is treated utilizing a high capacity carbon block and reverse osmosis treatment system manufactured by Pure Water Technology in Vernon Hills, IL. Specifically, the water is treated with a sediment filter, 10-micron carbon block, 80 gallon per hour reverse osmosis membrane and finally a 1-micron carbon block polishing filter. Filters are changed on a scheduled basis or more frequently if there is any indication of breakthrough, evidenced by trihalomethane concentrations in routine blanks analyzed by GC/MS.

Safety Data Sheets

For each reagent, solvent, standard and chemical purchased, the accompanying safety data sheet (MSDS) is maintained in a notebook located in sample receiving and electronically in a MSDS folder located in R:\MSDS. These documents are tracked in a spreadsheet titled MSDS Catalog located in that folder. The spreadsheet contains the product name, catalog number and vendor/manufacturer, MSDS version number, revision date, print date, lab use or location and a link to the digital copy of the MSDS. All laboratory personnel are made familiar with the MSDS's and are encouraged to periodically review the chemical characteristics of frequently used chemicals.

The OSHA Hazard Communication Standard 29 CFR 1910 was revised to align with the Globally Harmonized System which is a set of guidelines for ensuring the safe production, transport, handling, use and disposal of hazardous materials. The GHS was developed by the United Nations, as a way to bring into agreement the chemical regulations and standards of different countries. The GHS refers to safety data sheets as SDSs, dropping the M from material safety data sheets (or MSDSs), and standardizes the content and formatting of SDSs into 16 sections with a strict ordering. Labels have 6 standardized elements that include specific language depending upon chemical classification.

Additional safety information is contained in the Phase Separation Science, Inc. Chemical Hygiene Plan, A-04.04, and SOPs A-04.01, Laboratory Waste Storage and Disposal, and A-04.02, Laboratory Spill Control Procedures and Contingency Plan.

Storage

All non-flammable reagents, standards and reference materials are stored in refrigerators, freezers, and secure cabinets where appropriate. Flammable solvents are stored in a labeled safety cabinet. Extraction solvents and acids used on a daily basis are kept under the fume hoods in secure cabinets with secondary containment. Bottled gasses in use or in storage are secured by chains in accordance with local fire ordinances. Gas cylinders are transferred from storage via a designated tank dolly. All gas transfer lines are equipped with dual-stage regulators. Additional chemical storage information is contained in the Phase Separation Science, Inc. Chemical Hygiene Plan, SOP A-04.01, Laboratory Waste Storage and Disposal, and in specific test method SOPs.

7. Project and Sample Management

Project Management

Review of Requests, Tenders and Contracts

The Director of Business Development and Project Management oversee the procedure for reviewing requests for work. These solicitations can fall in any type category, from a formal invitation for bid to a client calling to request a price quote and sample containers. When new requests are evaluated, considerations are made with regard to the number and type of samples to be tested and the duration of the sampling event, the tests requested, the turn-around-time required, the deliverables needed, the capacity (current sample load) already present at the laboratory, and other factors that would impact the request. Client requirements, including the methods to be used, and data quality objectives (DQOs), such as detection limits, are reviewed. The test methods selected are evaluated to verify that they are appropriate for the intended use of the data. The company President, Laboratory Manager, and Quality Assurance Officer are also consulted, as warranted, when these evaluations are made. Any issues are documented in the quote, proposal, or internal client bid file as part of the review. Information concerning the laboratory's capabilities (certifications and accreditations; subcontracted testing; ability to meet client DQOs; etc.) is also provided to the client.

The laboratory's documented acceptance of routine work (with or without prior laboratory contact) is evidenced by the generation of the sample receipt confirmation form that is provided to the client after the samples are entered into the LIMS. For further information regarding project management at Phase Separation Science, Inc., refer to the latest revision of SOP A-03.02, "Standard Operating Procedure for Project Coordination". After work has commenced, any changes or amendments to the original contract undergo the same review process and any changes are communicated to impacted personnel. The client is informed of any deviations from the contract.

Sample Containers and Preservation

Phase Separation Science, Inc. provides test-appropriate sample containers to clients, along with instructions for sample collection and preservation, preservatives, Chain-of-Custody forms and coolers for shipping the samples back to the laboratory. Specialized containers (e.g., pre-cleaned and certified) are obtained from scientific companies that specialize in the preparation of these containers according to USEPA protocols. Trip blanks are utilized when required by test method, project DQO or the client, to monitor potential background contaminants and the effectiveness of all sample collectors and handlers. Instructions for bottle order preparation are found in SOP A-03.02, Project Management. Specific instructions for sample container and preservation requirements can be found in the latest revision of SOP A-01.05 "Sample Preservation and Container Requirements". Specific instructions for air sample canister preparation can be found in the latest revision of SOP O-01.05 "Canister Preparation for Bottle Orders". Sample collection and preservation guidance is available on the company website, www.phaseonline.com, and may be provided with the bottle order form.

Sample Custody

The Sample Chain-of-Custody / Agreement Form serves as a permanent record of sample collection and handling protocol prior to delivery to PSS. This form contains areas for recording client information (name, contact information, project name and number, etc.); sample identification (date and time of collection, matrix, number of containers, etc.); the required analyses; the required turn-around-time and deliverables; sample condition upon receipt; and a section for signatures (for recording the dates / times of sample relinquishment and receipt). If a COC form is not submitted with a sample or project, one will be provided to the sample deliverer or client representative before samples are accepted into the laboratory. The original COC form is retained and filed with the Login Summary. The COC form is scanned and stored on the R (pdfs) drive in the client folder, which is identified by their LIMS unique code and included in the LIMS generated Certificate of Analysis (COA). Refer to the latest revision of SOP A-01.01 "Sample Receipt and Chain-of-Custody Transfer" for the sample receiving procedure. Refer to the latest revision of SOP A-01.04 for the legal chain of custody procedure followed when clients specify that a sample will be used for evidentiary purposes.

Sample Acceptance / Rejection Policy

Upon receipt of samples at the laboratory, the person who signs the Chain-of-Custody form must follow the minimum receipt protocol specified in A-01.01.F01 to ensure that the following conditions are documented immediately: sample temperature(s); presence/ absence of ice; and the presence/ absence/ condition of custody seals. Sample receiving personnel verify that the appropriate containers have been provided and that the samples are in proper condition, including a check of thermal and chemical preservation (when possible), holding time consideration, field filtration (if applicable), and with adequate volume supplied for the testing required. This information is recorded on the Sample Receipt Checklist form. The chain-of-custody is also reviewed for completeness. In the event of any discrepancies in the condition of the samples or accompanying documentation the client is contacted by a project manager, regarding the nature of the deviation. The client is given the option of resubmitting the samples or having the analysis performed with a notation in the sample receiving section of the case narrative on the final report qualifying the data. Additional requirements for the receipt of West Virginia samples are contained in the form A-01.01.F03, and requirements for receipt of air samples are contained in A-01.01.F04, which are posted in the Sample Receiving department. The Sample Receipt Checklist and the Chain-of-Custody must be reviewed by login personnel and the project manager for accuracy and completeness. This review must ensure that sample conditions (temperature, preservation, etc.) and receipt conditions (number of coolers, use of custody seals, carrier etc.) are recorded accurately and consistently on both documents and exceptions noted correctly in the case narrative.

Work Order Numbers

After the COC form is reviewed the samples are logged into the LIMS. Each group of samples is assigned a unique work order number. The work order number is a combination of the date of laboratory receipt and next job number received. For example, the third project received on November 4, 2015 would be assigned the work order number 15110403 (YMMDDXX – no leading zero digit). Each sample in the group is identified by the work order number with a sequential sample number suffix (e.g., 15110403-002 for the second sample in the group). Labels are printed, and each container is labeled with this information, including a unique container ID. The work order number with the associated client name is also chronologically logged into a

bound notebook upon receipt of samples at the laboratory. The work order number is also written on the COC form.

LIMS Entry

All the information associated with the work order is logged into the LIMS for project tracking and reporting. The sample custodian is responsible for the entry, review, and processing of all project information into the LIMS. The project manager is responsible for ensuring that the information in the LIMS meets the requirements of the client. Once the samples are logged into the LIMS, a Sample Receipt Confirmation is generated which shows the samples received, and the analyses, deliverables, subcontracted tests, and turn-around-time requested. Any sample condition exceedances are also identified. This information is emailed to the client for review. If there are any discrepancies or sample condition exceedances, the client has the opportunity to contact the laboratory with the appropriate changes or instructions.

The sample custodian prints out the login summary form from the LIMS, which includes detailed information about the samples that were received. This form shows the identification of each sample and the testing required. The original Chain-of-Custody and any other accompanying paperwork from the client are attached to the form and the packet is provided to the project manager for review. The project manager checks to see that the correct tests have been logged in and that the sample and project information is correct. The project manager also documents any client instructions if exceedances related to sample condition upon receipt were noted. See form A-03.02.F02, Login Review and Sample Receipt Confirmation Instructions for additional information. Once the review is complete the login summary form is placed in a bin in the office, according to date due. Once a test is complete, the analyst signs and dates the form. After all tests have been completed, the final report is processed.

Active Sample Storage

Each sample is either taken to the appropriate area of the laboratory for immediate processing or is stored under proper conditions in accordance with analytical protocol (refrigeration, room temperature storage, etc.). Samples are stored away from laboratory chemicals to minimize the possibility of contamination. Samples submitted for volatile analyses are segregated from other samples and refrigerator blanks are analyzed weekly for the volatile sample refrigerators and the current daily sample refrigerator. See the latest revision of SOP A-01.03 “Sample Storage Procedures” for sample storage details. In the event that a sample is not maintained at the proper temperature or not analyzed within the specified holding time, the client is notified concerning the nature of the infraction and given the option to re-submit the sample or have the deviations documented on the certificate-of-analysis.

Subcontracted Sample Analysis

Samples requiring testing procedures that are not performed by Phase Separation Science, Inc., are transported to a preapproved subcontract laboratory (one that is NELAP approved or holding other certification or validation by regulatory authority as required by the client). PSS reviews the qualifications of potential subcontractor labs to ensure that the laboratory holds appropriate certifications and that the appropriate test methods are employed. The subcontractor qualifying information is retained on file by Project Management. Routinely, this documentation includes a Statement of Qualifications and the certification numbers and scope of accreditations that are maintained. When subcontract work is quoted, this is indicated on the written quote that is

provided to the client. Once the samples are received, the appropriate subcontract laboratory is selected during the login process and appears on the Sample Receipt Confirmation Form that is provided to the client. When a proposal is submitted in response to a request for bid or proposal, a subcontractor is selected and included in the proposal. A subcontractor chain-of-custody form is generated and travels with the samples to the subcontractor laboratory. When the data report from the subcontractor is received, this is added to the package of paperwork associated with that sample delivery group. A copy of the subcontractor report must be made available to the client when requested. The PSS Certificate of Analysis identifies the subcontractor, their accreditation number (s) and the tests associated to that subcontractor. Any questions that arise from subcontracted testing are addressed by Phase Separation Science, Inc. Refer to the latest revision of SOP A-03.03 "Subcontracting Procedures and Documentation" for additional details concerning subcontracting.

Sample Retention

After the sample preparation and/or analysis procedures are completed, samples are returned to the appropriate storage area for possible re-extraction, re-analysis, verification, or potential additional analysis, for a period of at least 35 days from the date received. Samples that are not totally consumed are held for a minimum of 35 days prior to disposal. Every effort is made to retain samples under proper storage conditions. However, in the event that samples requiring reanalysis were not properly stored after the initial testing was performed; this is indicated on the Certificate of Analysis. Arrangements can be made to retain samples for a longer period of time upon client request.

If a sample has characteristics excluding it as a municipal waste and it is not returned to the client, it is incorporated into the lab's hazardous waste disposal program (refer to the latest revision of SOP A-04.01, "Laboratory Waste Storage and Disposal"). PSS will dispose of the sample and any subsamples according to current Maryland hazardous waste laws. Phase Separation Science, Inc. uses certified hazardous waste transportation and disposal facilities. Copies of waste manifests are retained in the Waste Disposal Records.

Periodically, the laboratory receives samples from clients that are "on hold" until the laboratory is further notified. Samples received on hold are stored, retained for a minimum of 35 days, and then disposed of using the same policies as the active test samples. If the laboratory receives written authorization from the client for an additional storage period for the "hold" samples, these are segregated to a "hold" storage area and marked with a hold label that includes the date of the end of the hold period. Samples placed on extended hold may not be thermally preserved in which case the client is notified by project management or the Director of Business Development and any data generated is qualified in the case narrative of the final report.

Chemistry Waste

Certain chemicals used for extractions, dilutions and various other laboratory procedures fall under Federal and State guidelines, e.g., RCRA (Resource Conservation & Recovery Act), for disposal. Specifically, chlorinated solvents, caustics and ignitable wastes routinely generated by the laboratory are disposed of using an independent hazardous waste transporter and treatment facility. PSS maintains a permit with Baltimore County, Maryland for dischargeable wastewater. Permanent records of waste disposal are maintained at the laboratory. PSS disposes of waste according to current Maryland hazardous waste laws. Phase Separation Science, Inc. uses

certified hazardous waste transportation and disposal facilities. Copies of waste manifests are retained in the Waste Disposal Records.

For proper safety, secondary chemical containment systems, fire retardant equipment, respirators, eye-goggles, eye-wash, and other protective gear and safety equipment are available for use.

Sample Waste

Phase Separation Science, Inc. follows all applicable regulatory agency guidelines that have been established for the safe disposal of sample wastes. The services of a licensed waste contractor are utilized to ensure all sample waste is disposed of properly. Laboratory sample waste is characterized into distinct waste streams and is disposed as: non-hazardous soil; non-hazardous water samples; hazardous aqueous materials (pH<2); oils, fuels, flammable liquids and solvents including sample extracts and expired standards; non-solvent based standards and reagents or other miscellaneous hazardous waste; mercury waste; and PCB (>50ppm) containing materials. PSS retains the right to return hazardous samples to the client. Soil samples are considered non-hazardous waste unless the requested analyses detected hazardous constituents. These samples are placed in 55-gallon drums until they are picked up by the waste contractor.

Aqueous samples are either neutralized and placed in a 55-gallon storage drum for removal by the waste contractor or discharged in accordance with the laboratory's Baltimore County Wastewater Discharge Permit. If the samples are determined to contain hazardous constituents, they are segregated into one of the above mentioned waste streams for alternative disposal.

All records and documentation pertaining to waste disposal are maintained by the laboratory's Waste Coordinator according to the latest revision of SOP A-04.01, "Laboratory Waste Storage and Disposal". Records of hazardous samples that have been returned to the client are maintained in files in Sample Receiving.

PSS encourages all clients to accept, and return, samples to their site of origin as the remediation, if applicable, would include the proper treatment for the samples. In addition, economies of scale also reduce overall environmental impact.

8. Facility and Equipment

Phase Separation Science, Inc. occupies a 6000 square-foot two-level facility in Baltimore County, just west of Baltimore, Maryland. The building has separate laboratory rooms for sample receipt and storage, sample preparation (extractions, digestions, etc.), and analytical testing. Every attempt is made to ensure that incompatible activities are kept separate and to minimize cross contamination.

Equipment

The laboratory maintains sufficient analytical instrumentation and equipment for performing all required analyses. An equipment list can be found in Appendix B of this manual. Prior to use and on an on-going basis, all equipment, including support equipment, shall be calibrated to ensure that compliance with method specifications for sensitivity, precision and accuracy can be achieved. In-house SOPs and manufacturer's instructions are located in the various lab areas, and in some cases additional information may be found on the manufacturer's website.

Maintenance

Periodic and routine maintenance is performed as specified by manufacturer and as required for proper instrument operation. The laboratory maintains a sufficient supply of spare parts and consumables, and also has adequate redundant equipment to limit the requirement to subcontract any testing routinely performed at Phase Separation Science, Inc.

A record of all major equipment and the maintenance performed is retained electronically. The database includes the identification of the equipment, the manufacturer, the model number, serial number, the analyst that is primarily assigned to the equipment as well as any service contract information. The date of the maintenance is entered along with symptoms found and the maintenance performed. All maintenance activities should be documented in the database; these activities include preventative and routine maintenance as well as corrective procedures. Refer to the latest revision of the specific test method SOPs for additional requirements.

When equipment or instrumentation is malfunctioning or defective it is removed from service until such time that repairs can be made, and recalibrations performed. The item is labeled "Out of Service" with the date and initials of the analyst making that determination. From time-to-time various items may require transport off-site for repair or calibration. Upon return of the equipment, recalibration is required prior to use.

Support Equipment

Support equipment such as refrigerators, ovens, thermometers, balances, pipettors, etc. are maintained in good working order and their acceptability for use is based on the needs of the analysis or application for which the equipment is being used.. The laboratory maintains a set of NIST traceable thermometers and class 1 balance weights for verification. The results of any verification must be within the specifications for the equipment use or the equipment shall be removed from service until repaired or records of any correction factors applied must be maintained. All ovens, hot blocks, refrigerators, freezers, etc. contain thermometers and temperatures are monitored and documented each day of use (see the latest revision of SOP Q-01.06 "Temperature Monitoring"). Documentation is maintained for records related to use, maintenance, calibration and verification of support equipment.

Thermometers are calibrated against NIST traceable thermometers, according to the latest revision of SOP Q-01.03 "Thermometer Calibration and Maintenance". Thermometers are calibrated on an annual basis with the exception of infra-red thermometers and Automatic Temperature Compensation devices which are calibrated quarterly. For thermometers used over a range of 10°C or less, a single point verification is performed. For thermometers used over a range greater than 10°C, verification is performed at temperatures bracketing the range of use.

All balances are checked over the weight range of use each day of use with traceable weights using the latest revision of SOP Q-01.02 "Balance Calibration, Maintenance and Use". Balances are serviced by an accredited contractor on a semi-annual basis. Laboratory NIST traceable thermometers are sent out for calibration verification every five years. Weights are sent out for calibration every five years. Certificates of calibration are retained on file by the Quality Assurance Officer.

Pipettors and other mechanical volumetric dispensers used for quantitative results are checked for accuracy prior to first use and on at least a quarterly basis according to the latest revision of SOP Q-01.05 "Volumetric Glassware and Equipment Calibration". Devices that are used at more than one volume are verified at a minimum at the mid-point and volumes bracketing the range of use. If test consumables, such as digestion or distillation tubes, are used to measure volume, they must come with a certificate of accuracy from the manufacturer or the laboratory must verify their accuracy once per lot, prior to or in conjunction with their first use.

Glassware

Where applicable, class A glassware is used for all standard preparation. Class A glassware and glass microliter syringes must come with a certificate of accuracy and these certificates must be maintained by the laboratory. If certificates of accuracy are not received the accuracy must be initially demonstrated and documented by the laboratory.

All glassware that is used during the course of analyses or standard preparation must be scrupulously cleaned following the procedures found in the latest revision of Q-01.07 "Cleaning of Laboratory Glassware for Organic Analysis".

Instrument Calibration and Sample Analysis

Before the analysis of test samples and QC samples, each analytical instrument or method must undergo some type of initial calibration procedure (ICAL). Generally, a multiple point initial calibration curve is analyzed using standards traceable to a national standard, when commercially available. For regression or average response/calibration factor calibrations, if no method guidance is provided, at a minimum, four standards must be used for Average Response, five standards used for Linear Fit, and six standards used for Quadratic Fit, with one of the standards at the Limit of Quantitation (LOQ). Additional information can be found in the TNI Guidance on Instrument Calibration document (D-01.01.F02).

The calibration data is then evaluated in a statistical manner to determine its usability, typically by observing the percentage relative standard deviation (%RSD) of each analyte or both the correlation coefficient and measurement of the Relative Error (%RE) in the calibration. For calibrations evaluated using an average response factor, the determination of the relative standard deviation (RSD) is the measure of the relative error.

Relative standard deviation (RSD) = (100)*(S/$\bar{x}$)

$\bar{x}$ = the arithmetic mean of the i measurements
S = the square root of the variance of i measurements

Measurement of the Relative Error (%RE) is the same calculation used to calculate the % drift for a continuing calibration. The %RE must be measured at the lowest calibration level and at a point near the mid-level of the calibration and must meet the criteria specified in the method or established in the test method SOP.

Relative error is calculated using the following equation:
% Relative Error= x′i−xixi×100

xi = True value for the calibration standard
x'i = Measured concentration of the calibration standard

Another option is the measurement of the relative Standard Error (%RSE) which is analogous to the %RSD and is numerically identical to %RSD for the average RF type of curve. %RSE is applicable to any type of curve (linear, quadratic, weighted or unweighted) but %RSD can only be applied to curves developed using average RF. See the TNI Instrument Calibration guidance document for additional information and examples of these options.

Each test method SOP details the initial calibration procedure, indicating the number of calibration standards, the concentrations, the acceptance criteria, and the frequency of calibration required. The initial calibration is verified by the analysis of a known standard obtained from a second source (or second lot number).

If the initial calibration does not meet method acceptance criteria, corrective actions are taken, and the initial calibration curve is reanalyzed. If the problem appears to be associated with a single standard, then that one standard may be reanalyzed or replaced *once*, to rule out problems due to random chance, and the RSD or correlation/%RE recalculated. Replacement of a standard cannot be performed solely in order to pass calibration criteria, calibration verification or quality control criteria, nor to compensate for lack of maintenance or repair to the instrument and is limited to the replacement of one calibration standard concentration. Standard removal or replacement is only to be allowed in the documented case of gross errors. It is not intended to allow removal or replacement of an interior calibration standard to improve curve fitting. The analyst must provide a good and sound documented technical reason for the removal or replacement of a standard from the interior of the curve. Examples include bad injection; leaking purge vessel; the extract/standard spilled; or the ID number was incorrectly transcribed. The replacement of a calibration standard including the reason(s) for replacement must be documented, e.g., in the run log

An initial calibration should be considered a single event process and a reanalysis of a calibration standard should be performed immediately to ensure that the reanalysis is still part of the original initial calibration event, e.g., within the same tuning period for a GC/MS method. If a reanalysis is to be performed it must commence within the time frame of the original initial calibration event or 24 hours from the original analysis if such a time frame is undefined by the method. This reanalysis should also commence before any samples are analyzed. If these criteria cannot be met, then the entire initial calibration must be performed again.

Reanalyzing or replacing a single standard must NOT be confused with the practice of discarding individual calibration results for specific target compounds in order to pick and choose a set of results that will meet the RSD or correlation criteria for the linear model. The practice of discarding individual calibration results is addressed as an alternative option and is very specific as to how a set of results are chosen to be discarded. If a standard is reanalyzed or a new standard is analyzed, then ALL of the results from the original analysis of the standard in question must be discarded. Further, the practice of running additional standards at other concentrations and then picking only those results that meet the calibration acceptance criteria is EXPRESSLY PROHIBITED, since the analyst has generated data that demonstrate that the linear model does not apply to all of the data.

Another calibration alternative is to narrow the calibration range by replacing one or more of the calibration standards with standards that cover a narrower range. If linearity can be achieved using a narrower calibration range, document the calibration acceptance criteria, and proceed with analyses. The changes to the upper end of the calibration range will affect the need to dilute samples above the range, while changes to the lower end will affect the reliable quantitation of the method at low concentration levels and require adjustment to the reporting level. Consider the regulatory limits or action levels associated with the target analytes when adjusting the lower end of the range.

Replacing one or more of the standards is **NOT** to be confused with discarding results from a given standard. Replacing a standard requires that the same number of standards be used for calibration. The other alternative is to narrow the calibration range by removing data points from either extreme ends of the range, ensuring that the remaining initial calibration standards are sufficient to meet the minimum requirements for number of initial calibration points, and recalculating the RSD or correlation coefficient /%RE. The LOQ/reporting limit and quantitation range of the calibration must be adjusted based on the concentration of the remaining high and low calibration standards If the lowest calibration standard is removed, the LOQ/reporting level is raised. If the highest calibration standard is removed the quantitation range decreases.

Sample results are never quantified from an unacceptable initial calibration unless there is insufficient sample remaining for reanalysis once an acceptable initial calibration is analyzed and the client requests the data. In these rare cases, if the sample results must be reported from an initial calibration that does not meet method acceptance criteria, the data are clearly qualified as estimated on the final report.

All sample results are quantified from the initial calibration curve; within the range of the standard concentrations. The laboratory establishes its Reporting Limit at or above the concentration of the lowest calibration standard (Limit of Quantitation – LOQ). Any results that are determined below the lowest calibration standard or above the highest calibration standard are flagged as estimated data on the Certificate of Analysis. Routinely, estimated data is reported down to a Limit of Detection (LOD) that is established using the MDL procedure in Appendix B of 40 CFR Part 136. All initial calibration raw data sufficient to permit reconstruction of the initial calibration is retained electronically indefinitely. These records include calibration date, method, instrument, analysis date, analyte name, and analyst's initials or signature; concentration and response, calibration curve or response factor; or unique equation or coefficient used to reduce instrument responses to concentration.

Continuing Calibration

At the start of each analytical batch, periodically throughout, and at the end of the analytical batch (except where an internal standard is used) a continuing calibration verification (CCV) standard is analyzed to verify that the initial calibration curve is still valid. A second source initial calibration verification that passes the continuing calibration verification criteria may be used in place of a continuing calibration verification standard. a laboratory control sample (LCS) may be used in place of a continuing calibration verification (CCV) (but not as a replacement for a failing CCV) for methods where the calibration goes through the same process as the LCS (using the continuing calibration verification acceptance criteria). The CCV procedure and acceptance criteria are test method specific and can be found in each test method SOP. The requirement to analyze opening and closing CCVs is applicable to procedures such as balance calibration and pH measurement when these procedures function as instruments for a method such as Oil & Grease by EPA 1664 or alkalinity by titration. Calibration shall be verified for each compound, element, or other discrete chemical species, except for multi-component analytes such as Aroclors, chlordane, total petroleum hydrocarbons, or toxaphene, where a representative chemical, related substance or mixture can be used. The concentration of the calibration verification standard shall be equal to or less than half the highest level in the calibration.

If CCV results are outside acceptable limits, examine the run to determine if the cause of the failure only affects the failed CCV. Examples of this type of failure could include missed autosampler injection, low/no internal standard (IS) in the CCV, or CCV spiked at an incorrect concentration. In this case, another CCV, which is analyzed immediately (before analysis of further samples) can be run to verify the curve. If the second CCV passes, then analysis may resume. Data prior to a failing CCV is considered valid if this second CCV passes. The use of a second CCV is only applicable if the failure can be identified and only affects the failed CCV. The cause of the failure must be documented if a second CCV is run. If the failure cannot be identified or documentation is not performed, the samples preceding the failure back to the last passing verification are not considered valid. Data associated with unacceptable CCVs may be useable as long as one of the following conditions applies: (1) that the CCVs are high biased and the sample results are all non-detect; or (2) that the CCVs are low biased and sample results exceed regulatory (decision-making) limits. Any data that are reported with a CCV, or CCV surrogate, outside acceptance criteria must be documented in the case narrative of the final report. All continuing calibration raw data is retained electronically indefinitely.

Calibration verification for linear calibrations involves the calculation of the percent drift **or** the percent difference, **BUT**, Calibration verification of a non-linear calibration is performed using the percent drift calculation **only**.

$$\% \text{ Drift} = \frac{\text{Calculated concentration - Theoretical concentration}}{\text{Theoretical concentration}} \times 100\%$$

where the calculated concentration is determined using the calibration model from the initial calibration and the theoretical concentration is the concentration at which the standard was prepared.

$$\% \text{ Difference} = \frac{RFv - \overline{RF}}{\overline{RF}} \times 100\%$$

where RFv is the response factor from the analysis of the verification standard, and $\overline{RF}$ is the mean response factor from the initial calibration.

9. Quality Control

The quality control practices in place at the laboratory are used to monitor the validity of the tests performed. With every analytical batch the laboratory routinely analyzes blanks, laboratory control samples (LCS), and matrix spike (MS) and matrix spike duplicates (MSD) or LCS/ sample duplicates to measure precision and accuracy and to monitor for contamination. The laboratory analyzes and evaluates method specific quality control samples in accordance with the more stringent requirements of either the test method or applicable regulation.

It is imperative that quality control (QC) samples are prepared, analyzed, and reported in the sample manner as samples. QC should be analyzed on the same instrument/column, and under the same calibration whenever possible.

Acceptance/rejection criteria for instrument calibration and quality control samples must be developed where method or regulatory criteria do not exist. Several publications provide guidelines that may be used to develop criteria for data acceptability. The Department of Defense Quality Systems Manual for Environmental Laboratories contains guidance regarding initial and continuing calibration requirements when method-specific guidance does not exist. Guidance is available for the evaluation of both calibration and quality control data in the EPA Manual for the Certification of Laboratories Analyzing Drinking Water and in Standard Methods, Section 1020B. Control charts may be used to develop control limits for surrogates, laboratory control samples and matrix spikes as described below. All criteria that are developed must be described in the standard operating procedure (SOP) for that test method.

Positive and Negative Controls

Blanks

Blanks are clean-matrix samples that are used to monitor contamination during sampling, transport, storage or analysis. Blanks are subjected to the same analytical and measurement process as the test samples. There are several types of blanks that are routinely analyzed by Phase Separation Science, Inc.

Method Blanks consist of a sample matrix that is similar in nature to the test samples being analyzed, however it is free of the analytes of interest. The method blank is processed with the test samples under the same test conditions, through all the steps of the analytical procedure and is used to evaluate any contamination that may result from the analytical process.

Field Blanks are prepared in the field during sample collection. Clean containers are filled with deionized water in the field and then the appropriate preservatives are added. These blanks are used to monitor for sources of contamination during the sampling procedure.

Trip Blanks, most commonly used for Volatile Organics analyses, are field reagent blanks that are prepared by filling sample containers with deionized water and preservatives in the laboratory just prior to the sampling event. These containers are then transported to the sampling site with the empty containers and then back to the laboratory with the filled containers, remaining sealed for the entire trip. The trip blanks are stored with the samples and analyzed under the same analytical conditions. They are used to monitor contamination that may have been due to sample container shipping and storage procedures.

Instrument Blanks are clean samples (deionized water or solvent) that are introduced during the instrumentation portion of the analytical process, where applicable, and are used to determine any instrument contamination.

Equipment Blanks may be submitted with test samples to check decontamination procedures employed during the field sampling process. When the laboratory provides water to the client for preparation of equipment and /or field blanks, the reverse osmosis deionized water produced in the metals laboratory is provided to the client in one liter amber glass or plastic containers as appropriate for the project scope of testing.

Method Blanks are analyzed at a frequency of one per preparation batch of 20 or less samples that are processed within one 24-hour period. Where the test in question does not use a separate preparation method (e.g., volatile organics), the batch is defined as no more than 20 samples (excluding quality control samples) that are analyzed together with the same method and personnel and using the same lots of reagents.

Ideally, Method Blanks should have no detectable analytes of interest; however, this expectation is unrealistic. The Method Blanks must be evaluated based upon the nature of the contaminants found and the effects on the samples analyzed in the batch. Sources of contamination are investigated as warranted and steps are taken to minimize the problems. Preferably, samples are completely reanalyzed; however, this is not always possible or practical. In those instances, where reanalysis is not performed, data is qualified when: (1) the blank contains a reportable amount of target analyte that is at or above the reporting limit, and is greater than one-tenth of the amount measured in any sample; (2) the contamination affects the results per test method requirements or client data quality objectives; or (3) the Method Blank is determined to be contaminated. The cause of the contamination must be investigated and documented, and measures are taken to reduce or eliminate the problem.

Laboratory Control Sample

The *Laboratory Control Sample* (LCS) is used to monitor the performance of the entire analytical process. This sample is designated as a Blank Spike (BKS) in the LIMS. The Laboratory Control Sample is a clean sample matrix, spiked with known, verified concentrations of target analytes. Alternatively, it may be of the same matrix as the test samples, containing known and verified concentrations of target analytes, such as a certified reference material. Usually, the test method or regulatory requirement specifies the components to be spiked. This is defined in each SOP. When this is not the case, the following criteria are observed: (1) when spiking with multicomponented analytes such as Chlordane or PCBs, the spike chosen should be representative of the chemistries and elution patterns of the components being reported; (2) for test methods that have an extremely long list of analytes, a representative number are chosen based upon the following: for methods that include 1-10 targets, spike all components; for methods that include 11-20 targets, spike at least 10 or 80%, whichever is greater; for methods with more than 20 targets, spike at least 16 components. Routinely, the laboratory attempts to spike all analytes. Alternatively, a Quality Control Sample (QCS) may be used when the target analytes are not spikeable compounds. The QCS is the same matrix as the test samples, containing known and verified concentrations of target analytes, such as a certified reference material.

The Laboratory Control Sample is analyzed at a minimum of one per preparation batch of 20 or less samples that are processed within one 24-hour period. Exceptions are for those analytes where no spiking solution is available (e.g., temperature, pH, etc.). Where the test in question

does not use a separate preparation method (e.g., volatile organics), the batch is defined as no more than 20 samples (excluding quality control samples) that are analyzed together with the same method and personnel and using the same lots of reagents.

The result of the Laboratory Control Sample is calculated as percent recovery and is compared to the acceptance criteria stated in the method, or in-house established limits. A Laboratory Control Sample that has recoveries within the acceptance criteria establishes that the analytical system is in control and validates the sample results for that batch. Any samples that are associated with an LCS that does not meet acceptance criteria should be reprocessed. If this is not possible, the data must be reported with appropriate qualifiers. The analytical batch case narrative and/or QC summary forms may be used to document exceedances.

The Laboratory Control Sample Duplicate (LCSD) is a replicate aliquot of the LCS (optional unless required for precision data). This sample is designated as the Blank Spike Duplicate (BSD) in the LIMS. The results are used to evaluate the precision of the analytical results using the selected method. These samples are analyzed at a frequency of one per preparation batch of 20 or less samples that are processed within one 24-hour period.

The relative percent difference between the results of the duplicate analyses is calculated and compared to that specified in the test method or laboratory determined criteria. When the RPD is outside acceptance criteria the results for that sample are reported with appropriate qualifiers. The LCS/LCSD may be the only measure of precision available when insufficient quantity of sample is received to perform a batch matrix spike/ matrix spike duplicate or sample duplicate.

Marginal Exceedances

If a large number of analytes are in the LCS, it becomes statistically likely that a few will be outside control limits. This may not indicate that the system is out of control; therefore, corrective action may not be necessary. Upper and lower marginal exceedance (ME) limits can be established to determine when corrective action is necessary. A ME is defined as being beyond the LCS control limit (3 standard deviations), but within the ME limits. ME limits are between 3 and 4 standard deviations around the mean.

The number of allowable marginal exceedances is based on the number of analytes in the LCS. If more analytes exceed the LCS control limits than is allowed, or if any one analyte exceeds the ME limits, the LCS fails and corrective action is necessary. This marginal exceedance approach is relevant for methods with long lists of analytes. It will not apply to target analyte lists with fewer than 11 analytes.

The number of allowable marginal exceedances is as follows:

1) >90 analytes in LCS, 5 analytes allowed in ME of the LCS control limit;
2) 71–90 analytes in LCS, 4 analytes allowed in ME of the LCS control limit;
3) 51–70 analytes in LCS, 3 analytes allowed in ME of the LCS control limit;
4) 31–50 analytes in LCS, 2 analytes allowed in ME of the LCS control limit;
5) 11–30 analytes in LCS, 1 analytes allowed in ME of the LCS control limit;
6) <11 analytes in LCS, no analytes allowed in ME of the LCS control limit;

Marginal exceedances must be random. If the same analyte exceeds the LCS control limit repeatedly, it is an indication of a systemic problem. The source of the error must be located, and corrective action taken. The same analyte exceeding the LCS control limit two (2) out of three (3) consecutive LCS's is considered to be indicative of non-random behavior.

Calculation

$$\% \text{ Recovery} = \frac{\text{found value}}{\text{true value}} \times 100$$

Quality Control Samples

In addition to their use as a batch LCS, known Quality Control Samples (QCS) may be used to supplement batch QC. They are purchased from proficiency test (PT) sample providers on a regular basis and analysts are encouraged to save extra PT samples to use as knowns. Unused PT samples are stored according to manufacturer's guidelines. The analyst may use a known reference sample periodically as additional QC or during troubleshooting and corrective action. Analyst are encouraged to develop a schedule for analysis of QCS based on the frequency that the test method is employed. The QC Officer routinely logs in QCS as internal QC to represent all laboratory areas.

Sample Specific Controls

The effect of the sample matrix on method performance is evaluated by the analysis of spiked samples, duplicate samples, and, for most organic chromatographic analyses, surrogate spikes.

Matrix Spike and Matrix Spike Duplicate

Matrix spiking evaluates the effect of the sample matrix on the precision and accuracy of the results generated using that test method. The recoveries are sample / matrix specific and are not usually used to evaluate the validity of the entire batch. Over time, the laboratory should fortify all routine sample sources that provide sufficient sample quantity. In general, samples are spiked at a frequency of one MS / MSD per preparation batch of 20 or less samples that are processed within one 24-hour period. Where the test in question does not use a separate preparation method (e.g., volatile organics), the batch is defined as no more than 20 samples that are analyzed together with the same method and personnel and using the same lots of reagents. NOTE: In some test methods, only a matrix spike is analyzed; precision is evaluated by the analysis of a sample duplicate or Laboratory Control Sample Duplicate (LCSD).

Usually, the test method specifies the components to be spiked. This is defined in each SOP. When this is not the case, the following criteria are observed: (1) when spiking with multicomponented analytes such as Chlordane or PCBs, these are representative of the chemistries and elution patterns of the components being reported; (2) for test methods that have an extremely long list of analytes, a representative number are chosen based upon the following: for methods that include 1-10 targets, spike all components; for methods that include 11-20 targets, spike at least 10 or 80%, whichever is greater; for methods with more than 20 targets, spike at least 16 components. Routinely, the laboratory attempts to spike all target analytes.

The Matrix Spike and Matrix Spike Duplicate results are calculated to assess accuracy (as percent recovery %R) and to assess sample homogeneity and precision (as relative percent difference RPD). These are compared to the acceptance criteria stated in the method, or in-house

established limits. When the recoveries or RPD are outside acceptance criteria the results for that sample are reported with appropriate qualifiers. The analytical batch case narrative and QC summary forms may be used to document exceedances.

Calculations

$$\% \text{ Recovery} = \frac{\text{Spiked Sample Result} - \text{Sample Result}}{\text{Spike Amount}} \times 100$$

$$\text{RPD} = \frac{\left|(\text{Sample Result} - \text{Duplicate Result})\right|}{(\text{Sample Result} + \text{Duplicate Result})/\ 2} \times 100$$

Sample Duplicates

Sample duplicates are replicate aliquots of the same sample that are independently processed through the entire analytical procedure. The results are used to evaluate the homogeneity of the specific sample and the precision of the analytical results using the selected method. The data is usable only when reportable levels of target analytes are present in the sample. In general, samples are analyzed in duplicate as a replacement for a matrix spike duplicate, and at a frequency of one per preparation batch of 20 or less samples that are processed within one 24-hour period.

The relative percent difference between the results of the duplicate analyses is calculated and compared to that specified in the test method or laboratory determined criteria. When the RPD is outside acceptance criteria the results for that sample are reported with appropriate qualifiers. The analytical batch case narrative and QC summary forms may be used to document exceedances.

Surrogate Spikes

Surrogates are compounds with properties that are similar to the analytes of interest, unlikely to be found in environmental samples, and are added to the sample prior to preparation and analysis for quality control purposes. Surrogate recoveries are used to evaluate the recoveries of target analytes in the given matrix. Surrogates are added to all samples, standards, and quality control samples for all appropriate test methods. The compounds used are routinely specified by the test method and often are deuterated analogs of select target analytes. The surrogate results are calculated as percent recovery and are compared to the acceptance criteria stated in the method, or in-house established limits. Surrogates outside the acceptance limits are evaluated for the impact on individual sample results and corrective actions are taken, where necessary. Results that are reported from analyses with surrogate recoveries that are outside the acceptance criteria include appropriate data qualifiers. The analytical batch case narrative and QC summary forms may be used to document exceedances.

Calculation

$$\% \text{ Recovery} = \frac{\text{quantity measured}}{\text{quantity found}} \times 100$$

Control Limits

Control limits for precision and accuracy are created using the data generated from the analyses of duplicates and spikes. Charting is maintained in the LIMS and is used to visually monitor quality control parameter results and trending. Control limits are established using a minimum of 20 to 30 data points and are periodically updated to reflect recent test conditions. Warning limits are set at two standard deviations about the mean, acceptance limits are set at three standard deviations about the mean, marginal exceedance limits are established at four standard deviations about the mean. When a data point falls outside acceptance limits and is determined not to be a marginal exceedance, an out-of-control event investigation is triggered. If it is determined that the outlier is not an aberrant data point, subsequent corrective action and documentation may be warranted.

The laboratory shall establish in-house limits that:

- Are statistically-derived using scientifically valid and documented procedures;
- Meet the limits specified by the project or as stated in the method, if available;
- Are updated on at least an annual basis and re-established after major changes in the analytical process (e.g., new instrumentation);
- Are based on at least 20 data points (routinely 30) generated under the same analytical process;
- Do not exclude failed LCS recovery data and statistical outliers from the calculation, unless there is a documented and scientifically valid reason (e.g., bad LCS standard, poor purge);

Control limits may not be greater than ± 3 times the standard deviation of the mean LCS recovery. After control limits are approved by the laboratory manager and the QA Officer they are applied to the method in the LIMS. A pdf of the limits summary and the control charts for each parameter are in the public directory by method and date. (P:\Cal and QC\Control Limits\8270C\Feb11)

Control charts are to be maintained and used to detect trends and prevent out-of-control conditions. Control charts should be monitored on an on-going basis for shifts in mean recovery, changes in standard deviation, and development of trends. Representative compounds may be chosen for control charts for the purpose of monitoring.

On-going monitoring should be interpreted as monitoring that is frequent enough to detect trends where a trend is defined as five or more data points in the same direction, i.e., either increasing or decreasing or seven points on the same side of the mean line. This frequency will be specific to frequency with which each analysis is performed.

Control charts are a useful tool as part of root cause analysis when investigating nonconforming work and failed proficiency testing samples.

Detection Limits, Quantitation Limits and Reporting Limits

The *Method Detection Limit* (MDL) is defined as the minimum concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results. At Phase Separation Science, Inc., the MDL is determined using the procedure found in Appendix B, Revision 2 to Part 136 of 40 CFR unless the requirements of a published test method or regulatory program supersedes this procedure. The MDL establishes the Limit of Detection (LOD) which is also referred to as the Detection Limit (DL).Determination of

the initial MDL_s consists of analyzing a minimum of seven aliquots of a spiked blank matrix, prepared and analyzed over a minimum of three separate days and then multiplying the standard deviation of the results by the students' t value appropriate for the 99% confidence level at n-1 degrees of freedom. The initial MDL_s is then compared to a MDL_b that is determined by analyzing and evaluating a minimum of seven method blanks according to the procedure in SOP Q-03.01, Determination of Detection Limits and Limits of Quantitation. The greater of the MDL_s or the MDL_b is the initial MDL. Determinations are not required for methods/analytes for which a detection limit is not applicable such as pH and specific conductance. DL determinations based on low level spikes are not required for analytes for which no spiking solutions are available, but an MDL based on method blanks may be applicable for some methods (e.g., residue).

Ongoing data collection of all method blanks and at least two quarterly spikes, per instrument, prepared in separate batches, is required. At least once every thirteen months, the ongoing data that was collected is combined with all data at the same spiking level from the previous twenty-four months. For method blanks, the laboratory has the option to use only the last six months of method blank data or the fifty most recent method blanks, whichever criteria yields the greater number of method blanks. The MDL_s and the MDL_b are re-calculated using the combined data and compared to the initial MDL which is either verified and left unchanged if the newly calculated DL is <0.5 or > 2 x the initial DL or replaced with the re-calculated MDL. All routine quality control samples should be analyzed with both initial and ongoing MDL samples.

The *Limit of Quantitation (LOQ)* is routinely established at the concentration of the lowest calibration standard. The LOQ must be set at a concentration that is greater than the DL and at or above the lowest calibration standard. An LOQ determination is required for each quality system matrix, technology, method, and analyte except for any component or property for which spiking solutions are not available or a quantitation limit is not appropriate, such as pH or turbidity. Determination and verification of the LOQ is routinely performed in conjunction with the determination and verification of the MDL. To verify the LOQ, on a quarterly basis, process a matrix specific QC sample containing the analytes of concern at or below the LOQ or at the concentration specified in the method through all steps of the method for each instrument. Whenever possible, the quarterly MDL verification spike samples are used for this purpose. Recovery must be within method limits if provided. When acceptance limits are not provided, LOQ verification limits are established 20% wider than the LCS limits for that method and matrix.

When results greater than the MDL/DL but less than the quantitation limit (LOQ) are reported, they must be reported as estimated ("j" flagged) in the final report.

The *Reporting Limit* of a given test for a specific sample is a number below which data is not reported unless it is qualified as estimated. It is established at or above the LOQ for the analysis and can be further adjusted for sample dilution, initial sample volume, moisture content of the sample, etc. The reporting limit can change from sample to sample. Additional information regarding determination and verification of the DL and LOQ can be found in the TNI VIM4 2016 Standard Update Guidance on Detection and Quantitation (D-01.01.F01).

Proficiency Testing

Proficiency test samples (PTs), the composition of which are unknown to the analysts, are used to determine whether the analysts can produce analytical results that are within specified acceptance

criteria. These samples are obtained at the laboratory's expense directly from a PT provider that is accredited to Volume 3 of the TNI standard by a TNI-approved Proficiency Testing Provider Accreditor (PTPA) and approved by regulatory authorities under which it holds its accreditations. PT studies for the drinking water matrix must meet the requirements of 40 CFR Part 141 relating to national primary drinking water regulations. As such, PT results are required per test method, rather than technology, for potable water PTs. Accredited providers meet stringent criteria to produce and distribute PT samples, evaluate study results against published performance criteria and report the results to the laboratory and any accrediting authorities. Phase Separation Science, Inc. annually participates in four types of proficiency testing studies: Water Supply (WS), Water Pollution (WP), Soil, and Underground Storage Tank (UST). The Discharge Monitoring Report – Quality Assurance Study (DMRQA) is routinely performed as part of a qualifying WP study. The laboratory participates in PT studies by analyzing unique, single-blind, single-concentration PT samples for each field of accreditation where corresponding Fields of Proficiency Testing (FoPT) exist in the TNI FoPT tables and for which the laboratory seeks to obtain or maintain accreditation. The laboratory will also meet any additional PT requirements for FoPTs not covered by the TNI Standard if requested by a regulatory program.

Initial Accreditation (NELAP) - The laboratory shall achieve a history of two successful (acceptable scores) PT studies out of the most recent three attempts for each applicable field of accreditation for which the laboratory seeks accreditation. A third study is not needed if the laboratory has two consecutive acceptable PT scores. These PT studies must be performed no more than eighteen (18) months prior to obtaining initial accreditation, with the opening date of the second study at least seven calendar days after the closing date of the first study and the closing date of the most recent PT study having been no more than six (6) months prior to the application for initial accreditation.

Continued Accreditation - Depending upon certification and accreditation requirements, proficiency testing is conducted in approximate six-month intervals. Results must be within acceptance limits for the laboratory to retain certification for the parameter, and depending upon the certification program, passing PTs must be analyzed each year at a minimum. NELAP accreditation requires the analysis of two PT samples per year with the closing dates of subsequent PT study samples for a particular accreditation FoPT no greater than seven months apart. The opening date of PT study samples for a particular field of accreditation must be at least seven calendar days after the closing date of a PT study for the same field of accreditation. PT study results with an opening date of subsequent PT studies for the same field of accreditation that are closer than seven (7) days from the closing date of the previous PT study are invalid for the purposes of compliance with the TNI Standard and are not counted toward the laboratory's PT history of the most recent three (3) attempts. Failure to analyze and report PT studies for each accredited FoPT at the required frequency results in a failed PT study. A laboratory may withdraw from a PT study, but that withdrawal does not exempt the laboratory from analyzing and reporting a PT study at the required frequency.

The laboratory must maintain a history of two successful (acceptable scores) PT studies out of the most recent three attempts for each applicable field of accreditation for which the laboratory holds accreditation. Failure to do so may result in suspension of the affected field of accreditation. The laboratory's accreditation for a field of accreditation may be revoked for failure of three consecutive PT studies, either by failure to participate in the required PT study or due to failure to obtain acceptable results. "Acceptable" PT study scores from a PT Provider do not automatically result in a successful evaluation of a PT study by an AB. For example, failure to report an analytical method or reporting of an incorrect method, failure to provide the PT Provider with a release of results to the AB before the close of the study, failure to report results

to the PT Provider before the closing date, failure to handle PT study samples in the same manner as routine environmental samples, etc., may be cause for an unsuccessful evaluation by an AB.

All unacceptable PT results require documentation of the investigation to determine the root cause of the failure and the corrective action taken. These corrective action reports are documented using the Nonconformance module in the LIMS. Supplemental PT samples are analyzed as necessary to meet frequency requirements or demonstrate corrective action. If requested by the Primary AB, the laboratory must provide the root cause investigation and corrective action documentation to the AB within thirty days of the request. Failure to submit these records is due cause for suspension of accreditation for the FOA. The laboratory notifies the proficiency test provider when the PT sample will be used for corrective action purposes, so the PT provider may ensure that the PT sample supplied meets the requirements for supplemental PT as defined in Volume 3 of the TNI standard. The laboratory shall ensure that the opening date of the successive PT study samples for the same accreditation FoPT are at least seven calendar days after the closing date of the previous PT study. The PT sample shall be analyzed and reported in accordance with the requirements described for routine PT samples.

Reinstatement for accreditation for an FoPT after suspension for unacceptable PT results or due to failure to supply a requested corrective action report requires the laboratory to meet the requirements for continuing accreditation. Reinstatement for accreditation for an FoPT after revocation for unacceptable PT results requires the laboratory to meet the requirements for initial accreditation.

The laboratory shall handle and prepare the PT study samples in accordance with the instructions provided by the PT Provider. PT samples must be managed, analyzed, and reported in the same manner as real environmental samples. Samples shall be processed by the same staff and methods employed for routine analysis of that analyte. Analysts must use the same procedures, equipment, and frequency of analysis. Quality control samples must be of the same type, composition, concentration, and frequency when analyzed with PT samples as with routine environmental samples.

Prior to the closing date of a study, laboratory personnel, including corporate personnel, shall not: send a PT study, or a portion of a PT study, in which it is participating, to another laboratory for the analysis of a field of accreditation for which it seeks accreditation or is accredited; knowingly receive and analyze any PT sample or portion of a PT sample from another laboratory where the results of the PT sample are intended for use for initial or continued accreditation of that laboratory; communicate with any individual at another laboratory regarding the analysis and results of the PT sample; or attempt to obtain the assigned value of any PT sample from the PT provider. Participation in any of these activities is cause for revocation of accreditation.

Laboratories must evaluate and report PT sample results for chemistry analytes to the Proficiency Testing Reporting Limit (PTRL) which is a statistically derived value that represents the lowest possible acceptable concentration for an analyte in a PT sample, if the analyte is spiked into the PT sample. The PTRL values shall not be adjusted for sample amount used or percent moisture. TNI FoPT tables are posted on the TNI website at http://www.nelac-institute.org/content/NEPTP/fopt.php and are routinely included with the PT instructions that accompany the PT samples from the PT provider. If the laboratory's Limit of Quantitation (LOQ) is below the PTRL, they may evaluate results to their normal LOQ. Where PT concentrations are below the calibration range established by the initial calibration curve, the laboratory may rescale its initial calibration curve to bracket the concentration of the PT sample result or, using its

routine initial calibration, report the original result without qualification to the PT Provider (e.g., no "J" qualifier).

The following guidance is used to report PT sample results to the PT Provider. Additional guidance and reporting examples can be found in the document TNI V1M1 2016 Standard Update Guidance on Proficiency Testing Reporting Limit (D-01.01.F03).

If the analytical result is a numeric value above or equal to the PTRL, the laboratory shall report the numeric value obtained. If the PTRL is less than the laboratory's LOQ, the laboratory shall report the result without the qualification of result (e.g., no "J" qualifier).

If the analytical result is a numeric value below the PTRL, the laboratory shall report one of the following:

- <PTRL or,
- the obtained analytical result, if the result is between the LOQ and the PTRL, or,
- <LOQ, if the analytical result is below the LOQ and the PTRL.

If the analytical result is a "non-detect", the laboratory shall report one of the following:

- <PTRL, or
- <LOQ (NOTE: In the case where the laboratory LOQ is greater than the PTRL: If the laboratory chooses to report a value of <LOQ and the analyte is present above the PTRL, the result will be scored as "Not Acceptable" by the PT Provider.)

Routinely, PT sample results are manually entered into the PT provider's website by the QA Officer or their designee. Analysts must perform their routine review of the final results in Data Management in the LIMS; print, date, and initial the results summary from the LIMS; and attach the summary to the login summary paperwork. The results are entered from the report that is generated from the LIMS and reviewed by the laboratory manager in the same manner that routine reports are reviewed. A copy of the entered results is labeled with the study name and work order number and saved in P:\PT Studies in the folder for that year labeled Entered Results.

On or before the closing date of the study, the analytical results for accreditation and experimental FoPTs are reported to the PT provider in such a way that there is a specific match between the analytical result for the FoPT and the corresponding Field of Accreditation for which the PT sample was analyzed, and authorization is provided for the release of the final evaluation report directly to the appropriate accrediting authorities. The PT provider reports the results directly to the selected accrediting authorities at the same time that the results are reported to the laboratory. Except for drinking water analytes referenced in 40 CFR 141, the laboratory routinely analyzes and reports a single method to represent a technology in a single PT study for a particular analyte. When the laboratory analyzes and reports PT studies by "technology," the score obtained for the reported method is applied to all methods in that technology for which the laboratory seeks to obtain or maintain accreditation in that matrix. When PT results are reported for multiple methods using the same analytical technology, an evaluation of "not acceptable" for one method will be applied to all methods reported with that technology. All records necessary to reconstruct the preparation, analysis, and reporting of the analytical results for the PT samples must be retained for a minimum of five years and these records must be available for review upon request by the Primary Accreditation Body.

The laboratory shall submit questions about PT samples or performance evaluations made by the

PT Provider to the PT Provider. If the PT Provider is not able or is unwilling to resolve the question to the satisfaction of the laboratory, the laboratory shall refer those questions to the PT Provider's Proficiency Testing Provider Accreditor (PTPA). The laboratory shall submit questions to its(Accreditation Body (AB) in regards to the AB's PT evaluation, if necessary.

Test Methods

The environmental testing methods that are used by Phase Separation Science, Inc. are obtained from well recognized and accepted publications in the industry such as those from "Test Methods for Evaluating Solid Waste", US EPA SW-846; "Standard Methods for the Examination of Water and Wastewater", APHA, AWWA, WEF; Title 40 of the Code of Federal Regulations, Part 136; etc. See Appendix C for a list of the test methods used at Phase Separation Science, Inc. and Appendix D for a list of references.

The laboratory makes every effort to use the most appropriate test method for the requested analysis. Test methods may be chosen based upon the sample matrix or they may be mandated by federal law, such as those used for wastewater and drinking water analysis. Methods may also be selected based upon instrument manufacturer specifications. When the client requests an analysis by a method that is outside its intended scope or one that is out of date, the laboratory will inform the client that the method is considered to be inappropriate or out of date and recommend an alternative. Client requests for deviations to environmental test methods are fully documented. If the client needs a customized analysis, the laboratory will request that a copy of the test procedure be provided, and the report will specify that the analysis was performed according to the client's method. A copy of the client's method is retained for the file. All employees are instructed in client confidentiality and proprietary rights at the onset of employment at Phase Separation Science, Inc.

Prior to the implementation of any new test method in the lab, Phase Separation Science, Inc. demonstrates method capability by the analysis of the analytes of interest in a clean sample matrix, according to the latest revision of SOP A-02.01, "Employee Training Procedures and Documentation". The laboratory also validates any non-standard or lab-developed methods, as well as those methods that may be used outside their intended scope, in order to confirm that the modification is fit for use. All method validation is conducted according to written procedures and includes determination of method detection limits and quantitation limits, evaluation of precision and bias and evaluation of selectivity. Selectivity checks may include mass spectral tuning, second column confirmation, and retention time windows.

Standard Operating Procedures

The laboratory maintains Standard Operating Procedures (SOPs) for all areas of laboratory activities. These areas include data review, corrective action, internal audits, data integrity, sample receiving, handling out of control events and client complaints, support procedures (i.e., temperature monitoring, balance use, etc.) and all test methods. SOPs must accurately reflect these activities; all steps performed must be included the SOP. Each SOP includes the signatures of the approving authorities, the version number and effective date of the SOP. SOPs are controlled documents. The original signed SOPs are kept on file by the Quality Assurance department and paper controlled copies are made available to analysts and technicians in station binders in each laboratory area. An electronic copy of all current SOPs is available on the public drive in p\ Controlled Documents\ Current SOPs in PDF for Lab Use. QA maintains the recent

revision of the SOP in pdf format with the notation in the header "DO NOT PRINT, MOVE OR DISTRIBUTE – FOR LAB VIEWING ONLY".

In-house laboratory test method Standard Operating Procedures (SOPs) are written from the published methods according to the latest revision of the SOP Q-02.03, "Procedure for Writing SOPs". The SOPs contain or reference the following elements: identification of the test method; scope and application; method summary; method performance; method specific definitions; applicable matrices with detection / reporting limits; interferences; sample collection, preservation, handling and storage requirements; equipment and supplies; reagents and standards; calibration and standardization; test procedure; calculations and data analysis; quality control, including initial demonstration of proficiency; data assessment and acceptance criteria for QC; corrective actions for out-of-control data; contingencies for handling out-of-control or unacceptable data; safety requirements; waste management; pollution prevention; tables, diagrams, flowcharts and validation data; and references. SOPs must reflect all aspects of the procedure and must comply with all method and regulatory requirements.

Estimation of Uncertainty of Measurement

The laboratory recognizes published method uncertainties, where available, for those tests that are routinely performed according to industry-standard test methods. For methods that do not have stated values of the major sources of uncertainty of measurement, the laboratory estimates the uncertainty using results obtained from multiple analyses of the Laboratory Control Sample (LCS) / Laboratory Control Sample Duplicate (LCSD). Determination of uncertainty may be calculated from the accuracy and precision data.

The uncertainty of measurement is provided to clients upon request and is not part of the laboratory's routine data deliverable package.

10. Data Management and Reporting

Sample Preparation and Batch Reports

Preparation batch reports are used to document sample extraction, digestion, or other treatment prior to the determinative analysis. In the LIMS, preparation batches are created by the analyst and assigned a sequential LIMS batch number. A preparation batch is composed of no more than 20 samples of the same matrix that are processed together by the same personnel, using the same prep method and the same lot(s) of reagents within a 24-hour period, from the start of the first sample to the last. The analyst creates a new prep batch in the LIMS which is automatically numbered with the next available number. Information such as the test method, prep method, matrix type, and analyst's name are selected from dropdown menus. The samples for the batch are selected from the list of all available samples logged in for that particular test. The quality control samples and the identification of reagents, spiking solutions, solvents, etc. are also assigned from dropdown menus. This information is saved in the LIMS and is also printed. The prep analyst then uses the printed batch report form to record actual sample weights and volumes and any pertinent comments relating to the prep of the samples (e.g., foaming, emulsions, etc.). Once the prep is completed the initial sample weights, final volumes, etc. are entered into the LIMS, any data qualifying notes are added to the case narrative, and the original form is scanned to the appropriate folder on the server in P:\logbooks. The records are retained for at least five years. After sample analysis and review, the data is imported into an analytical batch.

For samples that do not have separate preparation steps prior to analysis, for example volatile organics, the sample information is entered into the prep and analytical batches after the sample data has been acquired and reviewed. The samples for the batch are selected based upon work area, analysis method, sample matrix, and instrument to be used. The instrument software is used to set-up the analysis sequence. Samples are chosen from the daily work list that is printed from the LIMS. This list is based upon test method, sample matrix, sample holding time requirements, client's turn-around-time requirements, in-house due date, etc. After the sequence is created, the samples, along with the accompanying quality control, are analyzed. Once the analysis has been completed and reviewed, a prep batch is created in the LIMS. The samples that were analyzed are picked from a list of available samples and are included in the prep batch along with appropriate quality control samples. The prep batch is automatically numbered by the LIMS with the next available number upon creation. After the prep batch is saved the sample data can be imported into the LIMS.

In the Import Screen the appropriate prep batch is selected along with the location of the data (path). The analyst continues with the import process, adding additional prep batches if applicable, and the LIMS automatically assigns the analytical batch number to the import when the information is saved. The analyst has the ability to append information to both the prep batch and the analytical batch at a future time if required.

Sample Analysis and Data Handling

The samples are analyzed in analytical batches, which may be composed of more than one preparation batch. At a minimum, the analytical batches contain continuing calibration verification, samples and batch quality control samples, and all information related to traceability. All records of calibration, original observations, derived data and sufficient information to establish an audit trail must be documented and retained. For those analyses that are not automated (i.e., not computer- generated printouts), test information is recorded in indelible ink in

logbooks (such as weights, spectrophotometer absorbance, etc.). The full laboratory sample identification number must be documented for quality control and samples.

For automated analytical methods, data is acquired using the instrument software and stored on the network server. Most data are saved as pdfs on the server and are linked to the work order in LIMS. In some instances, paper printouts of all sample results and associated quality control data are generated. The printouts are segregated into packets that include calibration information and quality control data, and sample results sorted according to laboratory ID number. The batch data packets also include a checklist that documents the analyst's review and secondary review of the data; a copy of the prep batch report(s); the laboratory sample IDs; dates and times of analysis; the instrument or equipment used; the analyst's initials; any manual data manipulations (including printouts of before and after manual integrations); calibration information; and quality control results. The laboratory may document the exact time that each sample was analyzed, or an ending bracketing CCV time for a group of samples.
These data packets are scanned and saved on the server in the appropriate folder at P:\logbooks. When all analyses are completed for a given work order, the login summary form is submitted to the office manager for report processing.

Any changes that are made to records are initialed and dated. Handwritten corrections are made in indelible ink, using a single line marked through the error then initialed and dated. A signature log containing the names, initials, and signatures of all employees is maintained by the Quality Assurance Officer.

For analyses that are not automated, for example pH, Total Suspended Solids, etc., data from the logbooks are manually entered into the LIMS. An analytical batch is created, the test samples and batch quality control samples are selected and pertinent information such as the date / time of analysis, the results, analyst's name, etc. are entered. The logbooks are scanned, and the pdf data is appended to the work order in the LIMS.

The data files on the server, which are organized by each instrument, are backed up daily and are also transported off site daily. Currently, approximately eighteen months of data are maintained on the server. All electronic records are kept in a confidential manner indefinitely.

Data is reviewed according to SOP Q-02.01, Data Review and Data Verification. The first level of review is performed by the analyst generating the data who reviews all data and traceability information and electronically attaches all raw data, logs, checklists, and narrative forms to the LIMS batch. Manual integrations are assigned an explanation code (See SOP -03.02, Manual Integration Procedures), dated, and initialed on the raw data. The analyst reviews initial and continuing calibration data and quality control results to ensure that the acceptance criteria, detailed in the test method SOP, are met. The analyst's review is documented on a checklist or bench sheet. Generally, results are only reported if all quality control measures are acceptable. However, there may be instances where data may be reported with quality control failures or exceptions to the documented procedure, when reanalysis is not possible. These data are documented in batch case narratives of the final report and flagged on the QC summaries. Out-of-control event documentation may be required, along with approval of the laboratory manager. Any quality control exceedances or method deviations must be reported accurately, clearly, unambiguously and objectively in the case narrative.

The second level of review is performed by another qualified analyst, the quality assurance officer, or the laboratory manager. This secondary review is also documented on the checklist or bench sheet. This review shall check all data and traceability information forwarded from the

Tier 1 review and shall complete the Tier 2 section of the checklist to make sure there are no omissions. This is a 100% review, so all the batch data is checked, including calculations, manual integrations, tune data, preparation and analysis date and time as applicable, ICAL, ICV, CCAL, MS/MSD, LCS, and method blank data. Surrogate and internal standard data is checked. Explanations of any anomalous results and any corrective actions taken, and all data flags are checked for appropriate, unambiguous, objective, and accurate use.

Analytical data and quality control must also be reviewed for accuracy and completeness in the Final Results Generation tab of Data Management. The summaries generated from this module reflect the data as it is presented on the Certificate of Analysis.

Reporting

Once all analysts have uploaded the test results, the login summary form is forwarded to the office manager or project management for reporting. A report is generated in the LIMS with the appropriate signatory. The signatory, who performs the third level of review, reviews the sample results and the QC and verifies that any applicable data qualifiers and narrative notes are included in the report. This review also includes a visual correlation of results to ensure that the reported data are consistent between related tests. If any changes are required, they are completed at this time. The signatory signs and dates the login summary to indicate approval and the summary is returned to the office manager or project manager who then emails or faxes the reports to the clients.

Phase Separation Science, Inc. reports contain, at a minimum, the following:

- Title “Certificate of Analysis”, the unique report number and the date of issue
- Name, address, and telephone / fax numbers of the laboratory
- Name, address, and contact name of the client
- Project identification
- Date and time of sample receipt
- A statement that the report is not to be reproduced except in full without written approval of the laboratory
- A statement that all work reported herein has been performed in accordance with current NELAP standards unless otherwise noted in the Case Narrative
- Identification of any non-accredited tests
- Statement that report contains results for the samples received
- Name, function and signature of the person authorizing the report
- Page number and total number of pages
- Laboratory accreditation numbers
- Identification of analytical methods and preparation methods
- Client sample identification and corresponding Laboratory identification
- Sample matrix
- A statement that the samples were received in proper condition unless otherwise documented on the sample receipt checklist and noted in the case narrative.
- Date and time of sample collection
- Name of test performed and Results
- Units
- Reporting limit
- Date of preparation and date and time of sample analysis

- Analyst's unique LIMS ID number
- A statement that unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, Moisture, and paint filter test.
- Data qualifiers (when applicable) and definitions
- Case Narrative for quality control exceedances, comments, etc. Any deviations from, additions to, or exclusions from the test method, and information on specific test conditions such as environmental conditions must be included in the Case Narrative. This may include observations regarding sample conditions, testing anomalies, quality control failures, opinions and interpretations (when applicable).
- Quality control summary forms and data qualifiers when applicable
- Copy of the Chain-of-Custody form
- Sample Receipt Checklist
- Identification of subcontracted results by subcontractor's unique LIMS ID number
- Identification of the subcontractor and relevant accreditation numbers and the name and address of the subcontractor laboratory

Reports may be modified to meet client data quality objectives such as inclusion of estimated values ("j" flagged data) and the method detection limit (MDL).

Phase Separation Science, Inc. also provides quality control data packages upon request. The information provided can range from LIMS-generated quality control data summary forms to full data packages with raw data for third-party validation. Standard reports routinely include QC summary forms for the laboratory control sample(s), methods blank, client matrix spikes, duplicates, and surrogates (as applicable).

The PDF files of the reports and any EDDs provided are saved in a public directory on the network server by the client's unique LIMS code. The files on the network server are backed up daily and a copy is also transported off-site daily.

The final invoice is printed from the LIMS and provided to the Administrative Assistant or Director of Business Development for invoice review. Once this review is complete the invoice is mailed to the client and the laboratory's copy is filed in numerical order.

Report Revisions

When a Certificate of Analysis requires revision, either due to client change request (incorrect project name, results on separate pages, etc.) or due to laboratory error, a revised report is issued with the current date and a new version number (1.001 etc.). Notes are added to the letter page indicating why the report is revised, if additional information is included in the case narrative, whether the results are impacted by the revision and stating that the report cancels and supersedes the previous version. When the revision addresses complex scenarios additional description of the changes are included in the basic case narrative section of the report. All versions of the report are maintained in the LIMS and on the server. The revised report is sent to the client in the same manner as stated above. See SOP A-03.05, Report and EDD Generation with xt-LIMS, for additional information about this process.

11. Non-Conforming Work, Corrective Actions, Preventive Actions and Complaints

Non-Conforming Work and Corrective Actions

When any aspect of the laboratory's environmental testing activities fails to follow the procedures, or meet the requirements described in this Quality Assurance Manual or the test method SOP, documentation of the non-conforming work is required. When evaluation of the nonconforming work shows that there could be a recurrence or that there was a failure to follow established policies, corrective action must be taken.

Corrective action must be initiated immediately, and time frames must be established for the completion of corrective actions. Timeframes are dependent on the nature of the nonconformance but as a general practice, the laboratory establishes a time frame of thirty days or less to implement corrective action with immediate action taken whenever possible. Where there are extenuating circumstances (such as the need to order a product or service that is not immediately available) a longer time frame may be required. Laboratory management must evaluate the impact of the nonconformance on data quality and take measures ranging from data qualification up to and including subcontracting of samples when it is determined that data is negatively impacted.

Laboratory management, routinely the QA Officer and Laboratory Manager, monitor corrective action to ensure that actions are implemented within the time frame established.

It is the analysts' responsibility to bring any analytical testing non-conformances to the attention of the Laboratory Manager when there are departures from the SOP (i.e., when there are unexpected and unavoidable excursions from the documented procedure and / or quality control requirements). In cases where troubleshooting and subsequent corrective action can be successfully performed, the required documentation is recorded in a comment screen in either the preparation or analytical batch in the LIMS. Events associated to sample receipt are documented on the sample receipt checklist and in the sample receipt comments in the LIMS for the final report case narrative. When these actions are not successful, the occurrence is documented in the LIMS as an "Out of Control Event Form" which is reviewed by the Laboratory Manager and is used to document client and project manager notification and actions taken. The Out of Control Event Form is part of the nonconformance module in the LIMS. After evaluation, the associated test sample(s) data may be noted in the batch case narrative or assigned a qualifier. Examples of out-of-control events include failed quality control testing where re-analysis is not possible, a sample container broken during analysis, etc. Both the batch documentation and the Out-of-Control Event Form require the approval of the Laboratory Manager. The completed form is filed in the Quality Assurance department.

A "Nonconformance Report" is used to document failures of a broader nature. These can include occurrences such as documentation errors (e.g., incomplete temperature logs), failed proficiency testing samples, not adhering to the agreed contractual requirements of the client, unapproved deviations from SOPs, etc. The Nonconformance Report includes a description of the event, documentation of the root cause identification, the proposed corrective action, the timeframe in which the corrective action must be completed, documentation that the corrective action was performed, and spaces for signatures of approval of the Laboratory Manager, the Quality Assurance Officer and the Technical Director. The Nonconformance Report is part of the nonconformance module in the LIMS.

The Quality Assurance Officer and the Laboratory Manager and/or Technical Director evaluate the significance of the nonconformance and establish a timeframe for client notification when tests results have been impacted. Clients are notified in writing if their data are in question. Once the corrective action is implemented, work is resumed, and this is designated by the approval signatures on the nonconformance report. Laboratory management is responsible for ensuring that corrective action is performed within the established time frame. The completed form is filed in the Quality Assurance department.

During internal audits, the Quality Assurance Officer monitors the results of any corrective actions associated to the area being audited and verifies their effectiveness. The latest revision of SOP Q-02.05 "Nonconforming Work and Corrective Actions" provides specific procedures for investigating and documenting out-of-control events, nonconforming work, and corrective actions.

Preventive Action

Phase Separation Science, Inc. takes continuous measures to advance its environmental laboratory business. The Quality Assurance Officer solicits input from all personnel during SOP reviews and refresher training sessions. The QA Officer, Technical Director and Laboratory Manager routinely use QC data, proficiency test results and control charts for trend analysis. All employees are encouraged to identify related issues regarding potential sources of nonconformance and offer suggestions for improvement. Periodic management meetings are used as a forum to evaluate current preventive action topics and to create action plans for their implementation. The effectiveness of the preventive actions is monitored during management review.

Client Complaints

Routinely, clients contact the laboratory via a telephone call or email to one of the laboratory's project managers. Many requests are for sample containers, information regarding sample testing and questions about the laboratory reports. If a complaint or request for action is received, the project manager initiates a "Client Inquiry Form" in the LIMS nonconformance module. The following information is completed by the initiator of the form: date, initiator, client, contact name, Certificate of Analysis number (where applicable), and the description of the request. After this information is recorded, the form is routed to the appropriate manager for investigation and corrective action (where applicable). When the final action is completed, the form is approved by the manager and then forwarded to the Quality Assurance Officer. The Quality Assurance Officer reviews the form with the Laboratory Manager and Technical Director, who also sign the form. The completed form is filed in the Quality Assurance department.

12. Management Reviews and Audits

Management Review

Phase Separation Science, Inc. conducts an annual review of its quality system and laboratory activities for the previous year. During staff meetings, the staff reviews and discusses summary information provided by the managers responsible for each general area (Laboratory Manager, Quality Assurance Officer, Project Managers, etc.). Any items or concerns that require attention are addressed, first by discussing the issues, then proposing a plan of action and establishing a timeline of events. A timeframe for completing management review actions must be established. These reviews also include recommendations for improvement and a proposed implementation strategy and schedule. After discussing and evaluating the review topics, a summary report of the management review is created by the Quality Assurance Officer. This report is provided to each manager and the company President for additional comments. Once the report is finalized, the progress of the plan of action is monitored during staff meetings and scheduled using the shared Outlook calendar. Laboratory management is responsible for ensuring that the management actions are completed within an appropriate and agreed upon timeframe. The final report with all supporting documentation is filed in the Quality Assurance department and an electronic version is available on the public drive. The procedure for conducting this review is further described in SOP Q-02.10, Management Review.

The management review includes the following quality assurance topics: the previous years' external audits by a regulatory agency, third party or client, findings from internal audits, proficiency testing, any nonconforming work, corrective actions and preventive actions, client feedback in the form of complaints, and a review of the laboratory's policies for ethics and data integrity procedures, and any policy changes required in the QA Manual and quality system SOPs.

The laboratory's testing area review includes major equipment (hardware and software) status, effectiveness of current staffing (including training requirements) and test method SOP status.

Items discussed from the business development and client services area include a review the volume and type of work (for new and repeat clients), types of tests requested including subcontract work, client feedback in the form of surveys and requests a summary of the bids for work that were submitted and if they were won or lost and why. The procedures for quoting, filling sample container requests, sample receipt and login, and reporting are also reviewed.

The laboratory's computer services area and electronic deliverable capabilities are also evaluated. LIMS improvements are appraised, the need for future additions or changes in hardware and/or software is discussed, along with any external support or programming requirements.

The review also considers any changes made to the facility, the status of the Chemical Hygiene Plan and training documentation, and the purchasing procedure and associated documentation. As a result of the annual management review the Quality Assurance Manual and any technical and quality system SOPs are updated as necessary.

Audits

There are two general types of audits conducted at the laboratory; external audits and internal audits. External audits are arranged through the Quality Assurance Officer and can be in conjunction with the laboratory's application or maintenance of certification or accreditation. External audits can also be requested and conducted by one of the laboratory's clients. The laboratory cooperates fully with all requests for audits. Client confidentiality is preserved by the laboratory's practice of identifying all samples by the assigned laboratory number. In cases where client names appear on documentation, this is maintained in confidence from the auditor by the Quality Assurance Officer.

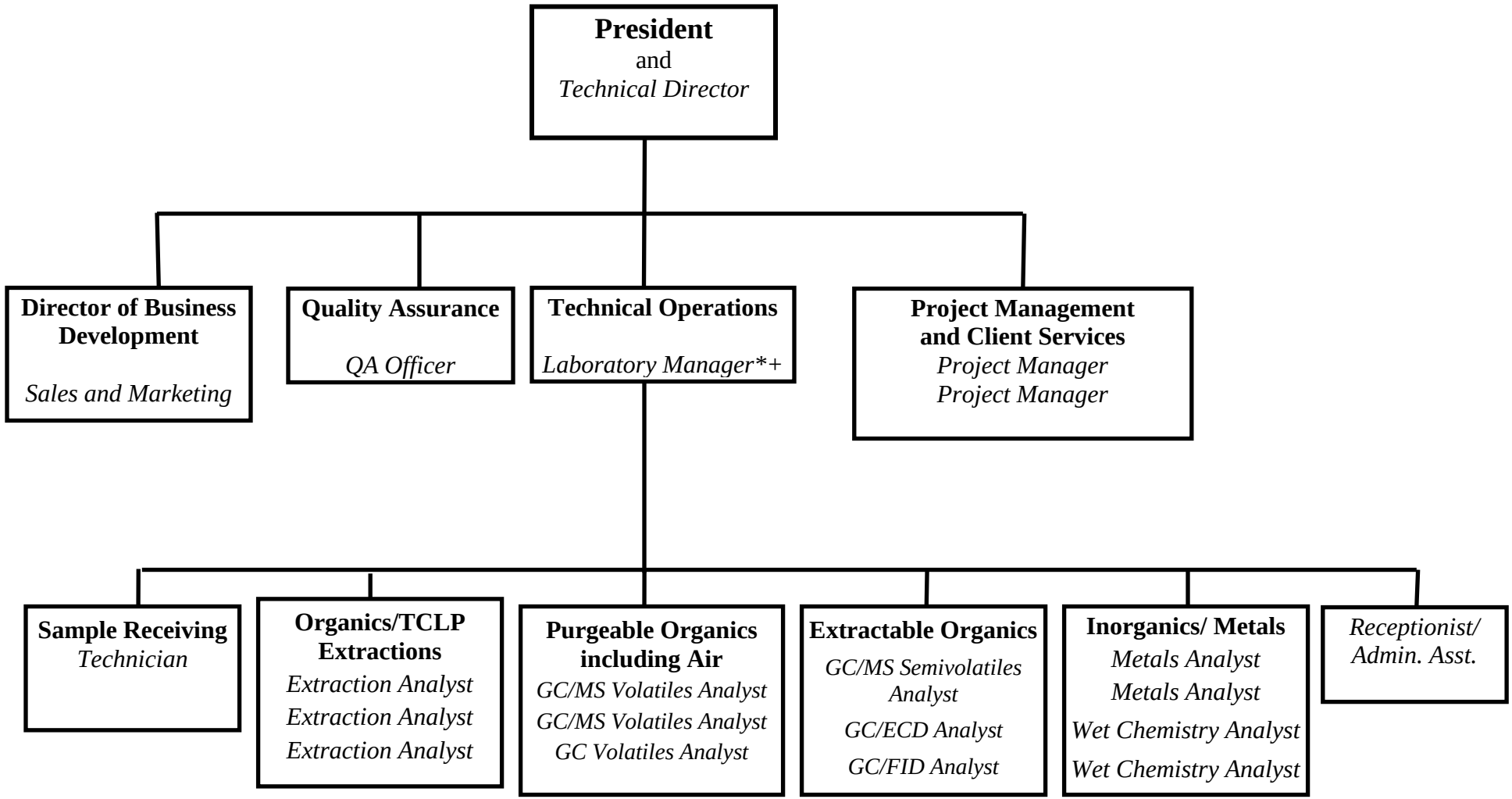
Internal audits of the laboratory are conducted by the Quality Assurance Officer or other assigned personnel if they are independent of the activity that is being audited. All laboratory activities are audited on an annual basis and can also be requested by management from time-to-time as deemed necessary. Investigations of nonconformances identified in a laboratory or quality system area may trigger an audit of that area. Routinely, audits are scheduled in conjunction with annual SOP review of the test method or quality system procedure. See SOP Q-02.07, Internal Audits, for additional information.

Any deficiencies that are found during an audit are summarized in a written audit report. An investigation of the deficiency along with the corrective action plan is overseen by the Quality Assurance Officer and documented in the nonconformance module of LIMS. Whenever events are identified that cast doubt on the validity of the test results or the effectiveness of the laboratory's systems the laboratory must take timely corrective action and clients are notified in writing, of any occurrences that result in questionable data. Timeframes are dependent on the nature of the nonconformance but as a general practice, the laboratory establishes a time frame of thirty days or less to implement corrective action with immediate action taken whenever possible. Where there are extenuating circumstances (such as the need to order a product or service that is not immediately available) a longer time frame may be required. When an event is identified that casts doubts on the validity of results the laboratory must establish a time frame for notifying the client. The timeframe should be the shortest possible time period in which the event can be investigated and the impact on the data determined. Routinely, the laboratory notifies clients as soon as possible, typically within one business day of the conclusion of the investigation of the event. This time frame established must be included in the internal audit corrective action plan and/or nonconformance report. Laboratory management is responsible for ensuring that all corrective action and client notification is performed within the established time frame. All audit reports and records of corrective actions and preventive actions are filed by date and retained in the Quality Assurance Department for five years.

Reports to Management

The Quality Assurance Officer meets periodically with the Technical Director to review any proficiency testing results received, findings from internal and external audits, client request forms, nonconformance forms, corrective actions performed, issues from staff meetings and other outside meetings attended, and any other pertinent quality assurance information.

Phase Separation Science, Inc. Organization Chart



* Deputy Technical Director

\+ Deputy QA Officer

System I (SVOC #1)

Gas Chromatograph with Mass Spectroscopy

System I is primarily for the analysis of EPA listed Semi-Volatile Organic Compounds. This system is also capable of qualitatively determining unknown compounds using the National Institute of Standards & Technology Mass Spectroscopy Library reference.

- Agilent 7890B Gas Chromatograph with Capillary Separation
- Smartcard Agilent 5977A Mass Selective Detector with triple-axis detector
- Agilent 7693 Injector Autosampling System

System III (VOC #2)

Gas Chromatograph with Mass Spectroscopy

System III is primarily for the analysis of EPA listed Volatile Organic Compounds. This system is also capable of qualitatively determining unknown compounds using the National Institute of Standards & Technology Mass Spectroscopy Library reference.

- Agilent 7890B Gas Chromatograph with Capillary Separation
- Agilent 5977B Mass Selective Detector with triple-axis detector
- Teledyne Tekmar ATOMX Purge & Trap Sample Concentrator with Autosampler

System IV (BTEX/GRO #1)

Gas Chromatograph with Dual Tandem Photoionization/Flameionization Detectors

Systems IV & V are primarily for the analysis of Purgeable Aromatics and Petroleum Distillate Fuels and Solvents.

- Hewlett Packard 5890 Series II Gas Chromatographs with Capillary Separation (2)
- OI Analytical 4430 Tandem Photoionizaiton/Flameionization Detectors (2)
- OI Analytical 4560A Purge & Trap Sample Concentrators (2)
- Archon Purge & Trap Autosamplers (2)

System V (BTEX/GRO #2)

Gas Chromatograph with Dual Tandem Photoionization/Flameionization Detectors

Systems IV & V are primarily for the analysis of Purgeable Aromatics and Petroleum Distillate Fuels and Solvents.

- Hewlett Packard 5890 Series II Gas Chromatographs with Capillary Separation (2)
- OI Analytical 4430 Tandem Photoionizaiton/Flameionization Detectors (2)
- Teledyne Tekmar ATOMX Purge & Trap Sample Concentrator with Autosampler

System VI (Solvent GC)
Gas Chromatograph with Dual Flame Ionization Detectors
System VI is a custom unit dedicated for the analysis of organic liquid characterization. Organic liquids used for industrial applications as well as liquids found in abandoned drums and tanks during environmental assessments are routinely identified and quantified.

- Hewlett Packard 5890 Series II Gas Chromatograph with Capillary Column Separation (1)
- Hewlett Packard Flame Ionization Detectors (1)

System VII (Dual ECD #1)
Gas Chromatograph with Electron Capture Detection
System VII is primarily designed for the analysis of Chlorinated Pesticides, Chlorinated Herbicides, & Polychlorinated Biphenyls.

- Hewlett Packard 6890 - Plus Gas Chromatograph with Capillary Separation
- Hewlett Packard G2397A Electron Capture Detectors (2)
- Hewlett Packard 7683 Dual Injector Autosampling System

System VIII (Dual ECD #2)
Gas Chromatograph with Electron Capture Detection
System VIII is primarily designed for the analysis of Chlorinated Pesticides, Chlorinated Herbicides, & Polychlorinated Biphenyls.

- Hewlett Packard 5890 Series II – Plus Gas Chromatograph with Capillary Separation
- Hewlett Packard CG1223A Electron Capture Detectors (2)
- Hewlett Packard 6890 Injector Controller
- Hewlett Packard 6890 Dual Injector Autosampling System

System IX (DRO #1)
Gas Chromatograph with Dual Tandem Flameionization Detection
System IX is primarily for the analysis of extractable petroleum hydrocarbons, such as Diesel/No. 2 Fuel Oil and heavier petroleum distillates.

- Hewlett Packard 5890 Series II Gas Chromatograph with Capillary Separation (2)
- Hewlett Packard Flameionization Detector (2)
- Hewlett Packard 6890 Controller
- Hewlett Packard 6890 Autosampling System
- Zip Scientific GC Racer

System X (ICP-MS #1)
Inductively Coupled Plasma with Mass Spectroscopy
System X is configured for the analysis of Metals.

- Agilent 7900 Series ICP/MS with UHMI and ORS
- G3292A Agilent Recirculating Chiller
- ASX 560 Autosampler with enclosure

System XI (ICP-MS #2)
Inductively Coupled Plasma with Mass Spectroscopy
System XI is configured for the analysis of Metals.

- Agilent 7900 Series ICP/MS with UHMI and ORS
- G3292A Agilent Recirculating Chiller
- ASX 560 Autosampler with enclosure

System XII (DRO #2)
Gas Chromatograph with Dual Tandem Flameionization Detection
System XII is primarily for the analysis of extractable petroleum hydrocarbons, such as Diesel/No. 2 Fuel Oil and heavier petroleum distillates.

- Hewlett Packard 5890 Series II Gas Chromatograph with Capillary Separation (2)
- Hewlett Packard Flameionization Detector (2)
- Hewlett Packard 6890 Controller
- Hewlett Packard 6890 Autosampling System
- Zip Scientific GC Racer

System XIII (VOC #3)
Gas Chromatograph with Mass Spectroscopy
System XIII is primarily for the analysis of EPA listed Volatile Organic Compounds. This system is also capable of qualitatively determining unknown compounds using the National Institute of Standards & Technology Mass Spectroscopy Library reference.

- Agilent 7890B Gas Chromatograph with Capillary Separation
- Agilent 5977B Mass Selective Detector with triple-axis detector
- Teledyne Tekmar ATOMX Purge & Trap Sample Concentrator with Autosampler

System XIV (IC)
ICS-2000 Reagent-Free Ion Chromatography (RFIC) System, Dionex, model # ICS-2000

- Eluent Valve, Dionex product # 211140, DC# 057945
- DS6 Heated conductivity cell, Dionex product # 057985
- RFIC EluGen Cartridge II (KOH), Dionex product # 058900
- Injection Valve, Dionex product # 057968
- Suppressor – ASRS-Ultra II 4-mm, Dionex product # 061561
- Chromeleon 7 Chromatography Management System
- AS-DV Automated Sampler

System XV (SVOC #2)
Gas Chromatograph with Mass Spectroscopy
System XV is primarily for the analysis of EPA listed Semi-Volatile Organic Compounds. This system is also capable of qualitatively determining unknown compounds using the National Institute of Standards & Technology Mass Spectroscopy Library reference.

- Agilent 6890 Series II Gas Chromatograph
- Agilent 5975C Mass Selective Detector with triple-axis detector
- Agilent 7683B Series Injector Autosampler System

System XVI (Discrete Analyzer)
AQ1
System XVI is primarily for wet chemistry analyses, such as alkalinity, ammonia, ortho-phosphate, and TKN. This system is a computer controlled multi-chemistry discrete analyzer where sample and reagent pickup and dispense is by means of a diluter system. The entire system is fluid-filled with deionized water and designed so that sample and/or reagent are never drawn into contact with the syringe and valve.

- Seal AQ1 Discrete analyzer
- Reaction ring – controlled incubation at 37°C
- Aspirator – robotic arm with probe to aspirate reaction mixture by a peristaltic pump
- Photometer – 1 Quartz-Tungsten Halogen Lamp
- Detector – Silicon photodiode
- Hot Block/ Distillation Apparatus

System XVII (VOC #4)
Gas Chromatograph with Mass Spectroscopy
System XVII is primarily for the analysis of EPA listed Volatile Organic Compounds. This system is also capable of qualitatively determining unknown compounds using the National Institute of Standards & Technology Mass Spectroscopy Library reference.

- Agilent 7890A Gas Chromatography System (GC)
- Agilent 5977A Mass Selective Detector with triple-axis detector
- Entech model 7200 preconcentrator
- 7650 model Autosampler
- SL2A Precision Static Diluter
- 3100A canister cleaning system with humidifier
- Flow Professor (2)

System XVIII (VOC #5)

Gas Chromatograph with Mass Spectroscopy

System XVIII is primarily for the analysis of EPA listed Volatile Organic Compounds. This system is also capable of qualitatively determining unknown compounds using the National Institute of Standards & Technology Mass Spectroscopy Library reference.

- Agilent 7890B Gas Chromatograph with Capillary Separation
- Agilent 5975C Mass Selective Detector with triple-axis detector
- Teledyne Tekmar ATOMX Purge & Trap Sample Concentrator with Autosampler

Additional Equipment

Balance, Analytical (3)

Balance, Top-Loading (6)

Chlorinated Organics Analyzer, Dexsil L2000

Chlorine Colorimeter, LaMotte Digital

Cyanide Distillation System, Kontes MidiVap 2000

Cyanide Distillation System Chiller, VWR

Drying Oven (4)

Desiccator (4)

Close Cup Flash Point Tester (2)

Fluoride Pocket Colorimeter, Hach

Freezer (3)

Extraction Heater, Barnstead Lab-Line Multi Unit (2)

HACH DR 3900

HACH DRB 200 (3)

Blender

Hot Block, Environmental Express Digestion 54 position (2)

Hot Block, SCP Science DigiPrep MS 48 position

Hot Plate (Cr^{6+}), PMC Six Position Stirring

Ice Maker

Muffle Furnace, Fisher

Mini-vortexor (2)

pH Meter, Mettler (3)

Reagent Water System, Neu-Ion Carbon Exchange (Organic Extraction Laboratory)

Reagent Water System, Neu-Ion Mixed Bed Deionizer (Metals Digestion Laboratory)

Reagent Water System, Oasis Reverse Osmosis Deionized (Volatiles Laboratory)

Refrigerators, Reach-In Sample Storage (6)

Refrigerator/ Freezer Unit (4)

Freezer, standalone (2)

Refrigerator standalone

Platform Shaker, New Brunswick Scientific Innova 2100

Bench Top Shaker, Glas-Col (2)

Sonic Dismembrator (3)

TCLP ZHE Extractor (7)

TCLP Extractor Rotator, Thames

TCLP Extractor Rotator, Environmental Express (2)

TCLP Filtration Apparatus, Gelman

Spectrophotometer, Milton Roy Spectronic 21

Turbidimeter, Hach Pocket

Turbidimeter, Hach 2100P

Turbidimeter, HF Scientific Micro 100

Turbo Vap II (4)

Four position steam bath

Horizon, SPE-Z Oil and Grease Manifold

Sonic Bath, Zokop 230HT

Environmental Express, Stableweigh Filling Station (7 positions)

Imhoff Cone (3)

Fisher Scientific, Accuspin 400 Centrifuge

Lachat, Microdistillation System (21 position)

CURRENT METHOD LIST

	Soil/Sediment	Groundwater	Wastewater	Drinking Water	Air
Organics					
Herbicides	EPA 8151A	EPA 8151A	EPA 8151A	N/A	
Pesticides / PCBs	EPA 8081B/8082A	EPA 8081B/8082A	EPA 608.3	N/A	
Semi-Volatiles	EPA 8270C,E	EPA 8270C,E	EPA 625.1	N/A	
TPH-GC (DRO)	EPA 8015C	EPA 8015C	EPA 8015C	N/A	
TPH-GC (GRO)	EPA 8015C	EPA 8015C	EPA 8015C	N/A	
Volatile Organics	EPA 8260B/8021B	EPA 8260B/8021B	EPA 624.1	EPA 524.2	TO-15
EDB/DBCP	N/A	EPA 8011, 504.1	EPA 8011, 504.1	N/A	
Organics Prep	EPA 3550C, 3580A, 3665A EPA 5030, 5035A	EPA 3510C, 3520C EPA 3665A, 5030B	Various		
Inorganics					
Alkalinity	N/A	EPA310.2/SM2320B	EPA310.2/SM2320B	EPA310.2/SM2320B	
Ammonia	SM 4500NH3 BF	SM 4500NH3 B,F	SM 4500NH3 B,F	N/A	
Chemical Oxygen Demand	N/A	SM5220D	SM5220D	N/A	
Chlorine	N/A	SM4500Cl-G	SM4500Cl-G	SM4500Cl-G	
Conductivity	EPA 9050A	SM2510B	SM2510B	SM2510B	
Cyanide	EPA 9010C/9014	EPA 9010C/9014	SM4500CN-C, E	SM4500CN-C, E	
Ignitability	EPA 1020A	EPA 1020A	EPA 1020A	N/A	
Hardness	N/A	EPA 6020A/B	EPA 200.8	200.8	
Hex. Chromium	EPA 7196A	EPA 7196A	SM 3500 Cr B	N/A	
Hex. Chromium Prep	EPA 3060A				
Inorganic Anions (Br, Cl, F, NO_2, NO_3, SO_4)	EPA 300.0	EPA 300.0	EPA 300.0	EPA 300.0	
Metals (30, including Hg)	EPA 6020A/B	EPA 6020A/B		EPA 200.8	
Metals Prep	EPA 3050B	EPA 3010A, 3005A	EPA 200.8	EPA 200.8	
Oil & Grease (HEM)	EPA 1664B Modified	EPA 1664B	EPA 1664B	N/A	
pH	EPA 9045 D	EPA 9040C,SM4500-H+ B	SM4500-H+ B	SM4500-H+ B	
Phosphorus	EPA 365.3, SM4500 P-B,E	EPA 365.3, SM4500 P-B,E	EPA 365.3, SM4500 P-B,E	N/A	
Salinity	N/A	SM2520B	SM2520B	N/A	
Total Sulfide	HACH 8131, SM4500 S^2-D, I	HACH 8131, SM4500 S^2-D	SM4500 S^2-D		
Total Dissolved Solids/Vol.	N/A	SM2540C,E	SM2540C,E	SM2540C	
Total Settleable Solids	N/A	SM2540F	SM2540F	N/A	
Total Solids/ Volatile	N/A	SM2540B,E	SM2540B,E	N/A	
Total Suspended Solids/Vol.	N/A	SM2540D,E	SM2540D,E	N/A	
TPH (SGT-HEM)	EPA 1664B Modified	EPA 1664B	EPA 1664B	N/A	
Turbidity	N/A	180.1/SM2130B	180.1/SM2130B	EPA 180.1/SM2130B	
TCLP/ SPLP	EPA 1311/ 1312/Various	EPA 1311/1312/ Various	N/A	N/A	

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The NELAC Institute, EL-V1-2016-Rev.2.1, TNI Standard, Environmental Laboratory Sector, Volume 1, Management and Technical Requirements for Laboratories Performing Environmental Analysis

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TERMS and DEFINITIONS

(from TNI Standard EL-V1-2016, Volume 1, Module 1 Proficiency Testing)

Field of Accreditation (FOA): Those matrix, technology/method, and analyte combinations for which the accreditation body offers accreditation.

Field of Proficiency Testing (**FoPT**)**:** Matrix, technology/method, analyte combinations for which the composition, spike concentration ranges, and acceptance criteria have been established by the PTPEC.

Primary Accreditation Body (Primary AB): The accreditation body responsible for assessing a laboratory's total quality system, on-site assessment, and PT performance tracking for fields of accreditation.

Proficiency Testing (PT): A means to evaluate a laboratory's performance under controlled conditions relative to a given set of criteria, through analysis of unknown samples provided by an external source.

Proficiency Testing Program (PT Program): The aggregate of providing rigorously controlled and standardized environmental samples to a laboratory for analysis, reporting of results, statistical evaluation of results and the collective demographics and results summary of all participating laboratories.

Proficiency Testing Provider (PT Provider): A person or organization accredited by a TNI approved Proficiency Testing Provider Accreditor to operate a TNI-compliant PT program.

Proficiency Testing Provider Accreditor (PTPA): An organization that is approved by TNI to accredit and monitor the performance of proficiency testing providers.

Proficiency Testing Reporting Limit (PTRL): A statistically derived value that represents the lowest acceptable concentration for an analyte in a PT sample, if the analyte is spiked into the PT sample. The PTRLs are specified in the TNI FoPT tables.

Proficiency Testing Sample (PT Sample): A sample, the composition of which is unknown to the laboratory, and is provided to test whether the laboratory can produce analytical results within the specified acceptance criteria.

PT Study Closing Date:
a) **Scheduled PT Study:** The calendar date by which all participating laboratories must submit analytical results for a PT sample to a PT Provider.
b) **Supplemental PT Study:** The calendar date a laboratory submits the results for a PT sample to the PT Provider.

PT Study Opening Date:
a) **Scheduled PT Study:** The calendar date that a PT sample is first made available to all participants of the study by a PT provider.
b) **Supplemental PT Study:** The calendar date the PT Provider ships the sample to a laboratory.

Revocation: The total or partial withdrawal of a laboratory's accreditation by an accreditation body.

Study (or PT Study): This term refers to a Scheduled PT Study or a Supplemental PT Study.
a) **Scheduled PT Study:** A single complete sequence of circulation and scoring of PT samples to all participants in a PT program. The study must have the same pre-defined opening and closing dates for all participants.

b) **Supplemental PT Study:** A PT sample that may be from a lot previously released by a PT Provider that meets the requirements for supplemental PT samples given in Volume 3 of this Standard, but that does not have a pre-determined opening date and closing date.

Suspension: The temporary removal of a laboratory's accreditation for a defined period of time, which shall not exceed six (6) months or the period of accreditation, whichever is longer, in order to allow the laboratory time to correct deficiencies or area of non-conformance with the Standard.

TERMS and DEFINITIONS

(from TNI Standard EL-V1-2016, Volume 1, Module 2 Quality Systems General Requirements)

Acceptance Criteria: Specified limits placed on characteristics of an item, process, or service defined in requirement documents.

Accreditation: The process by which an agency or organization evaluates and recognizes a laboratory as meeting certain predetermined qualifications or standards, thereby accrediting the laboratory.

Accuracy: The degree of agreement between an observed value and an accepted reference value. Accuracy includes a combination of random error (precision) and systematic error (bias) components that are due to sampling and analytical operations; a data quality indicator.

Analyst: The designated individual who performs the "hands-on" analytical methods and associated techniques and who is the one responsible for applying required laboratory practices and other pertinent quality controls to meet the required level of quality.

Analyte: A substance, organism, physical parameter, property, or chemical constituent(s) for which an environmental sample is being analyzed.

Analytical Uncertainty: A subset of Measurement Uncertainty that includes all laboratory activities performed as part of the analysis.

Assessment: The evaluation process used to measure or establish the performance, effectiveness, and conformance of an organization and/or its systems to defined criteria (to the standards and requirements of laboratory accreditation).

Audit: A systematic and independent examination of facilities, equipment, personnel, training, procedures, record-keeping, data validation, data management, and reporting aspects of a system to determine whether QA/QC and technical activities are being conducted as planned and whether these activities will effectively achieve quality objectives.

Batch: Environmental samples that are prepared and/or analyzed together with the same process and personnel, using the same lot(s) of reagents. A **preparation batch** is composed of one (1) to twenty (20) environmental samples of the same quality systems matrix, meeting the above mentioned criteria and with a maximum time between the start of processing of the first and last sample in the batch to be twenty-four (24) hours. An **analytical batch** is composed of prepared environmental samples (extracts, digestates or concentrates) which are analyzed together as a group. An analytical batch can include prepared samples originating from various quality system matrices and can exceed twenty (20) samples.

Bias: The systematic or persistent distortion of a measurement process, which causes errors in one direction (i.e., the expected sample measurement is different from the sample's true value).

Blank: A sample that has not been exposed to the analyzed sample stream in order to monitor contamination during sampling, transport, storage or analysis. The blank is subjected to the usual

analytical and measurement process to establish a zero baseline or background value and is sometimes used to adjust or correct routine analytical results. Blanks include:

Method Blank: A sample of a matrix similar to the batch of associated samples (when available) that is free from the analytes of interest and is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedures, and in which no target analytes or interferences are present at concentrations that impact the analytical results for sample analyses.

Calibration: A set of operations that establish, under specified conditions, the relationship between values of quantities indicated by a measuring instrument or measuring system, or values represented by a material measure or a reference material, and the corresponding values realized by standards.

1) In calibration of support equipment, the values realized by standards are established through the use of reference standards that are traceable to the International System of Units (SI).

2) In calibration according to methods, the values realized by standards are typically established through the use of Reference Materials that are either purchased by the laboratory with a certificate of analysis or purity, or prepared by the laboratory using support equipment that has been calibrated or verified to meet specifications.

Calibration Curve: The mathematical relationship between the known values, such as concentrations, of a series of calibration standards and their instrument response.

Calibration Standard: A substance or reference material used for calibration.

Certified Reference Material (CRM): Reference material, accompanied by a certificate, having a value, measurement uncertainty, and stated metrological traceability chain to a national metrology institute.

Chain of Custody Form: Record that documents the possession of the samples from the time of collection to receipt in the laboratory. This record generally includes: the number and types of containers; the mode of collection; the collector; time of collection; preservation; and requested analyses. See also Legal Chain of Custody Protocols.

Confirmation: Verification of the identity of a component through the use of an approach with a different scientific principle from the original method. These may include, but are not limited to: Second column confirmation, Alternate wavelength, Derivatization, Mass spectral interpretation, Alternative detectors, or Additional cleanup procedures.

Data Integrity: The condition that exists when data are sound, correct, and complete, and accurately reflect activities and requirements.

Data Reduction: The process of transforming the number of data items by arithmetic or statistical calculation, standard curves, and concentration factors, and collating them into a more useful form.

Demonstration of Capability: A procedure to establish the ability of the analyst to perform analyses with acceptable accuracy and precision.

Detection Limit: See Limit of Detection

Field of Accreditation: Those matrix, technology/method, and analyte combinations for which the accreditation body offers accreditation.

Finding: An assessment conclusion referenced to a laboratory accreditation standard and supported by objective evidence that identifies a deviation from a laboratory accreditation standard requirement.

Holding Times: The maximum time that can elapse between two (2) specified activities.

In-depth Data Monitoring: When used in the context of data integrity activities, a review and evaluation of documentation related to all aspects of the data generation process that includes items such as preparation, equipment, software, calculations, and quality controls. Such monitoring shall determine if the laboratory uses appropriate data handling, data use and data reduction activities to support the laboratory's data integrity policies and procedures.

Internal Standard: A known amount of standard added to a test portion of a sample as a reference for evaluating and controlling the precision and bias of the applied analytical method.

Laboratory Control Sample (however named, such as laboratory fortified blank, spiked blank, or QC check sample): A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes and taken through all sample preparation and analytical steps of the procedure unless otherwise noted in a reference method. It is generally used to establish intra-laboratory or analyst specific precision and bias or to assess the performance of all or a portion of the measurement system.

Legal Chain of Custody Protocols: Procedures employed to record the possession of samples from the time of sampling through the retention time specified by the client or program. These procedures are performed at the special request of the client and include the use of a Chain of Custody Form that documents the collection, transport, and receipt of compliance samples by the laboratory. In addition, these protocols document all handling of the samples within the laboratory.

Limit(s) of Detection (LOD): The minimum result, which can be reliably discriminated from a blank with a predetermined confidence level. Also used is Detection Limit.

Limit(s) of Quantitation (LOQ): The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence.

Lot: A definite amount of material produced during a single manufacturing cycle, and intended to have uniform character and quality.

Matrix: The substrate of a test sample.

Matrix Duplicate: A replicate matrix prepared in the laboratory and analyzed to obtain a measure of precision.

Matrix Spike (spiked sample or fortified sample): A sample prepared, taken through all sample preparation and analytical steps of the procedure unless otherwise noted in a referenced method, by adding a known amount of target analyte to a specified amount of sample for which an independent test result of target analyte concentration is available. Matrix spikes are used, for example, to determine the effect of the matrix on a method's recovery efficiency.

Matrix Spike Duplicate (spiked sample or fortified sample duplicate): A replicate matrix spike prepared in the laboratory and analyzed to obtain a measure of the precision of the recovery for each analyte.

Measurement System: A method, as implemented at a particular laboratory, and which includes the equipment used to perform the test and the operator(s).

Method: A body of procedures and techniques for performing an activity (e.g., sampling, chemical analysis, quantification), systematically presented in the order in which they are to be executed.

Method Detection Limit (MDL): One way to establish a Limit of Detection.

Mobile Laboratory: A portable enclosed structure with necessary and appropriate accommodation and environmental conditions for a laboratory, within which testing is performed by analysts. Examples include but are not limited to trailers, vans, and skid-mounted structures configured to house testing equipment and personnel.

National Institute of Standards and Technology (NIST): A federal agency of the US Department of Commerce's Technology Administration that is designed as the United States national metrology institute (NMI).

Physical Parameter: A measurement of a physical characteristic or property of a sample as distinguished from the concentrations of chemical or biological components.

Precision: The degree to which a set of observations or measurements of the same property, obtained under similar conditions, conform to themselves; a data quality indicator. Precision is usually expressed as standard deviation, variance or range, in either absolute or relative terms.

Preservation: Any conditions under which a sample must be kept in order to maintain chemical and/or biological integrity prior to analysis.

Procedure: A specified way to carry out an activity or process. Procedures can be documented or not.

Proficiency Testing: A means of evaluating a laboratory's performance under controlled conditions relative to a given set of criteria through analysis of unknown samples provided by an external source.

Proficiency Testing Program: The aggregate of providing rigorously controlled and standardized environmental samples to a laboratory for analysis, reporting of results, statistical evaluation of the results and the collective demographics and results summary of all participating laboratories.

Proficiency Test Sample (PT): A sample, the composition of which is unknown to the laboratory and is provided to test whether the laboratory can produce analytical results within the specified acceptance criteria.

Protocol: A detailed written procedure for field and/or laboratory operation (e.g., sampling, analysis) which must be strictly followed.

Quality Assurance: An integrated system of management activities involving planning, implementation, assessment, reporting, and quality improvement to ensure that a process, item, or service is of the type and quality needed and expected by the client.

Quality Control: The overall system of technical activities that measures the attributes and performance of a process, item, or service against defined standards to verify that they meet the stated requirements established by the customer; operational techniques and activities that are used to fulfill requirements for quality; also, the system of activities and checks used to ensure that measurement systems are maintained within prescribed limits, providing protection against "out of control" conditions and ensuring that the results are of acceptable quality.

Quality Control Sample: A sample used to assess the performance of all or a portion of the

measurement system. One of any number of samples, such as Certified Reference Materials, a quality system matrix fortified by spiking, or actual samples fortified by spiking, intended to demonstrate that a measurement system or activity is in control.

Quality Manual: A document stating the management policies, objectives, principles, organizational structure and authority, responsibilities, accountability, and implementation of an agency, organization, or laboratory, to ensure the quality of its product and the utility of its product to its users.

Quality System: A structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The quality system provides the framework for planning, implementing, and assessing work performed by the organization and for carrying out required quality assurance (QA) and quality control (QC) activities.

Quality System Matrix: These matrix definitions are to be used for purposes of batch and quality control requirements:

Air and Emissions: Whole gas or vapor samples including those contained in flexible or rigid wall containers and the extracted concentrated analytes of interest from a gas or vapor that are collected with a sorbant tube, impinger solution, filter, or other device.

Aqueous: Any aqueous sample excluded from the definition of Drinking Water or Saline/Estuarine. Includes surface water, ground water effluents, and TCLP or other extracts.

Biological Tissue: Any sample of a biological origin such as fish tissue, shellfish, or plant material. Such samples shall be grouped according to origin.

Chemical Waste: A product or by-product of an industrial process that results in a matrix not previously defined.

Drinking Water: Any aqueous sample that has been designated a potable or potential potable water source.

Non-Aqueous Liquid: Any organic liquid with <15% settleable solids.

Saline/Estuarine: Any aqueous sample from an ocean or estuary, or other saltwater source such as the Great Salt Lake.

Solids: Includes soils, sediments, sludges, and other matrices with >15% settleable solids.

Raw Data: The documentation generated during sampling and analysis. This documentation includes, but is not limited to, field notes, electronic data, magnetic tapes, untabulated sample results, QC sample results, print outs of chromatograms, instrument outputs, and handwritten records.

Reference Material: Material or substance one or more of whose property values are sufficiently homogeneous and well established to be used for the calibration of an apparatus, the assessment of a measurement method, or for assigning values to materials.

Reference Method: (To be used to determine the extent of method validation in Modules 3-7.) A reference method is a published method issued by an organization generally recognized as competent to do so. (When the ISO language refers to a “standard method”, that term is equivalent to “reference method”). When a laboratory is required to analyze an analyte by a specified method due to a regulatory requirement, the analyte/method combination is recognized as a reference method. If there is not a regulatory requirement for the analyte/method combination, the analyte/method combination is recognized as a reference method if it can be analyzed by another reference method of the same matrix and technology.

Reference Standard: Standard used for the calibration of working measurement standards in a given organization or at a given location.

Sampling: Activity related to obtaining a representative sample of the object of conformity assessment, according to a procedure.

Selectivity: The ability to analyze, distinguish, and determine a specific analyte from another component that may be a potential interferent or that may behave similarly to the target analyte or parameter within the measurement system.

Sensitivity: The capability of a method or instrument to discriminate between measurement responses representing different levels (e.g., concentrations) of a variable of interest.

Standard: The document describing the elements of laboratory accreditation that has been developed and established within the consensus principles of standard setting and meets the approval requirements of standard adoption organizations procedures and policies.

Standard Operating Procedures (SOPs): A written document that details the method for an operation, analysis, or action, with thoroughly prescribed techniques and steps. SOPs are officially approved as the methods for performing certain routine or repetitive tasks.

Technology: A specific arrangement of analytical instruments, detection systems, and/or preparation techniques.

Traceability: The ability to trace the history, application, or location of an entity by means of recorded identifications. In a calibration sense, traceability relates measuring equipment to national or international standards, primary standards, basic physical constants or properties, or reference materials. In a data collection sense, it relates calculations and data generated throughout the project back to the requirements for the quality of the project.

Verification: Confirmation by examination and objective evidence that specified requirements have been met.

In connection with the management of measuring equipment, verification provides a means for checking that the deviations between values indicated by a measuring instrument and corresponding known values of a measured quantity are consistently smaller than the maximum allowable error defined in a standard, regulation or specification peculiar to the management of the measuring equipment.

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Volume 1, Module 4 Quality Systems for Chemical Testing

Volume 1, Module 5 Quality Systems for Microbiological Testing

Volume 1, Module 6 Quality Systems for Radiochemical Testing

Volume 1, Module 7 Quality Systems for Toxicity Testing

APPENDIX B

SOIL AND LAND USE TECHNOLOGY QUALITY SYSTEM MANUAL

QUALITY SYSTEM MANAGEMENT

Soil and Land Use Technology, Inc.

530 McCormick Drive Suite S
Glen Burnie, Maryland 21061
Phone: 443-577-1600
Fax: 443-577-1601

June 17, 2015

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1.0 ORGANIZATION AND ORGANIZATIONAL POLICIES

1.1 Ownership and Affiliation

Legal Name: Soil and Land Use Technology, Inc. (SaLUT)

Main Office Address: 530 McCormick Drive, Suite S
Glen Burnie, Maryland 21061

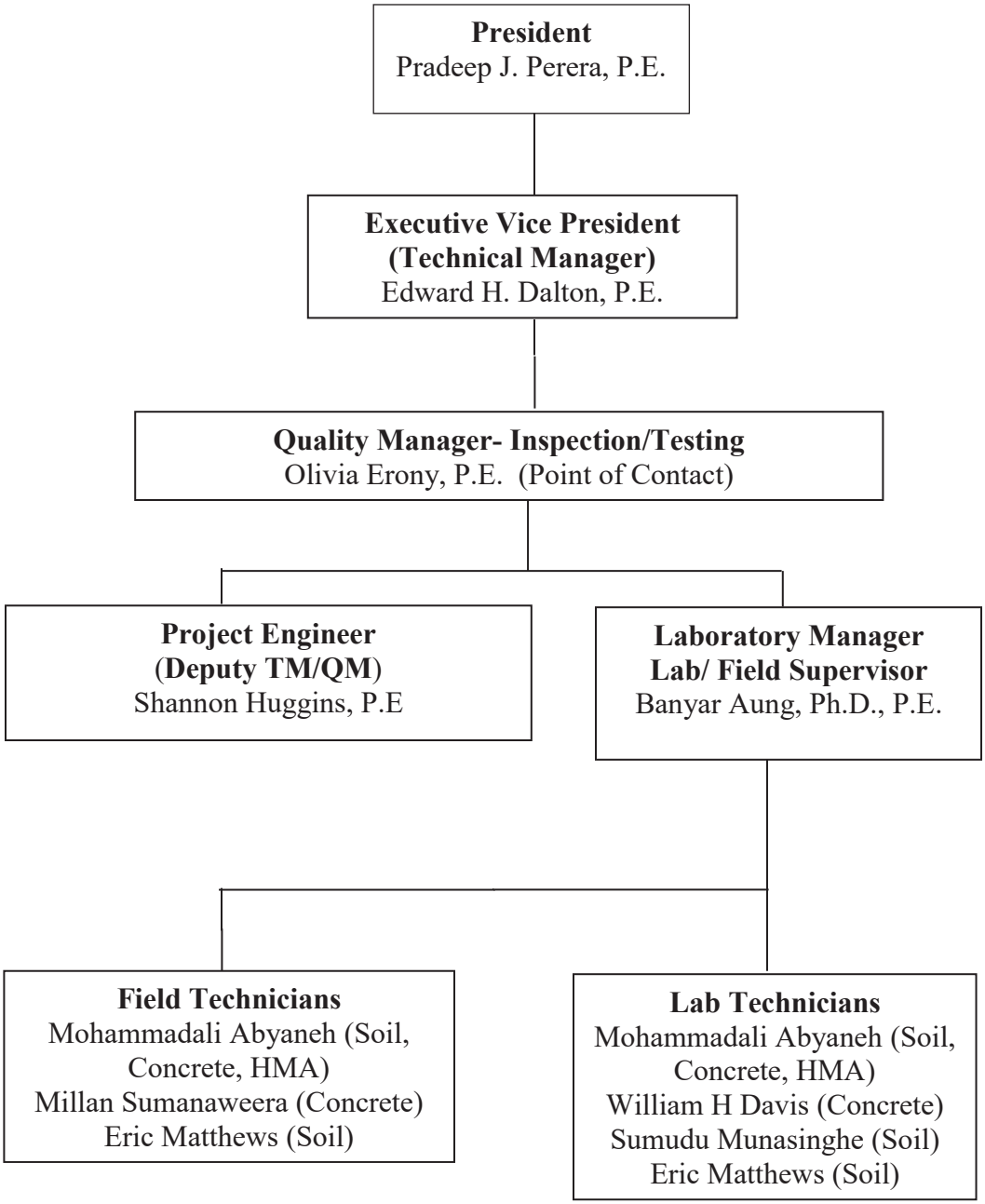
Ownership:

Position	Name	Other Affiliation
President	Mr. Pradeep J. Perera, P.E.	Soil and Land Use Technology, Inc.

Principals:

Position	Name	Other Affiliation
Executive Vice President (Technical Manager)	Mr. Edward H. Dalton, P.E.	Soil and Land Use Technology, Inc.

1.1.1 Organizational Structure



1.2 Quality System Policy Statement

Soil and Land Use Technology, Inc. (**SaLUT**) knows the importance of maintaining work quality during all aspects of testing and inspection. SaLUT has implemented effective internal procedures and programs to ensure that the right resources are allocated to projects and to ensure that personnel adhere to established, written procedures and protocols in their work.

SaLUT's commitment to quality embodies the following guiding principles:

- Responsiveness to our clients,
- Cost-effective services,
- Work that is free of errors of commission and of omission,
- Consistency with standards of care in professional practice
- Providing our clients with the "best value" in everything that we do, and
- Ensuring the protection of clients' confidential information and proprietary right.

The ability to provide high quality geotechnical laboratory testing services demands both skilled professionals and a value-added management structure. A management structure with clearly defined lines of responsibility, communication, reporting and accountability is central to successfully executing various laboratory test projects.

The Quality System Management implemented by SaLUT is process-oriented, not just product-oriented. The emphasis on quality is on every aspect of the process, with a focus on the initial stages of the project, during work plan development and project start-up activities. This is in contrast to an "end of the pipe approach," where quality is addressed during the final review stage. During the course of the project, the Laboratory Manager, Lab/Field Supervisor and the Quality Manager- Inspection/Testing, along with occasionally assigned Technical Reviewers, will ensure quality through routine technical reviews.

Experts who have no day-to-day involvement in the project also conduct independent technical reviews. The independent reviews are performed internally to ensure quality in the laboratory testing process. This comprehensive approach focuses on the big picture,

with the goal of having the laboratory function more smoothly while still delivering a high-quality product to our clients on time and within budget.

1.3 Organizational Policies

As illustrated in section 1.2, the Laboratory Manager (Lab/Field Supervisor) manages the day-to-day activities in the laboratory testing and field inspection while ensuring safe operation in accordance with company policies and procedure. The Quality manager and Laboratory Manager serves as the link between the company leadership and the laboratory operations. The Quality Manager works closely with the Laboratory Manager (Lab/Field Supervisor) to ensure that SaLUT is providing quality-testing and inspection services within budget, on schedule, while still adhering to the company policies and procedures.

The Quality manager in conjunction with the laboratory manager provides at least a 1-week look-ahead schedule that provides an estimate of anticipated all laboratory and field activities for the week. This schedule is flexible enough to accommodate minor changes, should that happen, during the week. The Laboratory Manager (Lab/Field Supervisor) shall advise the Quality Manager and Technical Manager on the tasks accomplished on a daily basis. This information is then utilized to ensure that adequate resources are allocated to meet the workload and to ensure that it is in line with the company's quality standards.

The Laboratory Manager (Lab/Field Supervisor), in consultation with the Quality Manager, writes a continuing education and training plan for the technical staff involved in the testing and inspection. The Laboratory Manager (Lab/Field Supervisor) ensures that each laboratory and field staff has undergone safety training and has been trained to use requisite equipment prior to performing any tests or measurements. The Laboratory Manager (Lab/Field Supervisor) also ensures that each laboratory and field staff has received the most recent training on the testing and inspection procedures that they perform.

If a technical issue arises during laboratory operations, the Laboratory Manager and the Quality Manager resolves it by consulting the ASTM / AASHTO test procedures. If the issue is still unresolved, then the matter is discussed with the Executive Vice President

and President (if need be) of the company to resolve the issue. If need be, consultations are made with peers in the industry to resolve the issue.

1.4 Confidentiality and Consent to Release Clients' Information

SaLUT ensures that all confidential information obtained from testing and inspection is held in confidence and is committed to safeguarding the confidentiality of our clients. All information disclosed and indicated as confidential will be kept as such; SaLUT will only use this information to facilitate our business transaction, and for communication purposes (email, telephone, etc) where required.

SaLUT will not disclose such information to third parties, unless prior consent to release agreement has been provided, from clients and/or other related parties. Confidential Information refers to all technical and non-technical information, including documentation, drawings, plans, specifications, policies, procedures, operational and business secrets, customer data, test and inspection results/reports deriving from tests, methods, formulas; and any other materials provided to SaLUT and or generated by SaLUT.

All SaLUT quality team are aware that the requirement for confidentiality is to be maintained at all times.

2. ORGANIZATIONAL STAFF

2.1 Operational Position Descriptions

Professional / Senior Engineer (Technical Manager)

General Description:

The Technical Manager supervises the Quality Manager and Lab Manager. Assigns work to be done and outlines procedures especially where new materials or tests are to be used. Work also involves the writing of materials specifications and the devising of new tests and testing apparatus.

Supervision Exercised /Received:

Work is performed with considerable independence with the review of tests and inspection procedures made by the supervisor for desired results and conformance to established policies. Exercises supervision over administrative and technical personnel.

Duties:

Oversees the testing and inspection of construction materials (Soil, Concrete, HMA). Ensures compliance with the quality system for these areas of testing.

Devises and applies formulas for the interpretation and calculation of test results and makes recommendations regarding compliance.

Advises laboratory manager (Lab/Field Supervisor) and other engineers in the preparation of material specifications for material testing and field inspection.

Assigns work and outlines procedures to be used by employees in the group.

Perform related work as required.

Minimum Qualifications:

Education: Bachelor's Degree with PE registration

Experience: 5 years of technical experience in the areas of testing of soil and rock, foundation design, construction materials testing, transportation and highway planning, traffic construction, and/or highway maintenance**.** Must be familiar with and be able to use laboratory test results for engineering analysis and recommendations. Must be familiar with AASHTO, ASTM and MD-SHA, DDOT AND VDOT standards for testing and inspection.

Quality Manager

General Description:

The Quality Manager supervises the Lab Manager and Engineers. Assigns work to be done and outlines procedures especially where new materials or tests are to be used. Work also involves the writing of materials specifications and the devising of new tests and testing apparatus.

Supervision Exercised /Received:

Work is performed with considerable independence with the review of tests and inspection procedures made by the lab/field supervisor for desired results and conformance to established policies. Exercises supervision over administrative and technical personnel.

Duties:

Oversees the testing of construction materials. Ensures compliance with the quality system for these areas of testing and inspection.

Devises and applies formulas for the interpretation and calculation of test results and makes recommendations regarding compliance.

Advises laboratory manager, supervisors and other engineers in the preparation of material specifications for testing an inspection.

Assigns work and outlines procedures to be used by employees in the group.

Perform related work as required.

Minimum Qualifications:

Education: Bachelor's Degree with PE registration

Experience: 5 years of technical experience in the areas of testing of soil and rock, foundation design, construction materials testing, transportation and highway planning, traffic construction, and/or highway maintenance**.** Must be familiar with and be able to use laboratory test results for engineering analysis and recommendations. Must be familiar with AASHTO, ASTM and MD-SHA, DDOT AND VDOT standards for testing and inspection.

Lab Manager/ Field Supervisor

General Description:

The Lab Manager (Lab/Field Supervisor) supervises the laboratory and field operations. Assigns work to be done and outlines procedures especially where new materials or tests and inspections are to be performed. Work also involves the writing of materials specifications and the devising of new tests and testing apparatus.

Supervision Exercised /Received:

Work is performed with considerable independence with the review of tests and procedures made by the supervisor for desired results and conformance to established policies. Exercises supervision over administrative and technical personnel.

Duties:

The Lab Manager (Supervisor) manages technicians involved in performing laboratory and field testing, and reviews their reports prior to forwarding them to the Senior Engineer (Technical Manager) for final review and signature.

Oversees the testing of construction material. Ensures compliance with the quality system for these areas of testing.

Devises and applies formulas for the interpretation and calculation of test results and makes recommendations regarding compliance.

Advises technicians and other engineers in the preparation of material specifications for testing and inspection.

Assigns work and outlines procedures to be used by employees in the group.

Perform related work as required.

Minimum Qualifications:

Education: Bachelor Degree from an accredited institution

Experience: 5 years of technical experience performing various asphalt, earthwork, concrete, masonry, cement, and aggregate testing, both in the field and in the laboratory; should also have Inspection experience with batch plants and field placements. Must be familiar with and be able to use laboratory test results for engineering analysis and recommendations. Must be familiar with AASHTO, ASTM and MD-SHA, DDOT AND VDOT standards for testing and inspection.

Project Engineers (Deputy TM/QM)

General Description:

The Project Engineer (Deputy TM/QM) supervises the lab and field activities and quality management in the absence of the Technical Manager/ Quality Manager. Assigns work to be done and outlines procedures especially where new materials or tests or inspections are to be used. Work also involves the writing of materials specifications and the devising of new tests and testing apparatus.

Supervision Exercised /Received:

Work is performed with considerable independence with the review of tests and inspection procedures made by the supervisors for desired results and conformance to established policies. Exercises supervision over administrative and technical personnel.

Duties:

Oversees the testing of construction materials. Ensures compliance with the quality system for these areas of testing.

Devises and applies formulas for the interpretation and calculation of test results and makes recommendations regarding compliance.

Advises technicians/new staff engineers in the preparation of material specifications for testing and inspection.

Assigns work and outlines procedures to be used by employees in the group.

Perform related work as required.

Minimum Qualifications:

Education: Bachelor's Degree with PE registration

Experience: 3 years of technical experience in the areas of testing of soil and rock, foundation design, construction materials testing, transportation and highway planning, traffic construction, and/or highway maintenance**.** Must be familiar with and be able to use laboratory test results for engineering analysis and recommendations. Must be familiar with AASHTO, ASTM and MD-SHA, DDOT AND VDOT standards for testing and inspection.

Laboratory Technicians

General Description:

The Laboratory technicians perform the Laboratory work in the supervision of laboratory manager or staff engineers.

Duties:

Perform the testing of construction materials (soil, concrete, HMA). Ensures compliance with the quality system for these areas of testing.

Help supervisors in preparing the samples for construction material testing.
Perform related work as required.

Minimum Qualifications:

Education: High School Diploma.

Experience: 1 year of technical experience in the areas of materials testing. Completed on-the-job training or trade school training to properly perform tests.

Field Technicians

General Description:

The field technicians perform the field observation, testing and inspection work in the supervision of project engineers or staff engineers.

Duties:

Perform the in-situ testing and inspection of construction materials (soil, concrete, HMA) Ensures compliance with the quality system for these areas of testing and inspection.

Help supervisors in sampling the representative in-situ materials for testing and inspection. Perform related fieldwork as required.

Minimum Qualifications:

Education: High School Diploma

Experience: 1 year of technical experience in the areas of materials testing and inspection.

2.2 Biographical Sketches

2.2.1 Technical Manager/ Senior Professional Engineer/ Radiation Safety Officer

NAME:	Edward H. Dalton, P.E.
TITLE:	Executive Vice President – SaLUT Inc.
EDUCATION:	BSCE/1973/Civil Engineering MSCE/1976 Soils Mechanics
PROFESSIONAL REGISTRATIONS:	1980 / Professional Engineer / Maryland P.E. #11890 1981 / Professional Engineer / Delaware P.E. #7739

PROFESSIONAL AFFILIATIONS: Member – ASCE, CEC, CEAM, SAME, MAA, MHCA, VRBTA, WEDA, ASDSO

DUTIES: Technical overseeing to all staff and taking overall responsibility for all testing and inspection services.

EXPERIENCE:
Mr. Dalton has over 35 years experience providing geotechnical engineering and construction material testing services to various clients throughout the Mid Atlantic Region. This experience has included field work (test boring inspection, construction materials testing) geophysical exploration and analysis, laboratory testing, in-situ testing and analysis, geotechnical engineering for various types of structures, utilities, highways, etc., consultation during construction, claims consultation, and construction cost estimating. In addition to Mr. Dalton's engineering technical background, he managed a utility construction business for three years, thus he has hands-on experience as a contractor.

Some of his other relevant experience includes:

- Project Manager for geotechnical engineering design of the Towson University Parking Garage. This is a four-story parking structure on Towson University Campus to be constructed on an existing at-grade structural parking lot with numerous physical site constraints.

- Geotechnical engineer for Ashburton Elementary School, Baltimore City, MD. This was a multi-story school building and gymnasium construction in Baltimore City. The site is located in an urban area with several physical site constraints.

- Geotechnical engineer for the Pacquin Junior and Senior High School additions in Baltimore, MD. The new addition was designed to bear on existing poor soil condition and to minimize total and differential settlements, soil modification was utilized.

- Geotechnical engineer for the electric and communication duct bank design at Towson University Campus, Towson, MD. This project included subsurface

investigation and preparation of a geotechnical engineering report and preparing a construction cost estimate for over 7,000 LF of utility installation across campus.

- Geotechnical engineer for renovation/improvements to Mergenthaler Vocational Technical School in Baltimore City. This project included renovation for compliance with ADA and design for new athletic field, concession building, and bleachers.

- Geotechnical Engineer for University of Maryland Technical Advancement Program (TAP) Facility at the University of Maryland College Park Campus. This facility was about 160 ft. by 75 ft. in plan, three-story to be used for manufacturing and research. Geotechnical work included test borings, laboratory testing, preparation of a geotechnical engineering report recommending type and depth of foundation system, pavement recommendation and design parameter for underground utilities. The structure was supported on pile foundation system and Mr. Dalton was the owner's representative on site during foundation construction and general site work.

- Geotechnical Engineer for the addition to the Bus Facility at the University of Maryland College Park Campus. This project consisted of designing a 35 ft. by 55 ft. addition to the existing facility. The geotechnical work on this project included test borings, laboratory testing and preparation of a geotechnical engineering report for the project and excavation of two test pits to determine the type of foundation supporting the existing structure.

- Geotechnical Engineer for the design of the Field House at the University of Maryland, Baltimore County. This project included a 110 ft. by 200 ft. two-story addition to the existing field house. Geotechnical engineering work included test borings, laboratory testing, preparation of a geotechnical report and preparation of earthwork specification for construction bid documents.

- Geotechnical engineer for design and installation of the caisson foundation for the Biomedical Engineering Building at Johns Hopkins University Campus. This project was constructed on College Campus very close proximity to existing building on site.

- Principal-In-Charge of geotechnical engineering study for the Talley Maintenance Yard improvement, Wilmington, DE. This is an existing DelDOT facility which was being modified to include a new salt storage building, two new truck sheds, retaining wall, crew operation building, new HMA pavement and utilities. The study included subsurface exploration program, laboratory testing and preparation of a geotechnical engineering report for the proposed development. Recommendations were provided for building and retaining wall foundations, lateral loading for retaining wall design, site and subgrade preparation and undercutting, fill placement and compaction, HMA design and groundwater issues.

- Geotechnical Engineer for expansion of New Castle County Airport, New Castle, Delaware. This project included a new Air Traffic Control Tower and support building, 12 new hangers and aprons, rehabilitation of taxiway, design of interconnecting roadways and stormwater management facilities.

2.2.2 Quality Manager – Inspection / Testing

NAME:	**Olivia D. Erony, P.E.**
TITLE:	Project Engineer; Quality Manager Inspection/ Testing
EDUCATION:	BCE/2013/ Civil Engineering/University of Delaware
	MCE/2014/Civil Engineering/University of Delaware
PROFESSIONAL REGISTRATIONS:	2017 / Professional Engineer / Maryland P.E. #51045

DUTIES: Ms. Erony serves as the link between the Company leadership and the testing and inspection Operations. She works closely with the Laboratory/ field Manager to ensure the quality of the testing work and adherence of the testing and inspection operations to company policies and procedures.

EXPERIENCE:

Ms. Erony has over 5 years experience providing geotechnical engineering and construction material testing services to various clients throughout the Mid Atlantic Region. This experience has included test boring inspection, construction materials testing, laboratory testing, in-situ testing and analysis, geotechnical engineering for various types of structures, embankments, bridges, highways, etc., and oversight during construction.

Some of her relevant experience includes:

- Project Engineer for construction phase support services for dike construction at the Masonville Dredged Material Containment Facility in Baltimore, Maryland. This project includes constructing a new earth dike next to an existing cofferdam over very soft soils with initial lifts of fill material placed in water. Construction phase services included site visits to observe construction, review daily reports and test results, oversee staff engineers who conduct periodic site visits and quarry visits to observe borrow material quality. Prepare monthly status reports which included material test results and issues developed during construction. Oversee collection of periodic material samples for laboratory classification testing and review test results to ensure compliance with project specifications.

- Geotechncial Engineer for geotechnical inspection and testing services for the St. Elizabeth East Campus project in Washington, DC. Tasks include oversight of field and lab technicians providing testing services for soil, hot mix asphalt (HMA), and concrete materials. Review field technician daily reports. Oversee laboratory soil testing for verification of backfill, review compaction testing reports to ensure conformance to contract requirements. Assign and review concrete cylinder compression tests and calculate compressive strength at 7 and 28 days.

- Geotechnical Engineer consultant as part of the Maryland Port Administration team overseeing construction of the Poplar Island Lateral Expansion Contract 1. This project included the lateral expansion of Poplar Island DMCF under an Army Corps of Engineers Contract. The services under this contract included review of 60% and 100% construction documents, participation of weekly progress meetings, review of Submittals and RFI's related to geotechnical engineering, site visits to the stone quarry to evaluate the quality of armor stone for the structure, periodic site visits to observe construction for conformance to contract documents.

- Geotechnical Engineer providing services for proposed raising of the Cox Creek Expanded DCMF dike. Tasks include developing design soil parameters from an extensive subsurface exploration program, preparing subsurface profiles, performing short and long term slope stability analysis, performing settlement and seepage analysis, evaluating the use of wick drains as a ground improvement method for soft foundation soils, preparing a geotechnical engineering design report and geotechnical specifications, reviewing contract documents and attending meetings with the design team. Provided construction oversight of a test dike section and conducted a subsurface exploration to analyze the behavior and displacement of the dredged material during and after construction.

- Geotechnical Engineer providing services for the long term site stabilization of Hart-Miller Island (HMI). Tasks included site reconnaissance, coordination with MES HMI operations team, providing drilling inspection for SPT borings with UXO testing, obtaining 24-hr groundwater readings, preparing subsurface profiles and preparing a geotechnical engineering report analyzing encountered conditions, slope stability analysis, and summarizing recommendations for the proposed berm raising and deep pool construction.

- Geotechnical Engineering providing services for the design of raising the earth embankment at the containment facility from El +11 to El +18, concept design for dike raising to El +42, and design of a new earth embankment or cross dike across the Kurt Iron Slip to allow for filling and paving of the slip. The dike design included reviewing previous analysis, performing slope stability analysis including modeling underground obstructions/voids such as buried barges, provided geotechnical recommendations and preparing geotechnical engineering reports for the North dike, Beverly Slip/Buried Barges Area dike, and Cofferdam area. Oversaw the subsurface investigation, developed subsurface profiles, assigned soil design parameters, performed slope stability analysis and prepared a geotechnical engineering report with recommendations for the Kurt Iron Slip cutoff dike. The subsurface investigation included oversight of five borings drilled using a barge mounted drill rig on water.

- Geotechnical Engineer on the design team for this design-build project. Tasks included staking boring locations, providing drilling inspection for SPT borings along the project alignment, and assisting with geotechnical design. Geotechnical design included cantilever sheet pile walls, sheet pile walls with tiebacks, soldier pile and lagging walls with tiebacks, reinforced soil slopes, bridge widening with deep foundation design. Field work was completed with existing CSX track in service requiring important safety procedures and CSX training.

2.2.3 Laboratory Manager (Lab/Field Supervisor)

Name: Banyar Aung, Ph.D., P.E.
Title: Laboratory Manager, SaLUT Inc., **JUN 2013- PRESENT**

Duties: Dr. Aung is a Laboratory Manager with Soil and Land Use Technology, Inc. and is responsible for supervision of the laboratory and field operations. He assigns work to be done and outlines procedures especially where new materials or tests are to be used. Work also involves the writing of materials specifications and the devising of new tests and testing apparatus comply with ASTM/AASHTO standards. He is also performing as the supervisor of engineering & construction quality control/quality assurance tasks; Managing field and laboratory testing including instrumentation, surveying and construction inspection work as well as performing basic engineering research in geotechnical, pavements and materials engineering. He supervises Staff engineers/ Technicians involved in performing laboratory and field testing; and reviews their reports prior to forwarding them to the Senior Engineer (Technical Manager) and Quality manager for final review and signature.

Biographical Sketch
Dr. Aung is a Laboratory Manager with Soil and Land Use Technology, Inc. and is responsible for supervision of the laboratory operations and quality control/quality assurance tasks of field testing construction materials for more than four years with SaLUT. He has over 15 years experience in the fields of geotechnical, pavements and construction materials engineering.

EDUCATION:
Ph.D., Civil Engineering, **UNIVERSITY OF TOKYO**, Tokyo, Japan **SEP 2008**
Master of Engineering (Civil), **SAITAMA UNIVERSITY**, Saitama, Japan **MAR 2004**
Bachelor of Engineering (Civil), **YANGON TECHNOLOGICAL UNIVERSITY**, Myanmar, **NOV 2001**

REGISTRATION:
Professional Engineer in Virginia (License issued by Virginia APELSCIDLA: 0402050586)
Professional Engineer in Maryland (License issued by Maryland DLLR: 51542)

CERTIFICATION: ACI Grade-1, ACI Strength testing, OSHA 10 hours Construction, VDOT workzone traffic control, DCR E&SC Land disturber, Surveying Refresher Course

SOFTWARE APPLICATION: MS-Office, Origin, MathCAD, AutoCAD, 2D sigma (FEM), SLOPE/W, GEOSYSTEM, gINT

PROFESSIONAL EXPERIENCE: Kim Engineering Inc, Tyson Corner, VA, U.S.A
GEOTECHNICAL PROJECT ENGINEER JAN 2013 – APR 2013
• Technical supervision of subsurface investigations, engineering analysis and report preparation.
• Coordinating field and laboratory testing programs for geotechnical engineering and construction services

Wunna Contracting Corporation, Chantilly VA, U.S.A
PROJECT ENGINEER JUN 2011 – JUL 2012
• Scheduled and managed the construction, operations, or maintenance activities at project site.
• Inspected project sites to monitor progress and ensure design specifications and safety standards.
• Set up surveying to establish reference points, grades, or elevations to guide construction.
• Prepared bid proposals, job progressives, and estimated quantity of materials, tools & manpower.

MyaYarPin Engineering Co., LTD, Yangon, Myanmar **SENIOR CONSULTING ENGINEER MAR 2010 – FEB 2011**
• Advised on geotechnical engineering aspects for subsurface investigation including field exploration, coordinated proper and complete laboratory data and produced nearly fifty geotechnical reports
• Analyzed and solved geotechnical engineering design problems for Shallow Foundation, Deep Foundation, Ground Improvement methods, Slope stability & retaining wall
• Suggested to improve Mya Yar Pin Geo-Material Testing Laboratory and contributed experiences and knowledge to junior engineers as a part-time lecturer at MyaYarPin Training Centre

Myanmar Engineering Society, (Geotech Div.) Yangon, Myanmar **SENIOR CONSULTANT/ PART-TIME LECTURER NOV 2009 – JAN 2011**
• Contributed Essential and Practical Geotechnical Engineering Course for Young Engineer
• Lead Material and QC lab to produce construction material testing reports
• Practical study on site visit of research purposes to ground improvement in problematic soils area

Dagon International Limited, Yangon, Myanmar **PROJECT ENGINEER / ASSISTANT PROJECT ENGINEER APR 1998 – DEC 2009**
• Construction of cyclone shelters, earthwork survival hills, and road works with suitable drainage system.
• Responsible for QA/QC as specified in the Plans and Specification in high-rise building project.
• Managed survey work, AutoCAD, estimations, inspection of formwork, steel, and concreting of structures

2.2.4 Senior Project Engineer (Deputy TM/QM)

NAME: Shannon Hudgins, P.E.
TITLE: Senior Project Engineer – SaLUT Inc.
EDUCATION: BSCE/2001/Civil Engineering/Morgan State University
PROFESSIONAL REGISTRATIONS: 2006 / Professional Engineer / Maryland P.E. #28254

DUTIES: Mr. Hudgins is a Senior Project Engineer with Soil and Land Use Technology, Inc. and is responsible for supervision of the laboratory and field activities in the absence of the Technical Manager/ Quality Manager. He oversees testing to ensure compliance with the quality system. He assigns work to be completed, outlines procedures and applies formulas for the calculation of test results. He is involved in advising technicians and staff engineers in preparation of materials specifications for testing and inspection.

EXPERIENCE:
Mr. Hudgins has been involved in geotechnical engineering design, laboratory testing and construction phase services since 2001. He has experience in geotechnical design of shallow and deep foundations, soil improvement design methods, pavement design, slope stability analysis, Best Management Practices evaluations, and forensic evaluations of distressed pavements and geotechnical-related components of structures. Mr. Hudgins has experience in development and implementation of subsurface exploration programs, in-situ testing, and soil laboratory testing. He also has experience in construction phase services including preparing performance-based specifications, construction material testing and inspection, and providing geotechnical consultation during construction.

Some of his relevant experience includes:

- **MDSHA Bride Design Services, Statewide:** Project Manager for this multi-tasked contract. Perform Geotechnical Engineering Services for the rehabilitation or replacement of MD State Bridges to meet AASHTO Load and Resistance Factor Design (LRFD) and MDOT SHA bridge standards. General scope of work includes coring existing bridge abutment and performing compression and chemical tests on the concrete samples, obtaining permits, clearing utilities, soil test borings with rock coring, vacuum excavation of test pits, laboratory testing on representative SPT/bulk samples and rock cores, and preparation of Geotechnical Engineering Report with conclusions and recommendations for foundations to support the bridge abutments and wing walls, stormwater management and pavement sections.

- **John Eager Howard Elementary School Renovation/Addition, Baltimore City Public Schools & MSA, Baltimore, Maryland –** Project Manager for the Geotechnical Engineering and Phase I Environmental Site Assessment. The project consisted of demolishing and renovating portions of the existing school building and constructing a 2-story, 60,250 square foot building addition. The Geotechnical Engineering Study consisted of performing soil test borings, soil laboratory testing and providing a report that included recommendations for shallow foundations

supported by improved soil, lateral earth pressures for retaining walls, and flexible pavement design.

- **Replacement of Loch Raven Environmental Operations Facility, City of Baltimore Contract No. 1183, Baltimore, MD** Project Manager for this project that consisted of replacing existing facilities with upgraded facilities at the Loch Raven Dam. New facilities included a new Office/Administration building, three (3) vehicle/storage buildings, a material storage building with wash bay, a salt storage building, and access roads and parking lots. Significant grade changes required the construction of retaining walls with maximum lengths of 480 feet and maximum heights of 20 feet. Tasks included performing subsurface exploration programs that consisted of test borings and field infiltration tests, performing soil laboratory tests, and preparing a Geotechnical Engineering Report with recommendations for the design and construction of the proposed MSE walls, foundations for the proposed structures, seismic site design parameters, pavement sections, and stormwater management facilities.

- **University of Maryland College Park Human Performance and Academic Research Facility (HPARF) at Cole Field House, College Park, Maryland** Project Manager providing Geotechnical Engineering Design and Construction Administration Services for the renovation of the existing Cole Field House building and the construction of an innovative clinical and research facility in the fields of sports medicine, health and human performance. Renovations included widening the interior of Cole Field House and constructing a state of the art indoor football practice facility. New construction included building additions on the north and west side of Cole Field House, two (2) new outdoor football practice fields and storm water management (SWM) facilities. Tasks included performing subsurface exploration programs in phases that consisted of test borings and field infiltration tests, performing soil laboratory tests, and preparing a Geotechnical Engineering Report with recommendations to support the project. Geotechnical design recommendations included options for the permanent earth retention system and underpinning of the existing foundations of Cole Field House. Recommendations were also provided for auger cast pile and shallow spread footings to support the building additions and site retaining walls, site specific seismic design parameters, pavement sections, and stormwater management facilities.

- **University of Maryland Baltimore County, Event Center and Arena Baltimore, Maryland** Project Manager providing Geotechnical Engineering Design and Construction Administration Services for the planned construction of a 173,000 gross square-foot multi-purpose Event Center and Arena Building. Geotechnical scope of work included subsurface explorations with soil and rock sampling, soil and rock laboratory testing, and preparation of a report providing geotechnical engineering design and construction recommendations to support the building on a combination of auger cast piles and spread footing. Additional recommendations were provided for MSE retaining walls, access lane and parking lot pavement

sections, seismic site design parameters, and infiltration practices for stormwater management facilities.

- **Towson Softball Facility Improvements, Part I & II Program, Towson University, Baltimore, Maryland:** *Project Manager* providing Geotechnical Engineering Services for the renovation/reconstruction of the women's softball field at Towson University. Scope of work included a one to two story press box and grand stand structure, dugouts, scoreboard, lighting fixtures, camera towers and related infrastructure. Tasks include performing soil borings with rock coring and field infiltration tests, soil and rock laboratory testing, and providing for the geotechnical design and construction recommendations for foundations to support the structures, excavation of shallow rock, and infiltration practices for stormwater management facilities.

- **Howard County General Civil Engineering & Surveying Services, Maryland –** Project Manager for this multi-tasked contract. Perform geotechnical engineering design services for roadway improvements, construction of new fueling stations, athletic field synthetic turf upgrades and traffic calming and SWM improvements.

2.2.5 Field/ Lab Technicians

NAME: Mohammadali J. Abyaneh
TITLE: Field Inspector/ Lab Technician
EDUCATION:
CERTIFICATIONS:

OSHA 40-Hr Hazwoper;
NHI-SSI-132079 Subsurface Investigation Qualification
ACI Concrete Field & Strength Testing Technician
MARTCP Soil & Agg Comp & HMA Field
VDOT Asphalt Field Level 1
VDOT Soils and Aggregate Compaction

Mr. Abyaneh has worked on a variety of field inspection projects as well as laboratory material testing. As a field inspector, his work has included performing different proctors to determine moisture density relationships; supervising and inspecting controlled compacted fill; and observing paving materials, reinforcing steel and concrete placement. His experience spans both the construction/renovation areas to include buildings, transportation, or public works projects.

He has worked as part of a team, responsible for conducting quality control/quality assurance on several projects. His duties also include construction material testing in lab and preparing and writing field reports and observations.

Experiences

MAA-CO-14-001 Airfield Standards and Pavement Rehabilitation Project, BWI Airport, Maryland– Performed the requisite QA/QC field inspections and testing. Tasks included soil cement testing and inspection of sub-grade and sub-base, infiltration trench construction monitoring and inspection, density testing on asphalt, stone and sub-grade.

Soils, Concrete Testing & Inspection Services at Multiple PEPCO sites, Washington DC and Maryland areas: SaLUT-TLB provides field testing and inspection of soils and concrete for various Pepco sites in the Metropolitan area. Mr. Abyaneh has assisted on these tasks and performs inspection of the sub-base, placement of concrete and testing of compaction of backfill materials.

Environmental Engineering, Compliance and Remediation Services, Statewide, Maryland – SHA BCS 2006-18C – Task 47 - Concrete Testing in Support of UST Upgrades – Tasks include inspection of sub-base and placement / testing of concrete that included taking temperature, slump, air content and molding concrete cylinders for various sites in Anne Arundel and Queen Anne's County, MD.

McMillan Storm Storage, Blue Plains WWTP, CM4D, DCFA No. 413-WSA, Washington, DC – Performed QA/QC inspections and testing of concrete placement. Tasks also include taking temperature, slump, air content and molding concrete cylinders to support the design build project.

NAME: Millan Sumanaweera
TITLE: Field Technician
EDUCATION:
CERTIFICATIONS:

APNGA Portable Nuclear Gauge Safety & US DOT Hazmat Certification
ATSSA Registered Flagger, Exp. 12/7/18
ACI Concrete Field Testing Technician – Grade I #01314727

Mr. Sumanaweera has worked on a variety of field inspection projects. On site testing of soil and concrete, he has worked as part of a team, responsible for conducting quality control/quality assurance on various projects. As a field inspector, his work has included performing different proctors to determine moisture density relationships; inspecting controlled compacted fill; and observing reinforcing steel and concrete placement. His experience spans both the construction/renovation areas to include buildings, transportation, or public works projects. His duties also include preparing and writing field reports and observations.

Experiences

MAA-CO-14-001 Airfield Standards and Pavement Rehabilitation Project, BWI Airport, Maryland
Performed the requisite QA/QC field inspections and testing. Tasks included soil cement testing and inspection of sub-grade and sub-base, infiltration trench construction monitoring and inspection, reinforce concrete works , stone and sub-grade.

Soils, Concrete Testing & Inspection Services at Multiple PEPCO sites, Washington DC and Maryland areas
SaLUT-TLB provides field testing and inspection of soils and concrete for various Pepco sites in the Metropolitan area. Mr. Sumanaweera has assisted on these tasks and performs inspection of the sub-base, placement of concrete and testing of compaction of backfill materials.

Reconstruction of Oregon Avenue NW – From Military Road to Western Avenue, NWWashington, DC
Field Technician assisting with utility clearances and traffic control for field investigations to support the planned reconstruction efforts.

Merritt Middle School, MPD Conversion, 5002 Hayes Street, Washington, DC
Field Technician for QA/QC inspections and placement of concrete for the footing foundations in support of the conversion efforts.

2.3 Certificates

- SEE ATTACHED -

3. TECHNICIAN TRAINING AND EVALUATION

3.1 Staff Training Program for Testing Technicians

The Senior Engineer (Technical Manager) (or) Quality manager is responsible for implementing the training programs and maintaining evaluation records of the testing staff. All records are copied and distributed to the Lab Manager/ Field supervisor. The Lab Manager/ Field supervisor shall retain all training records in the Laboratory office.

The following procedure shall be followed for each test:

a) The Technician will receive a copy of the test procedure that the Technician will be evaluated on.
b) The Technician studies the procedure, test report form, equipment and calculations to become familiar with the test.
c) The Lab Manager/ Field supervisor will first demonstrate the procedure and calculations for the Technician to observe.
d) The Technician will repeat the test procedure under the observation of the Senior Engineer (TM), Quality Manager and the Lab/field Manager.
e) The Senior Engineer (TM), Quality Manager and Lab/field Manager will acknowledge the Technician's ability to perform the test.
f) The Senior Engineer (TM), Quality Manager and Lab/field Manager will record the acknowledgement and include it in the Technician's training record.

3.2 Method of Reviewing Technician's Competency

The Senior Engineer (Technical Manager), Quality Manager and Lab/field Manager are responsible for evaluating the testing technicians' competency at least once every twelve months by requiring all technicians to demonstrate their ability to perform the AASHTO, ASTM and/or MD-SHA, DDOT and VDOT test procedures that they have been trained to perform.

A test that a technician routinely performs correctly during the six-month period does not have to be re-evaluated. If the technician has not performed a test within the past six months, the technician will be permitted to practice the test procedure to increase proficiency before being observed by the Senior Engineer (TM), Quality Manager and Lab/field Manager. However, if his/her last evaluation was more than 12 months old, the technician's competency shall be re-evaluated prior to performing the test.

For each Technician, the Lab Manager shall record the test demonstrated, the date of the demonstration, and the results of the evaluation. The Lab Manager shall sign each entry on the evaluation record.

If the Technician's test results are unsatisfactory, the Lab Manager shall point out the deficiencies, review the test procedure with the Technician, and have the Technician re-demonstrate the test to a satisfactory result. The Lab Manager reviews the test results performed with the deficiencies and forwards records of the re-evaluation after necessary correction to the Senior Engineer (TM) and Quality Manager. Afterward, the Senior Engineer (TM) and the Quality Manager discuss any issues with the Lab Manager. The Senior Engineer (TM) retains the training and evaluation records for filing and safe custody in the Senior Engineer's office; a copy of the records is kept in the Manager's office in the Laboratory. The records shall be available for review by upper management.

A sample standard form used to evaluate Laboratory Technicians' competency is illustrated hereunder.

3.3 Technical Training and Evaluation Record - Form

SEE APPENDIX A FOR EVAULATION RECORDS

TECHNICAL TRAINING AND EVALUATION RECORD					
Technician: _____					
Test Method	**Check One**		**Evaluated By**	**Date**	**Comments/Results**
	Initial Training	**12 Months Evaluation**			
R58/D421					
T88/D422					
T89/D4318					
T90/D4318					
T99/D698					
T100/D854					
T134/D558					
T146/R74					
T180/D1557					
T191/D1556					
T193/D1883					
T208/D2166					
T265/D2216					
T310/D6938					
D1140					
D2487					
D2488					
D4972					
G51					
G57					
D979					
D2726					
D2950					

4. RECORD RETENTION

Records are retained for the following activities:

1. External Assessments;
2. Internal Audits;
3. Proficiency Sampling Program (PSP)
4. Training / evaluation
5. Personnel records
6. Technical activities like Test data (data sheets, Technician names), Test reports (final reports) and Equipment.

Retention times for records are determined based on a number of factors:

- the length of time the laboratory will need to have access to its records;
- government requirements or standards that dictate record retention times;
- whether the laboratory is engaged in ongoing research requiring many years of data;
- the time interval between the laboratory's assessments or audits.

SaLUT-TLB records retention/ disposal policy are as follows:

1. The records for External assessments, internal audits, proficiency sample testing, technician training and evaluation records are available for a minimum of 5 years.

2. Quality Management System Records Retention – These records including personnel records are retained for a minimum of 5 years.

3. Test Records – maintained includes, calculations, derived data and identification of technician retained for a minimum of 5 years.

4. The records of test data, test reports, equipment calibration, standardization, check, and maintenance activities are retained for a minimum of 5 years.

Retention schedules of calibrations, standardizations, checks and maintenance of equipment are held throughout the useful life of the equipment. All records are transformed to electronic files and keep in the internal accessible server with each associated year folders. The original/ hard copies of all records are kept on each associated file for minimum 5 years, and then the file is purged from the storage location where they are held. The electronic files are deleted beyond 5-year retention periods by the end of every year, except for the records of equipment currently in service life.

5. FACILITIES AND EQUIPMENT

5.1 Procedure for Processing New Equipment

When new equipment is needed or a piece of equipment is recommended for use in the Laboratory or for field testing, the Lab Manager and the Quality Manager shall consult with one another to determine the most appropriate order to place with a supplier.

The Lab Manager is responsible for processing all new equipment arrivals before dispensing it to the Lab Technicians. When new equipment arrives, the Lab Manager shall log the following information in the Equipment Inventory List:

- Equipment type
- Manufacturer
- Model number
- Serial number
- Date received
- Date puts into service

Any Certificates of Calibration that may have come with the equipment shall be kept in the Lab Manager's office, with copies being placed in Appendix B of this Manual. Operating Manuals shall be retained in the Library. Copies of the operating manuals are also kept in the laboratory. Upon acquiring new equipment and tools, the Inventory List, found on SaLUT's shared server is updated, printed and placed in Appendix B of this manual.

Every piece of incoming equipment shall be numbered or labeled, according to the established equipment identification system, before entering service.

5.2 Equipment Identification

Every piece of laboratory testing equipment shall be numbered or labeled systematically for the purposes of identification and traceability. Laboratory Technicians, in performing their work, should record on their worksheets the specific pieces of test equipment used. This is to ensure consistently accurate test results by enabling staff to readily identify equipment that is yielding suspect data. Ultimately, by keeping track of equipment and its condition over time, SaLUT will maintain a high quality inventory of test equipment.

5.3 Equipment Calibration/Verification Policies and Procedures

General Policies

Laboratory test equipment shall be calibrated at specified intervals according to the following general procedures:

Newly acquired test equipment, without manufacturer's certification, and test equipment that is not in service shall be calibrated or verified before being put into service. The sensitive test equipment such as balances, compression machine, mechanical compactor/shaker, which has already been in service and measurement standards that may be affected by moving them to a new location or environment has to be calibrated, standardized or checked before being placed back into service.

When any piece of test equipment is overloaded, mishandled, is giving suspect test results, or is not meeting specification tolerances, the Lab Manager shall remove the item from service and tag it for repair. The Lab manager will review all test results conducting with the equipment and then evaluate and record the effect of the deficiencies. This evaluation and record will report to the Senior Engineer/ Technical manager and Quality Manager. The equipment must undergo repair and recalibration to meet specification standards prior to returning to service. If repair and recalibration are either unsuccessful or unfeasible, the Lab Manager or the Quality Manager will replace the particular piece of equipment.

General Recording Procedures

1. The Lab Manager shall maintain a detailed record for each piece of test equipment requiring calibration or verification. The record for each piece of equipment shall contain, at minimum:
    - The name of the person/company performing the check
    - The date of check, of the previous check, and of the next scheduled check
    - Reference to the check procedure used
    - Equipment used to perform the check
    - Relevant data and measurements recorded
    - Comment on action to take regarding the piece of equipment.

These records will be kept in the Quality System Manual in the Lab Manager's office with copies going to the Senior Engineer (Technical Manager).

2. The Lab Manager shall keep a schedule for each month of the year, which contains a list of test equipment and the date that each piece of equipment needs to be calibrated or verified for that month.
3. The Lab Manager shall review all calibration and verification records. Once all reports are checked, the Lab Manager shall forward copies to the Senior Engineer (Technical Manager).
4. Check, Calibration, and Verification procedures shall conform to the most current AASHTO and ASTM specifications. AASHTO and ASTM reference manuals, located in the main office, provide calibration procedures and their requisite specifications.

Appendix B contains Equipment Calibration and Verification reports.

5.4 Equipment Calibration and Verification Information

All laboratory equipment used for testing are calibrated on a predetermined time interval or when the efficiency and accuracy of the equipment is in question. An outside contractor does the calibration and verification of the equipment or, where applicable, the verification is done using In-House procedures. The general equipment maintenance procedures are followed to ensure the lab equipment is neat and clean.

The standardized reference equipments like thermometers, gauge block, etc used in the in-house calibration procedures must be maintained and should not be used for regular testing. The reference equipment must be standardized every five years. If any irregularities are observed then it is recommended to replace/verify the equipment externally.

The following table contains a list of testing equipment, the calibration/check interval and the calibration/check procedure used for the respective equipment. Records of these checks are maintained in the Quality Manual in the Senior Engineer (TM)'s office with copies going to the laboratory.

MAINTAINANCE PROCEDURES AND RECORDS ARE ATTACHED IN APPENDIX G

TABLE-1: Check/Calibration Intervals and Procedures

Item(s)	Calibration / Check Interval	Calibration /Check Procedure Reference
Ovens	12 Mo. / weekly temp. check	In-House Proc. SaLUT-1
Sieves	12 Mo.	In-House Proc. SaLUT-2
Manual Hammers	12 Mo.	In-House Proc. SaLUT-3
CBR Molds	12 Mo.	In-House Proc. SaLUT-4
Proctor Molds	12 Mo.	In-House Proc. SaLUT-4
Liquid Limit Devices and Grooving Tools	12 Mo.	In-House Proc. SaLUT-5
Hydrometers	12 Mo.	ASTM E-100, SaLUT-6
Straightedges	12 Mo./ monthly check	In-House Proc. SaLUT-7
CBR surcharge Weight	12 Mo.	In-House Proc. SaLUT-8
CBR Penetration Piston	12 Mo.	In-House Proc. SaLUT-9
Balances	12 Mo.	In-House Proc. SaLUT-10
Hydrometers	12 Mo.	In House Proc. SaLUT-11//ASTM E-100
Mechanical Compactors	12 Mo.	In House Proc. SaLUT-12
Thermometers	12 Mo.	In House Proc. SaLUT-13
Calipers	12 Mo.	In House Proc. SaLUT-14
Sieve Shaker	12 Mo.	In House Proc. SaLUT-15
Mechanical Rammers	12 Mo.	ASTM D-2168; External
Pycnometer	12 Mo.	ASTM D-854
10,000 lb Load Cell	12 Mo.	External
2,000 lb Load Cell	12 Mo.	External
Resistance Meter	12 Mo.	External
Nuclear Gage	12 Mo.	External
Dial Indicators	12 Mo.	External

NOTE: Refer to the In House Procedures for details.

5.5 In-house Calibration Procedures

1. Procedure for Checking/Calibrating Ovens

(Date) Calibration/Check Procedure: SaLUT-1

Equipment Checked: DRYING OVEN

Purpose:

This method provides instructions for checking the dial settings on a general-purpose drying oven.

Inspection Equipment Required:

1. A calibrated thermometer graduated in 1.0ºC increments having a range, which includes the temperature range to be checked.
2. A brass thermometer well to retain heat while the oven door is open. This is essential for a constant temperature reading.
3. A clothes pin to hold the thermometer in such a manner as to enable the operator to read the scale easily from outside or inside the oven.

Tolerance:

Drying ovens shall be capable of maintaining a constant temperature range listed in the appropriate test methods.

Procedure:

1. Place the thermometer inside the brass well with the clothes pin attached to the thermometer. Position the thermometer on the shelf where the samples are normally dried.
2. Take the first reading at least 1 hour after closing the oven door (oven should remain undisturbed).
3. Take as many readings as necessary to determine if the temperature range is within the specified tolerance (three consecutive readings, taken no less than two hours apart, within the tolerance are adequate).
4. Adjust the temperature of the oven if an observed temperature reading is outside the tolerance specified (allow at least two hours for the temperature to stabilize between each adjustment). Return to step (3) three.

2. Procedure for Checking/Calibrating Sieves

(Date) Calibration/Check Procedure: SaLUT-2

Equipment Checked: SIEVES

Purpose:

This method provides instructions for checking the physical condition of laboratory tests sieves ranging in size from 75 mm (3 in.) to 0.075 mm (No. 200) and for measuring the openings of coarse sieves having openings greater than or equal to 4.75 mm (No. 4).

Inspection Equipment Required:

1. Caliper, readable to at least 0.05 mm (use for 4.75-mm sieve and coarser).
2. An eye comparator with a 0.1 mm scale or a magnifier (for use with sieves finer than 4.75 mm).

Tolerance:

Sieves shall meet the physical requirements specified in AASHTO M92 (ASTM E11).

Procedure:

1. For sieves having openings equal to or greater than 4.75 mm, select and measure, using the calipers, the dimensions of at least 4 or 5 sieve openings in each sieve to ensure that the openings in the wire cloth conform to the requirements in Table 1 of AASHTO M92 (ASTM E11). Be sure to include, in the selection, any openings that appear distorted or unusual in size. Measure each of the openings as the distance between parallel wires measured at the center of each opening. Measure each opening in both the x (horizontal) and y (vertical) directions, recording them separately. Record the measurements for each of the selected openings. If a sieve has less than 5 full openings, measure all full openings. Compare the average x and y openings to those in Table 1 of AASHTO M92 (ASTM E11).
2. For sieves smaller than 4.75 mm, inspect the sieve cloth against a uniformly illuminated background. Use the eye comparator or magnifier to examine any suspicious areas of the cloth. If obvious deviations, such as weaving defects, creases, wrinkles, or excessive foreign matter in the cloth are found, the wire cloth is unacceptable.
3. Inspect the general condition of the sieve. Check the frame and solder joints for cracks or holes (check for pin holes in the finer sieves).
4. Ensure the sieve has an appropriate label.
5. Check for tightness of the wires on each individual sieve.

3. Procedure for Checking/Calibrating Manual Compaction Hammers

(Date) Calibration/Check Procedure: SaLUT-3

Equipment Checked: MANUAL HAMMER (AASHTO T99, T180) (ASTM D698, D1557)

Purpose:
This method provides instructions for checking the critical dimensions of manual rammers.

Inspection Equipment Required:
1. Calipers, readable to at least 0.05 mm.
2. Tape measure, readable to at least 1 mm.
3. Balance, capable of weighing up to 5 kg, readable to 1g.
4. Straightedge

Tolerance:
Equipment shall meet the dimensional tolerances specified in the applicable test method.

Procedure:
1. Measure and record the diameter of the rammer face determined by taking six readings evenly spaced around the head using the calipers.
2. Pull up the handle, measure and record the drop height of the hammer. Determine this height inside the guide-sleeve using the tape measure.
3. Remove the hammer from the guide-sleeve. Clean the rammer face of any soil. Weigh and record its mass to the nearest 1g.
4. Check that the rammer face is planar using a straightedge. Look for any clearance between the rammer face and the straightedge.
5. Measure and record the diameters of the vent holes near the end of the hammer.

4. Procedure for Checking/Calibrating Soils Test Molds

(Date) Calibration/Check Procedure: SaLUT-4/ASTM D698

Equipment Checked: MOLDS (AASHTO T99, T180, T193) (ASTM D698, D1557, D1883)
Purpose:
This procedure provides instructions for checking the critical dimensions of 100 and 150 mm (4 and 6 in.) molds used in soil testing.

Inspection Equipment Required:
1. Calipers, readable to at least 0.05 mm.
2. Tape measure/Steel Ruler

Tolerance:
The height and diameter of the molds checked shall meet the dimensional tolerances specified in the applicable test method listed above.

Linear Measurement Method
1. Measure and record the inside diameter of the mold to the nearest 0.05 mm. Take 5 more measurements of the inside diameter, equally spaced around the mold, and obtain an average value for the inside diameter of the top of the mold.
2. Turn the mold over and repeat Step 1 for the bottom of the mold.
3. Measure and record the height of the mold to the nearest 0.05 mm. Take two more height measurements, and obtain an average height.
4. Inspect the overall condition of the mold, especially for significant corrosion or dents on the interior of the mold.
5. Calculate the volume of the mold to four significant digits in cm^3 to ft^3

Water-Filling Method:
1. Lightly grease the bottom of the compaction mold and place it on one of the plastic or glass plates. Lightly grease the top of the mold. Be careful not to get grease on the inside of the mold. If it is necessary to use the base plate place the greased mold onto the base plate and secure with the locking studs.

2. Determine the mass of the greased mold and both plastic or glass plates to the nearest 1 g and record, *Mmp*. When the base plate is being used in lieu of the bottom plastic or glass plate, determine the mass of the mold, base plate and a single plastic or glass plate to be used on top of the mold to the nearest 1 g and record.

3. Place the mold and the bottom plastic or glass plate on a firm, level surface and fill the mold with water to slightly above its rim.

4. Slide the second plate over the top surface of the mold so that the mold remains completely filled with water and air bubbles are not entrapped. Add or remove water as necessary with a bulb syringe.

5. Completely dry any excess water from the outside of the mold and plates.

6. Determine the mass of the mold, plates and water and record to the nearest 1 g, *Mmp,w*.

7. Determine the temperature of the water in the mold to the nearest 0.1°C and record. Determine and record the density of water from the table given in Test Methods D854.

8. Calculate the mass of water in the mold by subtracting the mass determined in Step 2, *Mmp,* from the mass determined in Step 6, *Mmp,w*.

9. Calculate the volume of water by dividing the mass of water by the density of water. Record this volume to the nearest 0.1 cm^3 for the 4-in. (101.6-mm) mold or nearest 1 cm^3 for the 6-in. (152.4-mm) mold.

10. If the filling method is being used to determine the mold's volume and checked by linear measurement method, repeat this volume determination and determine and record the average value, *Vw* as prescribed.

Comparison of Results and Standardized Volume of Mold

1. The volume obtained by either method should be within the volume tolerance requirements,using either or cm^3 to ft^3. To convert cm^3 to ft^3, divide cm^3 by 28 317, record to the nearest 0.0001 ft^3.
2. The difference between the two methods should not exceed 0.5 % of the nominal volume of the mold, cm^3 to ft^3.

5. Procedure for Checking/Calibrating Liquid Limit Devices and Grooving Tools

(Date) Calibration/Check Procedure: SaLUT-5/ASTM D4318

Equipment Checked: LIQUID LIMIT DEVICES AND GROOVING TOOLS (AASHTO T89) (ASTM D4318)

Purpose:

This procedure provides instructions for checking the physical condition, critical dimensions and weight for liquid limit devices used in soil testing.

Inspection Equipment Required:

1. Calipers readable to 0.05 mm
2. Gage block
3. Balance

Tolerance:

The dimensions of the various components checked shall meet the dimensional tolerances specified in the applicable test method listed above.

Procedure:

A. Base:
   1. Look for significant wear (> 10 mm in diameter) or dents at the top surface of base where contact with the brass cup occurs

B. Cup and hanger:
   1. Remove cup and cup hanger from assembly. Check that they are clean and free from soil.
   2. Weigh and record the weight.
   3. Look for significant wear at the edges of the cup and at the center of brass cup that may have been inflicted by the grooving tool. Significant wear by the grooving tool is a depression 0.1 mm deep in the cup.
   4. Reattach the cup and hanger to the assembly. Verify that the cup hanger pivot does not bind and that it is not worn to an extent that it allows more than 3 mm side-to-side motion of the lowest point on the rim.
   5. Examine the cam wheel. Verify that it is not worn to an extent that the cup drops before the cam follower loses contact with the cam wheel.
   6. Rotate the cam wheel until the cup is at its highest point (just before falling). Insert the gage block between the cup and the base. Verify that the tip of the gage block is making contact with the point on the cup that contacts the base. This is the correct drop height (10 mm).

C. Flat grooving tool
   1. Measure the width of the tip of grooving tool to nearest 0.10 mm using calipers.
   2. Measure the width of the base of tongue to the nearest 0.20 mm.
   3. Measure the depth of tongue to nearest 0.10 mm.

6. Procedure for Checking/Calibrating Hydrometers

(Date) Calibration/Check Procedure: SaLUT-6

Equipment Checked: HYDROMETERS (AASHTO T88) (ASTM D422)

Purpose:

This procedure provides instructions for checking the critical dimensions of hydrometers used in soil testing.

Inspection Equipment Required:

1. See specification ASTM E-100

Tolerance:

The dimensions of the hydrometer checked shall meet the dimensional tolerances specified in the applicable test method listed above.

Procedure:

1. See specification ASTM E-100

7. Procedure for Checking/Calibrating Straightedge

(Date) Calibration/Check Procedure: SaLUT-7

Equipment Checked: STRAIGHTEDGE (AASHTO T99, T180) (ASTM D698, D1557)

Purpose:

This method provides instructions for checking the planeness of straight edges.

Inspection Equipment Required:

1. 0.005mm thickness gage.
2. Tape measure
3. Metal plate

Tolerance:

Equipment shall meet the dimensional tolerances of planeness as specified in the applicable test method.

Procedure:

1. Place the scraping edge of straight edge on a flat metal plate.
2. Using the thickness gage, check the clearance along the length of the edge and the metal plate.
3. Check the width of the beveled edge of the straight edge

8. Procedure for Checking/Calibrating CBR Surcharge Weights

(Date) Calibration/Check Procedure: SaLUT-8

Equipment Checked: CBR SURCHARGE WEIGHTS (AASHTO T193) (ASTM D1883)

Purpose:

This procedure provides instructions for checking the weight of CBR Annular and Slotted weights used in CBR soil testing.

Inspection Equipment Required:

1. Balance, capable of measuring weight up to 5.0 kg and readable to 0.02 kg.

Tolerance:

The weight of the annular and slotted weights checked shall meet the tolerances specified in the applicable test method listed above.

Procedure:

1. Weigh and record the weight of the annular weight to the nearest 0.02 kg.
2. Weigh and record the weight of the slotted weight to the nearest 0.02 kg.

9. Procedure for Checking/Calibrating CBR Penetration Piston

(Date) Calibration/Check Procedure: SaLUT-9

Equipment Checked: CBR PENETRATION PISTON (AASHTO T193) (ASTM D1883)

Purpose:

This procedure provides instructions for checking the diameter of CBR Penetration Piston used in soil testing.

Inspection Equipment Required:

1. Caliper readable to 0.05 mm.
2. Tape measure readable to 0.1 mm

Tolerance:

The dimensions checked shall meet the tolerances specified in the applicable test method listed above.

Procedure:

1. Measure and record the diameter of the piston to the nearest 0.05 mm.
2. Measure and record the length of the piston to the nearest 0.10 mm.
3. Note any wear on the piston head.

10. Procedure for Checking/Calibrating General Purpose Balances

(Date) Calibration/Check Procedure: SaLUT-10

Equipment Checked: GENERAL PURPOSE BALANCES (ASTM D4753)

Purpose:

This procedure provides instructions for determining the linearity error of a general-purpose balance.

Inspection Equipment Required:

1. Set of Standardized Weights
2. Thermometer

Tolerance:

The linearity error of the balance and two standard deviations from it shall not exceed the Basic Tolerances for its class, as specified in Table 1 of ASTM D4753.

The weights checked shall meet the tolerances specified in the applicable test method.

Procedure:

1. Check that the balance is free from environmental interference, e.g. vibrations of the platform upon which it is placed, wind from a fan, etc. Record the ambient temperature.
2. Zero the balance; allow it to stabilize for two minutes, then check that it maintains a zero reading when no mass is placed upon it.
3. Place the lowest standard mass upon the center of the balance platform. Record the reading. Remove the mass, allowing the balance to re-zero, and then replace the mass to take a second recording.
4. Repeat step 4 for increasing masses. Record data for 10 weights, selecting weights that span as much of the balance's range as possible.
5. Create a plot of "weight readout" (y-axis) vs. "weight loaded" (x-axis)..
6. Subtract the weight readouts from the weights loaded. Square the differences, then take the square roots of the squares.
7. Calculate the mean of the square roots and the standard deviation of the square roots.

The formula for the linearity error and standard deviation are as follows. Report the Linearity Error ± two standard deviations. (95% confidence interval)

Linearity Error = Mean{ [(Weight Loaded – Weight Readout)^2]$^{1/2}$}

$$\sigma = \sqrt{\frac{1}{N}\sum_{i=1}^{N}(x_i - \overline{x})^2}.$$

x_i = square root for particular weight loaded

x(bar) = average of square roots of weights loaded

N = number of data points

These calculations are conveniently done and reported using Microsoft Excel.

11. Procedure for the Determination of Composite Correction for Hydrometer Reading

(Date) Calibration/Check Procedure: SaLUT-11

Equipment Checked: COMPOSITE CORRECTION FOR HYDROMETER READING (ASTM D422)

Purpose: To correct for the differences from the manufacturers calibration and actual readings from lab due to dispersing agent, temperature variation and meniscus reading.

Inspection Equipment Required:

1. 1000 ml cylinder
2. Thermometer
3. Glass stirring Rod
4. Hydrometer
5. Constant Temperature Water Bath

Tolerance: Shall meet the conditions as set in ASTM and AASHTO standards

Procedure:

1. Prepare 1000 ml of liquid composed of distilled or demineralized water and dispersing agent in same proportion as will prevail in the sedimentation tank.
2. Place liquid in a sedimentation cylinder
3. Place cylinder and its contents in a constant temperature bath
4. Leave cylinder until temperature equilibrium is achieved
5. Insert hydrometer and after a short interval, read the hydrometer at the top of the meniscus

12. Procedure for Checking/Calibrating Mechanical Compactor

(Date) Calibration/Check Procedure: SaLUT-12

Equipment Checked: MECHANICAL COMPACTOR (ASTM D 2168)(ASTM D1557)

Purpose: This method provides instructions for checking and adjusting mechanical compactors used in the soil testing lab.

Inspection Equipment Required:

1. Calipers
2. Tape measure
3. Balance capable of weighing > 2.5 kg and readable to 1 g
4. 10 lb/18" drop manual rammer
5. 4" test mold
6. Approximately 50 lb. of soil classified as CL

Tolerance:

Mechanical Compactor shall meet tolerances specified in ASTM D 1557 and ASTM D 2168.

Procedure: (ASTM D 2168, Test Method A)

1. Inspect the mechanical and manual compactor for wear, malfunction, and need of servicing. Check the diameter of the striking face of the mechanical rammer and its drop height.
2. Operate the mechanical compactor for at least 25 drops, allowing the rammer to fall on soft soil.
3. Pass the soil through a No. 4 (4.75-mm) sieve. Discard any material remaining on the sieve, and thoroughly blend the material passing through the sieve. If the soil contains excessive moisture, dry it in open air or in an oven that does not exceed 60°C (140°F) first).
4. Prepare the soil for the compaction.
5. Determine the optimum moisture and the maximum dry unit weight of the soil sample using the manual hammer. Prepare a curve and record the value of γ_{max}, the maximum dry unit weight.
6. Repeat step 5 using the mechanical compactor to obtain γ'_{max}.
7. Determine W, the percentage difference between γ_{max} and γ'_{max}. If W is equal to or less than 2.0, the Mechanical Compactor is ready for immediate use.
8. If W is greater than 2.0, adjust the rammer mass and repeat steps 6-7 until a value equal to or less than 2.0 is obtained.

13. Procedure for Calibrating Thermometers

(Date) Calibration/Check Procedure: SaLUT-13

Equipment Checked: THERMOMETERS

Purpose:

This method provides instructions for verifying the dial gauges or graduated temperature scales on general-purpose thermometers.

Traceable Inspection Equipment Required:

1. A NIST certified thermometer graduated in 0.2°C increments having a range that includes the temperature range to be checked.

Tolerance:

Thermometers shall be accurate to within the tolerances listed in the applicable test methods.

Procedure:

1. Insert both the NIST thermometer and the thermometer to be checked in a solution at room temperature and record the readings obtained from both thermometers. If the thermometer is adjustable, reset the dial to the reading of the NIST thermometer.
2. Reduce the solution's temperature at least 10°C below room temperature by adding ice or mixing with cold water and again record the readings obtained from both thermometers.
3. Raise the solution's temperature at least 10°C above room temperature by heating, inserting a heater, or mixing with hot water and again record the readings obtained from both thermometers.
4. Calculate the % error at each temperature and the applicable correction factor, if appropriate. If the % error following correction still falls outside the tolerances listed in the applicable test method, the thermometer will be removed from service and repaired/replaced.

14. Procedure for Calibrating/Checking Vernier Calipers

(Date) Calibration/Check Procedure: SaLUT-14

Equipment Checked: DIAL, VERNIER, OR DIGITAL CALIPERS

Purpose: This method provides instructions for checking the wear and accuracy of scale readings on calipers.

Inspection Equipment Required:

1. Gauge blocks
2. Micrometer

Tolerance: The calipers' measurements of gauge blocks shall not deviate by more than one graduation from 0-4" and 1.5 graduations from 4"-8".

Procedure:

1. Clean both the inside and outside jaws and then close them completely. Hold the calipers against a light source and check if any light passes between the jaws, indicating a lack of contact between them.
2. Insert a series of gauge blocks between the outside jaws of the calipers and record the readings. Preferably, use a series that covers the entire range of the calipers.
3. Check the inside jaws against a calibrated micrometer.

15. Procedure for Calibrating/Checking Sieve Shaker

(Date) Calibration/Check Procedure: SaLUT-15

Equipment Checked: SIEVE SHAKER

Purpose: This method provides instructions for calibrating and/or verifying the shaking time for sieve shakers.

Traceable Inspection Equipment Required:

1. A calibrated timer.
2. Approved sieves.
3. A calibrated scale (0.1 g sensitivity).

Tolerance: The calibrated "run time" of sieve shakers shall be such that the sieving efficiency meets the tolerances specified in the applicable test methods.

Procedure:

1. Using an appropriately sized dried sample, operate the shaker for the selected time-period in minutes.
2. Select two random sieves and weigh the material retained on each. If either weight is greater than the maximum allowed (see ASTM C 136), recombine the entire sample, then reduce the sample size by splitting and repeat from step 1 above.
3. Hand-sieve each of the materials over the same sieves for one minute and re-weigh the amount retained.
4. Calculate the % Loss. If % Loss is 1 or less, selected time is adequate. If % Loss is greater than 1, recombine the material and repeat Steps 1 through 4 using an adjusted shaking time. If a % Loss of 1 or less cannot be achieved, remove the shaker from service and repair/replace.

16. Procedure for Calibrating/Checking Timers

(Date) Calibration/Check Procedure: SaLUT-16

Equipment Checked: TIMERS

Purpose: This method provides instructions for verifying the accuracy of general-purpose timers.

Traceable Inspection Equipment Required:

- A timer certified accurate to within 0.1 seconds.

Tolerance: Timers shall be meet the accuracy tolerances listed in the applicable test methods.

Procedure:

1. Hold the calibrated timer in one hand and the timer to be checked in the opposite hand.
2. Start the timers simultaneously by pressing the "start" buttons at the same time.
3. Allow the timers to run for at least 15 min. then stop the timers simultaneously. Record the time indicated by both timers.
4. Record the difference between the two timers. Calculate and record the percent error. If the percent error falls outside the tolerance listed in the applicable test method, the timer will be removed from service and repaired/replaced.

4.5 Equipment Inventory Summary

- SEE ATTACHED -

SEE APPENDIX B FOR EQUIPMENT INVENTORY and CALIBRATION RECORS.

6. SAMPLE MANAGEMENT

6.1 Identification

Each sample shall be labelled. Each label shall have:

I. At the sampling date on site identified by field representative.

1. Project NUMBER
2. Project Name
3. Sample Location (Boring#, Test Pit#, Hole #, Station #, Stockpile#)
4. Sample ID (eg/. S-1, PT-1, Bag-1, PC-1, Box-1)
5. Sample Depth (eg/. 1.0'-2.5', 6.0'-10.0')
6. Field info [**Jar**: SPT blows count + Recovery(in) / **Shelby**: Push (in) & rec (in)] (optional)… [**Inside Jar-Box:** Ground cover / Groundwater/ cave-in]
7. Sampling Date (ONLY on outside Jar-box/ Shelby/ Bag)
8. Initial of sampler (ONLY on outside Jar-box/ Shelby/ Bag)

II. At a later phase to assign lab works

9. Amount of material sample represents (Engineer assigned)
10. Tests required (Engineer assigned), and

6.2 Storage

Samples are kept in a dry condition away from contamination until testing is to be done. Samples need to be logged in a proper way with the **sample-logged book** and recorded with the storage location to locate for the future testing. When testing is finished, bag and jar samples are removed from the lab, but kept in close proximity in dry conditions and away from contamination.

6.3 Retention

Samples with acceptable test results are generally held for 45 days following completion of testing. Samples with failing test results are retained until review of the results is complete. At that time, the decision is made to retain or discard the sample. Samples

may be held up to a maximum of 5 years, depending on the nature of the project and the client's satisfaction with the work performed.

6.4 Disposal

When the decision is made to dispose of samples, bag samples are used as fill for other projects. Jar samples are discarded as regular waste.

NOTE:

Contaminated samples are disposed of differently: depending on the level and nature (constituent chemicals, etc.) of contaminations, appropriate Department of Environment procedures are followed for disposal.

7. PROCESSING SAMPLES, TEST RECORDS AND REPORTS

7.1 Sample Log

Each sample brought into the lab for testing is recorded in a logbook maintained by the Lab Manager. The following is recorded for each sample.

1. Sample number
2. Name and contact number
3. Description of the material
4. Supplier of the material
5. Location from which the sample was taken
6. Name of the person who sampled the material
7. Date of sampling
8. Date sample was received in the materials lab
9. Date testing was completed.
10. Name of the testing Technician(s)

7.2 Preparing and Checking Test Reports

Technicians record data for test reports on standard materials worksheets that they submit to the Lab Manager. The Lab Manager reviews these worksheets prior to typing a report. Two copies are sent to the client and the originals, along with the worksheets, are kept in the project file.

7.3 Test Records and Retention

The original test reports are kept on file for minimum 5 years, and then the file is purged from the warehouse where they are held. Calibration reports; verification reports; proficiency reports; and internal quality system reviews are held for a minimum of 5 years before being purged from the warehouse where they are held.

Appendix D attached at the end of this manual contains of examples of typical laboratory test reports. Finished reports for recent projects can be found in filing cabinets in the main office and older project reports are kept in storage outside the office.

7.4 Amending Reports

When a report must be amended a report form shall be filled out indicating the amended test results, the report status field amended on the report form shall be checked, the comment section on the report form shall state the reason for the amended report, the amended report shall be attached to the original report and processed in the normal manner, and the amended report shall be filed with the original report.

8. INTERNAL QUALITY SYSTEM REVIEW

8.1 General

The Quality Manager (QM) is responsible for evaluating the quality system, as implemented, to ensure that it is effective and is meeting the goals of the laboratory/ field inspection and testing.

The Senior Engineer/ Technical Manager (TM) regularly consults the Quality manager and Laboratory Manager for any issues concerning the quality system. The overall quality system is reviewed annually and recommended changes are incorporated into the system. However, when a complaint is raised, the Senior Engineer (TM), the Quality Manager, and the Lab Manager discuss the issues at hand to remediate the situation. Any corrective changes are recorded and implemented to improve the performance and quality of the laboratory.

8.2 Quality System Reviews

The Quality Manager shall review the following records, reports and associated documentation every 12 months to assure that the staff is following the established quality system procedures:

1. Proficiency sample reports
2. On-site inspection reports
3. External quality system evaluation reports
4. Equipment calibration, verification and inspection records
5. Testing technicians' training records
6. Testing technicians' evaluation records

After each 12-month review, in addition after each On-site Assessment, the Quality manager will discuss any deficiencies noted with the appropriate staff to ensure that they are taking all corrective actions. The Quality manager files all documents reviewed for this internal quality system in this quality system manual. **SEE APPENDIX H FOR INTERNAL AUDITS.**

9. DIAGNOSTIC AND CORRECTIVE ACTION ON QUALITY ASSURANCE

9.1 General

It is the responsibility of the Lab Manager to review all reports pertaining to proficiency sample testing, on-site inspections, and quality system evaluations. The Quality manager and Senior Engineer (Technical Manager) receive each detailed copy of the inspection reports, evaluations, and any corrective actions taken in response to deficiencies. The Quality manager will notify the Lab Manager when adding corrective steps. The Lab Manager maintains reports covered in this quality system on file in the Lab Manager's office.

9.2 Procedures Relating to On-Site Assessment Programs

9.2.1 Participation

SaLUT participates in AASHTO Resource on-site assessments approximately every 24 months for AASHTO accreditation.

9.3 Proficiency Sample Testing

9.3.1 Participation

SaLUT participates in AASHTO Soil Classification and Compaction tests PSP. SaLUT also enrolls annually in proficiency testing on California Bearing Ratio, Particle Size, Liquid and Plastic Limits, Moisture, and Specific Gravity.

9.3.2 Identifying Poor Test Results

SaLUT defines a "Poor Test Result" as any test result that is greater than two standard deviations from the group average value.

9.3.3 Procedures to Follow When Poor Test Results Occur

1. Check that the data was entered correctly into the report that was submitted.
2. Check that the data transferred from the worksheet to the report was correct.
3. Check the calculations on the worksheet.
4. Check that the equipment used to perform the test meets specification tolerances.

5. Repair or replace test equipment if necessary.

6. Evaluate the Technician who performed the test.

7. Document and file the corrective action that was taken.

9.4 Procedures to Follow When Deficiencies are Reported

9.4.1 Apparatus Deficiencies

1. Determine if equipment meets specification requirements.

2. If equipment is defective, take necessary steps to repair or replace it.

3. Prepare a record summarizing the results of the investigation and the corrective actions taken.

9.4.2 Procedural Deficiencies

Review the procedural deficiency with the Technician that performed the test.

1. Observe the Technician perform the test properly.

2. Prepare a record summarizing the results of the investigation and the corrective actions taken.

3. Review the past data associated with the deficiency and verify the deficiencies in tolerance of the project specification requirement. If not in tolerance immediately report to project manager with the amending report.

9.4.3 Quality System Deficiencies

1. The Quality manager reviews the deficiencies cited by the evaluator with the responsible Technician.

2. Take necessary corrective actions.

3. Prepare a record summarizing the results of the investigation and the corrective actions taken. Then, implement the updating Quality System prepared by Quality Manager.

9.5 Procedure for Handling Technical Complaints

SaLUT shall take the following actions upon receipt of a technical complaint:

1. The Quality manager and Lab Manager shall be notified.

2. The Lab Manager contacts the source of the complaint to verify the specifics of the complaint and establish a resolution date (if necessary).

3. The Lab Manager shall review all specific technical data and shall check all calculations for accuracy.

4. The Lab Manager shall consult the Technician(s) performing the test to discuss the specifics of the circumstances.

5. The Lab Manager reports all information gathered to the Quality manager.

6. The Quality manager shall formulate an appropriate reply and issue it to the complainant.

10. SUBCONTRACTING

This section refers to AASHTO R 18 Section 6.8.

SaLUT's Laboratory follows the following procedures when need arises to subcontract the testing of samples by external laboratories. The laboratory manager in conjunction with the Quality manager discusses and agrees that those samples must be tested by an outside agency. Once this is determined, a number of laboratories in the region are contacted and requested for their certification status including the range of tests in which the certification covers. If the tests on samples to be tested are within this range, the laboratory is shortlisted as a possible subcontractor. Once a few laboratories are contacted as possible candidates for subcontracting, SaLUT requests these laboratories to provide prove of certification and typical test results for review. Once those are reviewed, the laboratory is maintained in the SaLUT manual for contact incase of any external testing required.

The test results from such an agency are reviewed by the SaLUT staff for accuracy and/or any inconsistencies. Once those test results are reviewed and approved, SaLUT uses the results in their reports or are forwarded to the client as received from the testing laboratory. SaLUT provides a transmittal and/or cover letter to confirm such reports.

SEE APPENDIX F FOR EXTERNAL AGENCY CERTIFICATES

APPENDIX C

BORING LOGS

Boring Log Legend

<u>Sample Recovery:</u>

Shaded = no sample recovery.

Unshaded = number of feet of sample recovery in 5-foot core sleeve.

Sample ID = Boring location and core interval where sample was collected for analysis.

Examples:

B1 36.6 -38.8 = Sample collected from boring location B1. Depth interval 36.6 feet to 38.8 feet was sampled. Sample was homogenized to be representative of the interval.

D1 22.7 = Sample collected from boring location D1. A discreet sample was collected at depth of 22.7 feet using a Terra Core sampler for VOC or GRO analysis.

\/\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\/ = transition interval where lithologic gradation occurs.

<u>Test Results</u>

47% sand, 53% fines = SaLUT Grain size distribution lab result where 47% did not pass through 200 mesh sieve and 53% did pass through 200 mesh sieve.

41.9% water content = SaLUT laboratory moisture content result.

22% organic matter = Rutgers University loss on ignition lab result. Used as a surrogate to estimate percentage of coal in the sample. See Section 3.1.1 for more discussion on using TOC to estimate coal content. In cases where granular coal was observed and organic matter was greater than 50%, the USCS code was not applied since the majority of the sample was coal versus sand, silt or clay.

Immediately upon opening each five-foot core, PID readings were collected along the entire length of the core. In addition, PID readings of the ambient air were recorded before and after the processing of each core. Units of measurement = parts per million (ppm).

Gley = a sticky waterlogged soil lacking in oxygen, typically gray to blue in color.

Boring Log

northgate environmental management, inc.

Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**B1**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/4/2020	**Finish:**	12/4/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	43.8	**Depth to Mudline:**	23.8
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.4

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (16.2 ppm)
23.8						
28.8						
33.8						
		2.2 ft of 5 ft	B1 36.6 - 38.8	SANDY SILT (ML), 5Y 3/2 (dark olive gray), wet, loose, fine sand, poorly graded, lens of coal	47% sand, 53% fines 41.9% water content 22% organic matter	83.0
38.8				SANDY SILT (ML), Gley 1 3/10Y (very dark greenish gray), wet, soft, interbedded with low plasticity clay		117.9
		2.6 ft of 5 ft	B1 41.2 - 43.8	ELASTIC SILT with SAND (MH), Gley 1 2.5/N (black) wet, soft	15% sand, 85% fines 48.9% water content	96.9
43.8				-lens of increase amount of fine sand -lens of Gley 1 3/10Y (very dark greenish gray) Refusal at 43.8 ft total depth	14% organic matter	126.4

Boring Log

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Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**C1**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/4/2020	**Finish:**	12/4/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	45.5	**Depth to Mudline:**	20.5
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.5

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (9.3-11.3 ppm)
20.5						
				CLAYEY SAND (SC), Gley 1 3/10Y (very dark greenish gray), wet, soft, low plasticity, organic odor	77% sand, 23% fines 38.7% water content	
25.5		0.8 ft	C1 24.7 - 25.5	SILTY SAND (SM), Gley 1 2.5/10Y (greenish black), wet, loose, fine sand, poorly graded, organic odor	19% organic matter	16.8
						0.8
		2.6 ft of 5 ft	C1 27.9 - 30.5	GRANULAR COAL with SILT, Gley 2 2.5/10Y (greenish black), wet, loose, fine to medium grains	89% sand, 11% fines 40.2% water content 66% organic matter	
30.5						9.4
		2.2 ft of 5 ft	C1 33.3 - 35.5	Same as above except very slight organic odor	89% sand, 11% fines 43.1% water content 62% organic matter	23.0 24.7
35.5						
		1.8 ft of 5 ft	C1 38.8 - 40.5	GRANULAR COAL with SILT, Gley 2 2.5/10Y (greenish black), wet, loose, fine to medium grains, poorly graded	81% sand, 19% fines 46.9 water content 70% organic matter	13.3 11.9
40.5						
		1 ft	C1 44.5 - 45.5	Same as above except slight organic odor	81% sand, 19% fines 46.1 water content 57% organic matter	29.1
45.5				Refusal at 45.5 ft total depth		

Boring Log

northgate environmental management, inc.

Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**D1**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/4/2020	**Finish:**	12/4/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	44.8	**Depth to Mudline:**	17.7
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	108.1

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (10.7-12.9 ppm)
17.7						
		1.9 ft of 5 ft	D1 20.8 - 22.7	SILT (ML), 5Y 3/1 (dark olive gray), wet, very soft, low plasticity	77% sand, 23% fines 40.0% water content	9.6
			D1 22.7	SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose, fine sand, poorly graded		
22.7				Interbedded SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose, fine sand, poorly graded with COAL Gley 1 2.5/N (black)	74% organic matter (coal lens)	
		3 ft of 5 ft	D1 24.7 - 26.7	ELASTIC SILT (MH), 5Y 3/2 (very dark gray), wet, very soft, organic odor	9% sand, 91% fines 45.2% water content 15% organic matter	11.0
			D1 26.7 - 27.7	GRANULAR COAL with SILT, 5Y 2.5/1 (black), wet, loose, fine to medium grains	88% sand, 12% fines 34.0% water content 66% organic matter	6.1
27.7						
		4.2 ft of 5 ft	D1 28.5 - 30.2	ELASTIC SILT (MH), 5Y 3/1 (very dark gray), wet, soft, organic odor	7% sand, 93% fines 33.9% water content 12% organic matter	14.6
			D1 30.2 - 32.7	ELASTIC SILT with SAND (MH), 5Y 2.5/1 (black), wet, soft, fine sand	19% sand, 81% fines 33.4% water content 27% organic matter	14.2
32.7						
		4.7 ft of 5 ft	D1 33.0 - 37.7	ELASTIC SILT (MH), 5Y 3/1 (very dark gray), wet, soft, fine sand, organic odor	12% sand, 88% fines 70.9% water content	
			D1 35.0	-lens of coal	27% organic matter	15.6
						16.4
37.7						
		4.7 ft of 5 ft	D1 38.0 - 42.7		5% sand, 95% fines 61.9% water content 14% organic matter	16.1
						14.4
42.7						

Refusal at 42.7 ft total depth

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Boring Log

Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**A2**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/7/2020	**Finish:**	12/7/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	40.0	**Depth to Mudline:**	7.8
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.4

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (22.0-26.4 ppm)
7.8						
		5 ft of 5 ft	A2 7.8 - 12.8	SILT (ML), 5Y 2.5/2 (black), wet, soft, low plasticity		23.1
				-lens of coal	14% sand, 86% fines 56.4% water content 14% organic matter	
				-lens of coal		26.2
12.8				-lens of coal		
		4.6 ft of 5 ft	A2 13.2 - 16.4	POORLY GRADED SAND with SILT (SP-SM), Gley 1 3/10Y (very dark greenish gray), wet, loose, medium sand	90% sand, 10% fines 37.1% water content 43% organic matter	19.9
			A2 16.4 - 17.8	ELASTIC SILT (MH), 5Y 2.5/1 (black), moist	2% sand, 98% fines 53.6% water content 10% organic matter	23.1
17.8						
		4.8 ft of 5 ft	A2 18.0 - 20.2	SILTY SAND (SM), Gley 1 2.5/10Y (greenish black), wet, no odor, loose, fine sand	87% sand, 13% fines 31.1% water content 43% organic matter	21.7
			A2 20.2 - 22.8	ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), moist, soft	5% sand, 95% fines 40.2% water content 10% organic matter	25.7
22.8						
		4.4 ft of 5 ft	A2 23.4 - 27.8	POORLY GRADED SAND (SP), Gley 1 2.5/10Y (greenish black), wet, loose		20.5
				ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), moist, soft, organic odor	3% sand, 97% fines 61.7% water content 14% organic matter	14.1
27.8						
		4.4 ft of 5 ft	A2 28.4 - 32.8	POORLY GRADED SAND (SP), Gley 1 2.5/N (black), wet, loose, fine sand		
				ELASTIC SILT (MH), 5Y 2.5/1 (black), moist, very soft,	4% sand, 96% fines 57.8% water content 16% organic matter	22.4
				Same as above except soft		48.5
32.8						
		4.2 ft of 5 ft	A2 33.6 - 35.8		5% sand, 95% fines 54.6% water content 22% organic matter	29.2
				-organic matter (wood/roots)		33.0
37.8				POORLY GRADED SAND with SILT (SP-SM), 5Y 4/1 (dark gray), wet, loose, fine sand		26.0
		2 ft of 5 ft	A2 38.0 - 40.0		93% sand, 7% fines 20.2% water content 1% organic matter	
40.0						
				Refusal at 40.0 ft total depth		
42.8						

Boring Log

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Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**C2**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/7/2020	**Finish:**	12/7/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	44.6	**Depth to Mudline:**	22.3
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.2

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (16.5-25.3 ppm)
22.3						
				SILT (ML) 5Y 3/2 (dark olive gray), wet, soft, low plasticity		22.0
		3.6 ft of 5 ft	C2 24.5 - 27.3	WELL GRADED SAND with SILT (SW-SM), Gley 1 2.5/N (black), wet, loose, fine to coarse sand	93% sand, 7% fines 27.3% water content 39% organic matter	23.6
27.3						
		3.1 ft of 5 ft	C2 29.8 - 32.2	ELASTIC SILT (MH), 5Y 3/1 (very dark gray), wet, soft	5% sand, 95% fines 42.9% water content 12% organic matter	13.1
32.3						
		3.6 ft of 5 ft	C2 34.1 - 34.9	SILT with SAND (ML), 5Y 3/1 (very dark gray), wet, very soft, low plasticity, organic odor	24% sand, 76% fines 67.5% water content 15% organic matter	41.7
			C2 35.3 - 37.3	CLAYEY SAND (SC), 5Y 2/1 (black), wet, loose, organic odor ELASTIC SILT (MH), 5Y 2.5/1 (black), wet, soft, organic odor	4% sand, 96% fines 55.3% water content 17% organic matter	12.9
37.3						
		4.9 ft of 5 ft	C2 38.4 - 39.3	ELASTIC SILT with SAND (MH), 5Y 2.5/1 (black), wet, soft, organic odor ELASTIC SILT (MH), 5Y 2.5/1 (black), wet, very soft, organic odor	10% sand, 90% fines 53.2% water content 17% organic matter	19.3
			C2 39.3 - 42.3	GRANULAR COAL with SILT, Gley 1 2.5/N (black), moist, loose, poorly graded	66% sand, 34% fines 26.9% water content 65% organic matter	0.4
42.3						
44.6		0.6 ft		POORLY GRADED GRAVEL (GP), wet, fine		

Refusal at 44.6 ft total depth

Boring Log

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Project Number:	3037.02	**Boring Location:**	**A3**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/7/2020	**Finish:**	12/7/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	48.4	**Depth to Mudline:**	18.4
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.8

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (22.0-26.4 ppm)
18.4						
		1 ft of 5 ft		SILT (ML), 5Y 3/1 (very dark gray), wet, very soft, low plasticity		34.0
23.4						
		3.2 ft of 5 ft	A3 24.6 - 26.0	SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose poorly graded, fine sand	84% sand, 16% fines 25.2% water content 45% organic matter	
			A3 26.0 - 28.4	ELASTIC SILT with SAND (MH), 5Y 2.5/1 (black), moist, very soft	23% sand, 77% fines 45.7% water content 16% organic matter	30.1
28.4						52.4
		4.8 ft of 5 ft	A3 28.6 - 29.9	POORLY GRADED SAND with SILT (SP-SM), Gley 1 2.5/N (black), wet, loose, fine sand,	88% sand, 12% fines 30.0% water content 45% organic matter	19.1
			A3 29.9 - 33.4	ELASTIC SILT (MH), 5Y 3/1 (very dark gray), moist, soft, strong organic odor	8% sand, 92% fines 52.6% water content 13% organic matter	
33.4						20.4
		3.7 ft of 5 ft	A3 34.7-36.2	GRANULAR COAL with SILT, Gley 1 2.5/N (black), wet, loose, fine grains, poorly graded	72% sand, 28% fines 28.4% water content 59% organic matter	38.1
				LEAN CLAY (CL), 5Y 2.5/1 (black), moist, soft, low plasticity		23.4
38.4				POORLY GRADED SAND (SP), 2.5Y 3/1 (very dark gray), moist, moderately dense, very fine sand		21.9
		2.5 ft of 5 ft	A3 41.6 - 43.4	POORLY GRADED SAND (SP), Gley 1 2.5/N (black), wet, loose, fine sand wood, strong organic odor	71% sand, 29% fines 16.3% water content 1% organic matter	137.2
43.4				SILTY SAND (SM), 10YR 4/3 (brown), wet, dense, very fine sand, poorly graded		
		3.8 ft of 5 ft	A3 44.6 - 47.4	-plant roots	75% sand, 25% fines 18.0% water content 1% organic matter	35.7
48.4				CONGLOMERATE, cemented sand and gravel, fine sand, medium subangular to rounded gravel		32.6

Refusal at 48.4 ft total depth

Boring Log

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Project Number:	3037.02	**Boring Location:**	**C3**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/8/2020	**Finish:**	12/8/2020
Drilling Contractor:	SaLUT	**Total Depth (ft.):**	50.5	**Depth to Mudline:**	25.5
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft.):**	106.8

Depth Below Water Surface (ft.)	Sample: Drive Interval	Sample: Recovery (ft.)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (17.1-17.6 ppm)
25.5						
				SILT (ML) 5Y 3/2 (dark olive gray), wet, very soft, low plasticity, organic odor		
		2.5 ft. of 5 ft.		Same as above interlayered with POORLY GRADED SAND (SP) Gley 1 2.5/10Y (greenish black), fine	7% sand, 93% fines	
			C3 29.3 - 30.5	ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft, organic odor	72.5% water content 14% organic matter	23.7
30.5						
		4.9 ft. of 5 ft.	C3 30.6 - 35.5	GRANULAR COAL with SILT, loose, fine to medium grains	90% sand, 10% fines 32.0% water content 64% organic matter	15.0
35.5						
		4.5 ft of 5 ft				14.1
			C3 38.2 - 40.5	ELASTIC SILT (MH), 5Y 2.5/1 (black), moist, very soft, organic odor	10% sand, 90% fines 74.4% water content 26% organic matter	14.6
40.5						
			C3 40.5 - 41.8	GRANULAR COAL with SILT, loose, fine to medium grains	90% sand, 10% fines 29.2% water content 70% organic matter	17.5
		5 ft. of 5 ft.		ELASTIC SILT (MH), 5Y 2.5/1 (black), moist, very soft, organic odor		
45.5						15.1
				SILT with SAND (ML), wet, very soft, low plasticity, organic odor		89.2
		3.8 ft. of 5 ft.	C3 47.7 C3 46.7 - 50.5		15% sand, 85% fines 64.7% water content 23% organic matter	46.4
50.5						

Refusal at 50.5 ft. total depth

Boring Log

Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**D3**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/8/2020	**Finish:**	12/8/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	53.2	**Depth to Mudline:**	20.9
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.1

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (12.0-18.5 ppm)
20.9						
		1.5 ft	D3 24.4 - 25.9	GRANULAR COAL with SILT, Gley 1 2.5/N (black), wet, loose, fine to medium grains	92% sand, 8% fines 44.0% water content 64% organic matter	19.8
25.9						
		4.7 ft of 5 ft	D3 26.2 - 30.9		93% sand, 7% fines 32.4% water content 63% organic matter	25.5
						21.2
30.9				LEAN CLAY (CL), 5Y 2.5/2 (black), wet, very soft, low plasticity, organic odor		
		3.9 ft of 5 ft	D3 32.0 - 35.9	-wet	15% sand, 2% gravel, 83% fines 79.8% water content 21% organic matter	16.1
35.9				-lens of interbedded LEAN CLAY with SAND (CL) -moist		
		4.8 ft of 5 ft	D3 36.1 - 40.9	-wet	11% sand, 89% fines 72.7% water content 18% organic matter	10.0
40.9				-moist		11.9
		5 ft of 5 ft	D3 40.9 - 45.9	-wet	16% sand, 84% fines 73.3% water content 24% organic matter	6.5
45.9				-moist		10.4
		5 ft of 5 ft	D3 45.9 - 50.9	-wet, strong organic odor	3% sand, 97% fines 65.4% water content 20% organic matter	13.3
50.9				-lens of 5Y 3/2 (dark olive gray) -moist		15.7
		2.3 ft of 2.3 ft	D3 50.9 - 53.2	-lens of 5Y 3/3 (dark olive gray)	6% sand, 94% fines 68.2% water content 20% organic matter	9.8
53.2						
				Refusal at 53.2 ft total depth		
55.9						

Boring Log

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Sheet 1 of 2

Project Number:	3037.02	**Boring Location:**	**C4**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/8/2020	**Finish:**	12/8/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	63.0	**Depth to Mudline:**	18.0
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.0

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (6.2-16.7 ppm)
18.0						
		0.9 ft		SILT (ML), 5Y 2.5/1 (black), wet, very soft, low plasticity, slight organic odor		
23.0				POORLY GRADED SAND (SP), Gley 1 2.5/10Y (greenish black), wet, loose, fine sand		7.5
		3.1 ft of 5 ft	C4 24.9 - 26.4	SILT (ML), 5Y 2.5/1 (black), wet, very soft, low plasticity, slight organic odor	54% sand, 46% fines 45.5 water content 42% organic matter	6.5
			C4 26.4 - 28.0	SILTY SAND (SM), Gley 1 2.5/10Y (greenish black), wet, loose, slight organic odor ELASTIC SILT with SAND (MH), 5Y 2.5/2 (black), wet, very soft	15% sand, 85% fines 78.7% water content 18% organic matter	5.1
28.0						
		4.6 ft of 5 ft	C4 28.4 - 31.9	GRANULAR COAL with SILT, Gley 1 2.5/N (black), moist, loose, fine to medium grains	88% sand, 12% fines 26.0% water content 61% organic matter	14.9 12.3
33.0				LEAN CLAY (CL), 5Y 2.5/1 (black), moist, soft, low plasticity, organic odor		
		5 ft of 5 ft		WELL GRADED SAND (SW), Gley 1 2.5/N (black), moist, loose, fine to medium sand		9.7
			C4 36.4 - 38.0	ELASTIC SILT (MH), 5Y 2.5/2 (black), wet, soft, slight organic odor	6% sand, 94% fines 80.8% water content 18% organic matter	9.8
38.0						
		3.9 ft of 5 ft		SILTY SAND (SM), 2.5Y 2.5/1 (black), wet, very loose, fine sand, poorly graded		18.6
			C4 41.4 - 43.0	ELASTIC SILT (MH), 5Y 2.5/2 (black), wet, very soft, moderate amount of clay, slight organic odor	7% sand, 93% fines 77.5 water content 15% organic matter	18.8
43.0						

Boring Log

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Project Number:	3037.02	**Boring Location:**	**C4**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/8/2020	**Finish:**	12/8/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	63.0	**Depth to Mudline:**	18.0
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.0

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (6.2-16.7 ppm)
43.0						
		5 ft of 5 ft	C4 44.6 - 48.0	ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, very soft, moderate amount of clay, slight organic odor	2% sand, 98% fines 80.5% water content 16% organic matter	16.6
48.0						
		5 ft of 5 ft	C4 48.0 - 53.0	Same as above except 5Y 2.5/1 (black), wet -moist	4% sand, 96% fines 68.7% water content 20% organic matter	
53.0						
		4.6 ft of 5 ft	C4 53.4 - 55.5	-wet very soft	51% sand, 49% fines 48.8% water content 42% organic matter	20.9
			C4 55.5 - 58.0	CLAYEY SAND (SC), 5Y 2.5/1 (black), moist, loose GRANULAR COAL with SILT, Gley 1 2.5/N (black), moist, loose, fine to medium grains ELASTIC SILT (MH), 5Y 2.5/1 (black), most, soft	13% sand, 87% fines 53.0% water content 23% organic matter	11.3
58.0						
		1.2 ft				21.4
63.0						

Refusal at 63.0 ft total depth

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Boring Log

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Project Number:	3037.02	**Boring Location:**	**B5**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/9/2020	**Finish:**	12/9/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	54.9	**Depth to Mudline:**	20.4
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation:**	106.8

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (26.2-109.7 ppm)
20.4						
		1 ft of 5 ft	B5 24.4 - 25.4	SILT (ML), 5Y 3/2 (dark olive gray), wet, soft low plasticity, organic odor	12% sand, 88% fines 89.1% water content 11% organic matter	52.6
25.4				LEAN CLAY (CL) 5Y 3/2 (dark olive gray), wet, soft, low plasticity, organic odor		48.6
		4.2 ft of 5 ft	B5 27.0	-interbedding with poorly graded fine sand	88% sand, 12% fines 28.4% water content 40% organic matter	30.1
30.4			B5 29.4 - 30.4	POORLY GRADED SAND with SILT (SP-SM), 5Y 2/1 (black), moist, interbedded with LEAN CLAY (CL), 5Y 3/1 (dark olive gray)	74% organic matter	
			B5 30.6 - 31.0	WELL GRADED GRAVEL with GRANULAR COAL, Gley 1 2.5/N (black), wet, loose, subrounded fine to coarse elongate gravel, coal fragments, fine to medium grains		111.4
		4.8 ft of 5 ft	B5 31.0 - 35.4	-coal fragment POORLY GRADED SAND with SILT (SP-SM), Gley 1 2.5/N (black), wet, loose -coal fragment	88% sand, 1% gravel, 11% fines 32.4% water content	97.8
35.4				-interbedding with silt/clay		
		5 ft of 5 ft	B5 35.4-40.4	ELASTIC SILT (MH), 5Y 2.5/2 (black), wet, soft, organic odor	8% sand, 92% fines 77.7% water content 18% organic matter	101.8
40.4				-moist		75.8
		5 ft of 5 ft	B5 40.4 - 45.4	-wet	7% sand, 93% fines 72.5% water content 16% organic matter	86.2
45.4				-moist		101.2
		5 ft of 5 ft	B5 45.4 - 50.4	-wet Same as above except 5Y 2.5/1 (black)	2% sand, 98% fines 68.2% water content 16% organic matter	94.7
50.4				-moist		46.4
		5 ft of 5 ft	B5 50.4 - 51.9	-wet	3% sand, 97% fines 64.4% water content 18% organic matter	75.3
			B5 51.9 - 54.1	SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose slight organic odor -moist	40% sand, 60% fines 46.0% water content 28% organic matter	
54.9						68.7
55.4				Refusal at 54.9 ft total depth		

Boring Log

northgate environmental management, inc.

Project Number:	3037.02	**Boring Location:**	**C5**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/9/2020	**Finish:**	12/9/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	49.9	**Depth to Mudline:**	11.7
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	106.3

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (14.2-26.6 ppm)
11.7				SILT (ML), 5Y 2.5/2 (black), wet, very soft, organic odor		
16.7		0.4 ft		SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose		
				SILT (ML), 5Y 2.5/2 (black), wet, very soft, organic odor		
21.7		0.8 ft		SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose		
		4.6 ft of 5 ft	C5 22.1 - 26.7	GRANULAR COAL with SILT, Gley 1 2.5/N (black), moist, loose, poorly graded	86% sand, 14% fines 38.9% water content 58% organic matter	11.4
26.7						
		5 ft of 5 ft	C5 29.4 - 31.7	ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft, organic odor	1% sand, 99% fines 83.0% water content 14% organic matter	13.5 21.3
31.7				POORLY GRADED SAND (SP), Gley 1 2.5/N (black), wet, loose, organic odor		19.6
		4.7 ft of 5 ft	C5 34.0 - 36.7	ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft, organic odor	2% sand, 98% fines 73.5% water content 12% organic matter	20.7
36.7				-moist		

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Boring Log

Project Number:	3037.02	**Boring Location:**	**C5**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/9/2020	**Finish:**	12/9/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	49.9	**Depth to Mudline:**	11.7
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	106.3

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (14.2-26.6 ppm)
36.7				Same as above		20.6
		5 ft of 5 ft	C5 36.7 - 41.7		6% sand, 94% fines 70.9% water content 19% organic matter	
						15.9
41.7				-very wet		
						31.1
		4.4 ft of 5 ft	C5 43.5 - 46.7	ELASTIC SILT with SAND (MH), Gley 1 2.5/N (black), wet, soft -wood	18% sand, 82% fines 55.1% water content 24% organic matter	14.2
46.7						
		3.3 ft of 3.3 ft		-wood	29% sand, 71% fines 36.0% water content 19% organic matter	
49.9			C5 49.0 - 49.9	-wood		
				Refusal at 49.9 ft total depth		
51.7						

Boring Log

northgate environmental management, inc.

Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**B6**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/9/2020	**Finish:**	12/9/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	50.4	**Depth to Mudline:**	30.3
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	106.2

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (58.8-76.4 ppm)
30.3						
				SILT (ML), 5Y 3/2 (dark grayish olive), very soft, low plasticity, organic odor		
35.3		0.6 ft		SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose -wood		
40.3						
		4.3 ft. of 5 ft.	B6 41.0 - 45.3	GRANULAR COAL with SILT, Gley 1 2.5/N (black), moist to wet, loose, fine grains	88% sand, 12% fines 36.7% water content 53% organic matter	73.2 80.2
45.3						50.6
		5 ft. of 5 ft.	B6 46.6 - 48.5	ELASTIC SILT (MH), 5Y 2.5/1 (black), wet, very soft, organic odor	8% sand, 92% fines 76.2% water content 17% organic matter	
			B6 48.5 - 50.3	-moist	1% sand, 99% fines 65.8% water content 16% organic matter	19.2
50.3						
50.4				Refusal at 50.4 ft. total depth		

Boring Log

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Project Number:	3037.02	**Boring Location:**	**C6**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/10/2020	**Finish:**	12/10/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	56.1	**Depth to Mudline:**	16.1
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	106.9

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (0.8-8.7 ppm)
16.1						
		2.2 ft of 5 ft		SILT (ML), 5Y 3/2 (dark olive gray), wet, very soft, low plasticity, organic odor	37% sand, 63% fines 77.8% water content 29% organic matter	5.0
			C6 19.7 - 20.1 C6 19.7 C6 20.1 - 20.8	Same as above interlayered with POORLY GRADED SAND (SP) 5Y 2.5/2 (black)	2% sand, 98% fines 92.6% water content	
21.1				ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft,	10% organic matter	
		4.3 ft of 5 ft	C6 21.8 - 23.4	POORLY GRADED SAND (SP), 5Y 2.5/1 (black), moist, loose, fine sand	87% sand, 13% fines 43.0 water content	1.0
				GRANULAR COAL with SILT, 5Y 2.5/1 (black), moist, loose, fine to medium grains, well graded	63% organic matter	
			C6 23.4 - 26.1	ELASTIC SILT (MH), 5YR 2.5/2 (dark reddish brown), moist, soft	7% sand, 93% fines 80.3% water content 12% organic matter	1.3
26.1						
		3.9 ft of 5 ft	C6 27.2 - 28.3	GRANULAR COAL with SILT, Gley 1 2.5/N (black), wet, loose, fine grains, poorly graded	83% sand, 17% fines 49.9% water content 63% organic matter	0.9
			C6 28.3 - 31.1	ELASTIC SILT (MH), 5YR 2.5/2 (dark reddish brown), moist, soft	3% sand, 97% fines 75.0% water content 9% organic matter	1.1
31.1						
		5 ft of 5 ft	C6 31.1 - 33.9		7% sand, 93% fines 73.1% water content 13% organic matter	1.1
					19% sand, 81% fines 59.4% water content	1.1
			C6 33.9 - 35.0	Same as above interlayered with WELL GRADED SAND (SP), moist, loose, very fine, organic odor	26% organic matter	
			C6 35.0 - 36.1	Same as above interlayered 5Y 2.5/1 (black) with Gley 1 2.5/N (black), peanut shell	62% sand, 38% fines 48.2% water content 45% organic matter	1.0
36.1						
		4.5 ft of 5 ft	C6 36.6 - 38.8		71% sand, 29% fines 41.9% water content 43% organic matter	0.8
					1% sand, 99% fines 75.2% water content	
			C6 38.8 - 39.8	ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft, organic odor	11% organic matter	
			C6 39.8 - 41.1		3% sand, 97% fines 68.9% water content 15% organic matter	0.8
41.1						

Boring Log

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Project Number:	3037.02	**Boring Location:**	**C6**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/10/2020	**Finish:**	12/10/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	56.1	**Depth to Mudline:**	16.1
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	106.9

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (0.8-8.7 ppm)
41.1						
		4.6 ft of 5 ft	C6 41.5 - 43.6	-wet	9% sand, 91% fines 74.9% water content 14% organic matter	0.5
			C6 43.6 - 46.1	-moist	1% sand, 99% fines 70.2% water content 11% organic matter	0.6
46.1						
		5 ft of 5 ft	C6 46.1 - 49.5	Same as above except 5Y 2.5/1 (black) -wood	4% sand, 96% fines 63.4% water content 18% organic matter	3.1
			C6 49.5 - 51.1	SANDY ELASTIC SILT (MH), 2.5Y 4/2 (dark grayish br fine to medium grains, well graded	36% sand, 64% fines 22.9% water content 2% organic matter	6.3
51.1				SILT (ML), 5Y 2.5/1 (black), wet, soft, low plasticity, moist, soft		
		5 ft of 5 ft	C6 52.3 - 54.2	ELASTIC SILT with SAND (MH), 2.5Y 4/2 (dark grayish brown), wet, soft	24% sand, 76% fines 22.0% water content 2% organic matter	6.5
			C6 54.2 - 56.1	FAT CLAY with SAND (CH), 10YR 5/6 (yellowish brown) mottled with Gley 1 5/10Y (greenish gray), moist, very firm, moderate to high plasticity, fine sand	24% sand, 76% fines 21.9% water content 2% organic matter	9.4
56.1						

Refusal at 56.1 ft total depth

Boring Log

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Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**B7**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/11/2020	**Finish:**	12/11/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	68.1	**Depth to Mudline:**	35.6
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	106.9

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (3.6-9.6 ppm)
35.6						
		3 ft of 5 ft	B7 37.6 - 39.6	ELASTIC SILT (MH), 5Y 3/1 (very dark gray), wet, very soft, organic odor	5% sand, 95% fines 87.4% water content 10% organic matter	6.4
			B7 39.6	-interlayering with POORLY GRADED SAND (SP), fine	70% sand, 30% fines 37.5% water content 22% organic matter	6.0
40.6			B7 39.6 - 40.6	-moist	4% sand, 96% fines 82.5% water content 10% organic matter	
		4.6 ft of 5 ft	B7 42.0	-wet		10.4
			B7 41.0 - 43.3		7% sand, 93% fines 67.0% water content 13% organic matter	
			B7 43.3 - 45.6	-moist	4% sand, 96% fines 69.0% water content 12% organic matter	9.8
45.6						
		4.3 ft of 5 ft			49% sand, 51% fines 51.7% water content 38% organic matter	11.3
			B7 47.4 - 48.2			
			B7 48.2 - 50.6	SILTY SAND (SM), interlayered Gley 1 2.5/N (black) with 5Y 3/2 (dark olive gray), moist, fine sand, poorly graded	81% sand, 19% fines 38.6% water content 48% organic matter	10.2
50.6						
		4.6 ft of 5 ft	B7 51.0 - 52.5	SILTY SAND (SM), 5Y 2.5/1 (black), wet, loose, fine sand, poorly graded	74% sand, 26% fines 47.5% water content 40% organic matter	4.7
			B7 52.5 - 54.5	ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), wet to moist, soft, fine sand, organic odor	1% sand, 99% fines 76.5% water content 9% organic matter	
			B7 54.5 - 55.6	Same as above except 5Y 2.5/1 (black), moist	4% sand, 96% fines 75.3% water content 15% organic matter	7.5
55.6						
		5 ft of 5 ft	B7 55.6 - 58.1	-wet	8% sand, 92% fines 78.0% water content 16% organic matter	6.6
			B7 58.1 - 60.6	- moist, strong organic odor	4% sand, 96% fines 74.4% water content 13% organic matter	6.7
60.6						
		5 ft of 5 ft	B7 60.6 - 63.1		6% sand, 94% fines 76.9% water content 12% organic matter	4.8
			B7 63.1 - 65.6		2% sand, 98% fines 67.1% water content 15% organic matter	3.6
65.6						
		2.5 ft of 2.5 ft	B7 65.6 - 66.7		1% sand, 99% fines 63.4% water content 17% organic matter	3.5
			B7 66.7 - 68.1	FAT CLAY (CH), 5Y 2.5/1 (black), moist, soft, high plasticity	2% sand, 98% fines 63.7% water content 16% organic matter	3.7
68.1				Refusal at 68.1 ft total depth		
70.6						

Boring Log

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Project Number:	3037.02	**Boring Location:**	**C7**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/10/2020	**Finish:**	12/10/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	72.3	**Depth to Mudline:**	25.8
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.1

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (0.6-0.9 ppm)
25.8						
		1.5 ft	C7 29.3 - 30.0	SILT (ML), 5Y 3/2 (dark olive gray), wet, very soft, low plasticity, slight organic odor	1% sand, 99% fines 124.4% water content 8% organic matter	0.6
			C7 30.0 - 30.8			
30.8				SILTY SAND (SM), Gley 1 2.5/N (black) interlayered with 5Y 3/2 (dark olive gray), moist, loose, fine sand, poorly graded	78% sand, 22% fines 38.2% water content 22% organic matter	0.7
		2.8 ft of 5 ft				0.8
			C7 33.9 - 35.8	ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft	5% sand, 95% fines 74.7% water content 10% organic matter	0.8
35.8					87% sand, 13% fines 38.8% water content	
		3.7 ft of 5 ft	C7 36.5 - 37.3	GRANULAR COAL WITH SILT, Gley 2 2.5/5BG (greenish black), moist, loose, fine to medium grains, well graded	63% organic matter	0.7
			C7 37.3 - 38.7	SILTY SAND (SM), 5Y 2.5/2 (black), moist, loose, fine sand, poorly graded	82% sand, 18% fines 29.5% water content 22% organic matter	
			C7 38.7 - 40.8	ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft, organic odor	3% sand, 97% fines 79.4% water content 10% organic matter	0.7
40.8						
		4.1 ft of 5 ft	C7 41.7 - 43.4	GRANULAR COAL WITH SILT, 5Y 2.5/2 (black), wet to moist, loose	88% sand, 12% fines 35.1% water content 60% organic matter	0.7
			C7 43.4 - 45.8	-wood ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), moist, soft, organic odor	2% sand, 98% fines 68.2% water content 9% organic matter	0.8
45.8						
		4.5 ft of 5 ft	C7 46.3 - 50.8	POORLY GRADED SAND (SP), Gley 1 2.5/10Y (greenish black), wet, loose, fine sand, organic odor	4% sand, 96% fines 64.4% water content 13% organic matter	0.7
			C7 47.0 - 50.8	ELASTIC SILT (MH), 5Y 2.5/2 (black), wet, soft, organic odor	5% sand, 58% silt, 37% clay 63.7% water content 56% liquid limit	
50.8				-moist	25% plasticity index	0.9

Boring Log

northgate environmental management, inc.

Project Number:	3037.02	**Boring Location:**	**C7**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/10/2020	**Finish:**	12/10/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	72.3	**Depth to Mudline:**	25.8
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.1

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (0.6-0.9 ppm)
50.8						
		4.6 ft of 5 ft		-wet		0.6
			C7 53.2 - 55.3	Interlayered POORLY GRADED FINE SAND (SP), Gley 1 2.5/N (black), moist, loose, organic odor, wood, with POORLY GRADED SAND with CLAY (SP-SC), 5Y 2.5/N (black), moist, loose	68% sand, 32% fines 49.6% water content 45% organic matter	0.9
55.8						
		5 ft of 5 ft	C7 55.8 - 58.3	ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), moist, soft, organic odor	11% sand, 89% fines 79.0% water content 21% organic matter	0.8
			C7 58.3 - 60.8		3% sand, 97% fines 78.0% water content 14% organic matter	0.8
60.8						
		5 ft of 5 ft	C7 61.8 - 65.8 C7 60.8 - 65.8	Same as above except wet, moderate plasticity	1% sand, 99% fines 74.8% water content	1.1
					1% sand, 43% silt, 56% clay 74.8% water content 70% liquid limit 39% plastic limit 31% plasticity index	
65.8				-moist	16% organic matter	1.1
		5 ft of 5 ft	C7 67.0	Same as above except 5Y 2.5/1 (black)	1% sand, 99% fines 63.5% water content	
			C7 65.8 - 68.8	-lens of 5Y 3/2 (dark olive gray)	17% organic matter	1.0
				-lens of 5Y 3/2 (dark olive gray)	16% sand, 84% fines	
			C7 68.8 - 70.8	ELASTIC SILT with SAND, (Munsell color not recorded) wet to moist, loose, fine sand	46.3% water content 21% organic matter	
70.8				ELASTIC SILT (MH), Gley 1 2.5/N (black) with 5Y 3/2 (dark olive gray), wet, very soft, organic odor	0% sand, 100% fines 65.6% water content	0.7
		1.5 ft	C7 70.8 - 71.9		14% organic matter	0.8
				WELL GRADED SAND with SILT (SW-SM), Gley 1 2.5/N (black), moist, loose, fine to medium sand	93% sand, 7% fines	
72.3			C7 71.9 - 72.3		36.7% water content	1.0
				Refusal at 72.3 ft total depth		
75.8						

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Boring Log

Project Number:	3037.02	**Boring Location:**	**A8**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/12/2020	**Finish:**	12/12/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	75.3	**Depth to Mudline:**	37.3
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.7

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (23.0-29.4 ppm)
37.3						
		1.1 ft	A8 41.2 - 42.3	SILT (ML), 5Y 2.5/2 (black), wet, very soft, low plasticity, organic odor	1% sand, 99% fines 115.3% water content 8% organic matter	
42.3						
		2.1 ft of 5 ft	A8 45.2 - 47.3	ELASTIC SILT (MH), 5Y 2.5/2 (black), wet, very soft, organic odor	3% sand, 97% fines 110.8% water content 9% organic matter	25.5
47.3						
		1.8 ft of 5 ft	A8 50.5 - 52.3	Same as above except soft -moist	3% sand, 97% fines 92.1% water content 9% organic matter	28.1
52.3						
				-wet		28.4
		4.2 ft of 5 ft	A8 53.1 - 57.3		6% sand, 94% fines 95.9% water content 11% organic matter	
				-moist		28.4
57.3						
		4.5 ft of 5 ft	A8 57.8 - 62.3	-wet	2% sand, 98% fines 86.2% water content 9% organic matter	31
				-moist		31.9
62.3			A8 62.3			

Boring Log

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Project Number:	3037.02	**Boring Location:**	**A8**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/12/2020	**Finish:**	12/12/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	75.3	**Depth to Mudline:**	37.3
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.7

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (23.0-29.4 ppm)
62.3						
		4.4 ft of 5 ft	A8 62.9 - 67.3	-wet		
				Same as above except 5Y 2.5/1 (black)	2% sand, 98% fines 82.0% water content 9% organic matter	24.5
67.3				-moist		
		5 ft of 5 ft	A8 67.3 - 72.3	-wet		21.8
				Same as above except Gley 1 2.5/N (black)	1% sand, 99% fines 76.9% water content 12% organic matter	
72.3				organic odor		13.9
		3 ft of 3 ft	A8 72.3 - 74.8	-wet		15.7
					5% sand, 95% fines 66.0% water content 19% organic matter	9.8
75.3				LEAN CLAY with SAND (CL), 5Y 2.5/1 (black), moist, soft, low plasticity		
				Refusal at 75.3 ft total depth		
77.3						

Boring Log

northgate environmental management, inc.

Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**B8**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/11/2020	**Finish:**	12/11/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	71.2	**Depth to Mudline:**	53.7
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.4

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (2.0-2.2 ppm)
53.7						
58.7						
63.7						
			B8 63.7 - 67.7	LEAN CLAY (CL), 5Y 3/2 (dark olive gray), wet, very soft, low plasticity, organic odor	3% sand, 97% fines 87.6% water content 13% organic matter	2.4
		5 ft of 5 ft	B8 67.2	Same as above except 5Y 2.5/1 (black)		
			B8 66.7 - 67.2	SILTY SAND (SM), 5Y 5/1 (gray), moist, moderately dense, fine sand, poorly graded, slightly cemented	83% sand, 17% fines 18.8% water content	1.5
			B8 67.2 - 68.7	Same as above except 7.5YR 4/4 (brown), very dense, highly cemented	68% sand, 32% fines 14.8% water content 1% organic matter	
68.7						
71.2		0.6 ft	B8 69.6 - 71.2	-wet	2% organic matter	2.4
				Refusal at 71.2 ft total depth		
73.7						

Boring Log

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Sheet 1 of 1

Project Number:	3037.02	**Boring Location:**	**B8A**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/12/2020	**Finish:**	12/12/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	83.5	**Depth to Mudline:**	55.0
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.5

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (25.8-28.6 ppm)
55.0						
		1.2 ft	B8A 58.8 - 60.0	SILT (ML), 5Y 2.5/2 (black), wet, soft, low plasticity, organic odor	2% sand, 98% fines 110.8% water content 9% organic matter	17.2
60.0						
		1.5 ft		ELASTIC SILT (MH), 5Y 2.5/2 (black), wet, very soft		18.8
65.0						
		2.6 ft of 5 ft				
			B8A 68.7 - 70.0	SILTY SAND (SM), interlayered 5Y 3/2 (dark olive gray) with Gley 1 2.5/N (black), moist, loose, fine sand, poorly graded	77% sand, 23% fines 39.8% water content 40% organic matter	24.8
70.0						
		3.1 ft of 5 ft	B8A 71.9 - 75.0	ELASTIC SILT (MH), 5Y 2.5/2 (black), wet, soft	7% sand, 93% fines 94.5% water content 14% organic matter	18.9
75.0				-moist -wet		
		4.7 ft of 5 ft	B8A 75.3 - 80.0	-interlayering with 10YR 4/2 (dark grayish brown), most	1% sand, 99% fines 67.9% water content 14% organic matter	18.9
80.0						
		3.5 ft of 5 ft		SILTY SAND (SM), Gley 1 2.5/N (black), moist, loose, fine sand, poorly graded		
			B8A 81.1 - 82.4 B8A 81.5	-wood/roots	51% sand, 49% fines 58.2% water content 36% organic matter	
				ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft, interlayered with 10YR 4/2		14.3
83.5				Refusal at 83.5 ft total depth		
85.0						

Boring Log

northgate environmental management, inc.

Project Number:	3037.02	**Boring Location:**	**C8**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/12/2020	**Finish:**	12/12/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	77.1	**Depth to Mudline:**	40.6
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.9

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (24.1-28.8 ppm)
40.6						
45.6						
		2 ft of 5 ft	C8 48.6 - 49.7	SILT (ML), 5Y 2.5/2 (black), wet, very soft, low plasticity, organic odor	5% sand, 95% fines 100.6% water content 9% organic matter	20.7
50.6				POORLY GRADED SAND (SP), Interlayered Gley 1 2.5/N (black) with 5Y 2.5/2 (black), moist, loose, fine sand, slight organic odor		
55.6						
60.6		0.9 ft		SILT (ML), 5Y 2.5/2 (black), wet, very soft, low plasticity, organic odor		26.1
		4 ft of 5 ft	C8 61.6 - 65.6	ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), soft, organic odor -moist	5% sand, 95% fines 93.5% water content 11% organic matter	18.5 20.2
65.6						

northgate environmental management, inc.

Boring Log

Project Number:	3037.02	**Boring Location:**	**C8**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/12/2020	**Finish:**	12/12/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	77.1	**Depth to Mudline:**	40.6
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.9

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (24.1-28.8 ppm)
65.6		5 ft of 5 ft	C8 65.6 - 70.6	-moist	5% sand, 95% fines 81.1% water content 11% organic matter	20.2
				Same as above except 5Y 2.5/1 (black)		22.7
70.6		5 ft of 5 ft		-wet		12.3
			C8 72.7 - 75.0	SILTY SAND (SM), Interlayered 5Y 2.5/1 (black) with 5Y 2.5/2 (black), moist, loose -organic matter	62% sand, 38% fines 58.8% water content 11% organic matter	15.2
75.6				ELASTIC SILT (MH), 5Y 2.5/2 (black), moist, soft,		
77.1		1.5 ft	C8 76.2	-organic odor -interlayering of Gley 1 2.5/N (black)		21
				Refusal at 77.1 ft total depth		
80.6						

Boring Log

northgate environmental management, inc.

Project Number:	3037.02	**Boring Location:**	**D8**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/12/2020	**Finish:**	12/12/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	79.0	**Depth to Mudline:**	39.0
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.8

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (25.8-33.0 ppm)
39.0						
44.0						
		1.8 ft of 5 ft	D8 48.0 D8 47.2 - 49.0	SILT (ML), 5Y 2.5/2 (black), wet, very soft, low plasticity, organic odor		33.0
49.0				ELASTIC SILT (MH), 5Y 3/1 (very dark gray), wet, very soft, organic odor, organic matter	15% organic matter	
		1.5 ft		ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), wet, organic odor -moist		
54.0				-wet		19.9
		4 ft of 5 ft	D8 55.0 - 59.0	POORLY GRADED SAND with SILT (SP-SM), 5Y 3/2 (dark olive gray), wet, loose, organic odor, organic matter	3% sand, 97% fines 102.1% water content 11% organic matter	23.1
59.0				ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), wet, organic odor		
		3.4 ft of 5 ft	D8 60.6 - 64.0		1% sand, 99% fines 96.1% water content 10% organic matter	20.2 18.9
64.0						

Boring Log

northgate environmental management, inc.

Project Number:	3037.02	**Boring Location:**	**D8**		
Project Name:	Conowingo Pilot Project	**Logged By:**	Wesley Irons		
Location:	Conowingo Reservoir, Maryland	**Start:**	12/12/2020	**Finish:**	12/12/2020
Drilling Contractor:	SaLUT	**Total Depth (ft):**	79.0	**Depth to Mudline:**	39.0
Drilling Method	DPT	**Borehole Dia (in):**	3.25	**Water Surface Elevation (ft):**	107.8

Depth Below Water Surface (ft)	Sample: Drive Interval	Sample: Recovery (ft)	Sample ID	Material Description: Soil Name, USCS Group Symbol, Color, Moisture Content, Relative Density or Consistency, Soil Structure, Mineralogy	Comments: Test Results	Comments: PID (ppm) Ambient (25.8-33.0 ppm)
64.0						
		5 ft of 5 ft	D8 64.0 - 69.0	ELASTIC SILT (MH), 5Y 2.5/1 (black), wet, soft, fine sand, organic odor	8% sand, 92% fines 80.2% water content 13% organic matter	21.1
				ELASTIC SILT (MH), 5Y 3/2 (dark olive gray), wet, organic odor		21.9
69.0				Same as above except 5Y 2.5/1 (black)		27.4
		5 ft of 5 ft	D8 69.0 - 74.0		1% sand, 99% fines 74.3% water content 15% organic matter	21.0
74.0				very soft, organic odor, organic matter		
						22.5
		3.5 ft of 5 ft	D8 75.5 - 79.0	-interlayering with 2.5Y 4/2 (dark grayish brown)	3% sand, 97% fines 69.6% water content 20% organic matter	
				organic odor fine sand, low to moderate plasticity, organic odor		21.4
79.0						

Refusal at 79.0 ft total depth

APPENDIX D

DATA VALIDATION REPORTS

APPENDIX D – DATA VALIDATION REPORT

INTRODUCTION

A summary of the validation performed on the laboratory data results for the core samples collected for the Conowingo Sediment Characterization and Innovative Reuse and Beneficial Use Pilot Project ID No. 1-18-3-21-8R Cecil and Harford Counties, Maryland (Project) is provided below.

During the project, 168 core samples were collected between December 9 and December 14, 2020, processed in the field, and submitted from 20 individual stations for chemical and physical property analyses. Table 1 below shows the number of samples analyzed for each analyte group.

Table 1 – Number of Samples in Each Analytical Group

Analyte	Grain Size	Loss on Ignition	PP Metals, Moisture	TOC	TKN	Dioxins	Free Cyanide	Hex. Chrome, Total Cyanide, Sulfate, Sulfide, Moisture correction	SVOCs, Pesticides, PCBs	DRO, Ammonia, Phosphorous	Soluble Salts	VOCs	GRO
Number of Samples	152	148	149	149	32	16	15	32	32	32	32	10	12

Six laboratories provided 19 laboratory reports and electronic data deliverables that included 8826 analytical results for core samples and laboratory Quality Control (QC) samples.

Data Validation

The Quality Assurance (QA) objectives of the investigation are to assure that sampling, analysis, and reporting activities provide data that are accurate, precise, representative, and legally defensible. QC represents the specific steps and procedures followed during the project to achieve QA. The original QA/QC program outlined in the Sampling and Analysis Plan (SAP) was modified prior to the field activities to maximize returned sediment chemical and physical characterization data. Field QC samples, such as travel blanks, field blanks, field duplicates and equipment blanks, were not collected. Laboratory QC samples including matrix spikes, matrix spike duplicates (laboratory created from project collected samples), laboratory duplicates and method blanks were analyzed to measure the precision and accuracy of the laboratory analytical

procedures. Therefore, the primary QC features included evaluation of the field procedures followed during the sampling program, an analysis of the laboratory QC procedures and results and data validation.

Data validation is a process of evaluating the performance of data collection against the pre-determined method, procedural, or contractual requirements specified in the SAP. It routinely evaluates how closely the SAP has been followed during data generation in the field and laboratory. It checks for improper practices, abuse and warning signs shown during the investigation. It determines if the available data satisfies the project's data quality objectives (DQOs) and data use requirements by evaluating the data reports for field sampling procedures, laboratory performance and error checks.

REVIEW OF THE PROJECT QC PROGRAM

To ensure that chemical data is of the highest confidence and quality, the review of QC program was divided into two parts: basic QC procedures and laboratory QC samples. No findings were identified affecting the quality of the samples collected or the resulting data results.

Basic QC Procedures: Basic QC evaluation criteria include field decontamination, sampling procedures, supplies, sample handling, transport and documentation and holding times.

- Field Decontamination: Dedicated plastic core liners were used collect core samples thereby greatly reducing the potential for cross contamination by repeat use sampling equipment. Non-dedicated equipment was decontaminated before and/or after each sample was collected.
- Sampling Procedures: Sampling procedures developed for the project from collection of the sample on the barge, transport to the field office and selection and creation of samples into appropriate lab provided clean containers, sample documentation including properly completed chain of custodies and sample transfers were all performed properly.
- Supplies: All supplies were certified clean by the suppliers.
- Holding Times: Compliance with holding time requirements was verified from laboratory reports.
- Preservation: Sample temperatures were included in the sample receiving reports and were all within the appropriate range. Samples requiring specific preservation were sent in laboratory provided preserved bottles.

QC Samples: QC samples included laboratory QC samples.

- Laboratory QC sample types included method blanks, laboratory duplicates, matrix spikes (MS), and matrix spike duplicates (MSD). Twenty-five (25) MS/MSD pairs were analyzed; 395 surrogate spikes were analyzed to monitor the precision and accuracy of its analytical procedures, at a rate not less than one laboratory QC sample per type per batch of up to 20 samples.

REVIEW OF SAMPLING PROCEDURES

Stephen Bedosky, a Northgate Principal Geologist supervised the sampling activities during the entire coring project. Field activities were planned, conducted, and completed in a manner consistent with the SAP. No specific findings were identified affecting the quality of the samples collected or the resulting data results.

- Field Documentation: Field logs and other documentation were reviewed regarding sampling procedures (e. g, sample containers, collection, preservation, packaging, transportation, receipt, handling and storage, chain of custody, holding time, and decontamination procedures). Analytical documentation was reviewed both by the field personnel and the data management team.
- Boring Logs: Boring logs were prepared based on the core sample observations, field instrument measurements, and laboratory analytical results.
- Sample Conditions: Upon receipt, the laboratories inspected the condition of the sample containers and reported the information accordingly on the chain-of-custody forms. Chain of Custody forms are included with the final laboratory analytical report (Appendix B). If conditions or problems were identified which would require immediate resolution, the Northgate field team and data management personnel coordinated with the laboratories to correct minor inconsistencies in the chain-of-custodies. The only condition requiring correction were minor sampling naming edits correcting sampling intervals included in the sample name after reviewing boring logs. Several edits of EDDs were performed to meet the Northgate specified formatting. These formatting corrections included minor changes to the EDDs so that they would accurately match the laboratory report.

REVIEW OF ANALYTICAL PROCEDURES

All analyses were performed as specified according to each major laboratory standard operating procedures (SOPs). Review of surrogates, retention time window, and dilutions were evaluated to determine if they affected the quality of the samples or the resulting analytical results. Dilutions did not raise the RLs above the corresponding regulatory screening levels.

REVIEW OF DATA REPORTS

Data review was performed to ensure that the data produced were credible, and of known and defensive quality. The data was reviewed in accordance with the SAP, the laboratory SOPs, the principles present in USEPA National Functional Guidelines for Laboratory Data Review - Organics (EPA, 1999) and USEPA National Functional Guidelines for Laboratory Data Review - Inorganics (EPA, 2002), and the professional judgment of the validation team. The following elements were reviewed:

- Completeness of Laboratory Reports: The analytical reports were considered complete because they contained the following information: laboratory/client/sample IDs, project name, sample matrix, sample collection/preservation/preparation/extraction/analysis dates, analytical methods, analytes, reporting units/limits, dilution factors, report page numbering system, designated title and signatures.
- Chain of Custody: A set of Chain of Custody forms was included in the analytical report The Chain of Custody was properly completed. As noted, sample IDs were corrected after review of the boring logs by the field geologist and the data team to correct depth of sample inconsistencies.
- Sample Containers and Conditions: As discussed previously in the Review of Sampling Procedures (Sample Conditions), sample container conditions were noted as normal on the Sample Receipt forms.
- Holding Times: All analyses were performed within the method-specified holding time.
- Preservation: All samples were properly preserved during transport and storage as specified in the Laboratory SOPs.
- Surrogate Recoveries: All surrogate recoveries were greater than 30% and less than 150% so no additional qualification of the data was required.
- Laboratory QC Samples (Method Blanks): No target analytes were detected in the associated method blanks. The method blank results were acceptable.
- Laboratory Control Samples: Laboratory Control Samples (LCS) are samples prepared in the laboratory that contain analytes that are representative of the analytes of interest in client submitted samples. Known concentrations of analytes are added to sand and are processed in the same manner as the client samples. The LCS results (percent recovery) for the Conowingo cores were all within the acceptable range of 86% to 128%.
- Laboratory QC Samples (Matrix Spike (MS) and Matrix Spike Duplicate (MSD). As noted above the MS/MSD samples were spiked using samples collected from the core samples collected during the sampling program. The purpose of the MS/MSD sample is

to provide information on the accuracy and precision of the specific analytical method employed in the analysis of that specific sample. It may be indicative of interference in the analytical method introduced in the matrix (in this project; sediment) of the sample.

The SAP did not specify numerical limits for upper or lower control limits (UCL and LCL) or relative percent difference (RPD) between MS and MSD values. However, based on experience and other sites where sediment is analyzed for similar constituents, Northgate is applying the following UCL, LCL and RPD values to the MS/MSD analyses at the Conowingo Reservoir to provide validation context to compare to. For inorganics, the LCL-UCL range employed is from 75 – 125 and the RPD is 30%. For organics, the LCL-UCL range is 50 – 150 and the RPD is 30%.

There were nine method batches for analysis of metals using SW-846 6020A. Each of those had percent recoveries of individual analytes that were outside the recommended limits. Manganese was the only analyte falling significantly outside the recovery limits stated above and the laboratory control limits. Four copper analyses, four nickel analyses, three total chromium analyses, three zinc analyses, two antimony analyses and one lead analysis were marginally outside the recovery limits.

The laboratory flagged the manganese analyses as estimated. The lab initially did not include manganese in the initial reporting and had to reanalyze the results from the ICP-MS runs conducted in January. On reviewing the manganese data, they found that the MS/MSD information and the results suggested that the sample should have been diluted to obtain representative results. However, there was not enough remaining sample to rerun the analysis with dilution. Therefore, the laboratory correctly reported the manganese results without dilution and flagged the appropriate results as estimated.

There were four MS/MSDs for Kjeldahl nitrogen (one per method batch) which were spiked samples from the Conowingo coring program. The MS/MSD samples all fell outside reasonable control limits. Therefore, the Kjeldahl nitrogen samples in the affected method batches were “J” (estimated) flagged if detected and “UJ” flagged if not detected. Since the laboratory control samples all fell within the control limits, the most likely cause of the MS/MSD recovery excursions was matrix interference.

There were two MS/MSDs for sulfide (one per method batch). The MS/MSD samples all fell outside reasonable control limits. Therefore, all sulfide samples in the affected method batches were “J” (estimated) flagged if detected and “UJ” flagged if not detected. Since the laboratory control samples all fell within the control limits, the most likely cause of the MS/MSD recovery excursions was matrix interference.

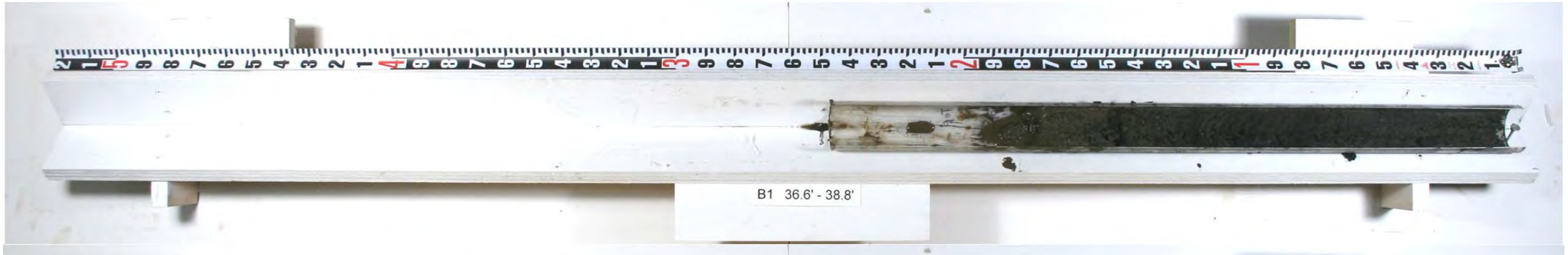
CONCLUSIONS

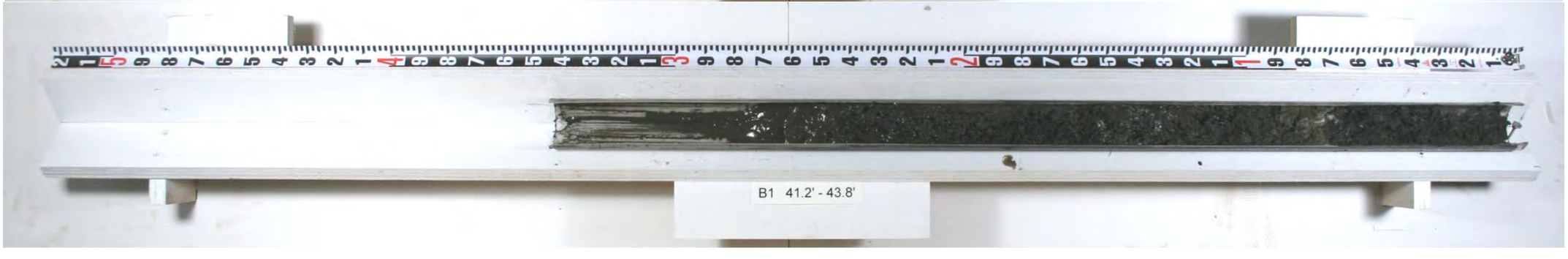
Based on this validation, all data collected through implementation of the SAP satisfy data quality requirements specified for the Project. The analyses followed the approved method and included acceptable QC procedures. Some matrix effects were noted, which are typical of real environmental samples. No outstanding issues were identified during the course of the data validation review. Overall, the presented data (including the qualified results) are reliable and useable for project decision making.

APPENDIX E

CORE PHOTOGRAPHS

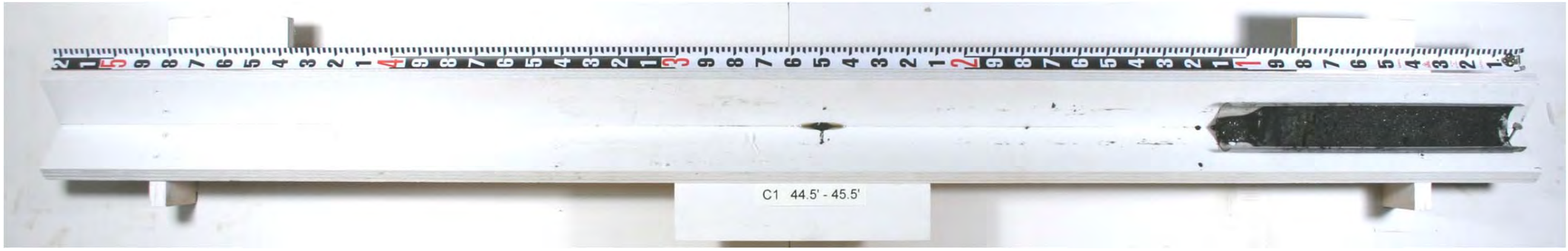
SEDIMENT CORE B1





SEDIMENT CORE C1

SEDIMENT CORE C1



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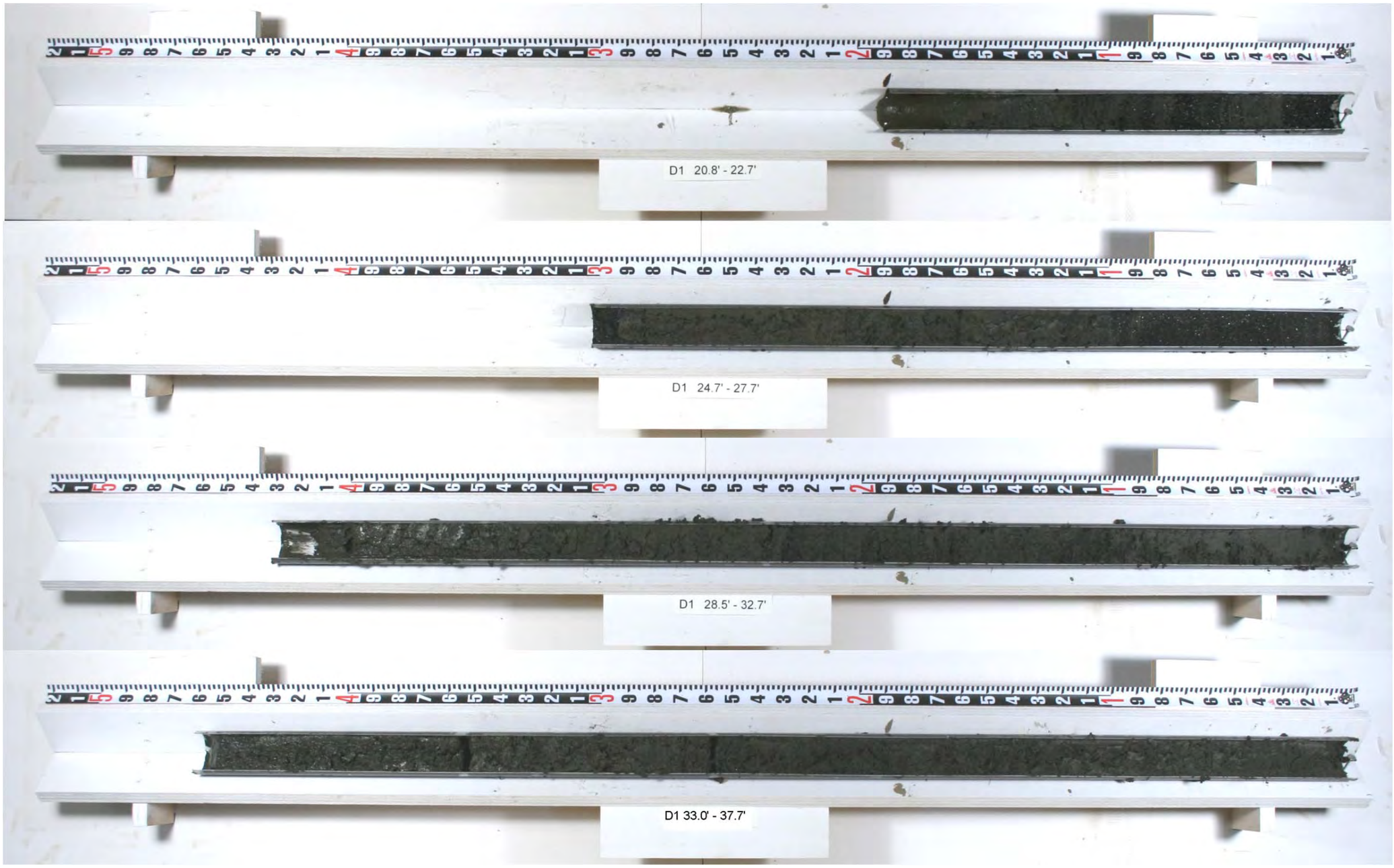
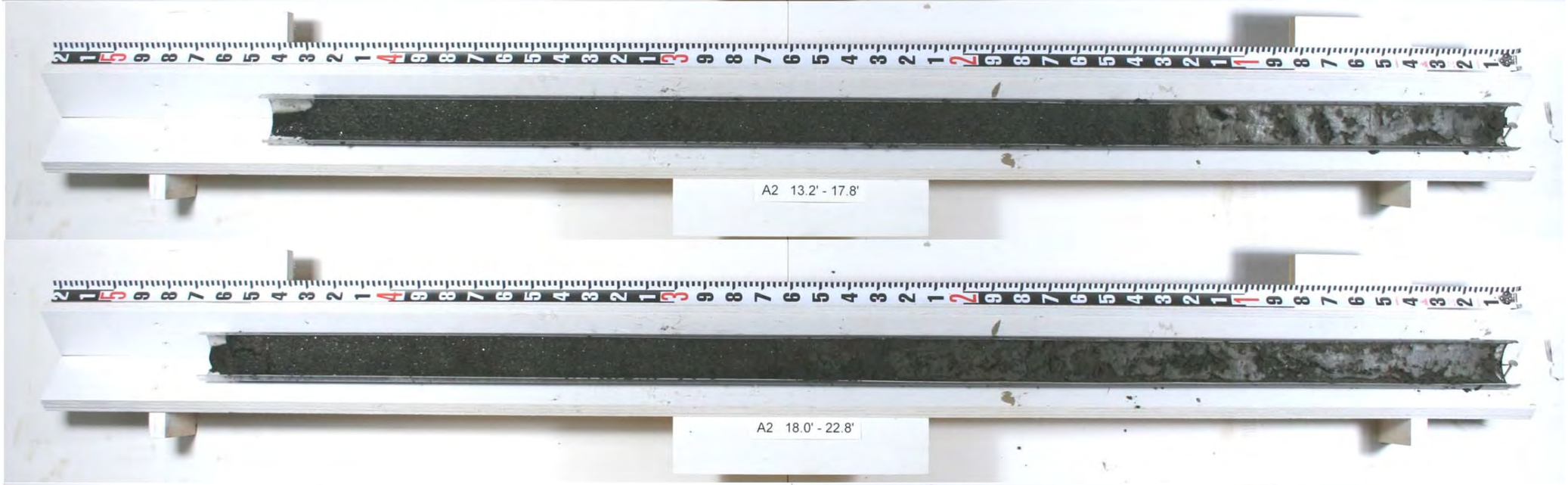


SEDIMENT CORE D1

SEDIMENT CORE A2



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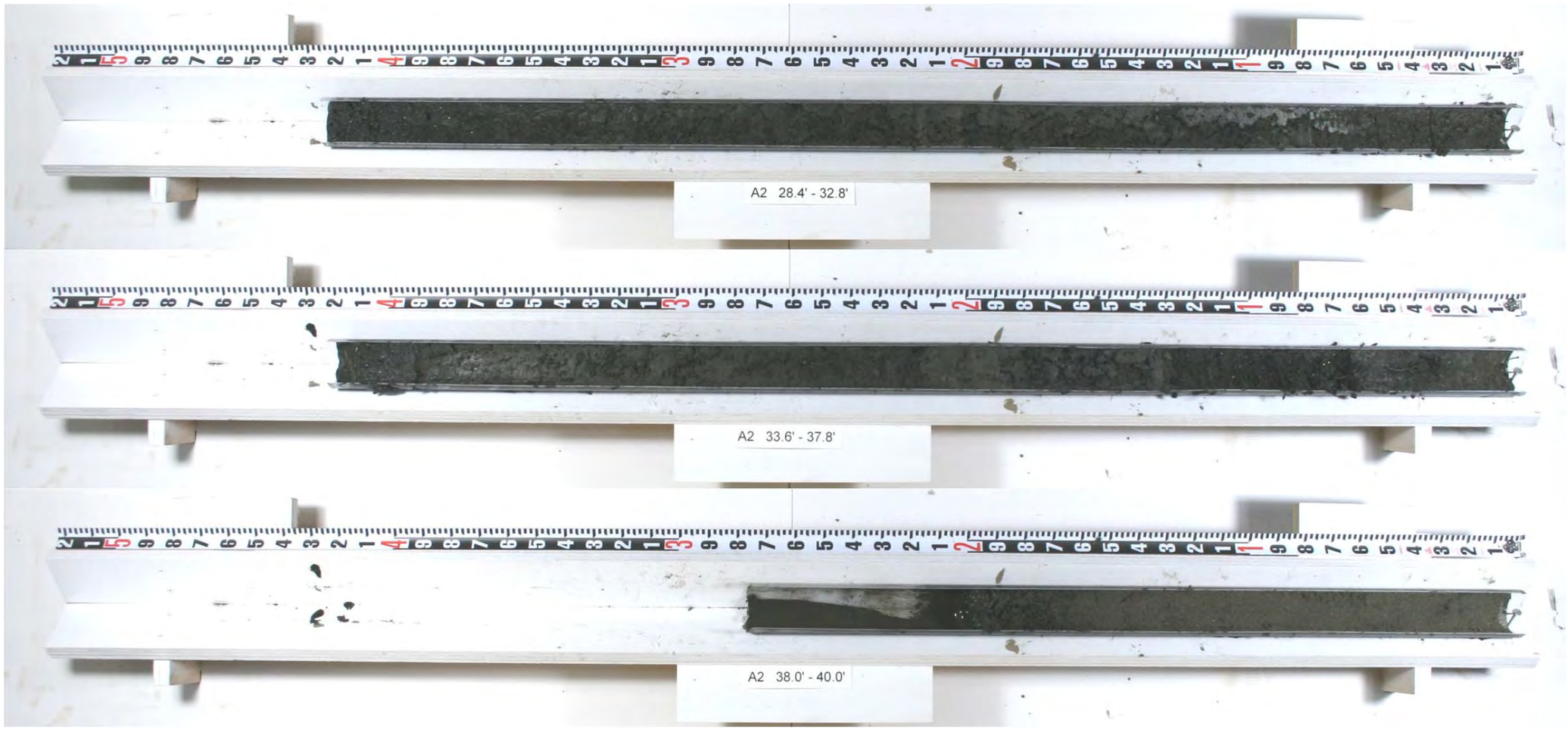

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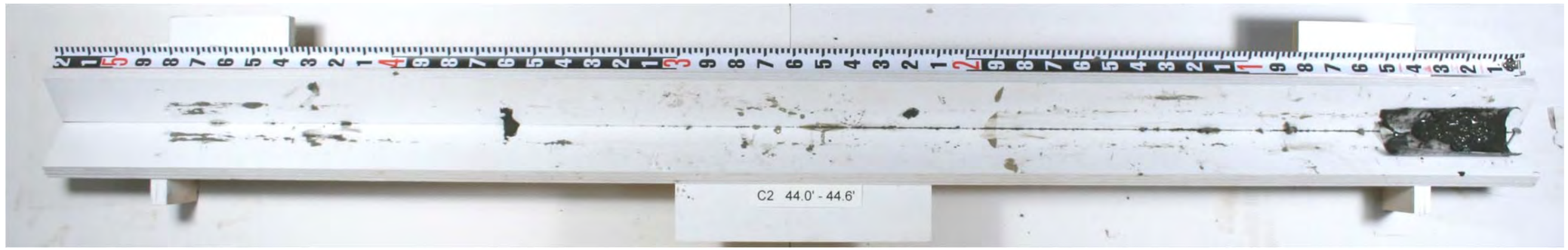
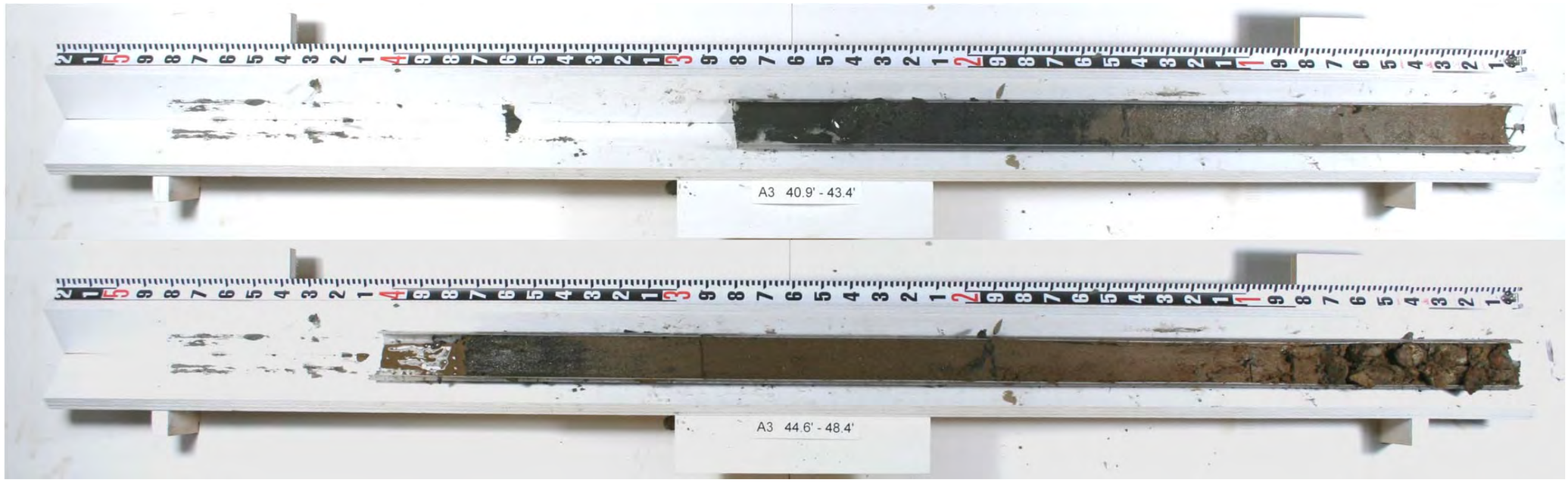
SEDIMENT CORE C2



SEDIMENT CORE A3

SEDIMENT CORE A3



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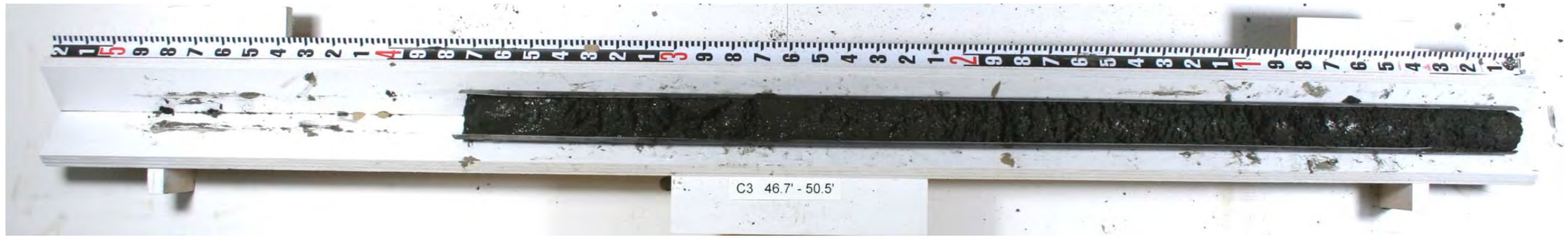
SEDIMENT CORE C3



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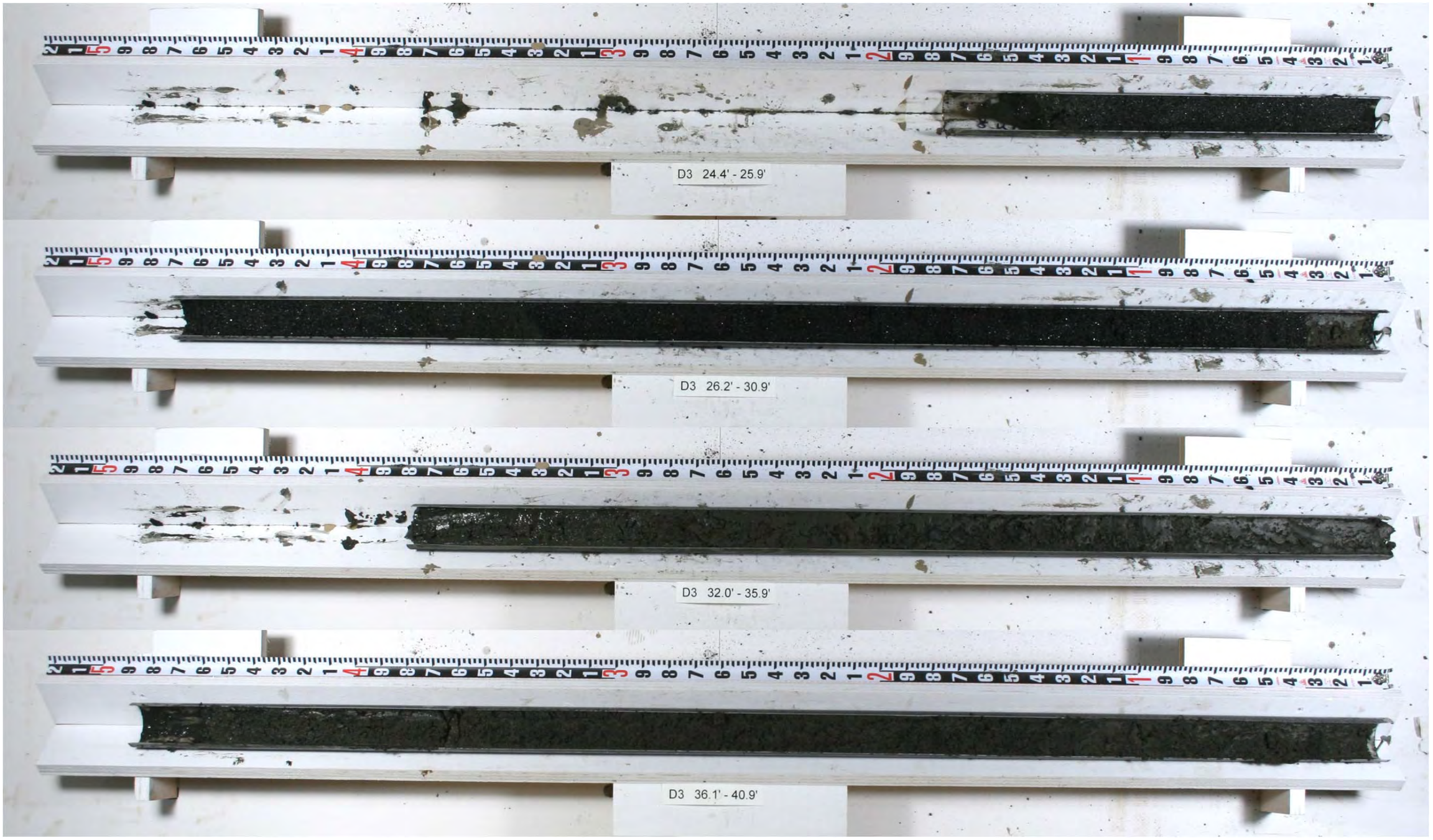
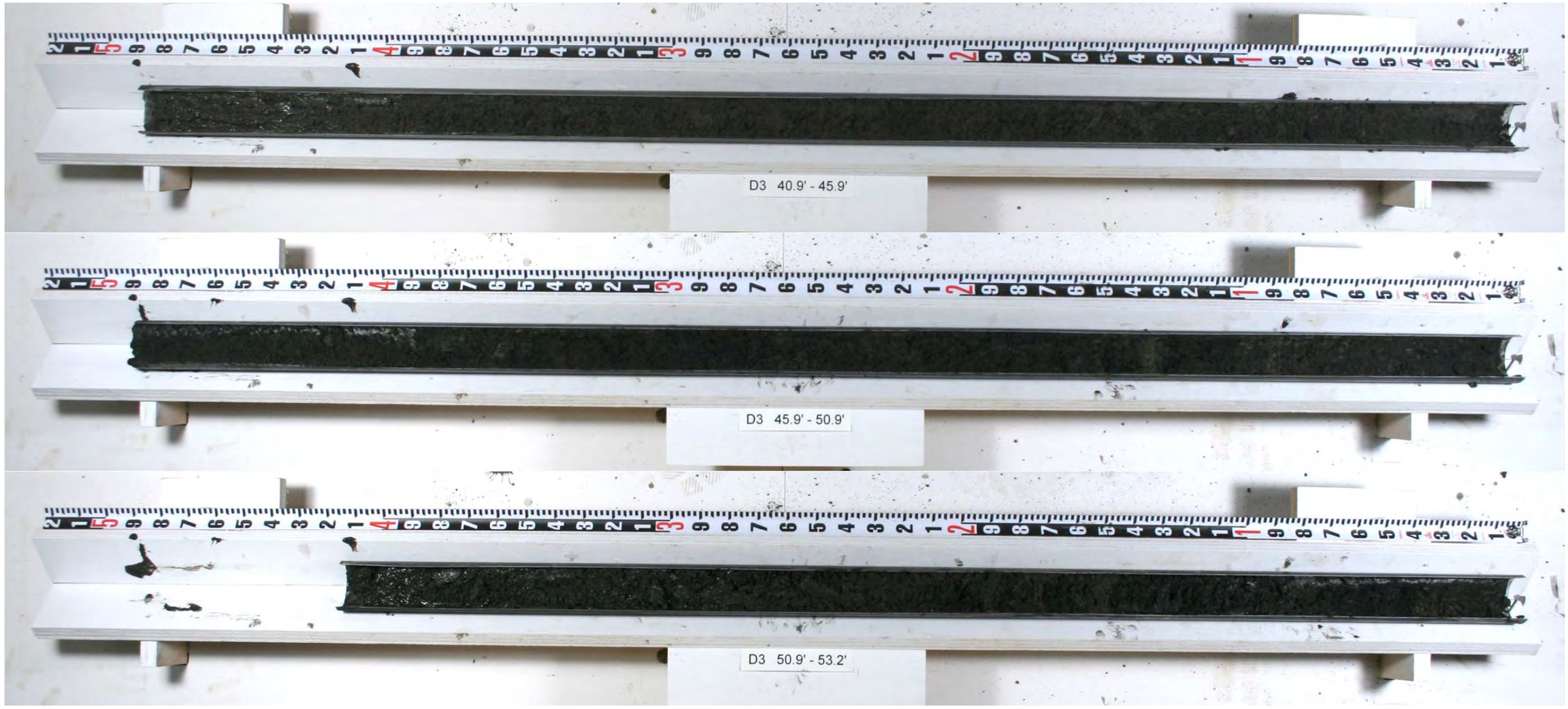
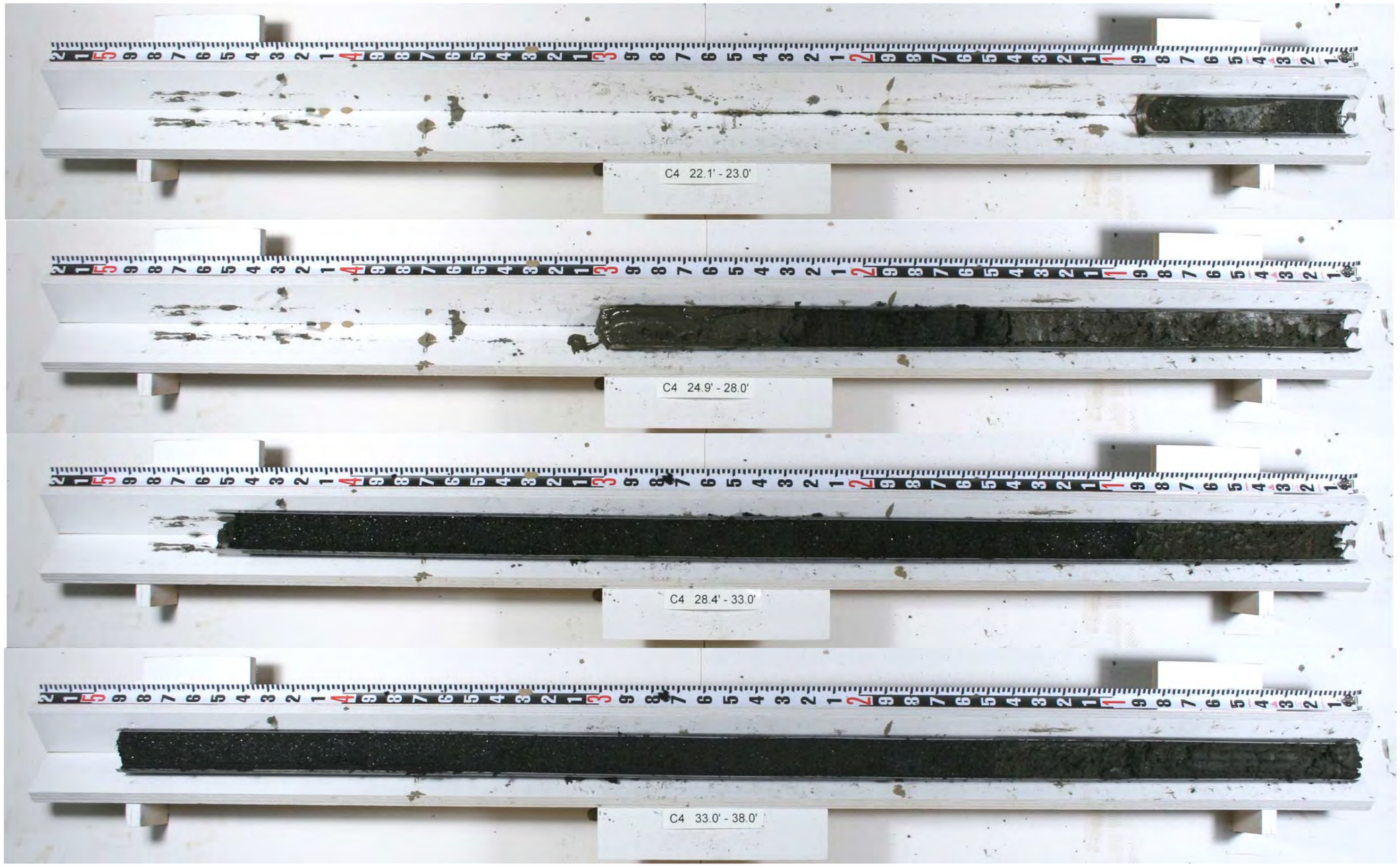


SEDIMENT CORE D3



SEDIMENT CORE D3

SEDIMENT CORE C4

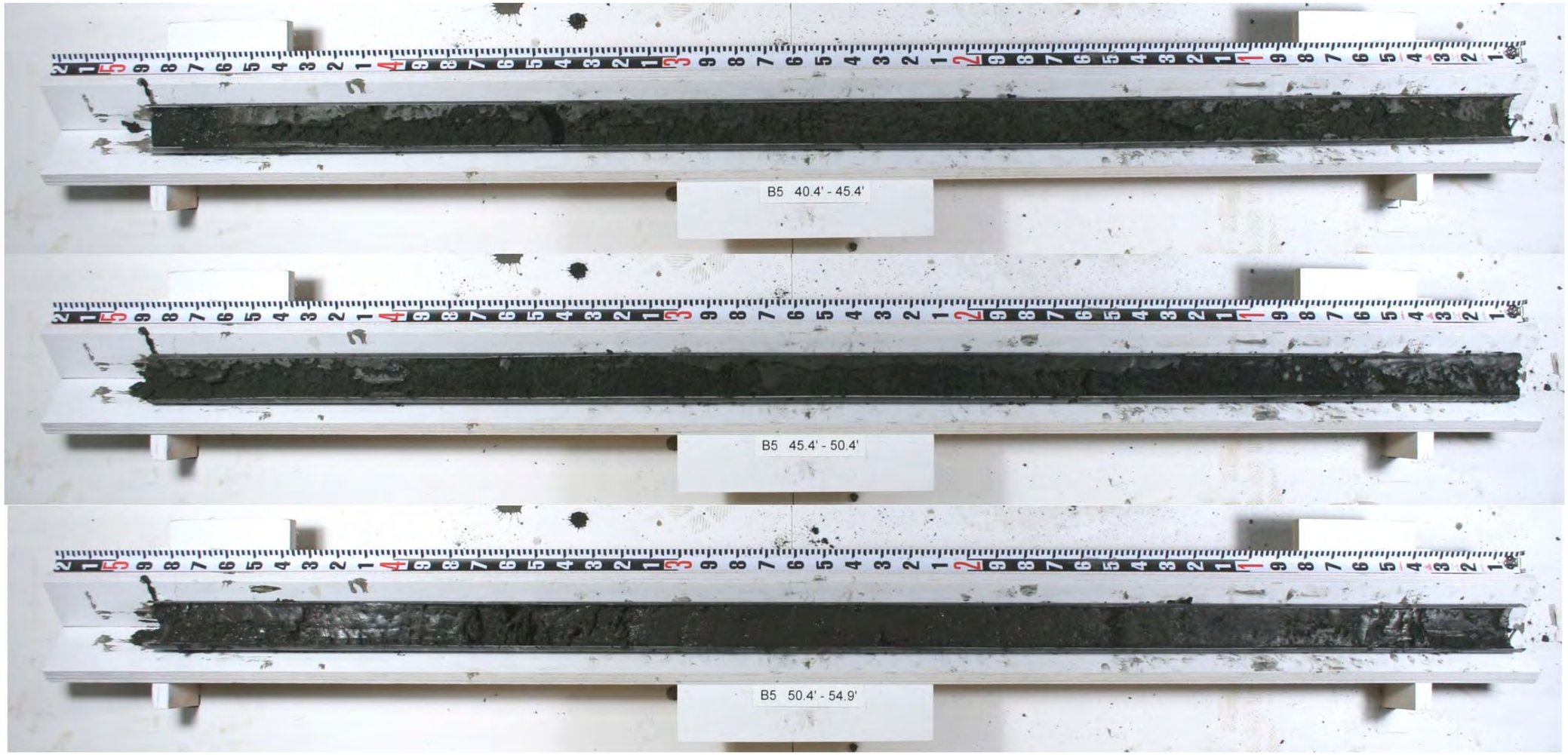


SEDIMENT CORE C4

SEDIMENT CORE C4

SEDIMENT CORE B5

SEDIMENT CORE B5



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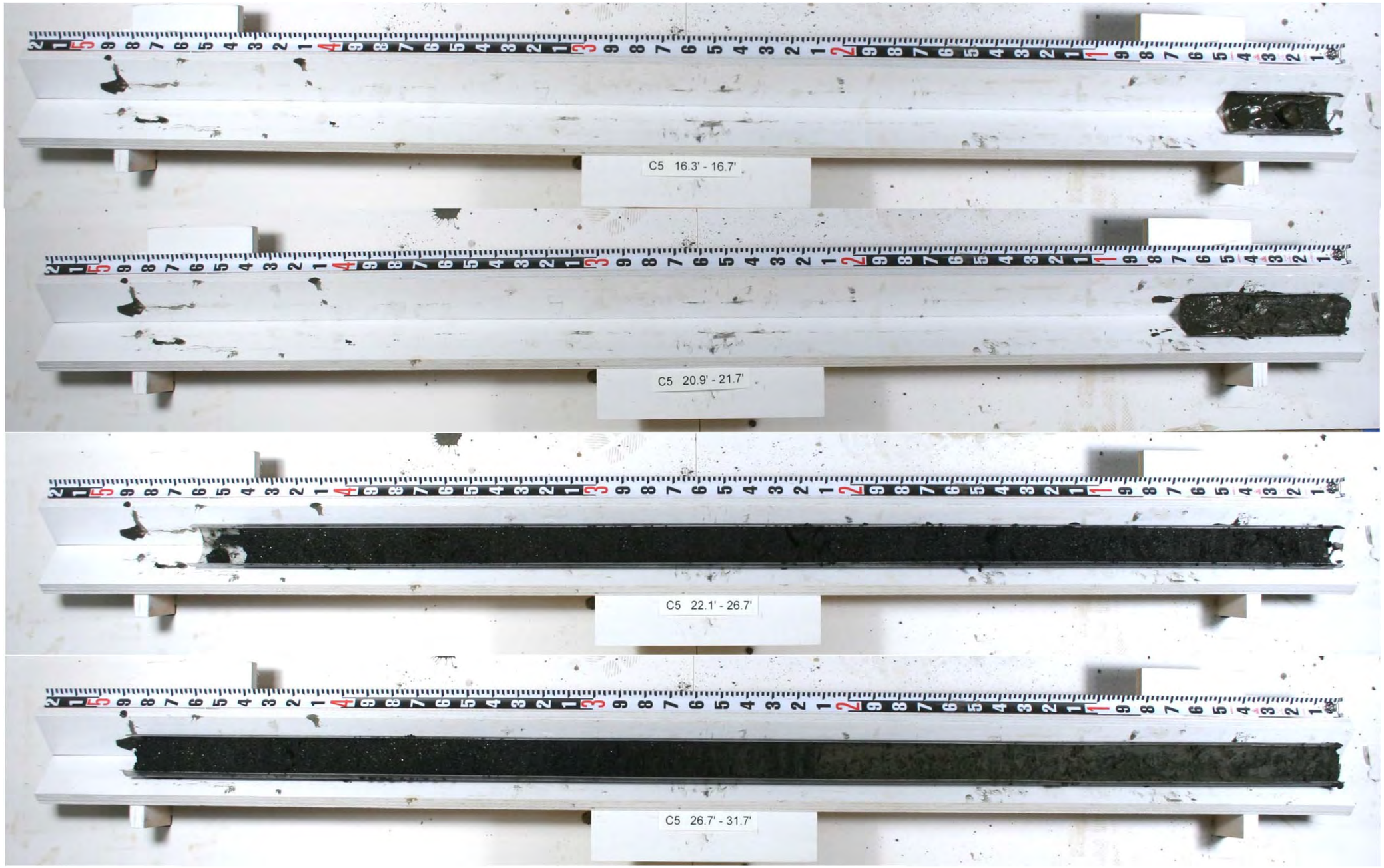
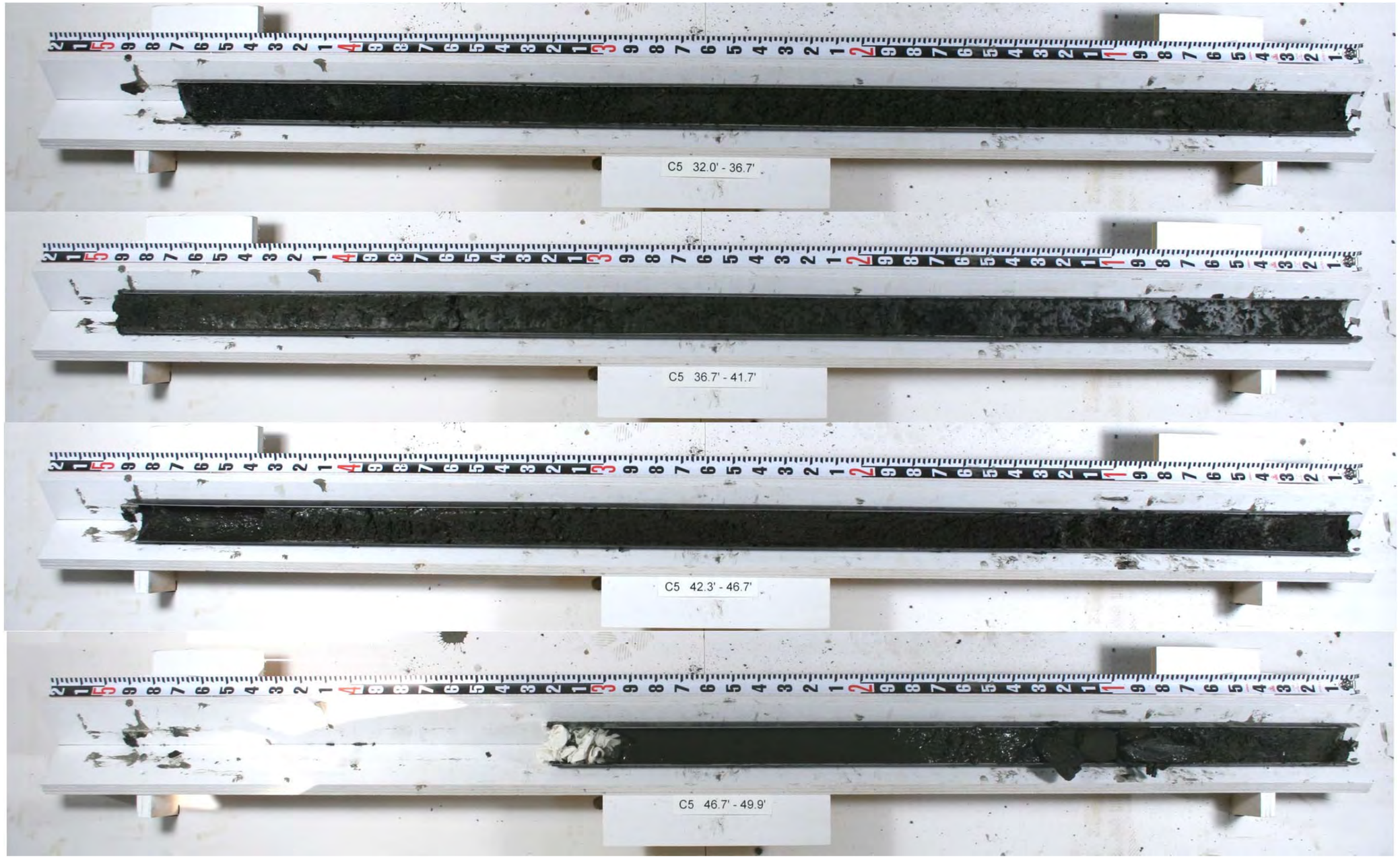


SEDIMENT CORE C5



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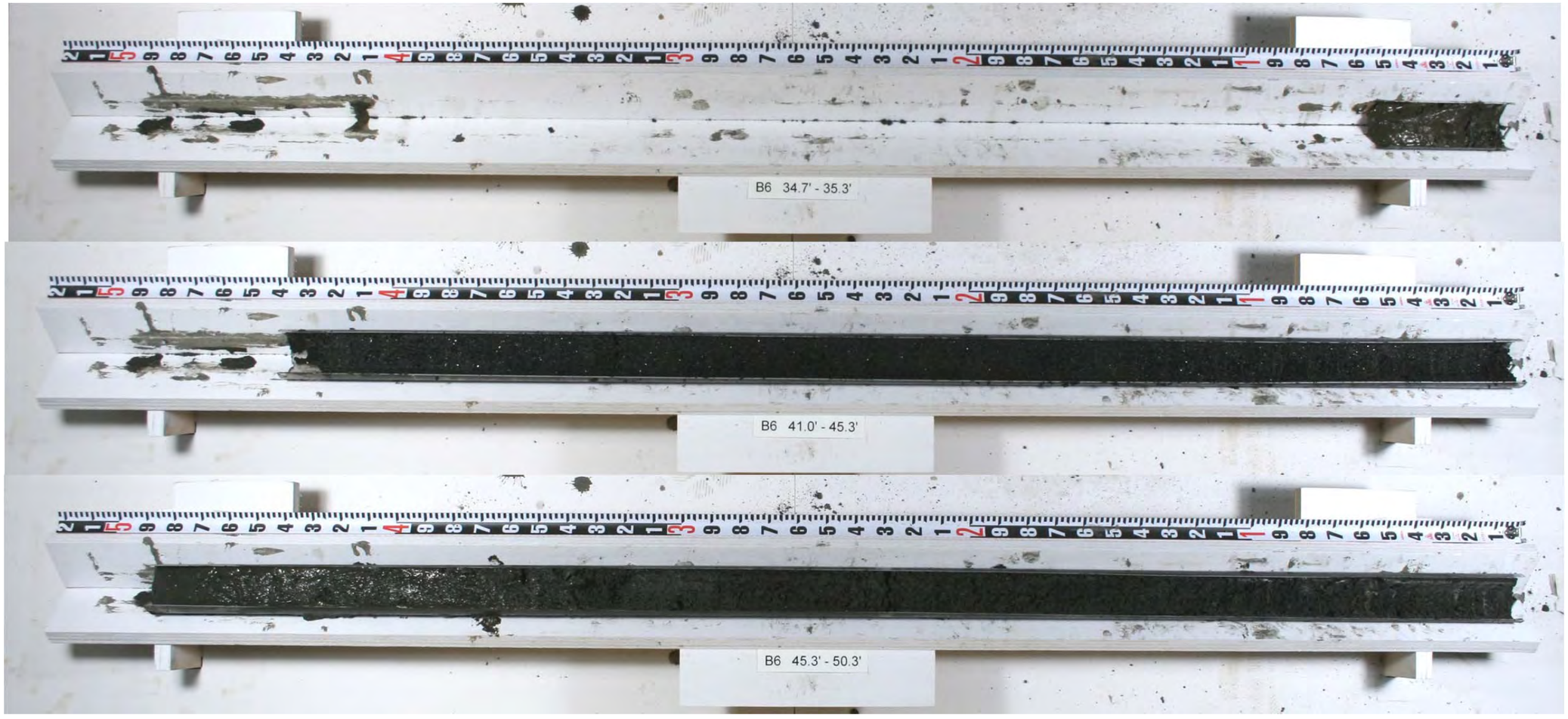
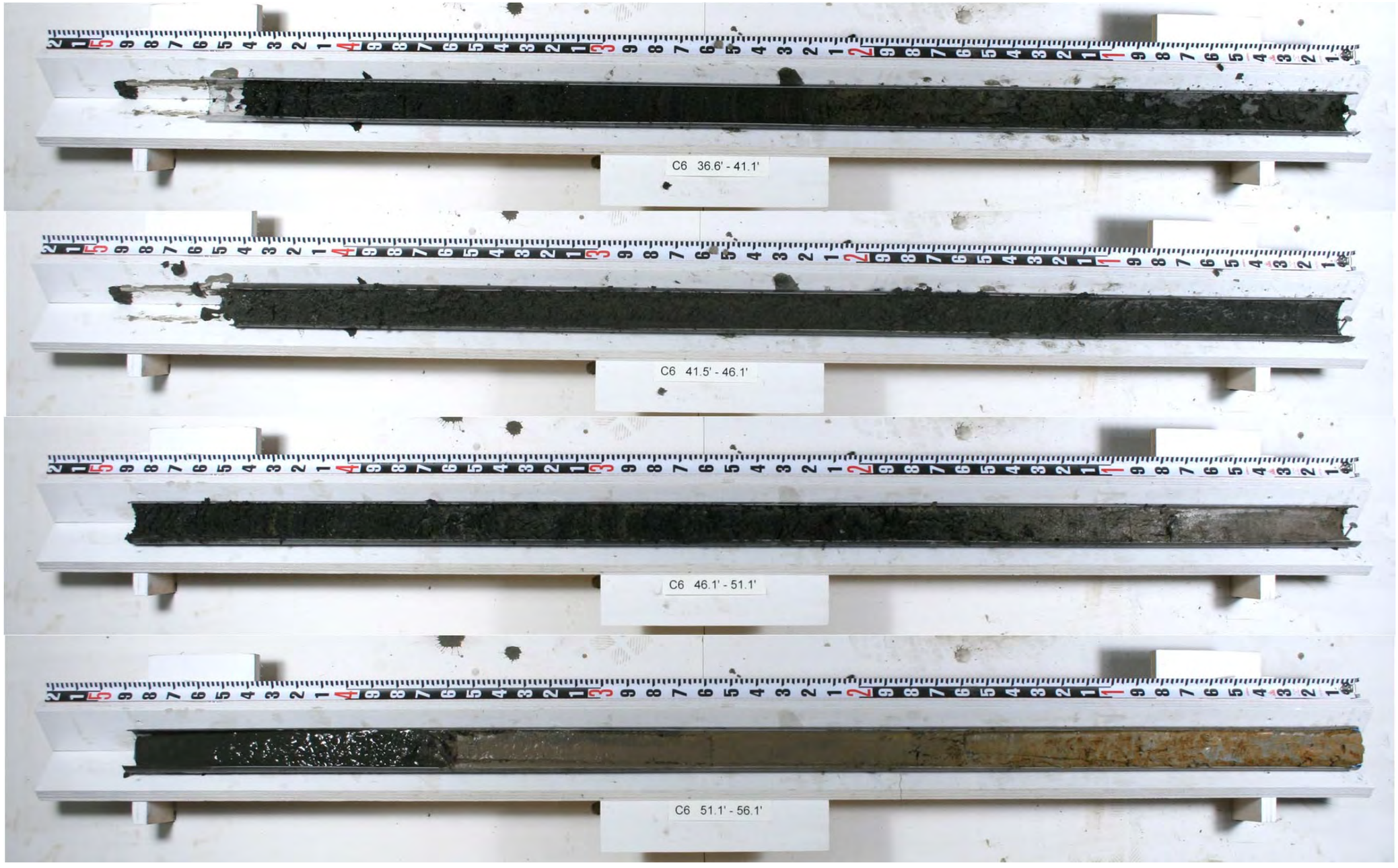


SEDIMENT CORE C6

SEDIMENT CORE C6



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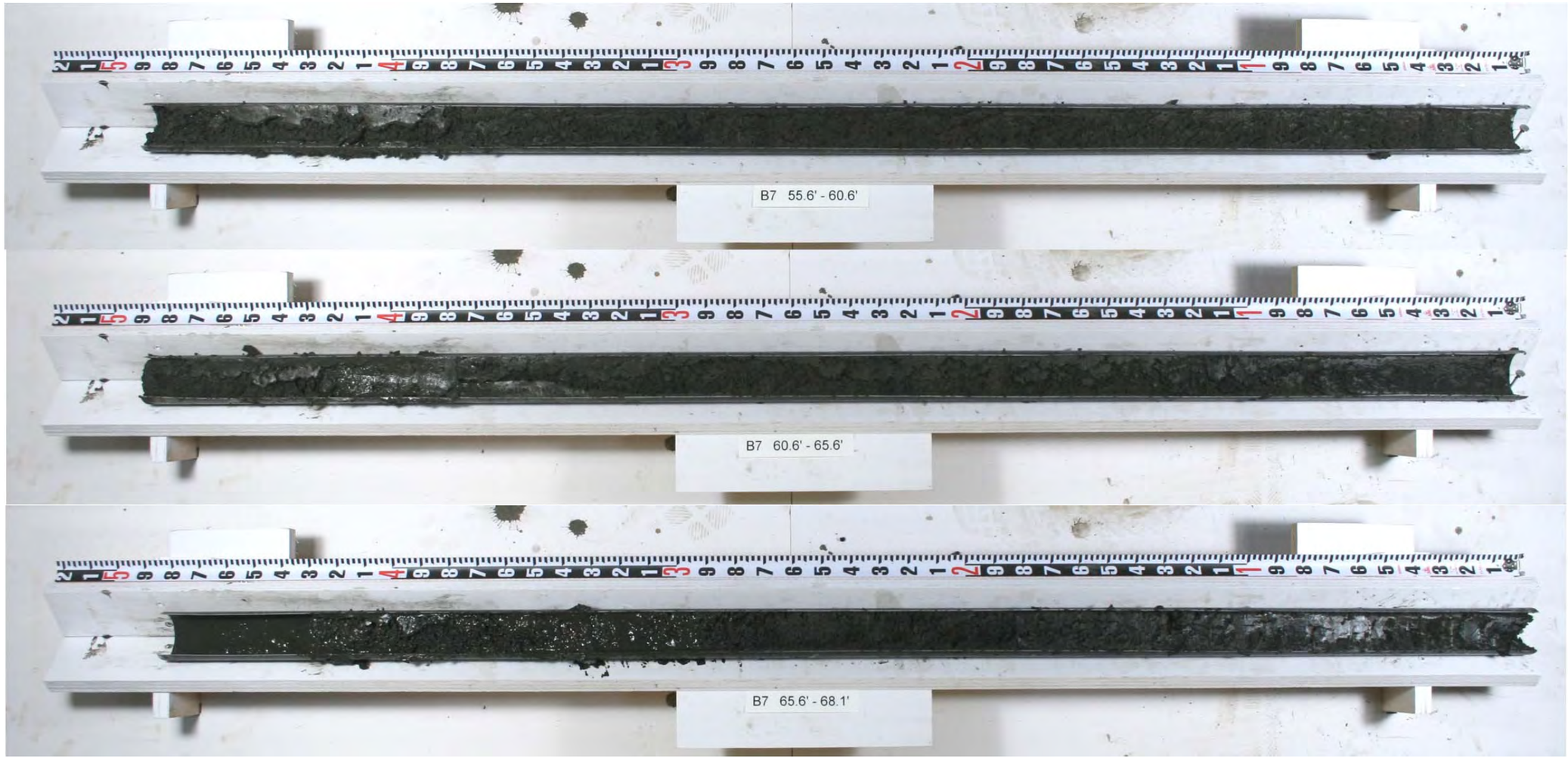
SEDIMENT CORE B7



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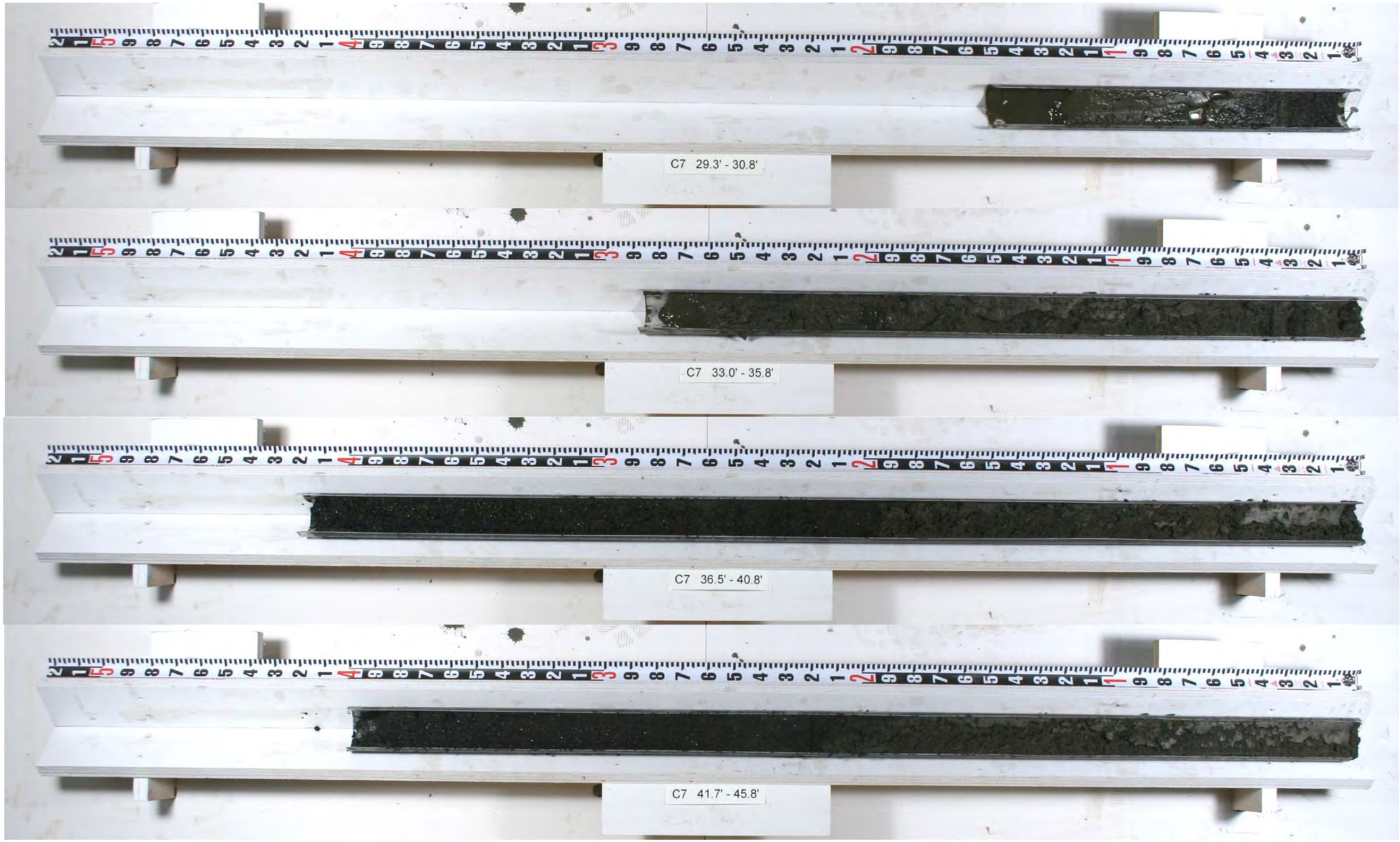
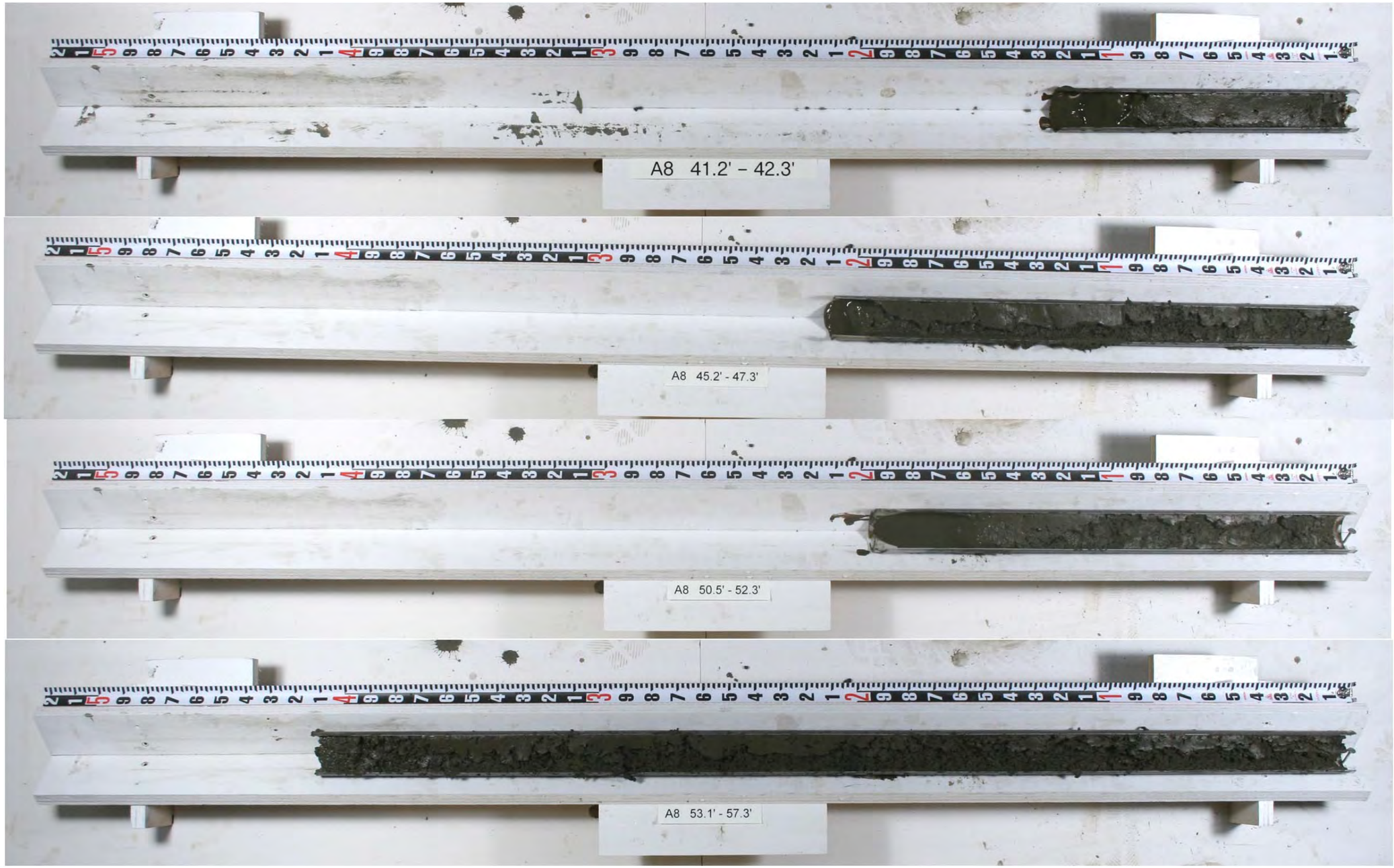


SEDIMENT CORE C7

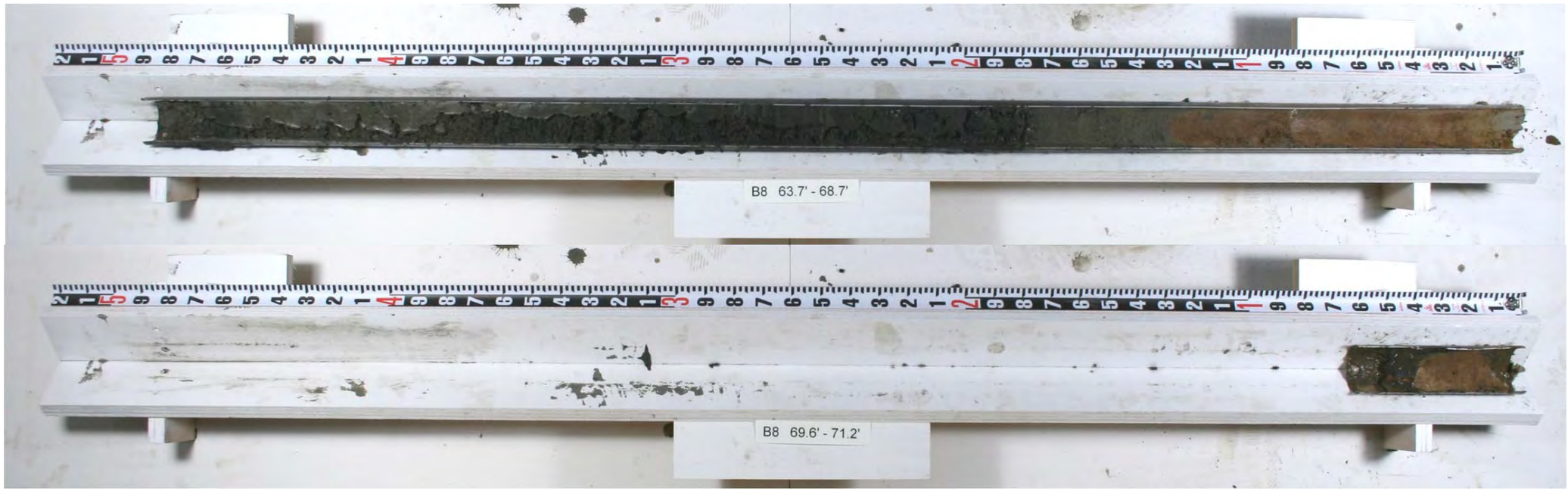
SEDIMENT CORE C7

SEDIMENT CORE A8



SEDIMENT CORE A8

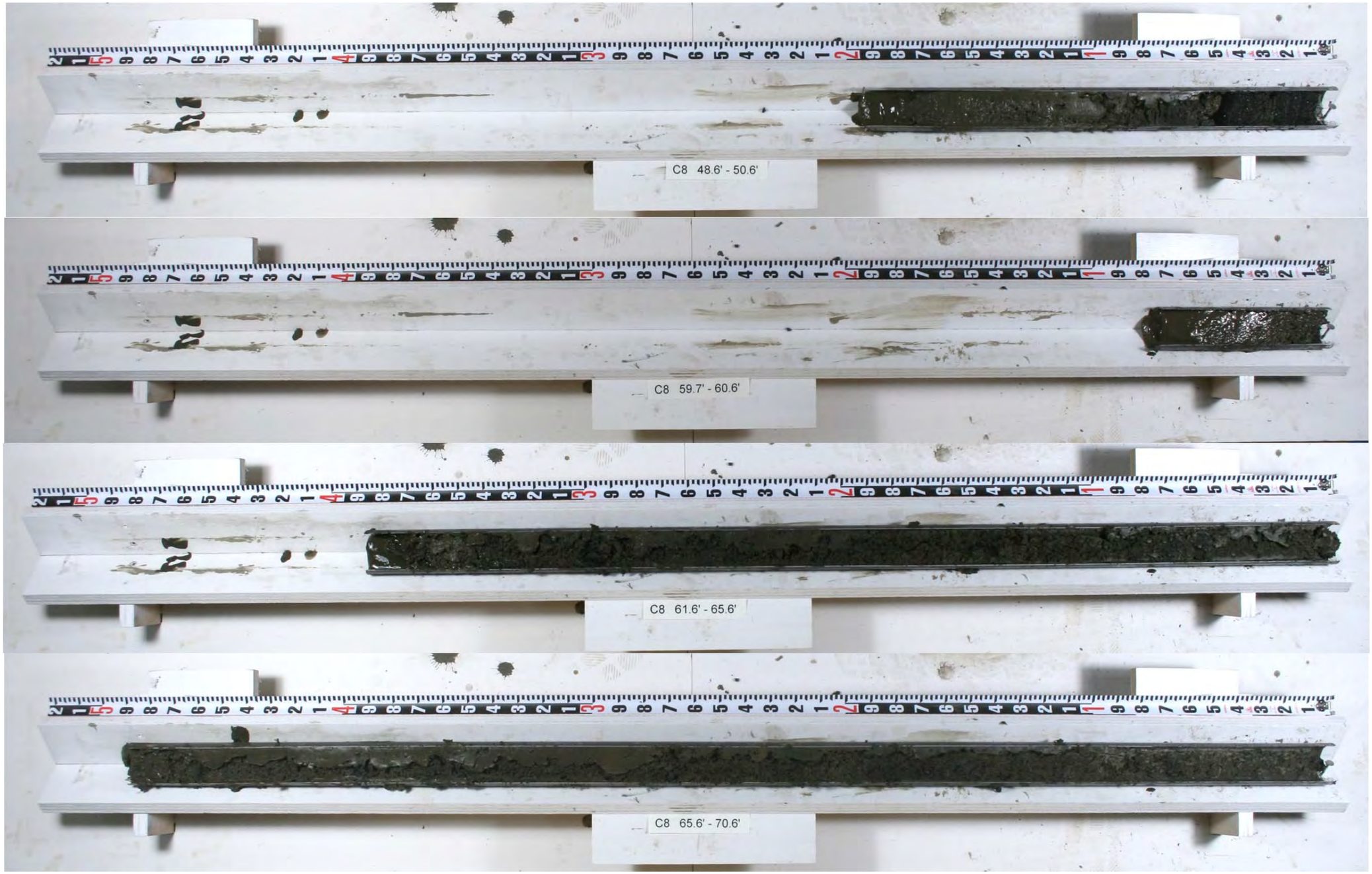
SEDIMENT CORE B8



SEDIMENT CORE B8A

SEDIMENT CORE B8A

SEDIMENT CORE C8



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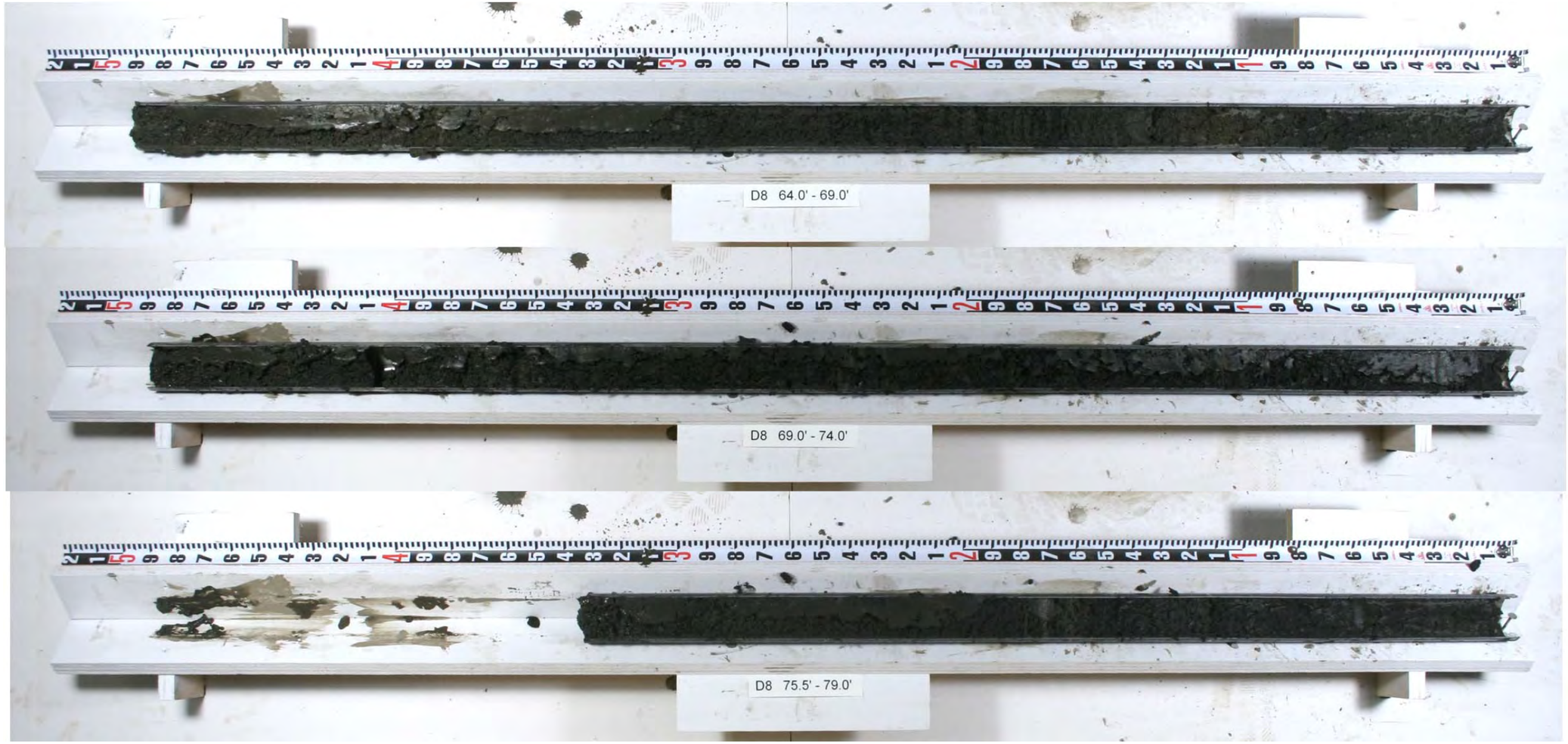
SEDIMENT CORE D8

SEDIMENT CORE D8



APPENDIX F

SOIL AND LAND USE TECHNOLOGY LABORATORY ANALYTICAL REPORT

Boring	Sample No.	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% < #4 Sieve	% < #200 Sieve	Classification	Water Content (%)
A2	A2 7.8 - 12.8				100	86		56.4
A2	A2 13.2 - 16.4				100	10		37.1
A2	A2 16.4 - 17.8				100	98		53.6
A2	A2 18.0 - 20.2				100	13		31.1
A2	A2 20.2 - 22.8				100	95		40.2
A2	A2 23.4 - 27.8				100	97		61.7
A2	A2 28.4 - 32.8				100	96		57.8
A2	A2 33.6 - 35.8				100	95		54.6
A2	A2 38.0 - 40.0				100	7		20.2
A3	A3 24.6 - 26.0				100	16		25.2
A3	A3 26.0 - 28.4				100	77		45.7
A3	A3 28.6 - 29.9				100	12		30.0
A3	A3 29.9 - 33.4				100	92		52.6
A3	A3 34.7 - 36.2				100	28		28.4
A3	A3 41.6 - 43.4				100	29		16.3
A3	A3 44.6 - 47.4				100	25		18.0
B1	B1 36.6 - 38.8				100	53		41.9
B1	B1 41.2 - 43.8				100	85		48.9
B5	B5 24.4 - 25.4				100	88		89.1
B5	B5 29.4 - 30.4				100	12		28.4
B5	B5 31.0 - 35.4				99	11		32.4
B5	B5 35.4 - 40.4				100	92		77.7
B5	B5 40.4 - 45.4				100	93		72.5
B5	B5 45.4 - 50.4				100	98		68.2
B5	B5 50.4 - 51.9				100	97		64.4
B5	B5 51.9 - 54.1				100	60		46.0
B6	B6 41.0 - 45.3				100	12		36.7

Summary of Laboratory Results

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

Boring	Sample No.	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% < #4 Sieve	% < #200 Sieve	Classification	Water Content (%)
B6	B6 46.6 - 48.5				100	92		76.2
B6	B6 48.5 - 50.3				100	99		65.8
C1	C1 24.7 - 25.5				100	23		38.7
C1	C1 27.9 - 30.5				100	11		40.2
C1	C1 33.3 - 35.5				100	11		43.1
C1	C1 38.8 - 40.5				100	19		46.9
C1	C1 44.5 - 45.5				100	19		46.1
C2	C2 24.5 - 27.3				100	7		27.3
C2	C2 29.8 - 32.2				100	95		42.9
C2	C2 34.1 - 34.9				100	76		67.5
C2	C2 35.3 - 37.3				100	96		55.3
C2	C2 38.4 - 39.3				100	90		53.2
C2	C2 39.3 - 42.3				100	34		26.9
C3	C3 29.3 - 30.5				100	93		72.5
C3	C3 38.2 - 40.5				100	90		74.4
C3	C3 40.5 - 41.8				100	10		29.2
C3	C3 40.6 - 45.5				100	10		32.0
C3	C3 46.7 - 50.5				100	85		64.7
C4	C4 24.9 - 26.4				100	46		45.5
C4	C4 26.4 - 28.0				100	85		78.7
C4	C4 28.4 - 31.9				100	12		26.0
C4	C4 36.4 - 38.0				100	94		80.8
C4	C4 41.4 - 43.0				100	93		77.5
C4	C4 44.6 - 48.0				100	98		80.5
C4	C4 48.0 - 53.0				100	96		68.7
C4	C4 53.4 - 55.5				100	49		48.8
C4	C4 55.5 - 58.0				100	87		53.0

Summary of Laboratory Results
Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD
Project Number: 19-0016 (Northgate# 3037.2)

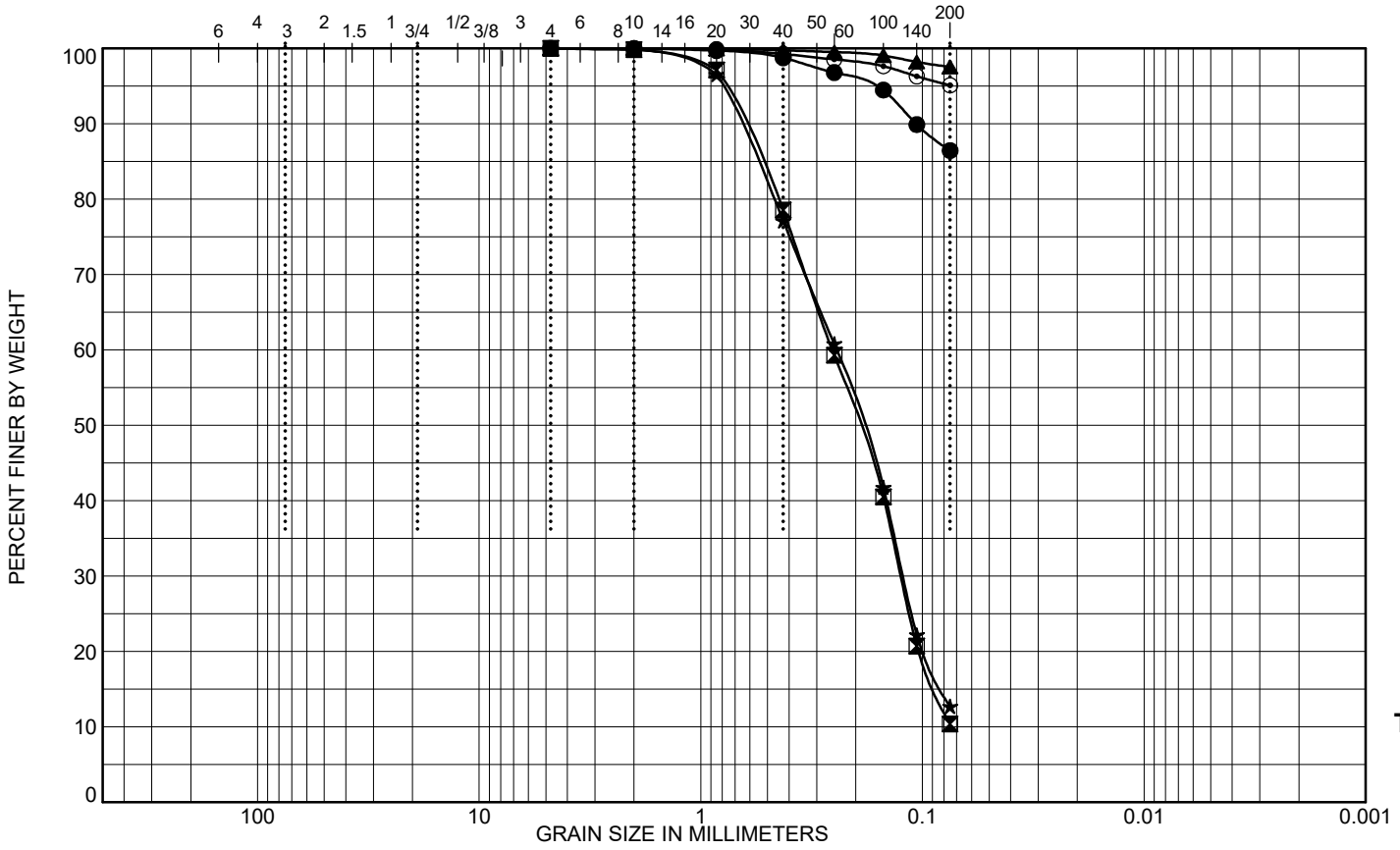
Boring	Sample No.	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% < #4 Sieve	% < #200 Sieve	Classification	Water Content (%)
C5	C5 22.1 - 26.7				100	14		38.9
C5	C5 29.4 - 31.7				100	99		83.0
C5	C5 34.0 - 36.7				100	98		73.5
C5	C5 36.7 - 41.7				100	94		70.9
C5	C5 43.5 - 46.7				100	82		55.1
C5	C5 49.0 - 49.9				100	71		36.0
D1	D1 20.8 - 22.7				100	23		40.0
D1	D1 24.7 - 26.7				100	91		45.2
D1	D1 26.7 - 27.7				100	12		34.0
D1	D1 28.5 - 30.2				100	93		33.9
D1	D1 30.2 - 32.7				100	81		33.4
D1	D1 32.0 - 37.7				100	88		70.9
D1	D1 38.0 - 42.7				100	95		61.9
D3	D3 24.4 - 25.9				100	8		44.0
D3	D3 26.2 - 30.9				100	7		32.4
D3	D3 32.0 - 35.9				98	83		79.8
D3	D3 36.1 - 40.9				100	89		72.7
D3	D3 40.9 - 45.9				100	84		73.3
D3	D3 45.9 - 50.9				100	97		65.4
D3	D3 50.9 - 53.2				100	94		68.2

Summary of Laboratory Results

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				4.76
⊠		0.125	0.255	4.76
▲				4.76
★		0.122	0.245	4.76
⊙				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/18/2020

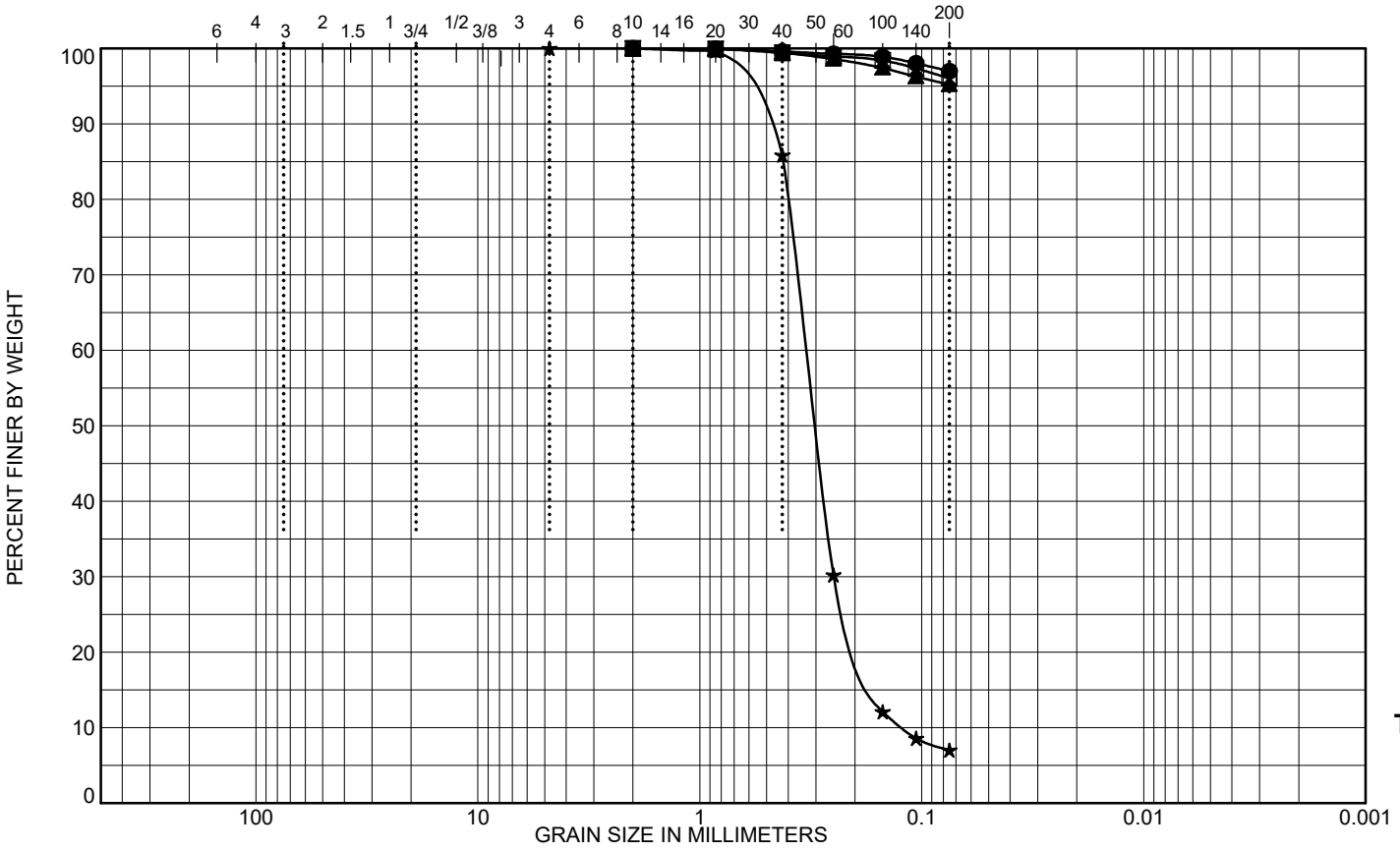
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	A2 7.8 - 12.8	0.0	13.6	86.4				56.4	Brownish Clayey Silt
⊠	A2 13.2 - 16.4	0.0	89.6	10.4				37.1	Black Sand
▲	A2 16.4 - 17.8	0.0	2.5	97.5				53.6	Blackish Grey Clayey Silt
★	A2 18.0 - 20.2	0.0	87.3	12.7				31.1	Black Sand
⊙	A2 20.2 - 22.8	0.0	4.9	95.1				40.2	Blackish Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠				2
▲				2
★	0.122	0.248	0.332	4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/17/2020

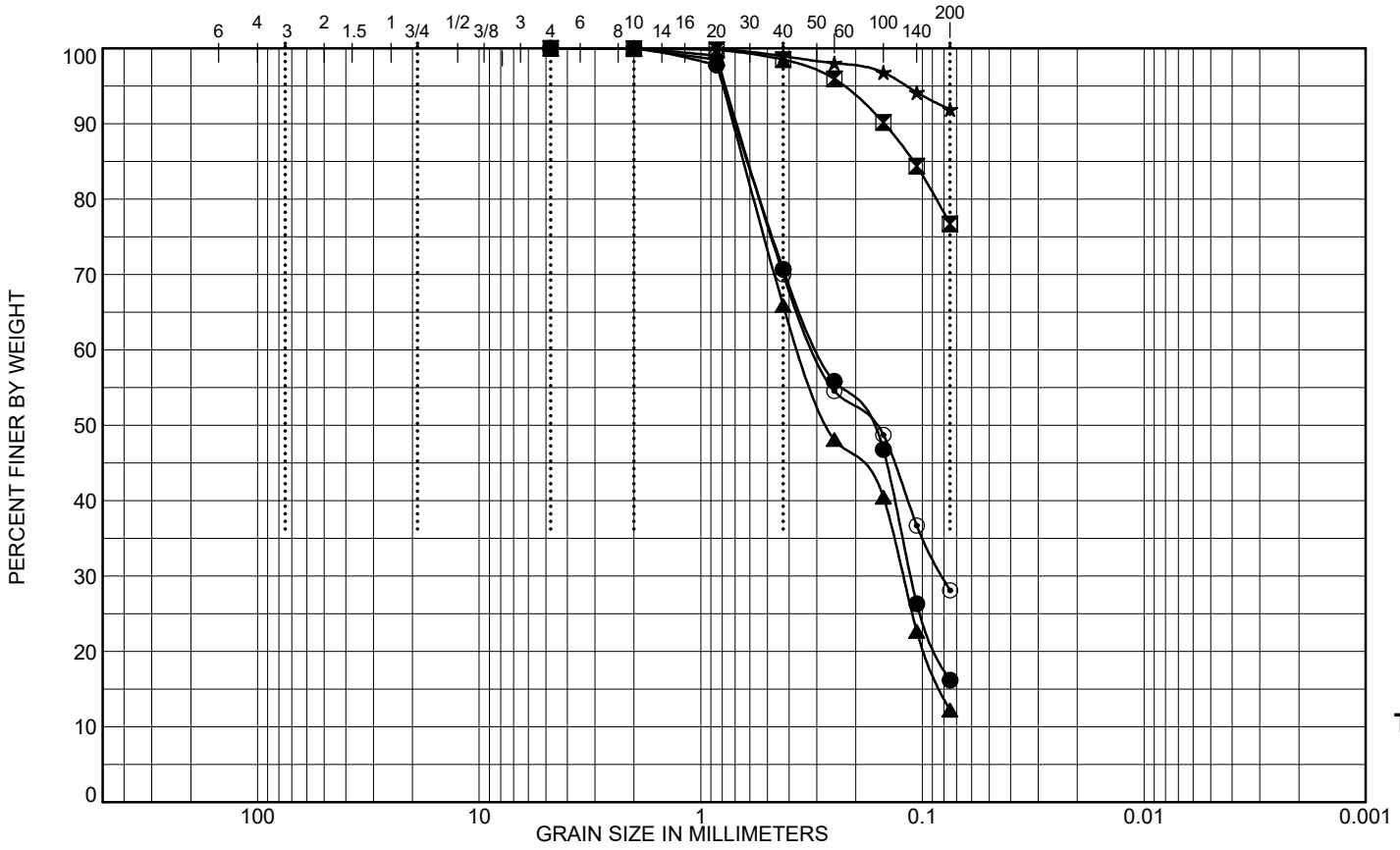
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	A2 23.4 - 27.8	0.0	3.0	97.0				61.7	Blackish Grey Clayey Silt
⊠	A2 28.4 - 32.8	0.0	4.0	96.0				57.8	Blackish Grey Clayey Silt
▲	A2 33.6 - 35.8	0.0	4.8	95.2				54.6	Blackish Grey Clayey Silt
★	A2 38.0 - 40.0	0.0	93.0	7.0				20.2	Light Brown Sand

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●		0.113	0.29	4.76
⊠				4.76
▲		0.122	0.356	2
★				2
⊙		0.081	0.301	4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/16/2020

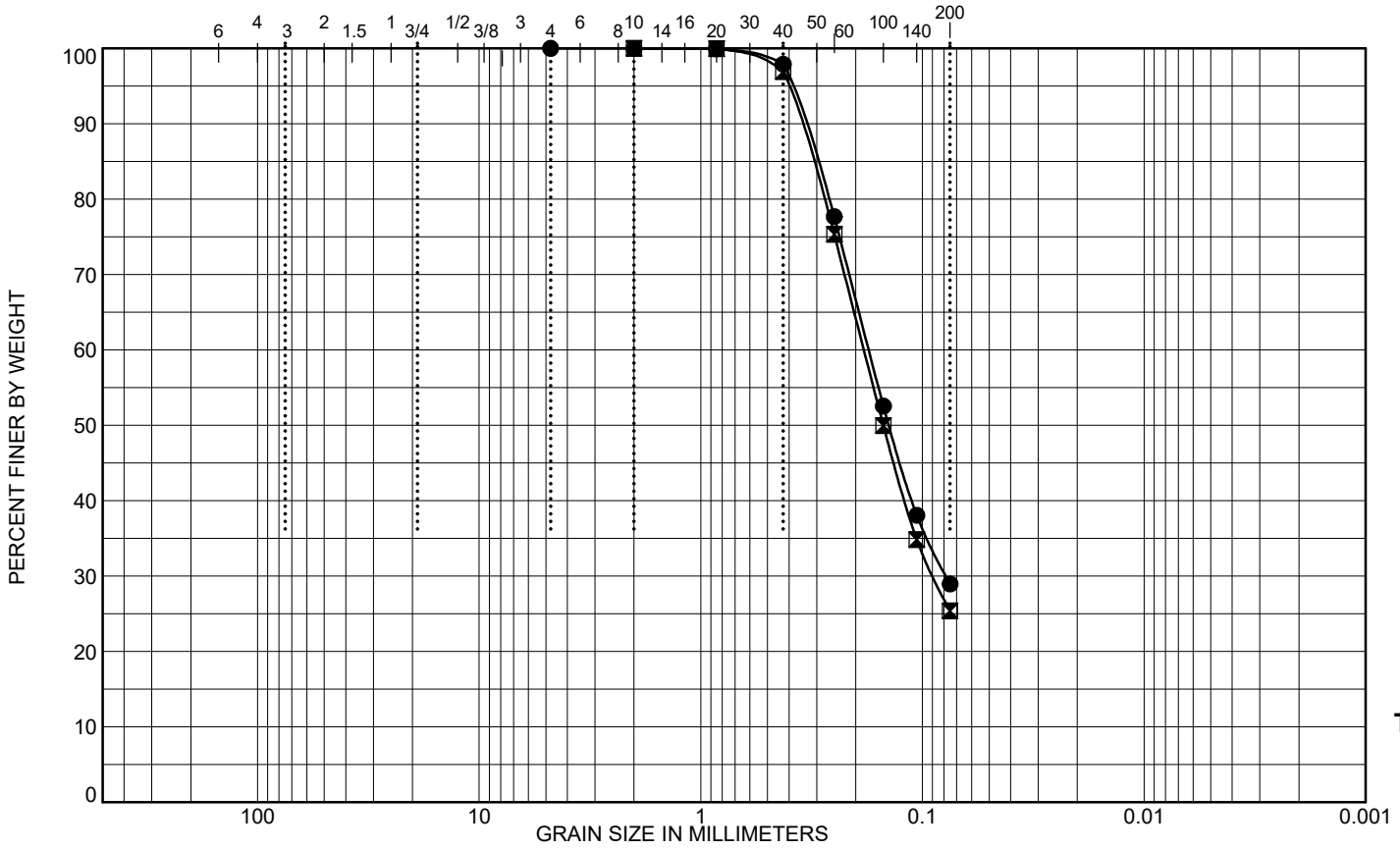
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	A3 24.6 - 26.0	0.0	83.8	16.2				25.2	Black Sand
⊠	A3 26.0 - 28.4	0.0	23.3	76.7				45.7	Dark Brown Silty Clay
▲	A3 28.6 - 29.9	0.0	87.8	12.2				30.0	Black Sand
★	A3 29.9 - 33.4	0.0	8.1	91.9				52.6	Dark Brown Silty Clay
⊙	A3 34.7 - 36.2	0.0	71.9	28.1				28.4	Black Sand

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●		0.078	0.175	4.76
⊠		0.089	0.184	2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/16/2020

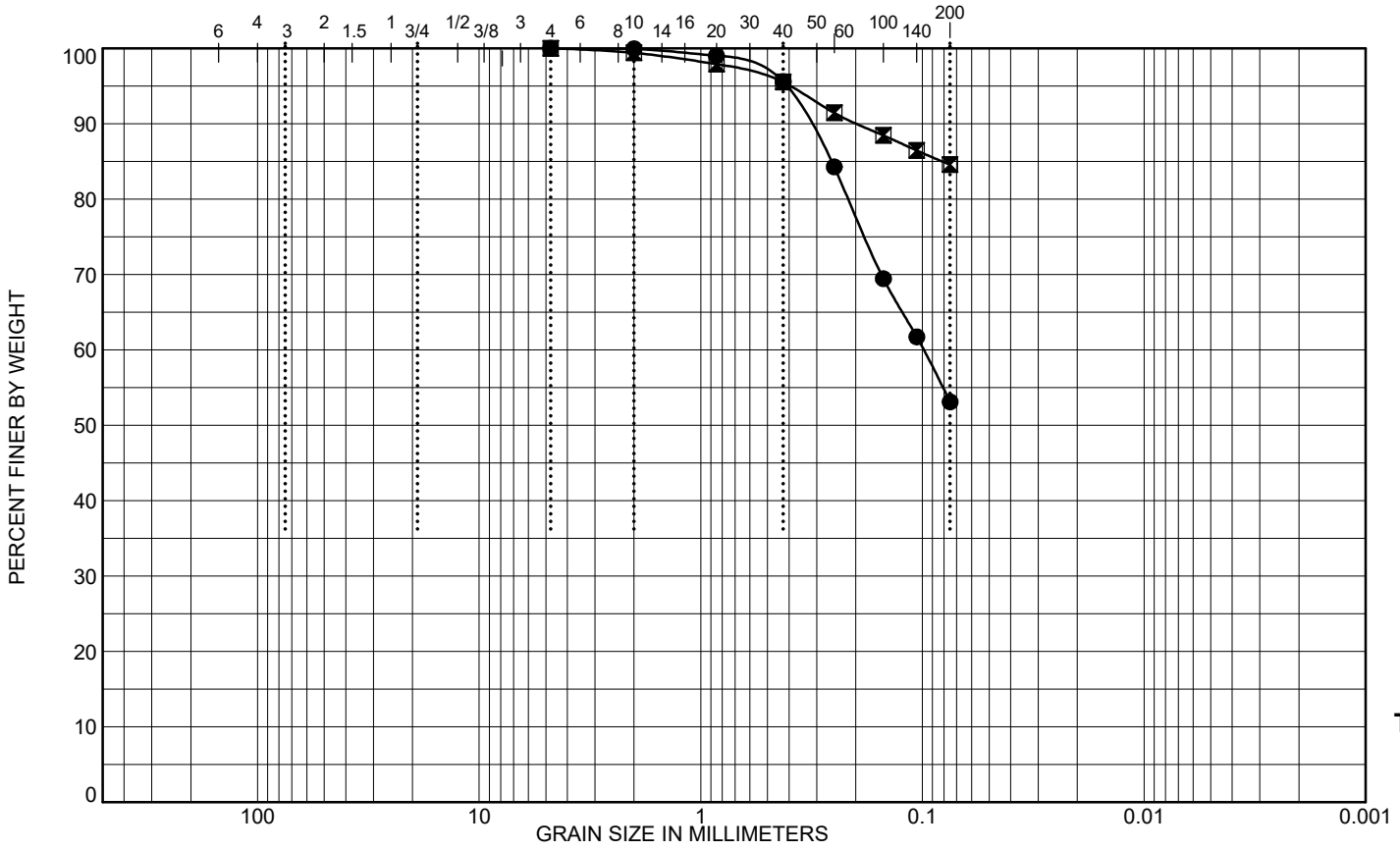
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	A3 41.6 - 43.4	0.0	71.1	28.9				16.3	Brown Sand
⊠	A3 44.6 - 47.4	0.0	74.6	25.4				18.0	Brown Sand

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●			0.099	4.76
⊠				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/18/2020

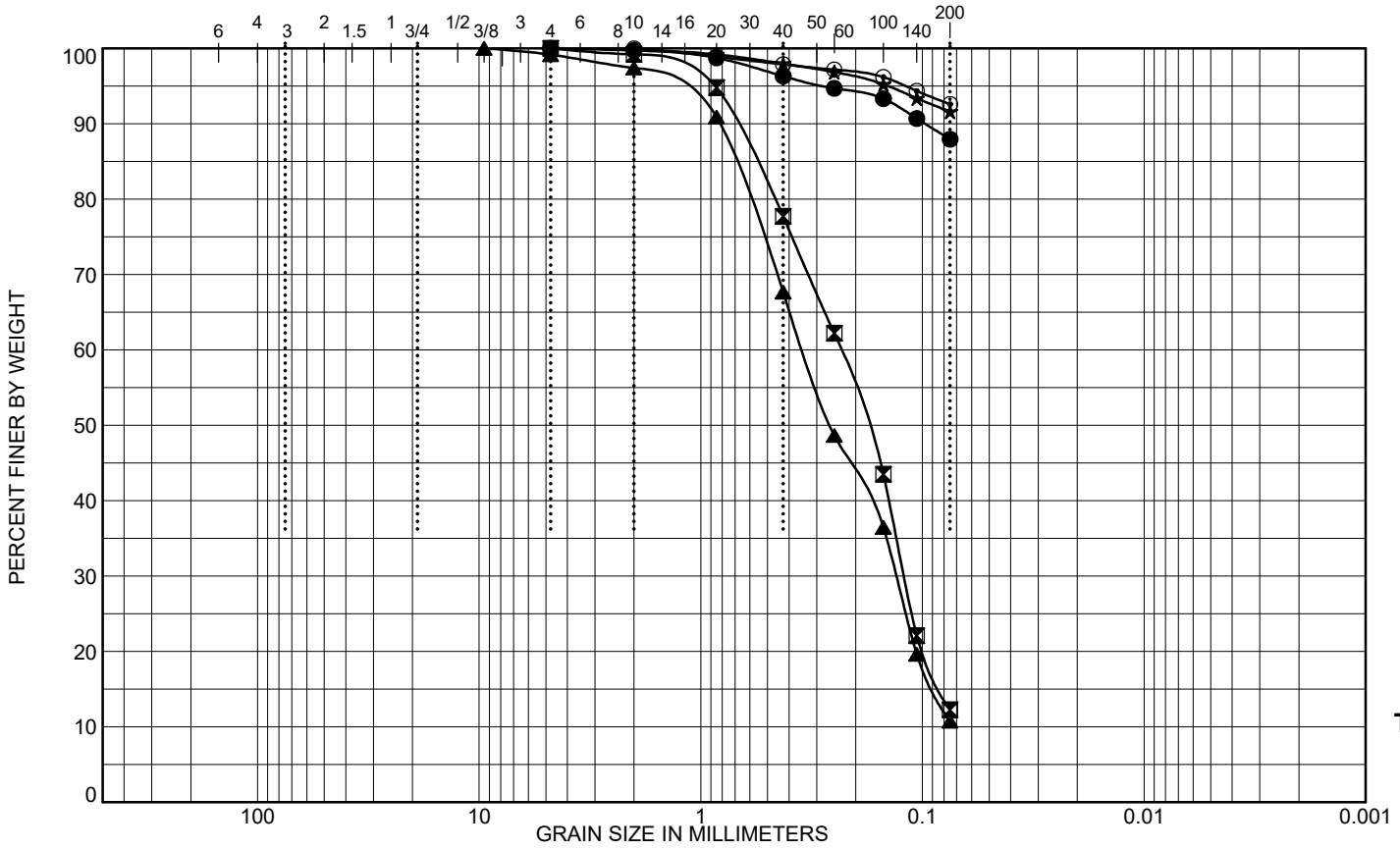
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B1 36.6 - 38.8	0.0	46.9	53.1				41.9	Black Sandy Clay
⊠	B1 41.2 - 43.8	0.0	15.4	84.6				48.9	Dark Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				4.76
⊠		0.121	0.235	4.76
▲		0.131	0.343	9.5
★				4.76
⊙				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/21/2020

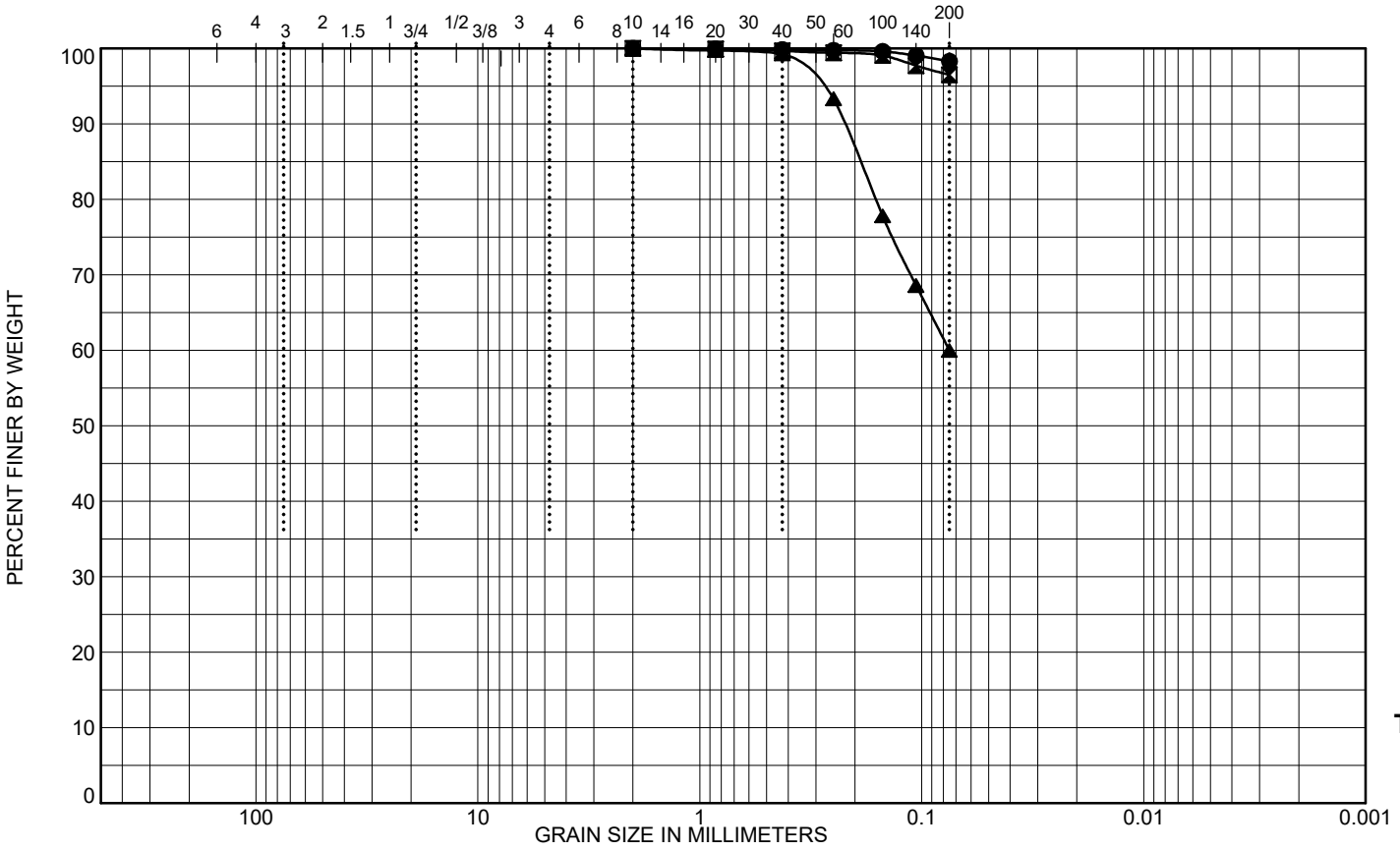
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B5 24.4 - 25.4	0.0	12.0	88.0				89.1	Dark Grey Clayey Silt
⊠	B5 29.4 - 30.4	0.0	87.7	12.3				28.4	Black Sand
▲	B5 31.0 - 35.4	0.8	88.4	10.7				32.4	Black Sand
★	B5 35.4 - 40.4	0.0	8.4	91.6				77.7	Dark Grey Clayey Silt
⊙	B5 40.4 - 45.4	0.0	7.4	92.6				72.5	Dark Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠				2
▲			0.075	2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/21/2020

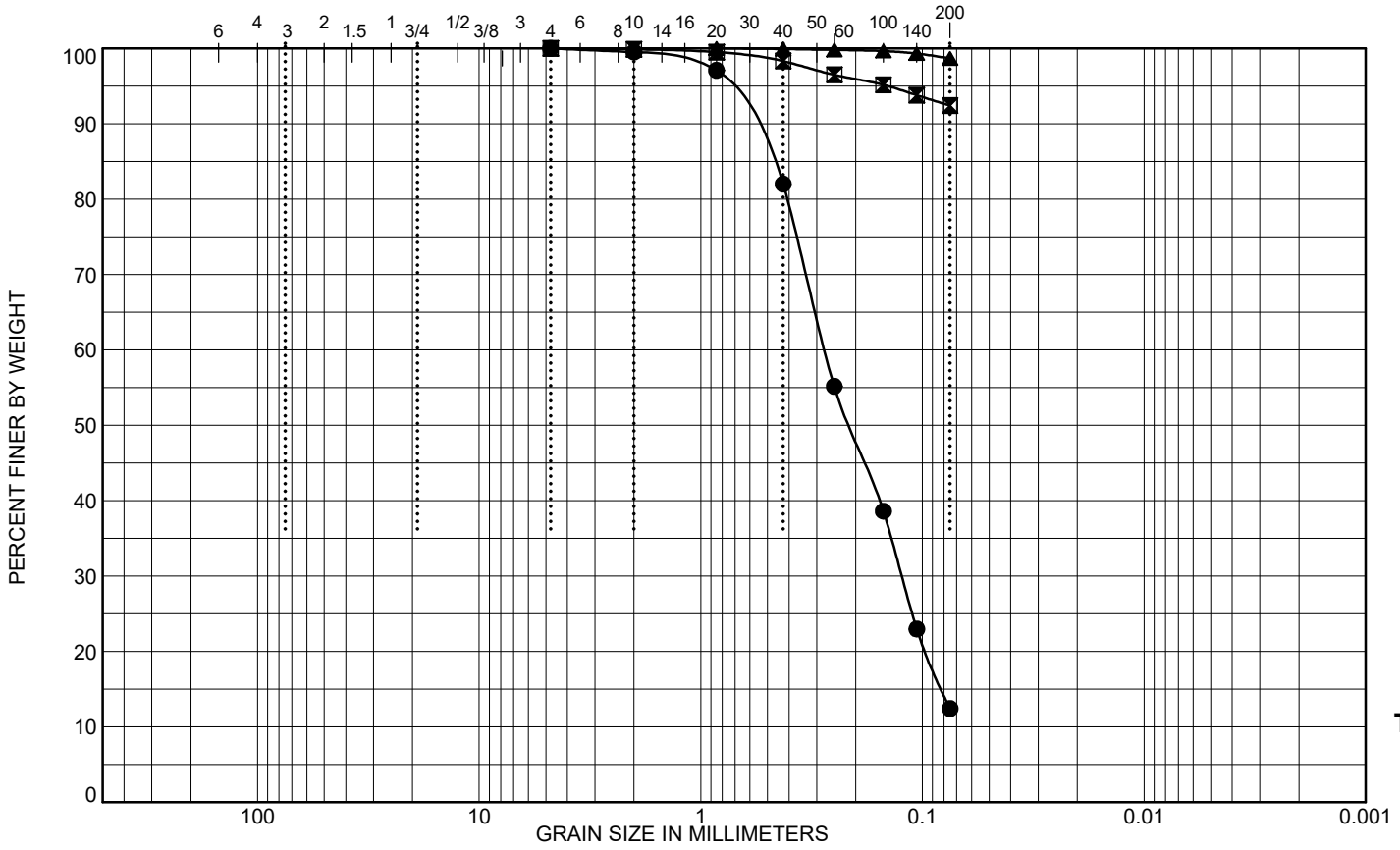
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B5 45.4 - 50.4	0.0	1.7	98.3				68.2	Dark Grey Clayey Silt
⊠	B5 50.4 - 51.9	0.0	3.5	96.5				64.4	Dark Grey Clayey Silt
▲	B5 51.9 - 54.1	0.0	40.0	60.0				46.0	Dark Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●		0.124	0.275	4.76
⊠				4.76
▲				0.85

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/22/2020

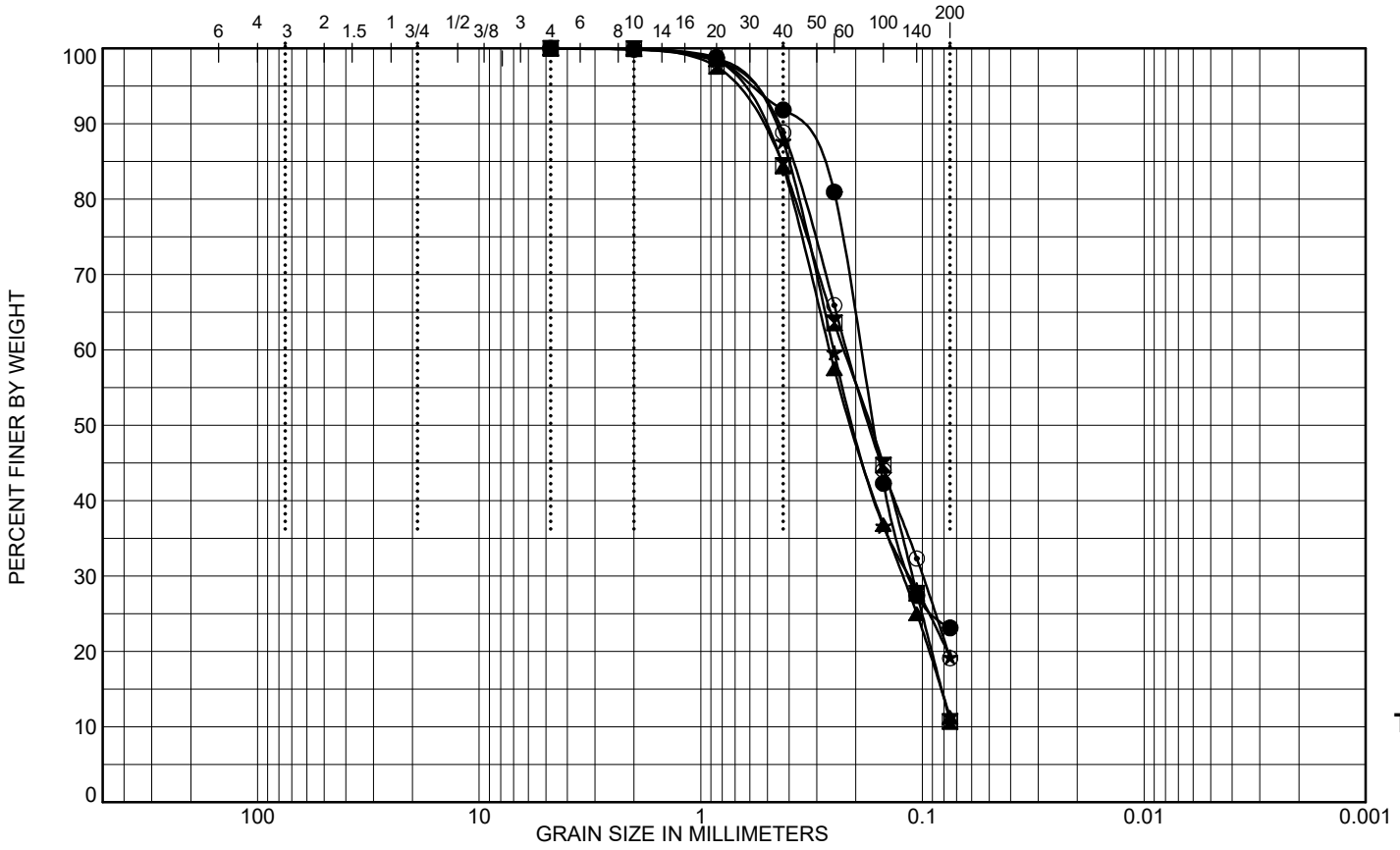
	S No.	Depth	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B6	41.0 - 45.3	0.0	87.6	12.4				36.7	Black Sand
⊠	B6	46.6 - 48.5	0.0	7.6	92.4				76.2	Dark Grey Clayey Silt
▲	B6	48.5 - 50.3	0.0	1.3	98.7				65.8	Dark Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●		0.113	0.19	4.76
⊠		0.111	0.227	4.76
▲		0.123	0.263	4.76
★		0.114	0.252	4.76
⊙		0.1	0.218	4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/21/2020

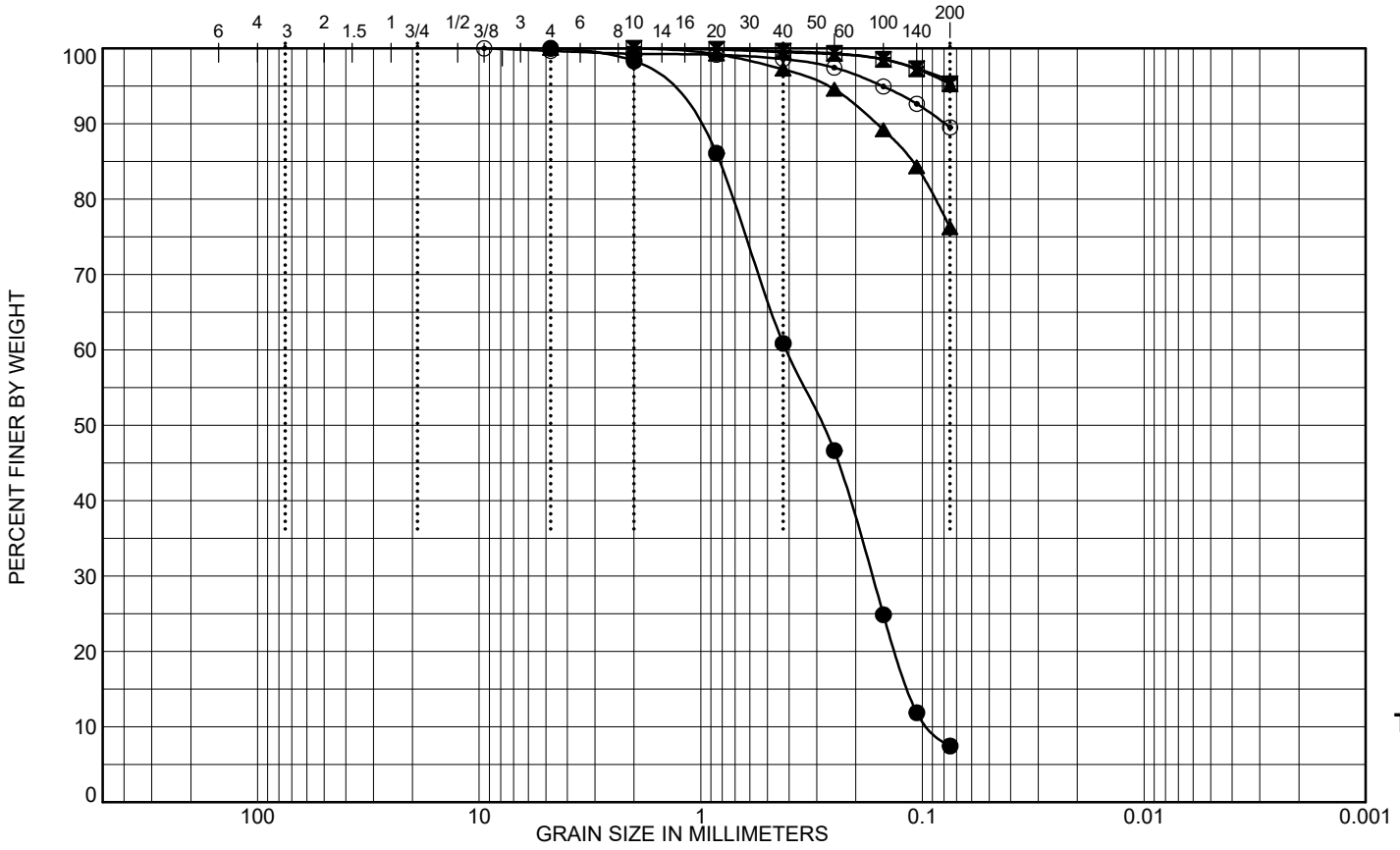
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C1 24.7 - 25.5	0.0	76.9	23.1				38.7	Dark Grey Clayey Silty Sand
⊠	C1 27.9 - 30.5	0.0	89.3	10.7				40.2	Black Sand
▲	C1 33.3 - 35.5	0.0	88.8	11.2				43.1	Black Sand
★	C1 38.8 - 40.5	0.0	80.8	19.2				46.9	Black Sand
⊙	C1 44.5 - 45.5	0.0	80.9	19.1				46.1	Black Sand

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●	0.092	0.169	0.412	4.76
⊠				2
▲				4.76
★				2
⊙				9.5

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/17/2020

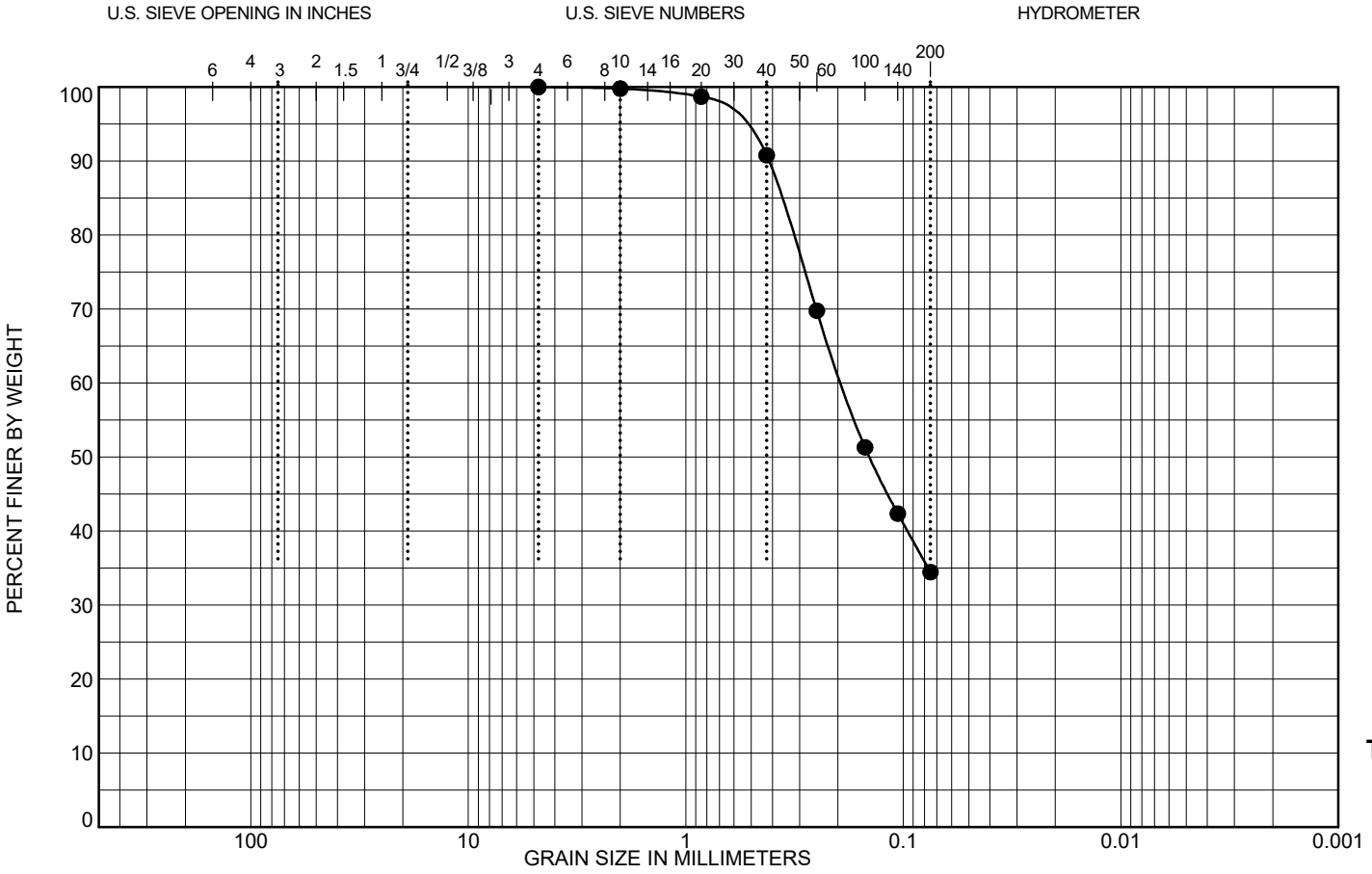
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C2 24.5 - 27.3	0.0	92.5	7.4				27.3	Black Sand
⊠	C2 29.8 - 32.2	0.0	4.7	95.3				42.9	Blackish Grey Clayey Silt
▲	C2 34.1 - 34.9	0.0	23.8	76.2				67.5	Dark Grey Clayey Silt
★	C2 35.3 - 37.3	0.0	4.2	95.8				55.3	Blackish Grey Clayey Silt
⊙	C2 38.4 - 39.3	0.3	10.2	89.5				53.2	Black Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●			0.191	4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/17/2020

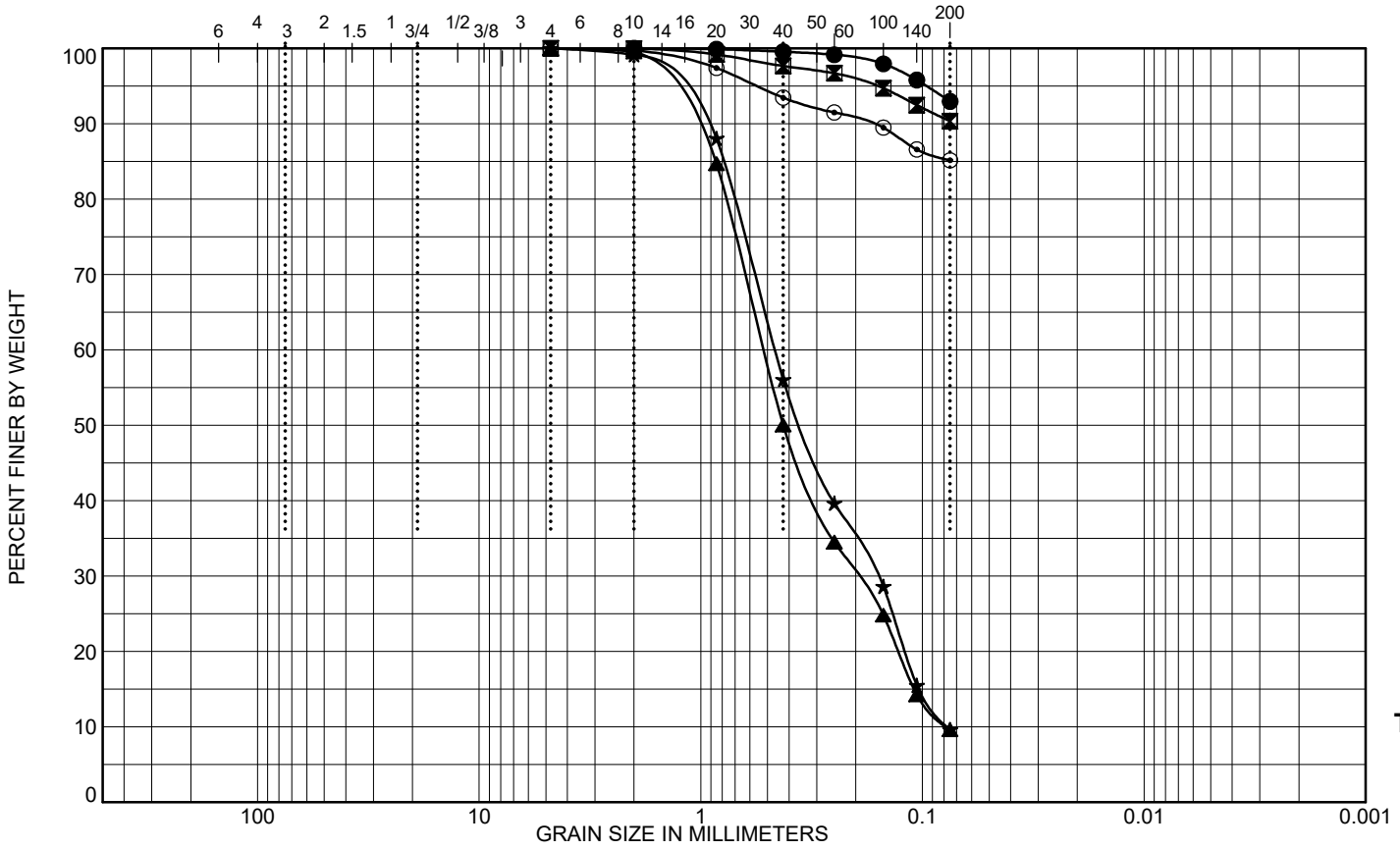
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C2 39.3 - 42.3	0.0	65.5	34.5				26.9	Black Sand

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠				4.76
▲	0.077	0.197	0.519	4.76
★	0.077	0.16	0.463	4.76
⊙				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/15/2020

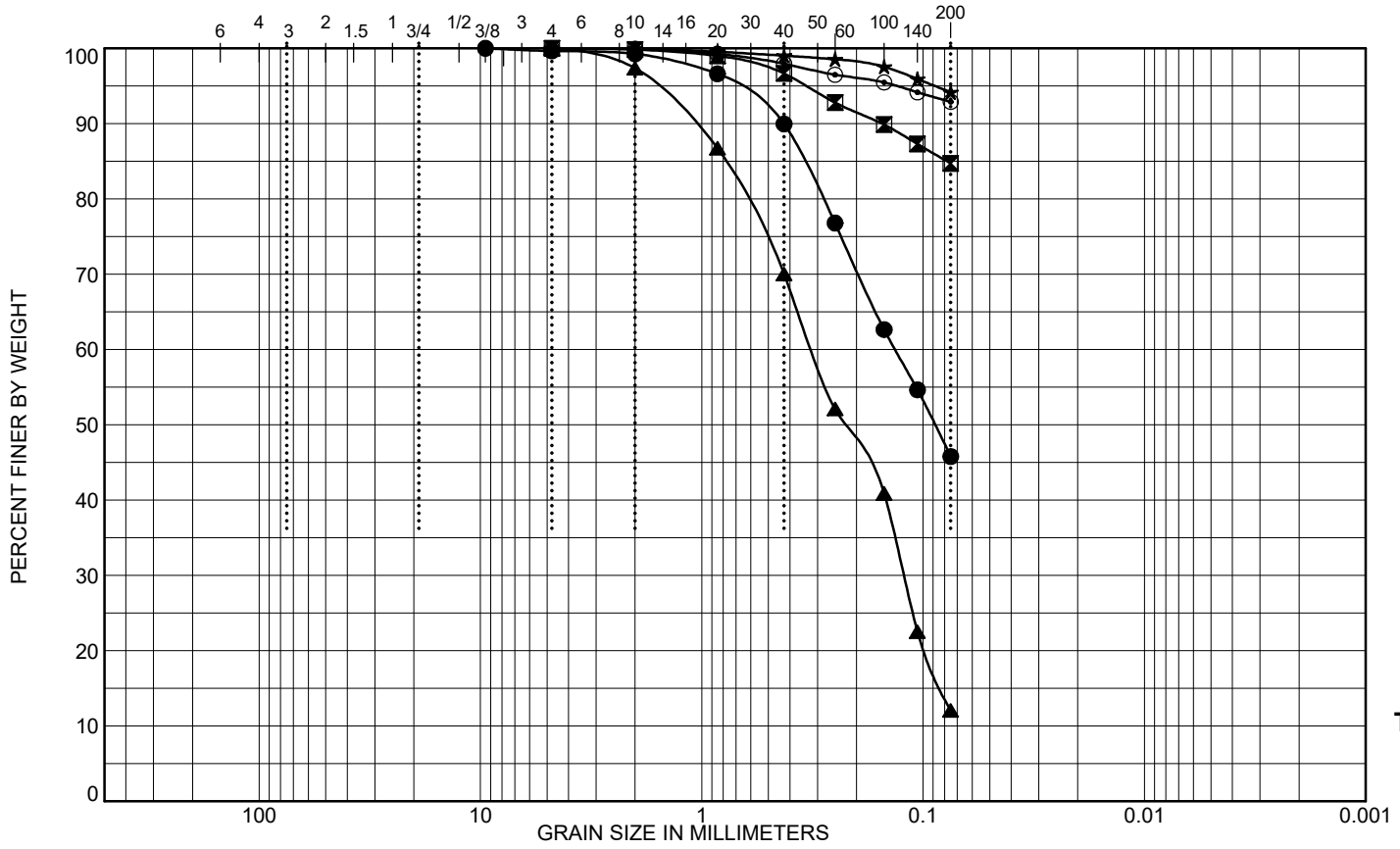
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C3 29.3 - 30.5	0.0	7.0	93.0				72.5	Blackish Grey Clayey Silt
⊠	C3 38.2 - 40.5	0.0	9.7	90.3				74.4	Blackish Grey Clayey Silt
▲	C3 40.5 - 41.8	0.0	90.4	9.6				29.2	Black Sand
★	C3 40.6 - 45.5	0.0	90.4	9.6				32.0	Black Sand
⊙	C3 46.7 - 50.5	0.0	14.8	85.2				64.7	Blackish Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●			0.134	9.5
⊠				4.76
▲		0.122	0.316	4.76
★				4.76
⊙				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/15/2020

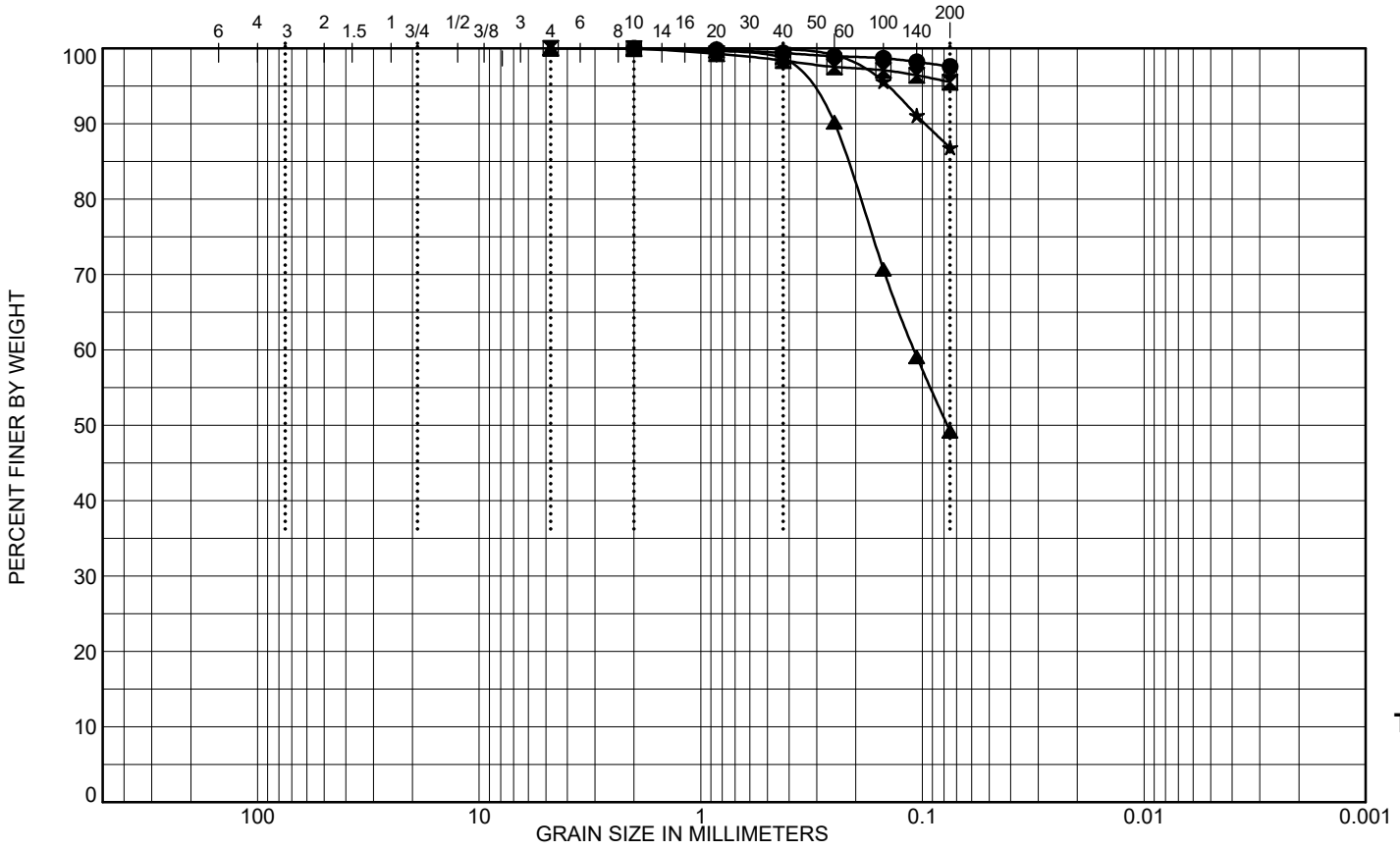
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C4 24.9 - 26.4	0.4	53.9	45.8				45.5	Black Sand
⊠	C4 26.4 - 28.0	0.0	15.3	84.7				78.7	Blackish Grey Clayey Silt
▲	C4 28.4 - 31.9	0.0	87.9	12.1				26.0	Black Sand
★	C4 36.4 - 38.0	0.0	5.8	94.2				80.8	Blackish Grey Clayey Silt
⊙	C4 41.4 - 43.0	0.0	7.1	92.9				77.5	Blackish Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠				4.76
▲			0.109	4.76
★				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/15/2020

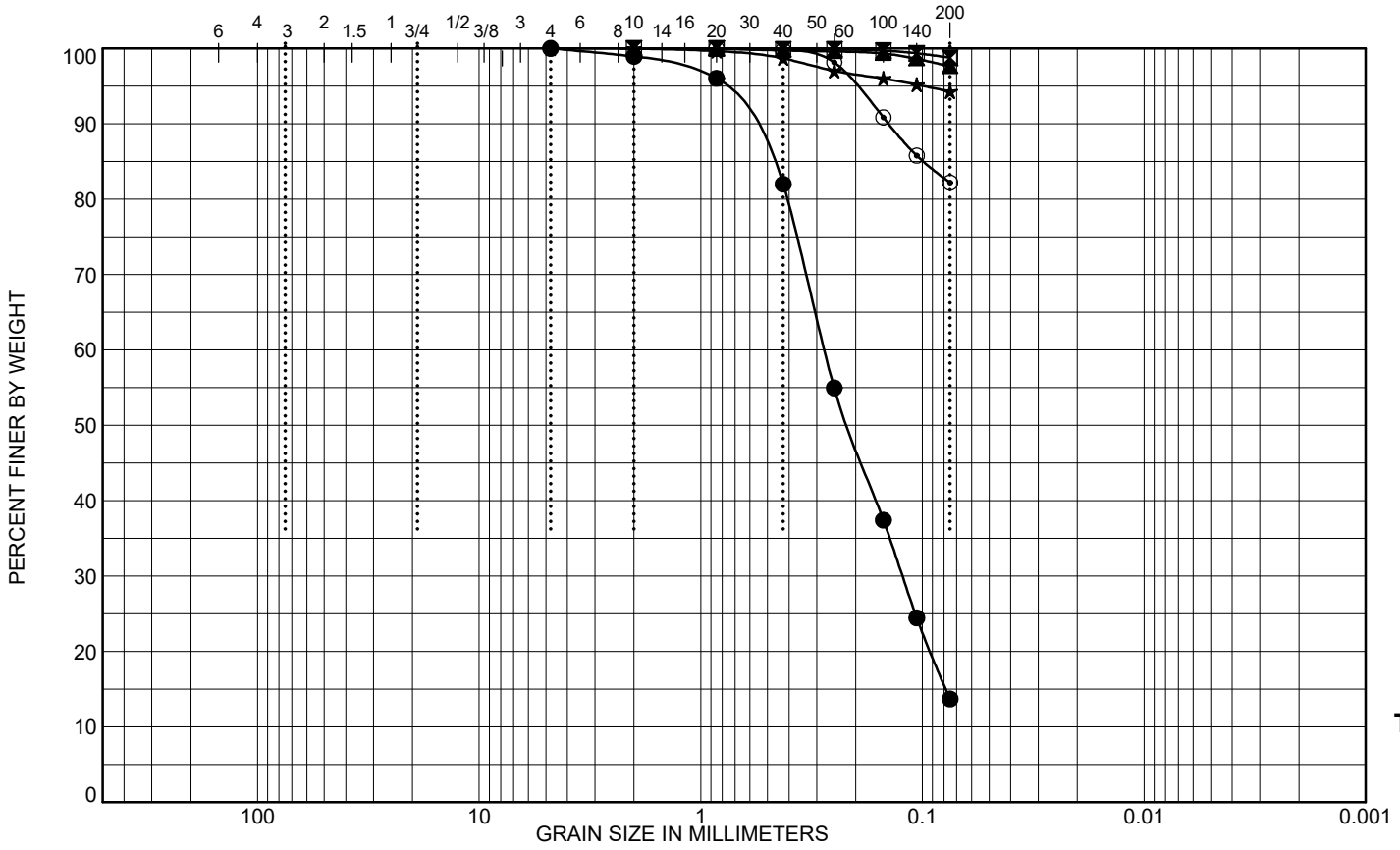
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C4 44.6 - 48.0	0.0	2.4	97.6				80.5	Blackish Grey Clayey Silt
⊠	C4 48.0 - 53.0	0.0	4.5	95.5				68.7	Blackish Grey Clayey Silt
▲	C4 53.4 - 55.5	0.0	50.8	49.2				48.8	Blackish Grey Clayey Silty Sand
★	C4 55.5 - 58.0	0.0	13.2	86.8				53.0	Blackish Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●		0.123	0.276	4.76
⊠				2
▲				2
★				4.76
⊙				0.85

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/22/2020

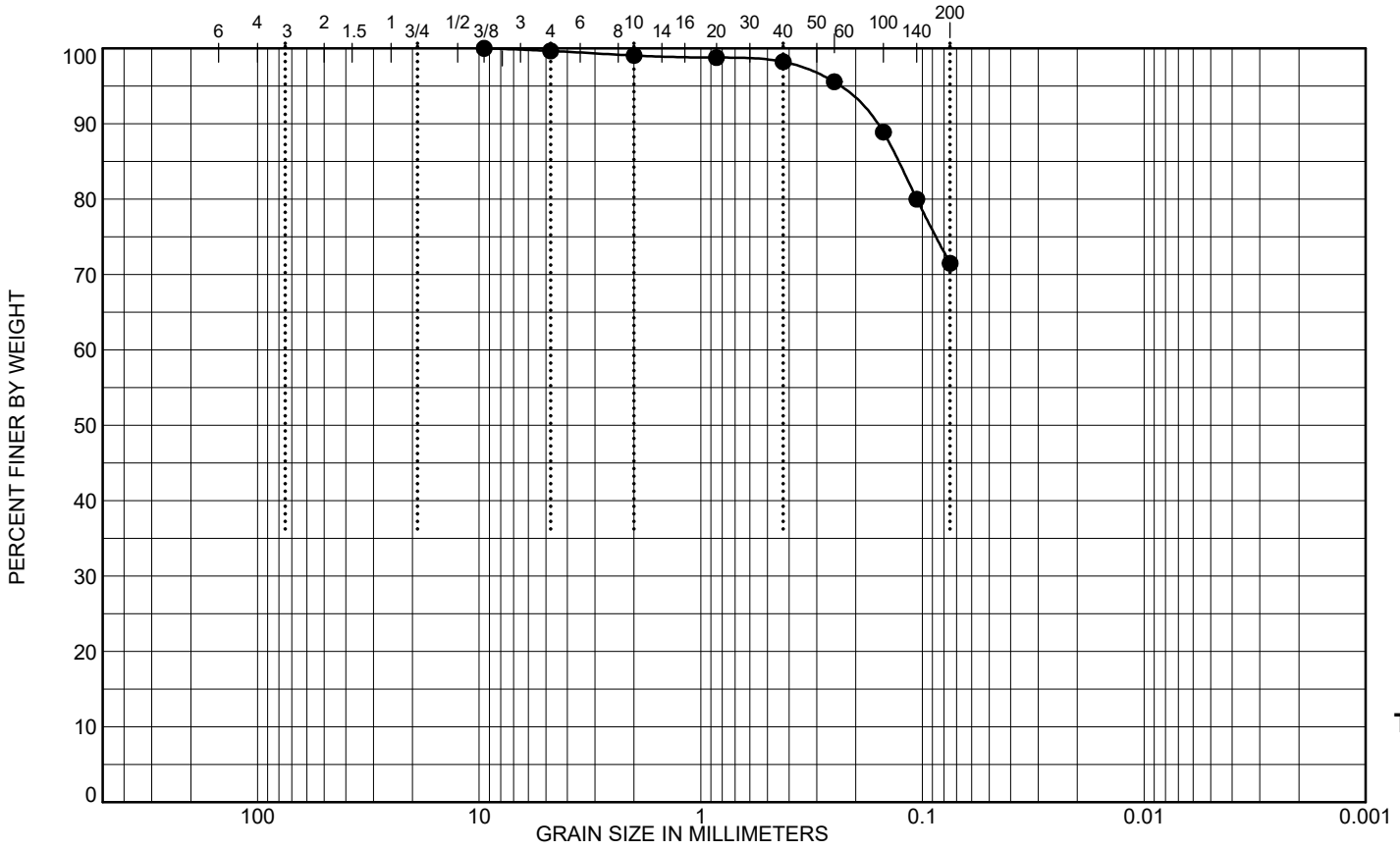
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C5 22.1 - 26.7	0.0	86.3	13.7				38.9	Black Sand
⊠	C5 29.4 - 31.7	0.0	1.2	98.8				83.0	Dark Grey Clayey Silt
▲	C5 34.0 - 36.7	0.0	2.4	97.6				73.5	Dark Grey Clayey Silt
★	C5 36.7 - 41.7	0.0	5.7	94.3				70.9	Dark Grey Clayey Silt
⊙	C5 43.5 - 46.7	0.0	17.8	82.2				55.1	Dark Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				9.5

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/21/2020

	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C5 49.0 - 49.9	0.3	28.2	71.5				36.0	Dark Grey Clayey Silt

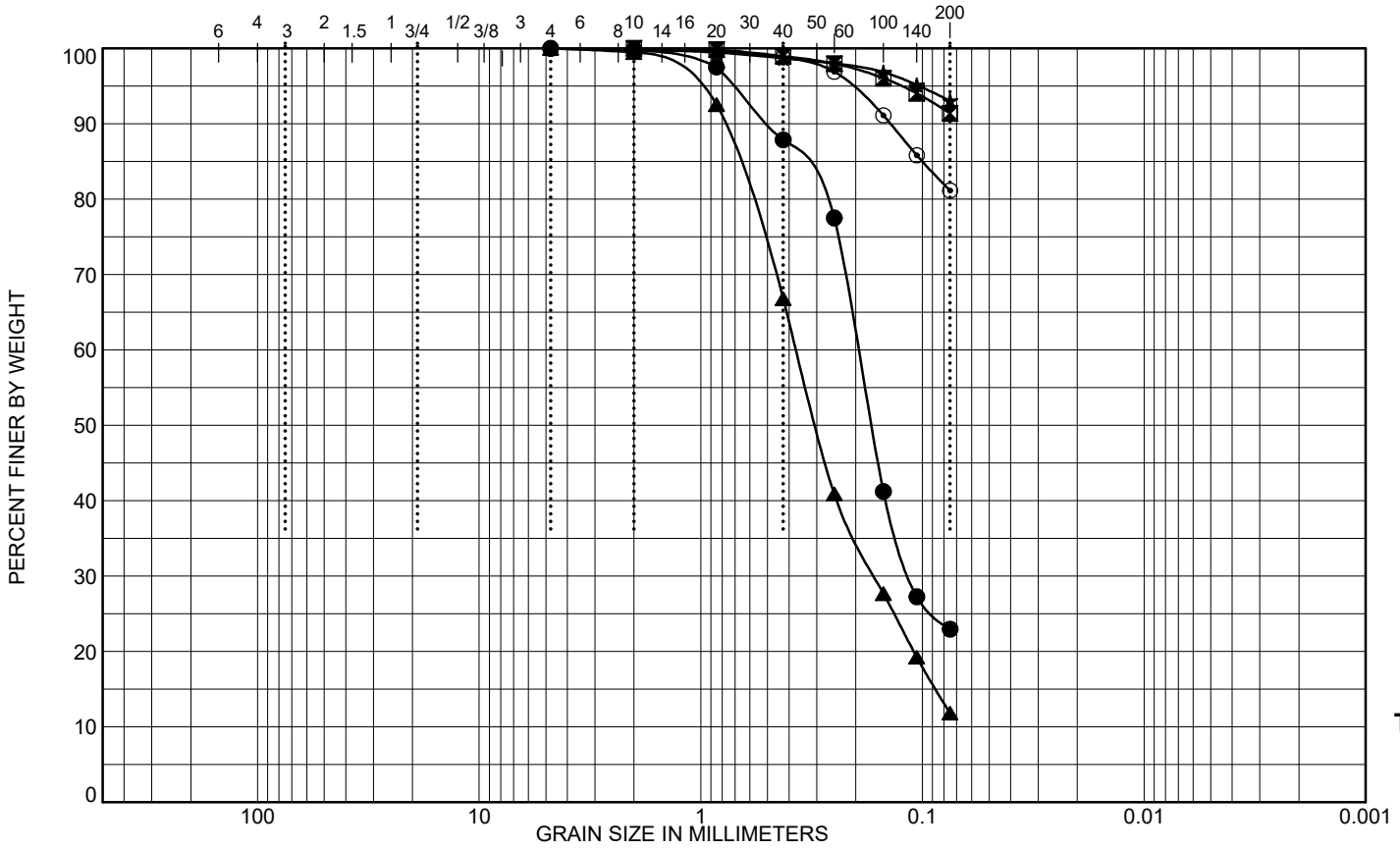
GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

TLB_GRAIN_SIZE_LANDSCAPE_USCS_LAB_19-0016 CONOWINGO.GPJ_SALUT2014.GDT 12/22/20



	D10	D30	D60	D100
●		0.114	0.195	4.76
⊠				2
▲		0.164	0.37	4.76
★				4.76
⊙				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/18/2020

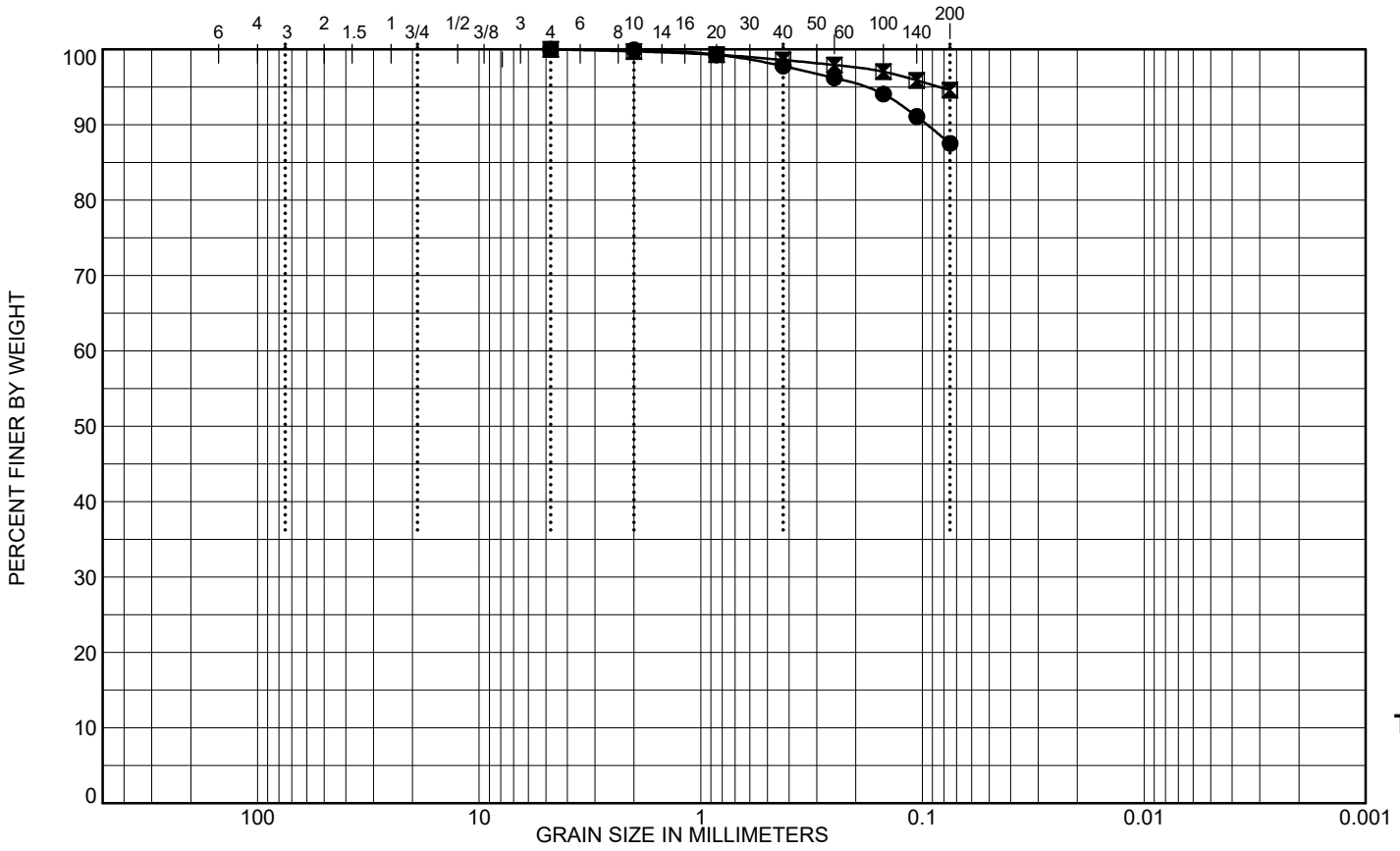
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	D1 20.8 - 22.7	0.0	77.1	22.9				40.0	Blackish Grey Clayey Sand
⊠	D1 24.7 - 26.7	0.0	8.6	91.4				45.2	Dark Grey Clayey Silt
▲	D1 26.7 - 27.7	0.0	88.2	11.8				34.0	Black Sand
★	D1 28.5 - 30.2	0.0	7.0	93.0				33.9	Dark Grey Clayey Silt
⊙	D1 30.2 - 32.7	0.0	18.9	81.1				33.4	Blackish Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				4.76
⊠				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/18/2020

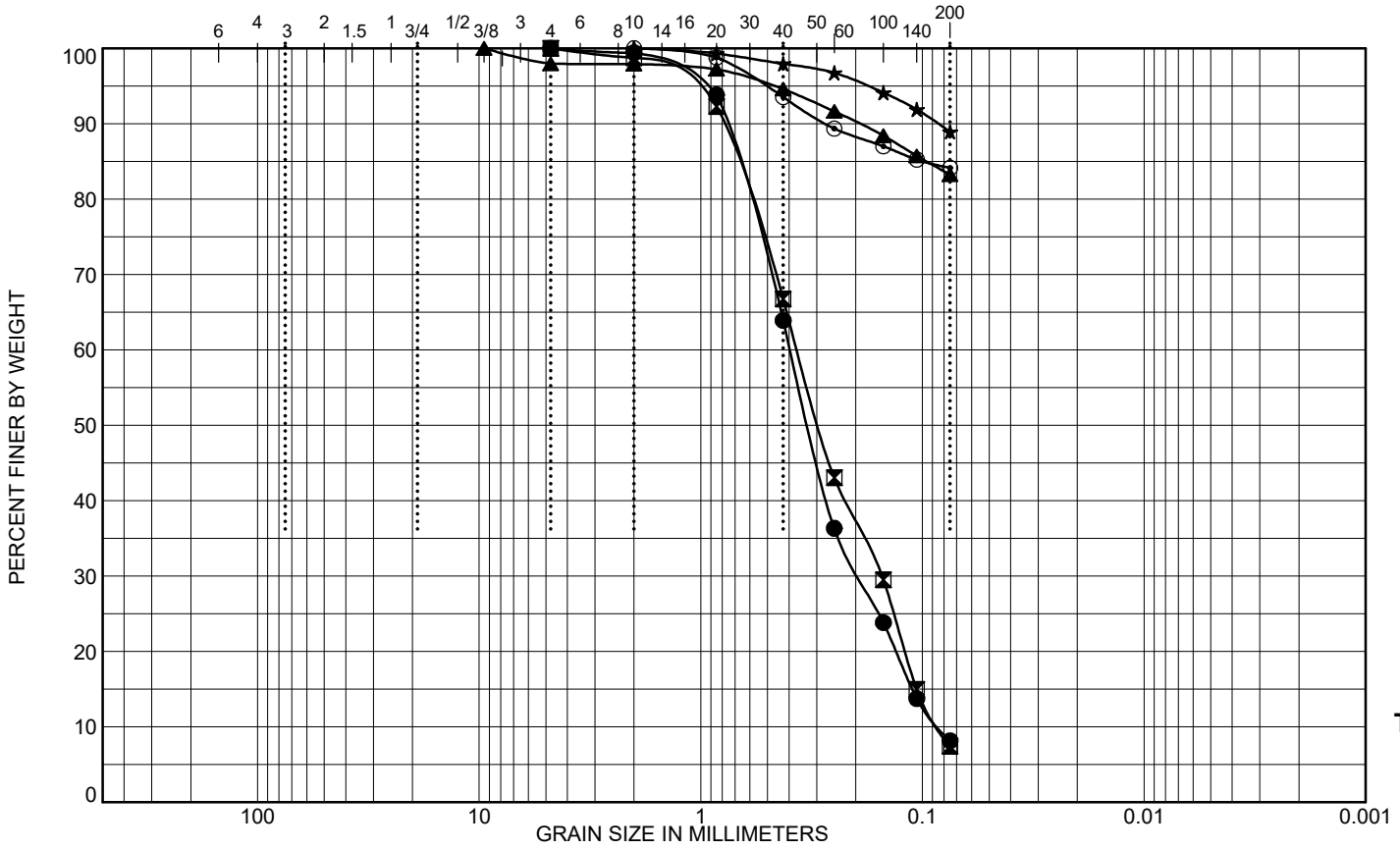
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	D1 32.0 - 37.7	0.0	12.5	87.5				70.9	Dark Grey Clayey Silt
⊠	D1 38.0 - 42.7	0.0	5.4	94.6				61.9	Blackish Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●	0.084	0.193	0.394	4.76
⊠	0.084	0.153	0.365	4.76
▲				9.5
★				2
⊙				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/22/2020

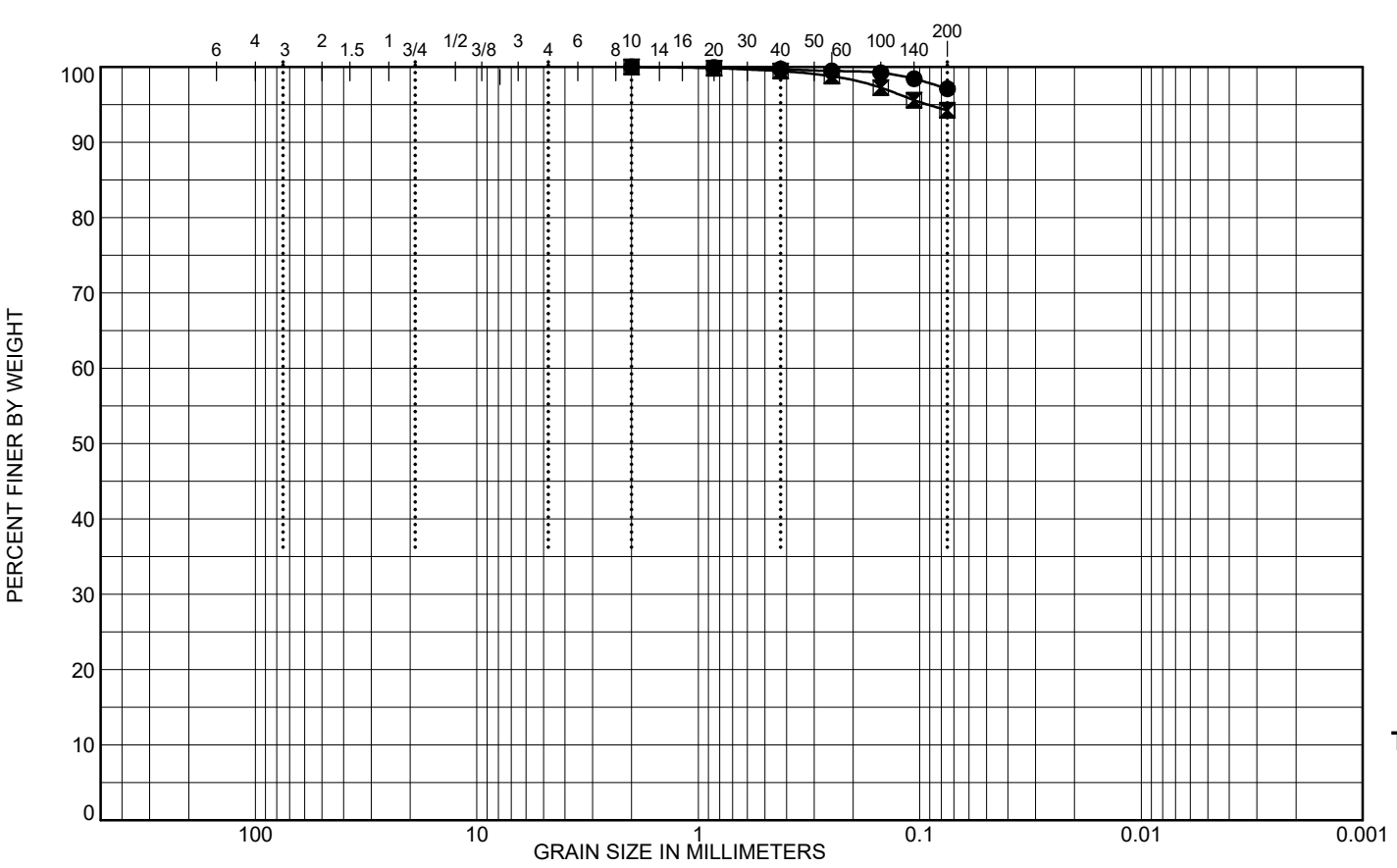
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	D3 24.4 - 25.9	0.0	91.9	8.1				44.0	Black Sand
⊠	D3 26.2 - 30.9	0.0	92.6	7.4				32.4	Black Sand
▲	D3 32.0 - 35.9	2.0	14.7	83.3				79.8	Blackish Grey Clayey Silt
★	D3 36.1 - 40.9	0.0	11.1	88.9				72.7	Dark Grey Clayey Silt
⊙	D3 40.9 - 45.9	0.0	15.9	84.1				73.3	Dark Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: CL, SM Date: 12/22/2020

	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	D3 45.9 - 50.9	0.0	2.9	97.1				65.4	Dark Grey Clayey Silt
⊠	D3 50.9 - 53.2	0.0	5.8	94.2				68.2	Dark Grey Clayey Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

TLB_GRAIN_SIZE_LANDSCAPE_USCS_LAB_19-0016 CONOWINGO.GPJ SALUT2014.GDT 12/22/20

Boring	Sample No.	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% < #4 Sieve	% < #200 Sieve	Classification	Water Content (%)
A8	A8 41.2 - 42.3				100	99		115.3
A8	A8 45.2 - 47.3				100	97		110.8
A8	A8 50.5 - 52.3				100	97		92.1
A8	A8 53.1 - 57.3				100	94		95.9
A8	A8 57.8 - 62.3				100	98		86.2
A8	A8 62.9 - 67.3				100	98		82.0
A8	A8 67.3 - 72.3				100	99		76.9
A8	A8 72.3 - 74.8				100	95		66.0
B7	B7 37.6 - 39.6				100	95		87.4
B7	B7 39.6 - 40.6				100	96		82.5
B7	B7 39.6				100	30		37.5
B7	B7 41.0 - 43.3				100	93		67.0
B7	B7 43.3 - 45.6				100	96		69.0
B7	B7 47.4 - 48.2				100	51		51.7
B7	B7 48.2 - 50.6				100	19		38.6
B7	B7 51.0 - 52.5				100	26		47.5
B7	B7 52.5 - 54.5				100	99		76.5
B7	B7 54.5 - 55.6				100	96		75.3
B7	B7 55.6 - 58.1				100	92		78.0
B7	B7 58.1 - 60.6				100	96		74.4
B7	B7 60.6 - 63.1				100	94		76.9
B7	B7 63.1 - 65.6				100	98		67.1
B7	B7 65.6 - 66.7				100	99		63.4
B7	B7 66.7 - 68.1				100	98		63.7
B8	B8 63.7 - 66.7				100	97		87.6
B8	B8 66.7 - 67.2				100	17		18.8
B8	B8 67.2 - 68.7				100	32		14.8

Summary of Laboratory Results- Batch 2

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

Boring	Sample No.	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% < #4 Sieve	% < #200 Sieve	Classification	Water Content (%)
B8A	B8A 58.8 - 60.6				100	98		110.8
B8A	B8A 68.7 - 70.0				100	23		39.8
B8A	B8A 71.9 - 75.0				100	93		94.5
B8A	B8A 75.3 - 80.0				100	99		67.9
B8A	B8A 81.1 - 82.4				100	49		58.2
C6	C6 19.7 - 20.1				100	63		77.8
C6	C6 20.1 - 20.8				100	98		92.6
C6	C6 21.8 - 23.4				100	13		43.0
C6	C6 23.4 - 26.1				100	93		80.3
C6	C6 27.2 - 28.3				100	17		49.9
C6	C6 28.3 - 31.1				100	97		75.0
C6	C6 31.1 - 33.9				100	93		73.1
C6	C6 33.9 - 35.0				100	81		59.4
C6	C6 35.0 - 36.1				100	38		48.2
C6	C6 36.6 - 38.8				100	29		41.9
C6	C6 38.8 - 39.8				100	99		75.2
C6	C6 39.8 - 41.1				100	97		68.9
C6	C6 41.5 - 43.6				100	91		74.9
C6	C6 43.6 - 46.7				100	99		70.2
C6	C6 46.1 - 49.5				100	96		63.4
C6	C6 49.5 - 51.1				100	64		22.9
C6	C6 52.3 - 54.2				100	76		22.0
C6	C6 54.2 - 56.1				100	76		21.9
C7	C7 29.3 - 30.3				100	99		124.4
C7	C7 30.0 - 30.8				100	22		38.2
C7	C7 33.9 - 35.8				100	95		74.7
C7	C7 36.5 - 37.3				100	13		38.8

Summary of Laboratory Results- Batch 2

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

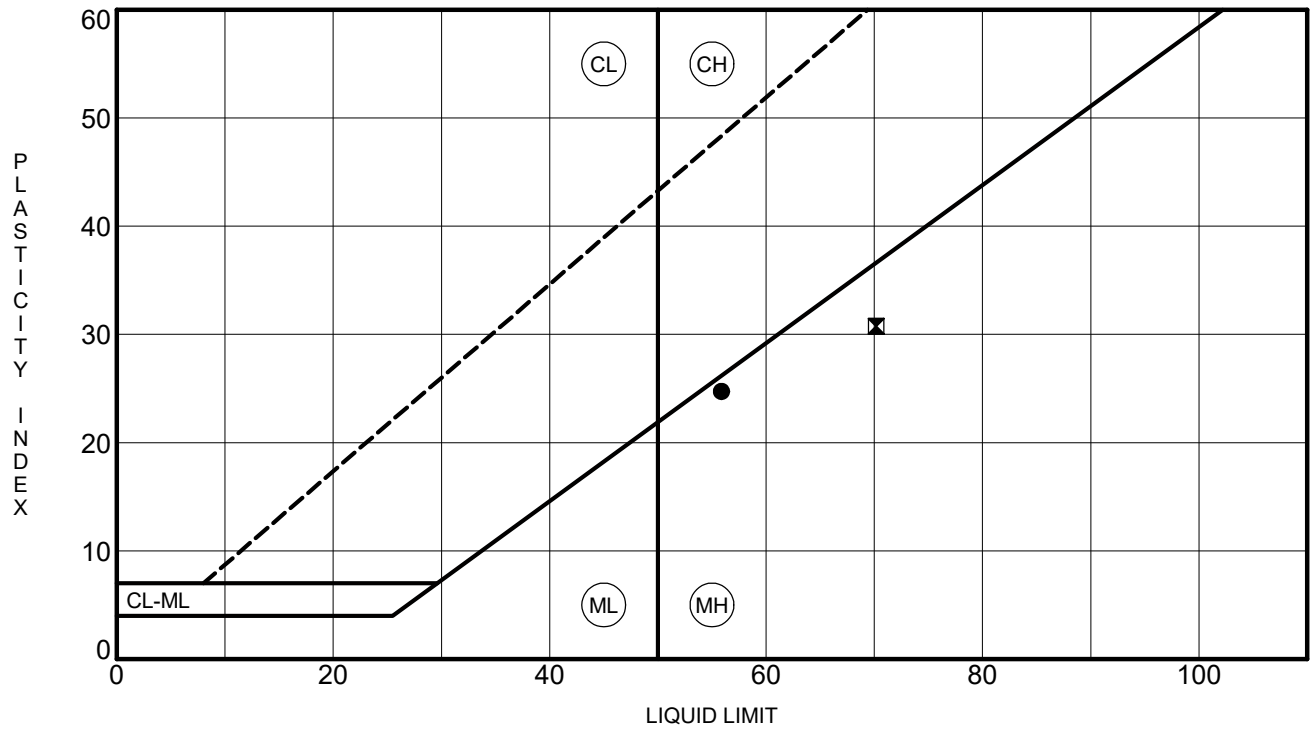
Boring	Sample No.	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% < #4 Sieve	% < #200 Sieve	Classification	Water Content (%)
C7	C7 37.3 - 38.7				100	18		29.5
C7	C7 38.7 - 40.8				100	97		79.4
C7	C7 41.7 - 43.4				100	12		35.1
C7	C7 43.1 - 45.8				100	98		68.2
C7	C7 46.3 - 50.8				100	96		64.4
C7	C7 47.0 - 50.8	56	31	25	100	95	MH	63.7
C7	C7 53.2 - 55.3				100	32		49.6
C7	C7 55.8 - 58.3				100	89		79.0
C7	C7 58.3 - 60.8				100	97		78.0
C7	C7 60.8 - 65.8				100	98		80.8
C7	C7 61.8 - 65.8	70	39	31	100	99	MH	74.8
C7	C7 65.8 - 68.8				100	99		63.5
C7	C7 68.8 - 70.8				100	84		46.3
C7	C7 70.2 - 71.9				100	100		65.6
C7	C7 71.9 - 72.3				100	7		36.7
C8	C8 48.6 - 49.7				100	95		100.6
C8	C8 61.6 - 65.6				100	95		93.5
C8	C8 65.6 - 70.6				100	95		81.1
C8	C8 72.7 - 75.0				100	38		58.8
D8	D8 55.0 - 59.8				100	97		102.1
D8	D8 60.6 - 64.0				100	99		96.1
D8	D8 64.0 - 69.0				100	92		80.2
D8	D8 69.0 - 74.0				100	99		74.3
D8	D8 75.5 - 79.0				100	97		69.6

Summary of Laboratory Results- Batch 2

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	Boring	S No.	LL	PL	PI	Fines	Classification
●	C7	C7 47.0 - 50.8	56	31	25	95	ELASTIC SILT(MH)
⊠	C7	C7 61.8 - 65.8	70	39	31	99	ELASTIC SILT(MH)

Test Method: ASTM D4318

Tested By: SM Date: 1/06/2021

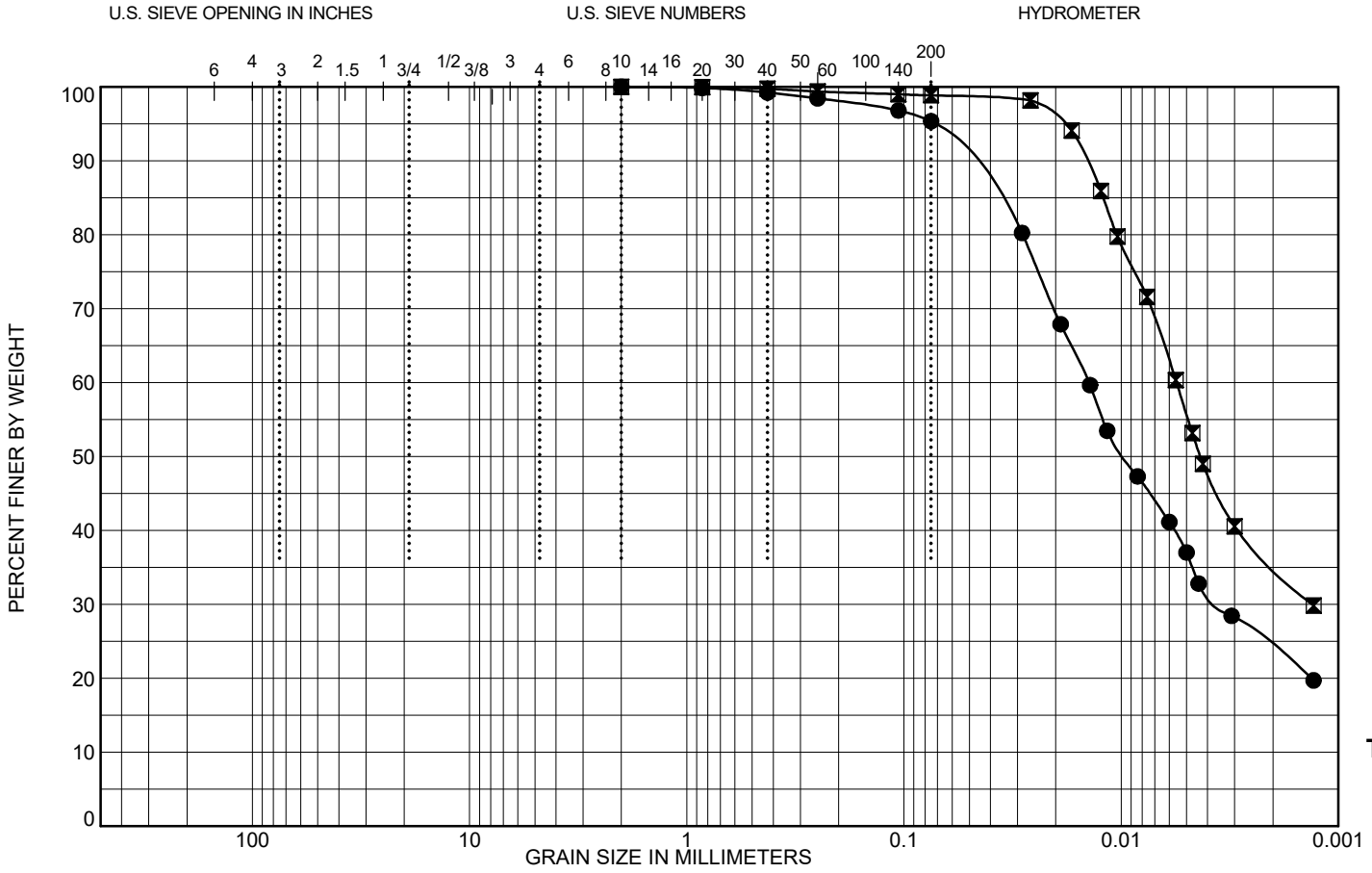
ATTERBERG LIMITS' RESULTS

Project: Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Location: Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

TLB ATTERBERG LIMITS LAB 19-0016 CONOWINGO.GPJ TLB2009.GDT 1/7/21



	D10	D30	D60	D100
●		0.004	0.014	2
⊠		0.001	0.006	2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:SM Date: 12/23/2020

	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Classification
●	C7 47.0 - 50.8	0.0	4.6	58.4	37.0	56	25	63.7	ELASTIC SILT(MH)
⊠	C7 61.8 - 65.8	0.0	1.1	43.2	55.7	70	31	74.8	ELASTIC SILT(MH)

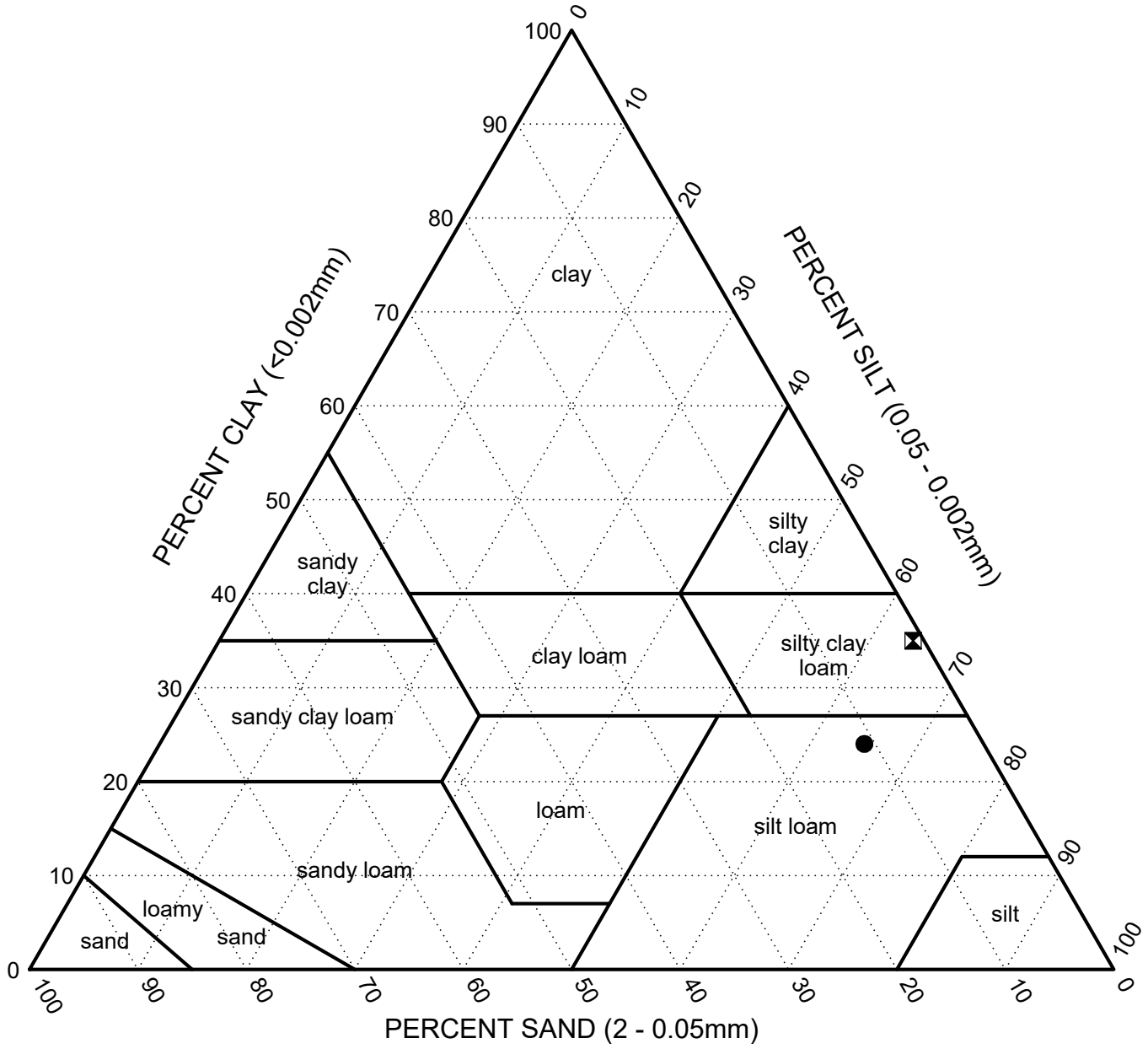
GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

Fractions normalized to 100% passing
the 2mm (#10) sieve



Test Method: ASTM D422

	Boring	S. No.	Sand (%)	Silt (%)	Clay (%)	MC(%)	USDA Classification	Tested By	Date
●	C7	C7 47.0 - 50.8	11.0	65.0	24.0	63.7	SILT LOAM	SM/SR	12/23/2020
⊠	C7	C7 61.8 - 65.8	1.4	63.2	35.3	74.8	SILTY CLAY LOAM	SM/SR	12/23/2020

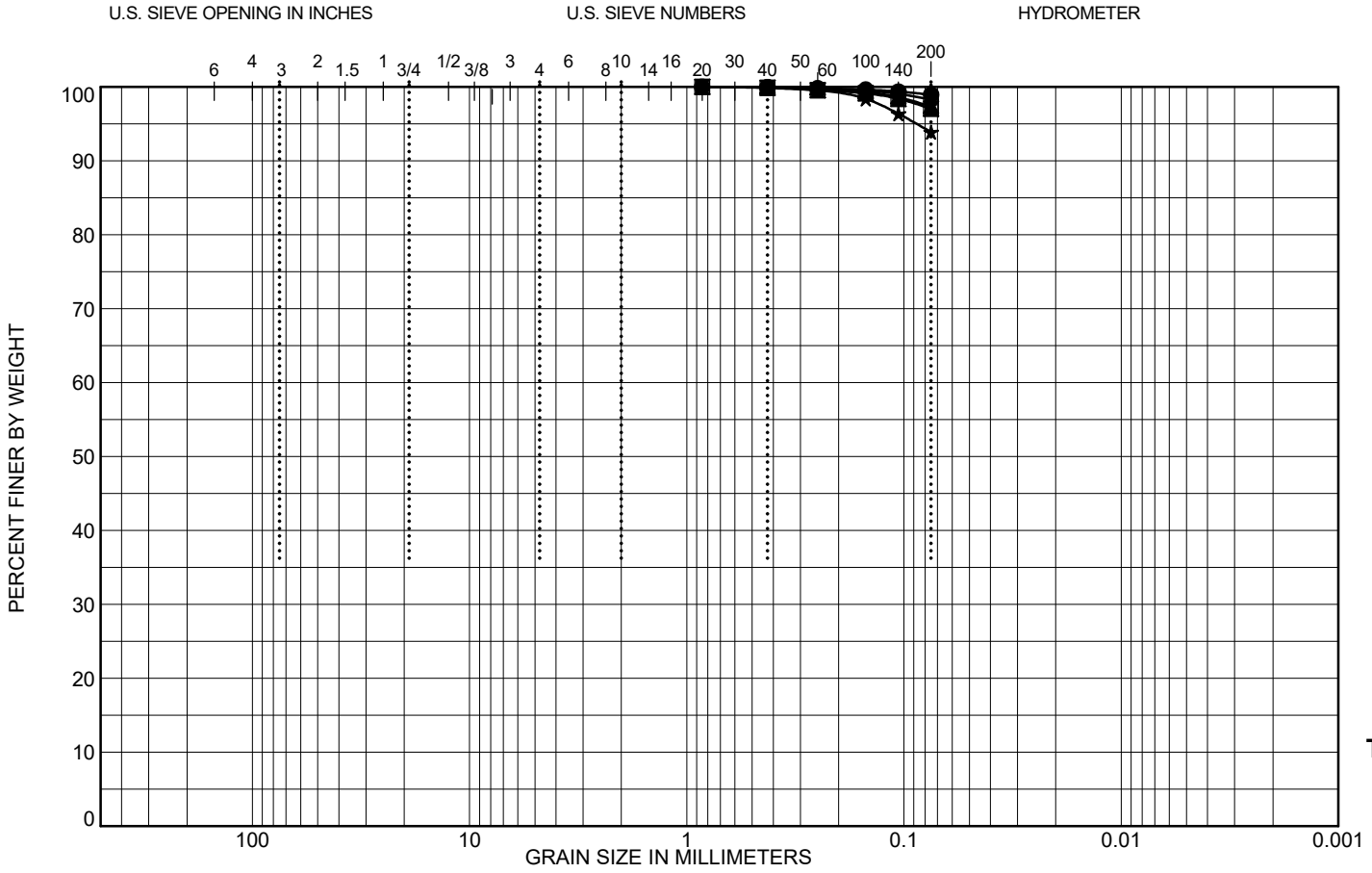
USDA Textural Classification Chart

Project: Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Location: Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

TLB_GRAIN_SIZE_LANDSCAPE_USDA_LAB_19-0016 CONOWINGO.GPJ 1/7/21



	D10	D30	D60	D100
●				0.85
⊠				0.85
▲				0.425
★				0.425
⊙				0.425

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR, SM Date: 12/30/2020

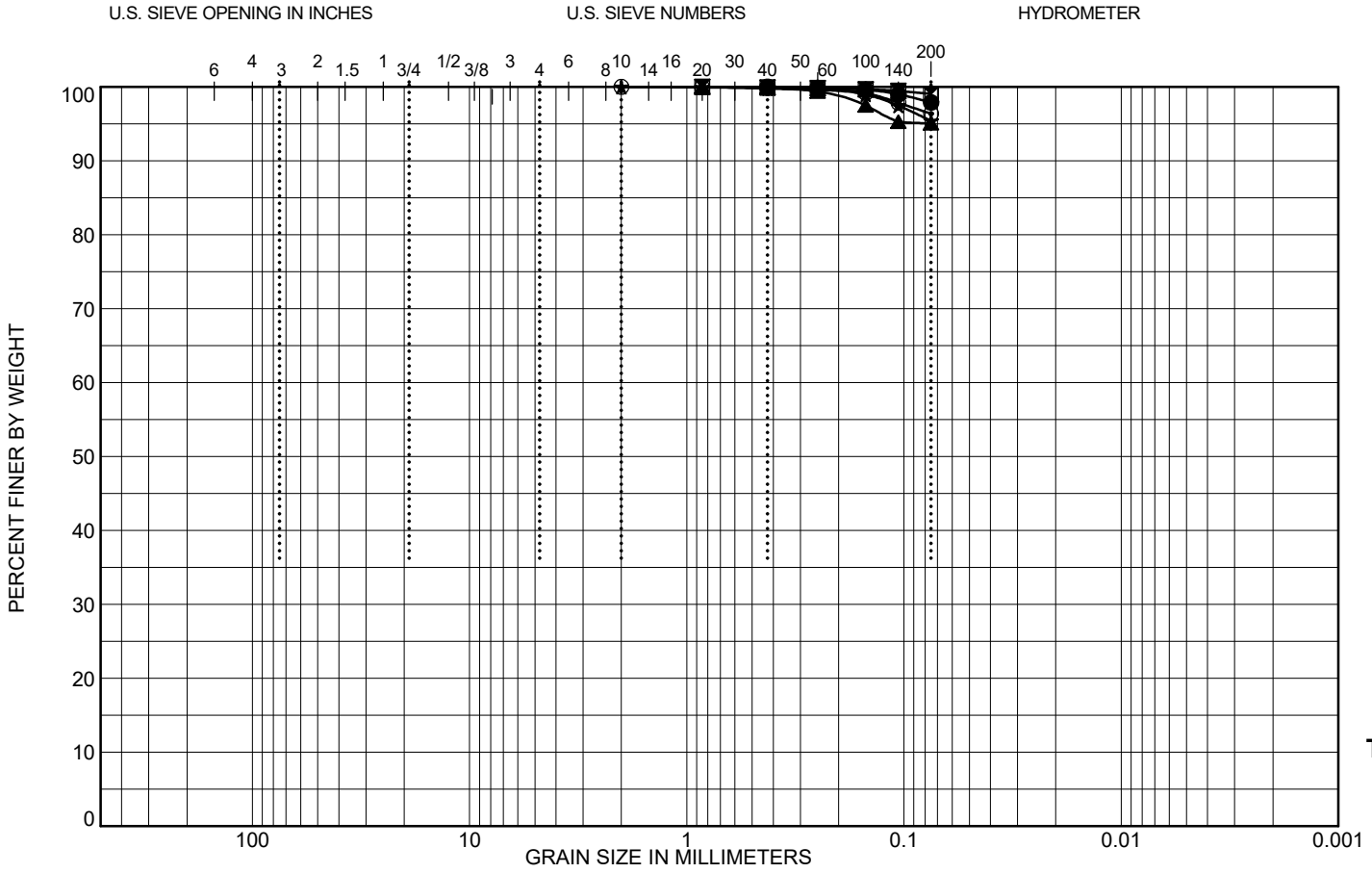
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	A8 41.2 - 42.3	0.0	1.1	98.9				115.3	Brown Clay
⊠	A8 45.2 - 47.3	0.0	3.0	97.0				110.8	Brown Clay with Silt
▲	A8 50.5 - 52.3	0.0	2.7	97.3				92.1	Brown Clay
★	A8 53.1 - 57.3	0.0	6.1	93.9				95.9	Brown Clay
⊙	A8 57.8 - 62.3	0.0	1.7	98.3				86.2	Brown Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				0.425
⊠				0.85
▲				0.85
★				2
⊙				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 1/5/2021

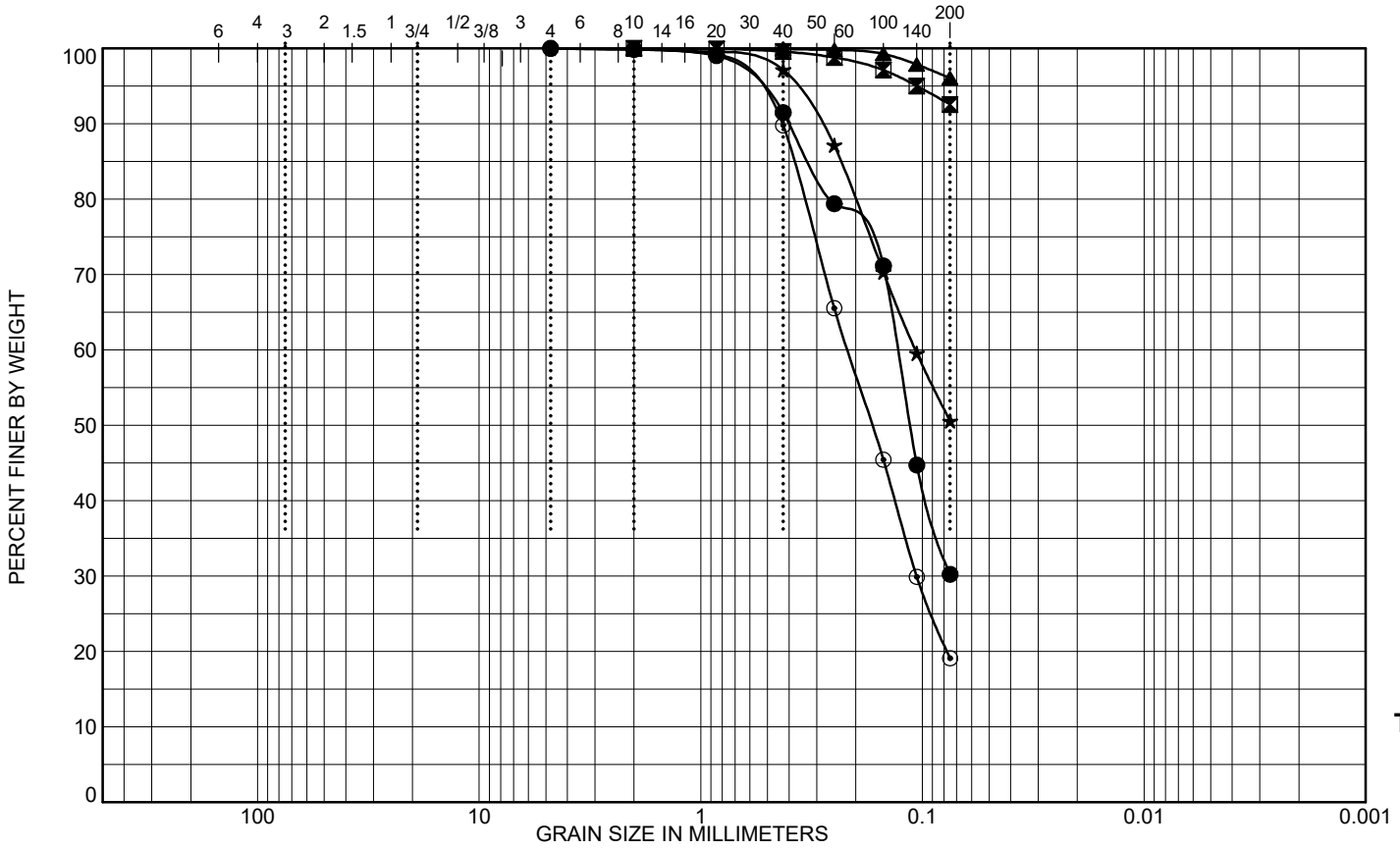
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	A8 62.9 - 67.3	0.0	2.1	97.9				82.0	Brown Clay
⊠	A8 67.3 - 72.3	0.0	0.9	99.1				76.9	Dark Brown Clay
▲	A8 72.3 - 74.8	0.0	4.9	95.1				66.0	Dark Greyish Brown Clay
★	B7 37.6 - 39.6	0.0	4.6	95.4				87.4	Brown Clay
⊙	B7 39.6 - 40.6	0.0	3.6	96.4				82.5	Dark Brown Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●			0.13	4.76
⊠				2
▲				2
★			0.108	4.76
⊙		0.106	0.217	4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 1/4/2021

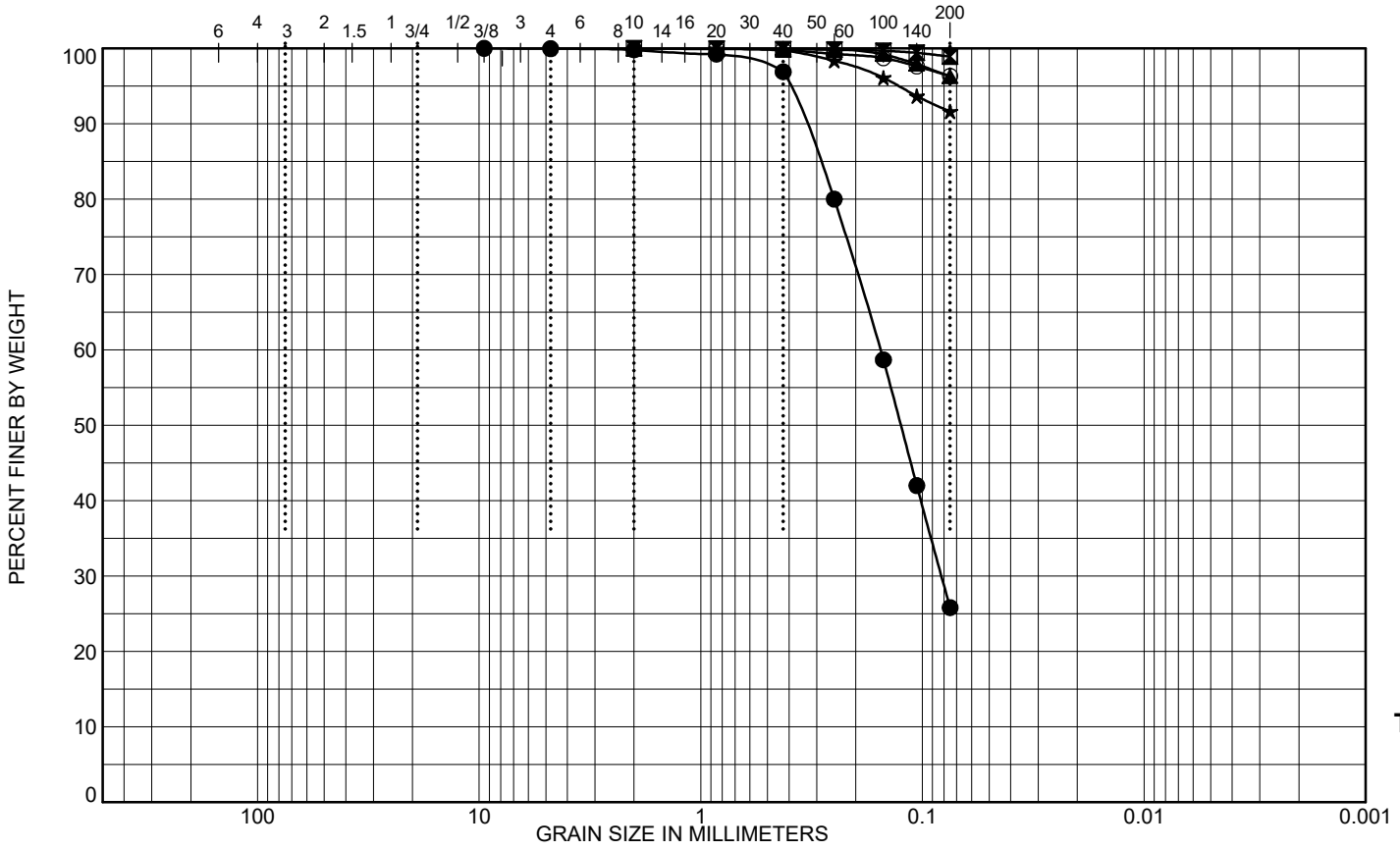
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B7 39.6	0.0	69.8	30.2				37.5	Dark Brown Silty Sand with Clay
⊠	B7 41.0 - 43.3	0.0	7.4	92.6				67.0	Brown Clay with Silt
▲	B7 43.3 - 45.6	0.0	3.9	96.1				69.0	Brown Clay
★	B7 47.4 - 48.2	0.0	49.4	50.6				51.7	Black Sandy Silt with Clay
⊙	B7 48.2 - 50.6	0.0	80.9	19.1				38.6	Black Silty Sand

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●		0.082	0.155	9.5
⊠				2
▲				0.425
★				4.76
⊙				0.85

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 12/30/2020

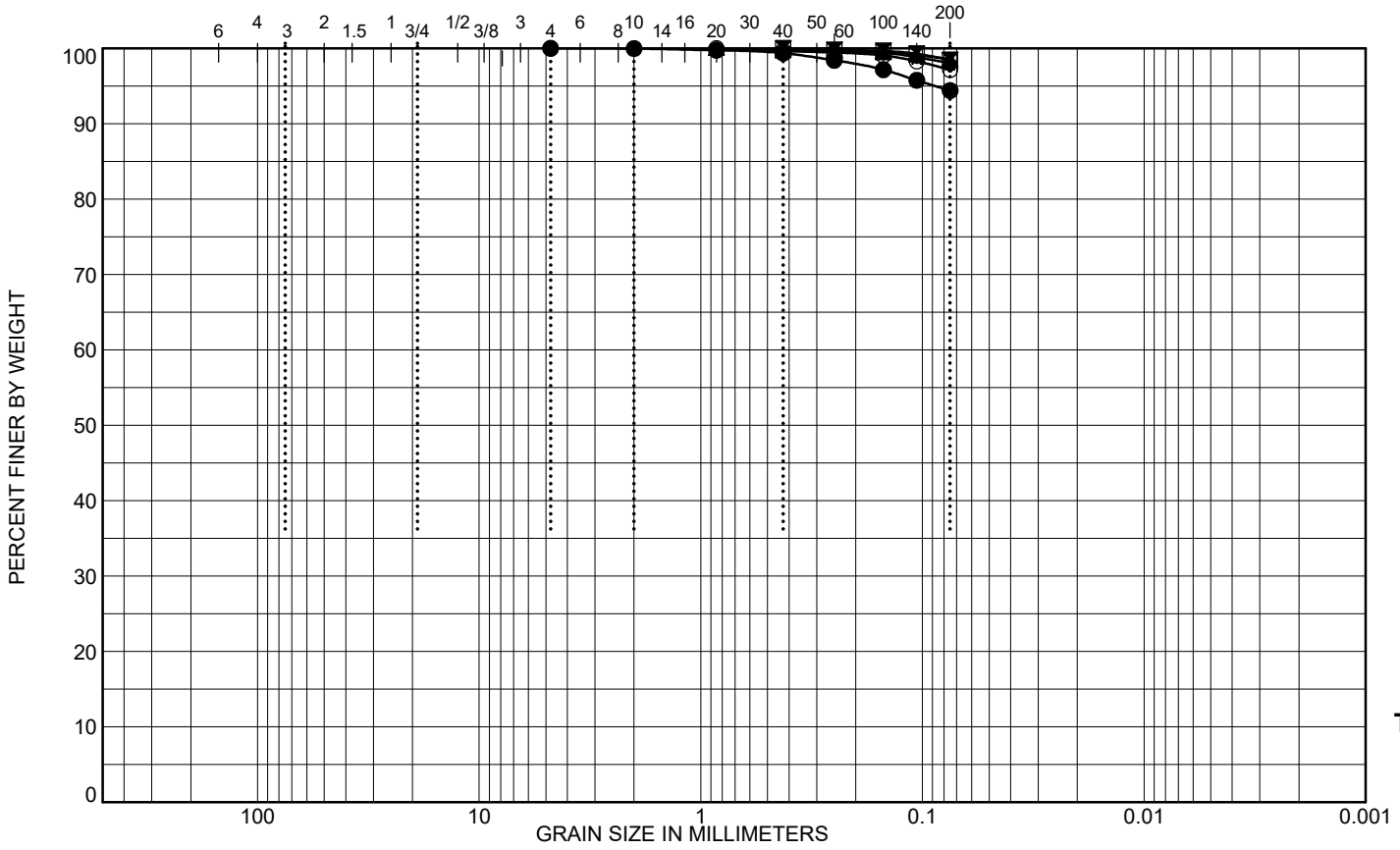
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B7 51.0 - 52.5	0.0	74.1	25.8				47.5	Black Silty Sand
⊠	B7 52.5 - 54.5	0.0	1.1	98.9				76.5	Dark Brown Clay
▲	B7 54.5 - 55.6	0.0	3.7	96.3				75.3	Dark Greyish Brown Clay
★	B7 55.6 - 58.1	0.0	8.4	91.6				78.0	Dark Brown Clay
⊙	B7 58.1 - 60.6	0.0	3.7	96.3				74.4	Dark Greyish Brown Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				4.76
⊠				0.425
▲				0.85
★				0.85
⊙				0.85

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 12/30/2020

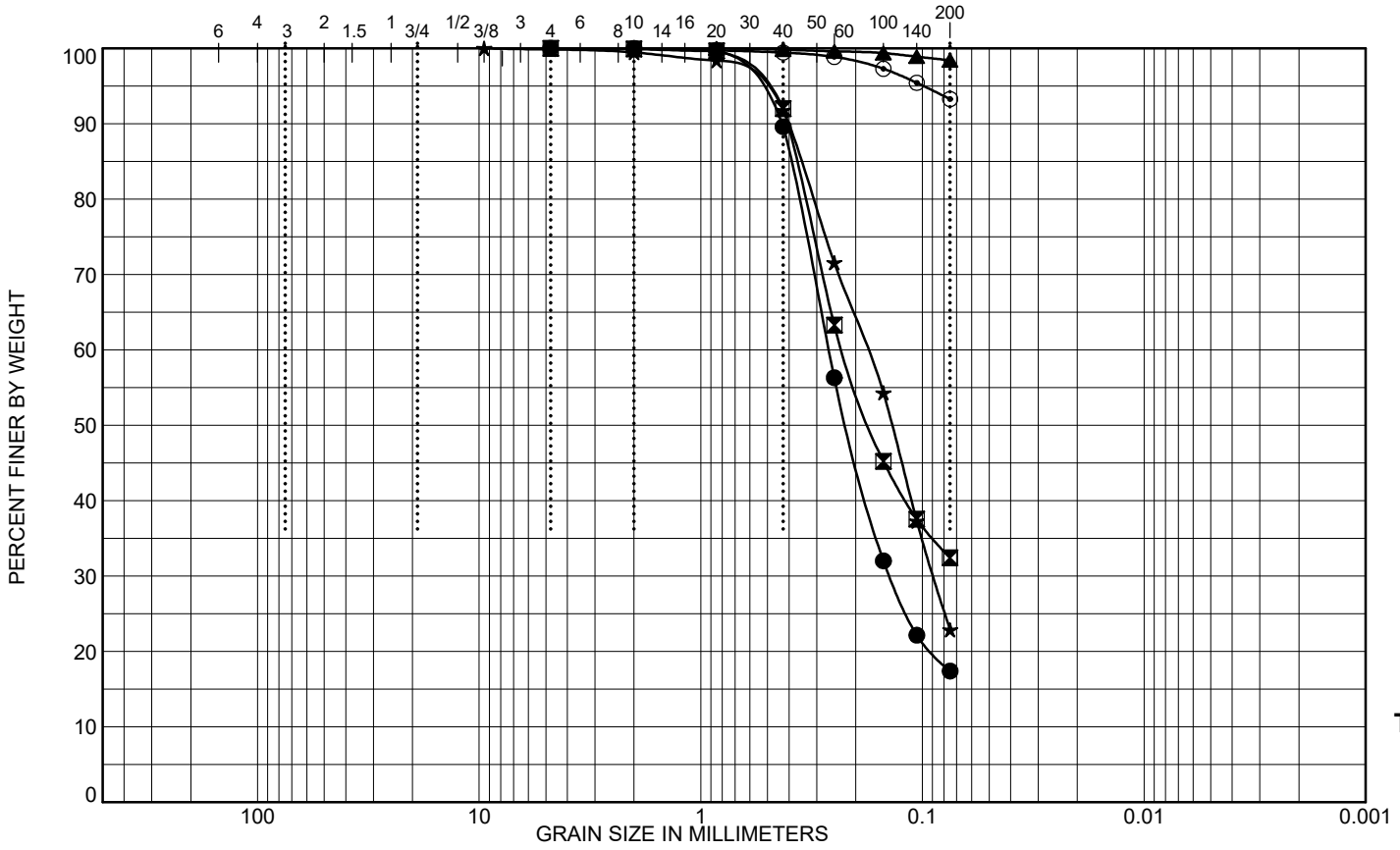
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B7 60.6 - 63.1	0.0	5.6	94.4				76.9	Dark Brown Clay
⊠	B7 63.1 - 65.6	0.0	1.5	98.5				67.1	Dark Greyish Brown Clay
▲	B7 65.6 - 66.7	0.0	1.4	98.6				63.4	Dark Greyish Brown Clay
★	B7 66.7 - 68.1	0.0	1.9	98.1				63.7	Dark Grey Clay
⊙	B8 63.7 - 66.7	0.0	2.8	97.2				87.6	Dark Brown Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●		0.14	0.265	4.76
⊠			0.228	4.76
▲				0.85
★		0.089	0.178	9.5
⊙				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 1/4/2021

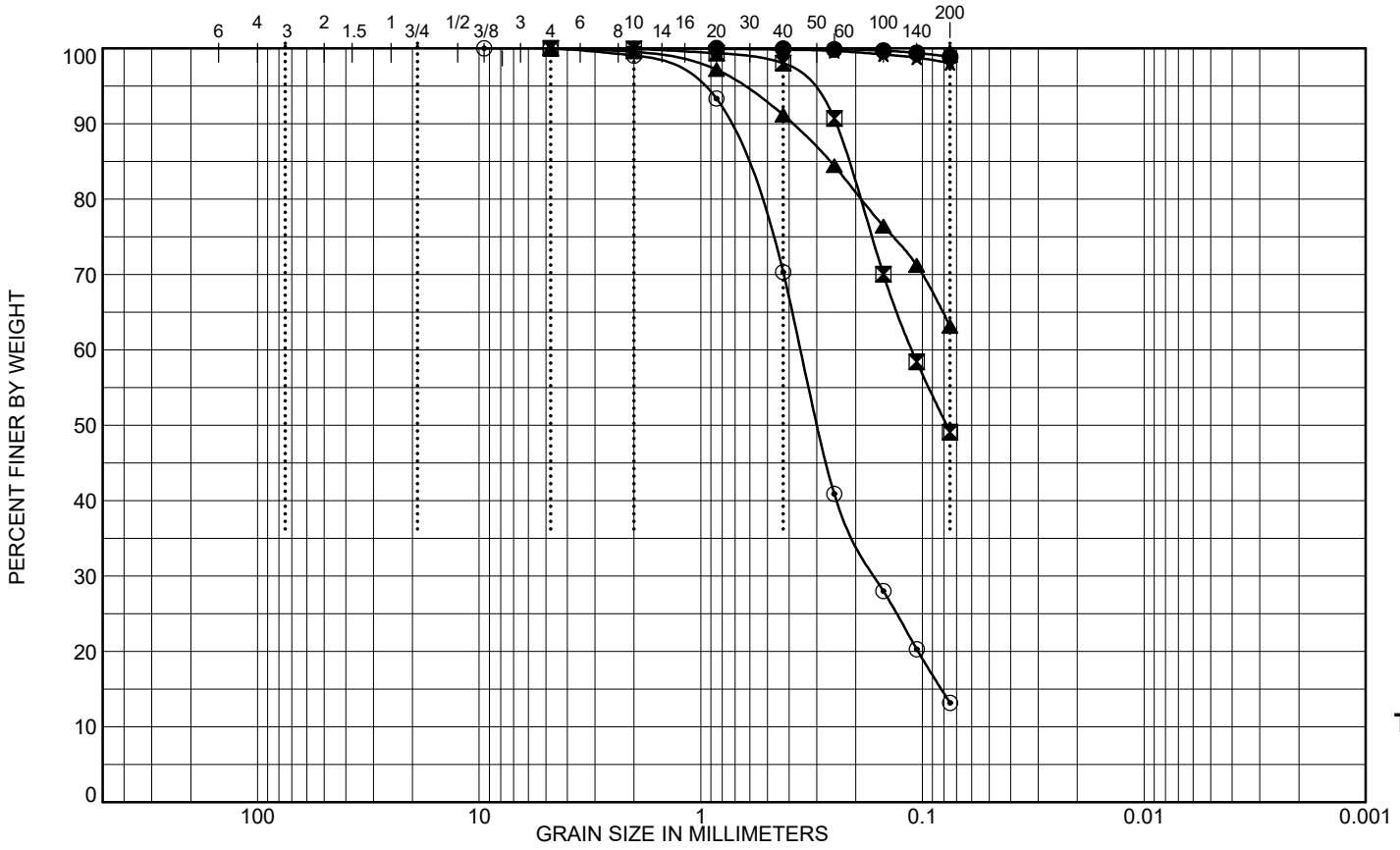
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B8 66.7 - 67.2	0.0	82.6	17.4				18.8	Brown Sand with Silt
⊠	B8 67.2 - 68.7	0.0	67.6	32.4				14.8	Brown Sand with Clay
▲	B8A 58.8 - 60.6	0.0	1.6	98.4				110.8	Brown Clay
★	B8A 68.7 - 70.0	0.2	77.0	22.9				39.8	Black Silty Sand
⊙	B8A 71.9 - 75.0	0.0	6.7	93.3				94.5	Dark Brown Clay with Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				0.85
⊠			0.111	4.76
▲				4.76
★				2
⊙		0.162	0.353	9.5

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 1/5/2021

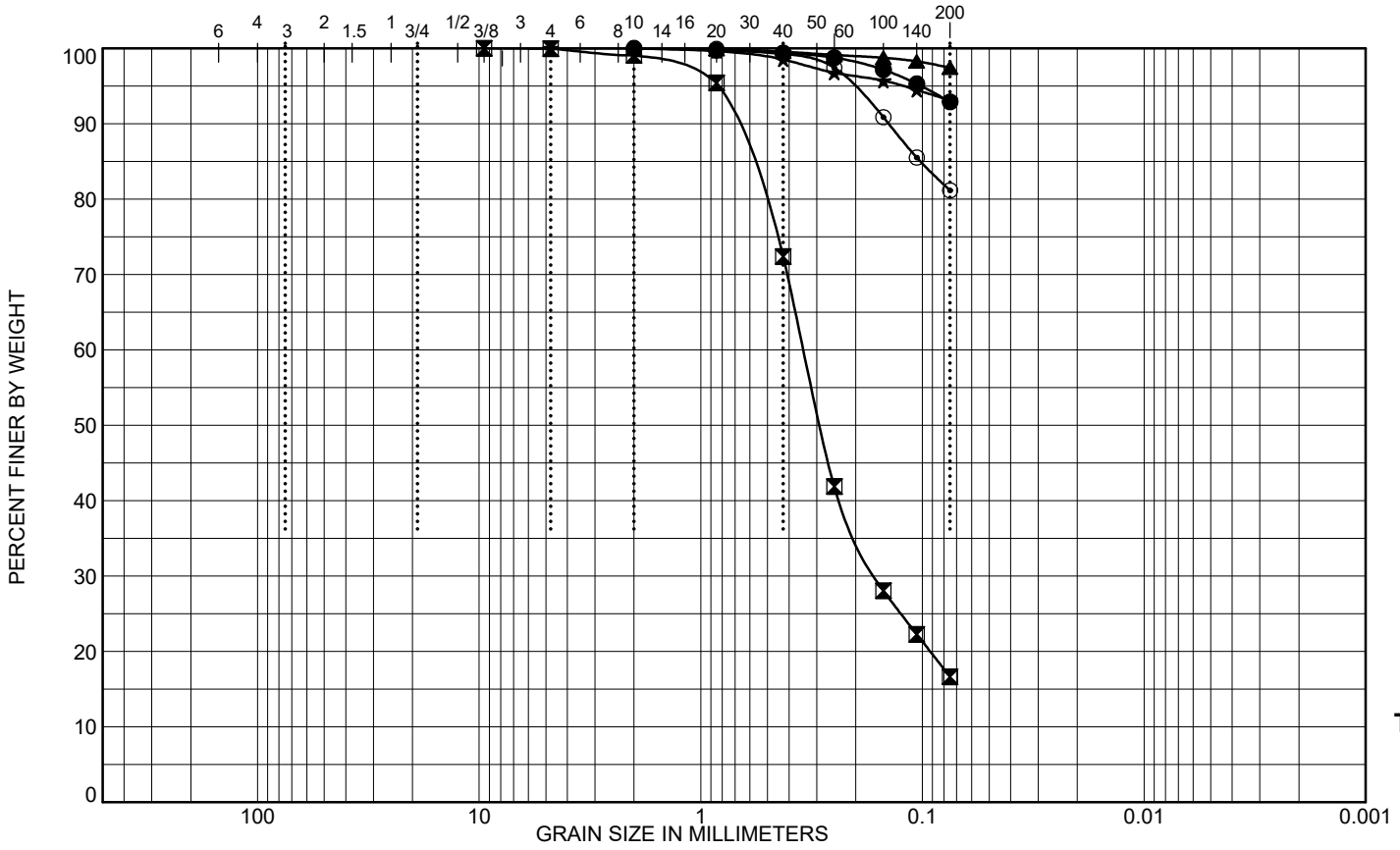
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	B8A 75.3 - 80.0	0.0	1.1	98.9				67.9	Dark Grey Brown Clay with Silt
⊠	B8A 81.1 - 82.4	0.0	50.9	49.1				58.2	Black Clayey Sand
▲	C6 19.7 - 20.1	0.0	36.9	63.1				77.8	Brown Sandy Clay
★	C6 20.1 - 20.8	0.0	2.0	98.0				92.6	Brown Clay
⊙	C6 21.8 - 23.4	0.0	86.8	13.2				43.0	Black Sand with Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠		0.161	0.343	9.5
▲				2
★				4.76
⊙				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 1/6/2021

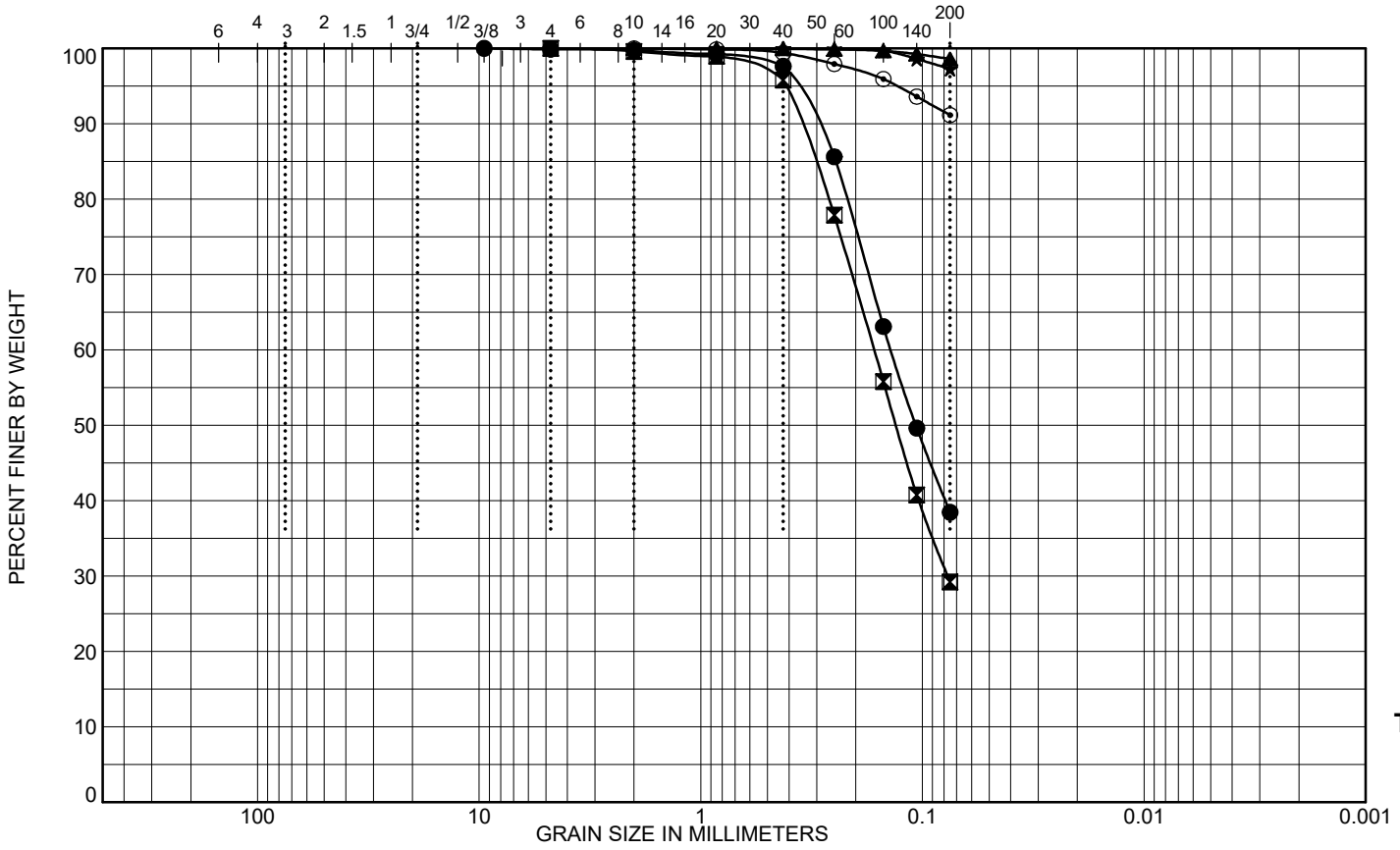
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C6 23.4 - 26.1	0.0	7.1	92.9				80.3	Dark Brown Clay with Silt
⊠	C6 27.2 - 28.3	0.1	83.3	16.6				49.9	Black Sand with Silt
▲	C6 28.3 - 31.1	0.0	2.6	97.4				75.0	Brown Clay
★	C6 31.1 - 33.9	0.0	6.9	93.1				73.1	Brown Clay
⊙	C6 33.9 - 35.0	0.0	18.8	81.2				59.4	Dark Grey Sandy Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●			0.139	9.5
⊠		0.077	0.165	4.76
▲				2
★				0.85
⊙				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 1/4/2021

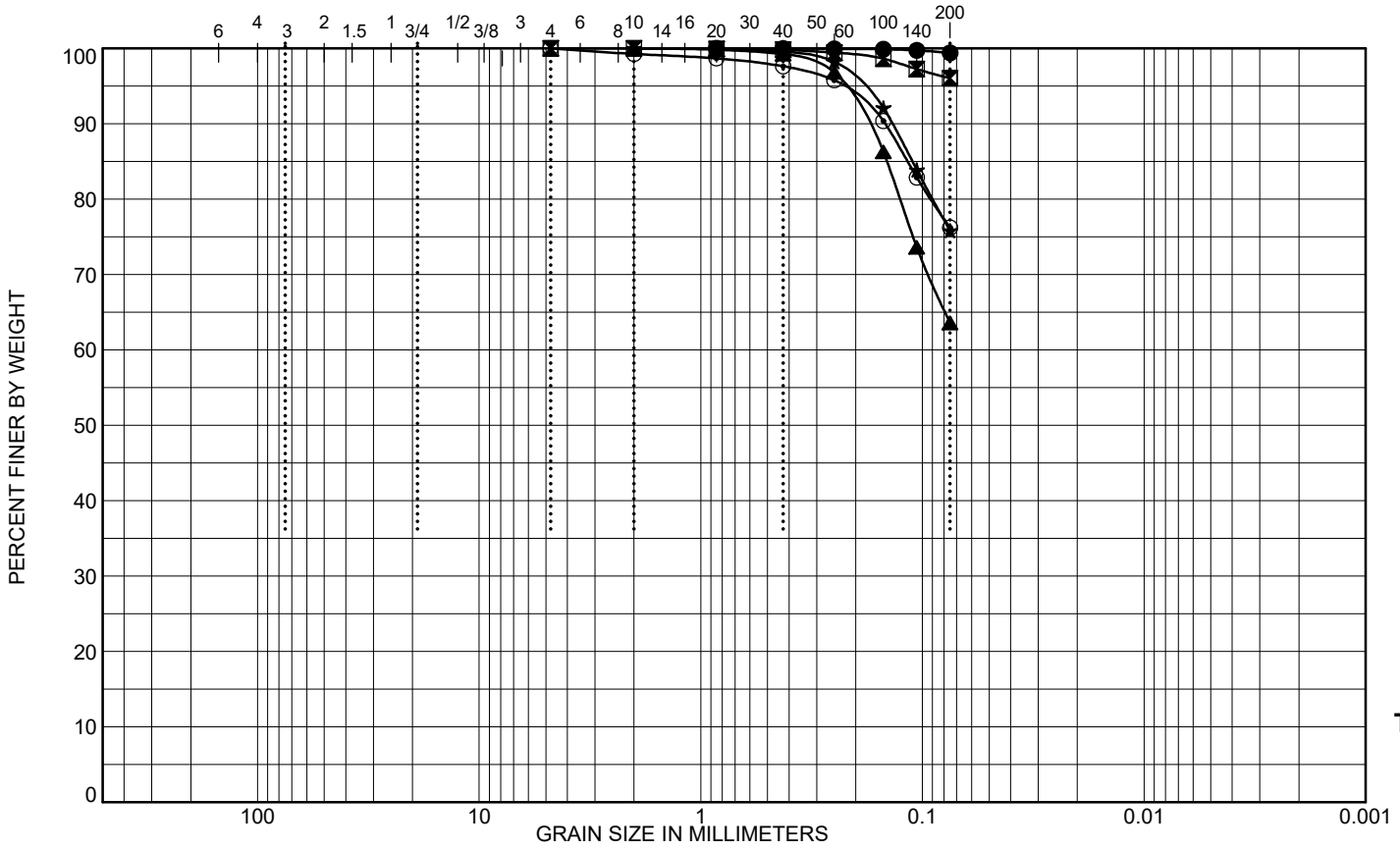
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C6 35.0 - 36.1	0.1	61.4	38.5				48.2	Black Silty Sand
⊠	C6 36.6 - 38.8	0.0	70.8	29.2				41.9	Black Silty Sand
▲	C6 38.8 - 39.8	0.0	1.4	98.6				75.2	Dark Brown Clay
★	C6 39.8 - 41.1	0.0	2.7	97.3				68.9	Dark Brown Clay
⊙	C6 41.5 - 43.6	0.0	8.9	91.1				74.9	Black Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				0.85
⊠				4.76
▲				2
★				2
⊙				4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR Date: 1/5/2021

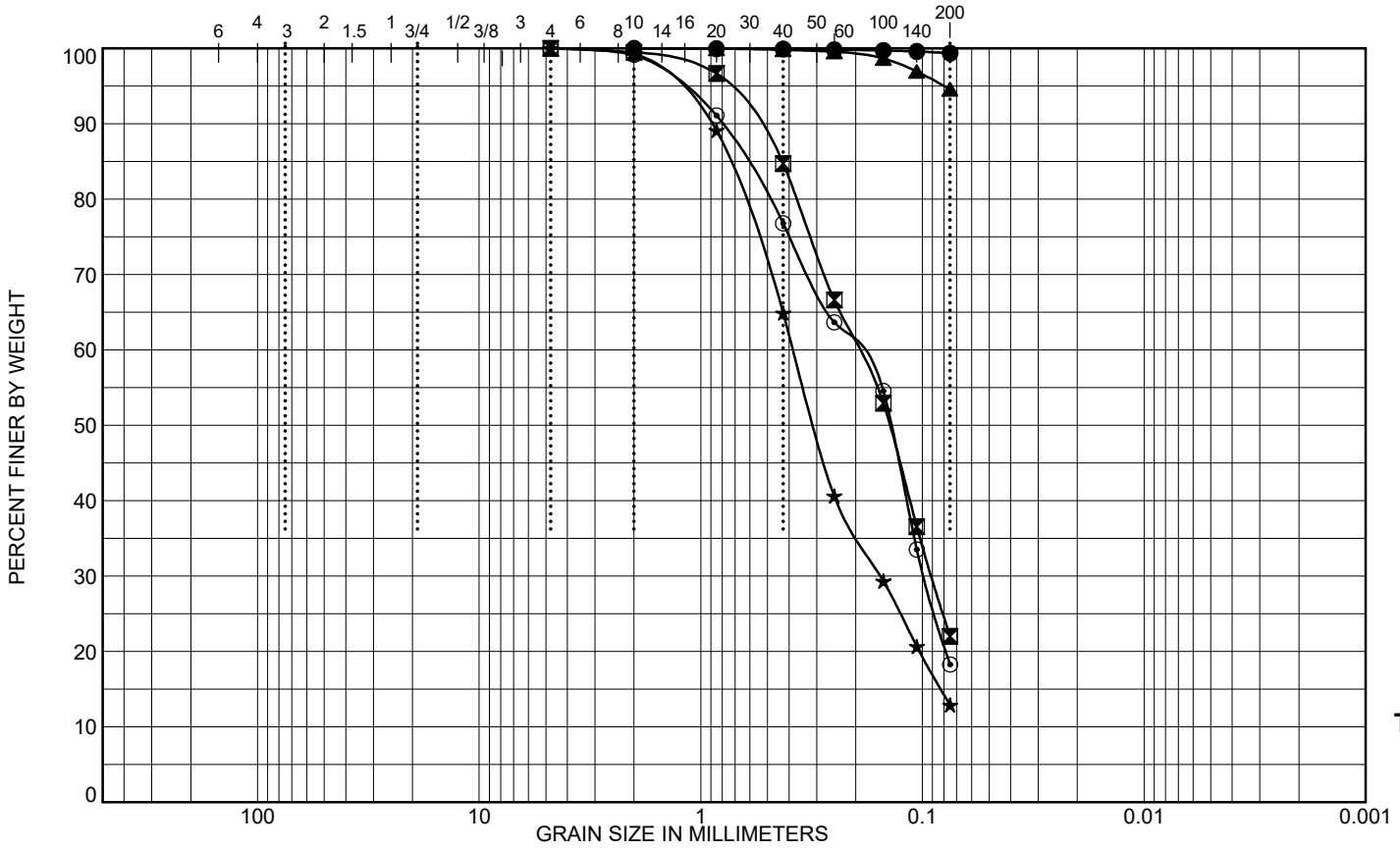
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C6 43.6 - 46.7	0.0	0.6	99.4				70.2	Dark Grey Clay
⊠	C6 46.1 - 49.5	0.0	4.0	96.0				63.4	Dark Greyish Brown Clay
▲	C6 49.5 - 51.1	0.0	36.4	63.6				22.9	Brown Sandy Clay
★	C6 52.3 - 54.2	0.0	24.2	75.8				22.0	Light Brown Sandy Clay
⊙	C6 54.2 - 56.1	0.0	23.8	76.2				21.9	Light Brown Sandy Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠		0.091	0.195	4.76
▲				2
★		0.155	0.382	4.76
⊙		0.098	0.204	4.76

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR Date: 1/6/2021

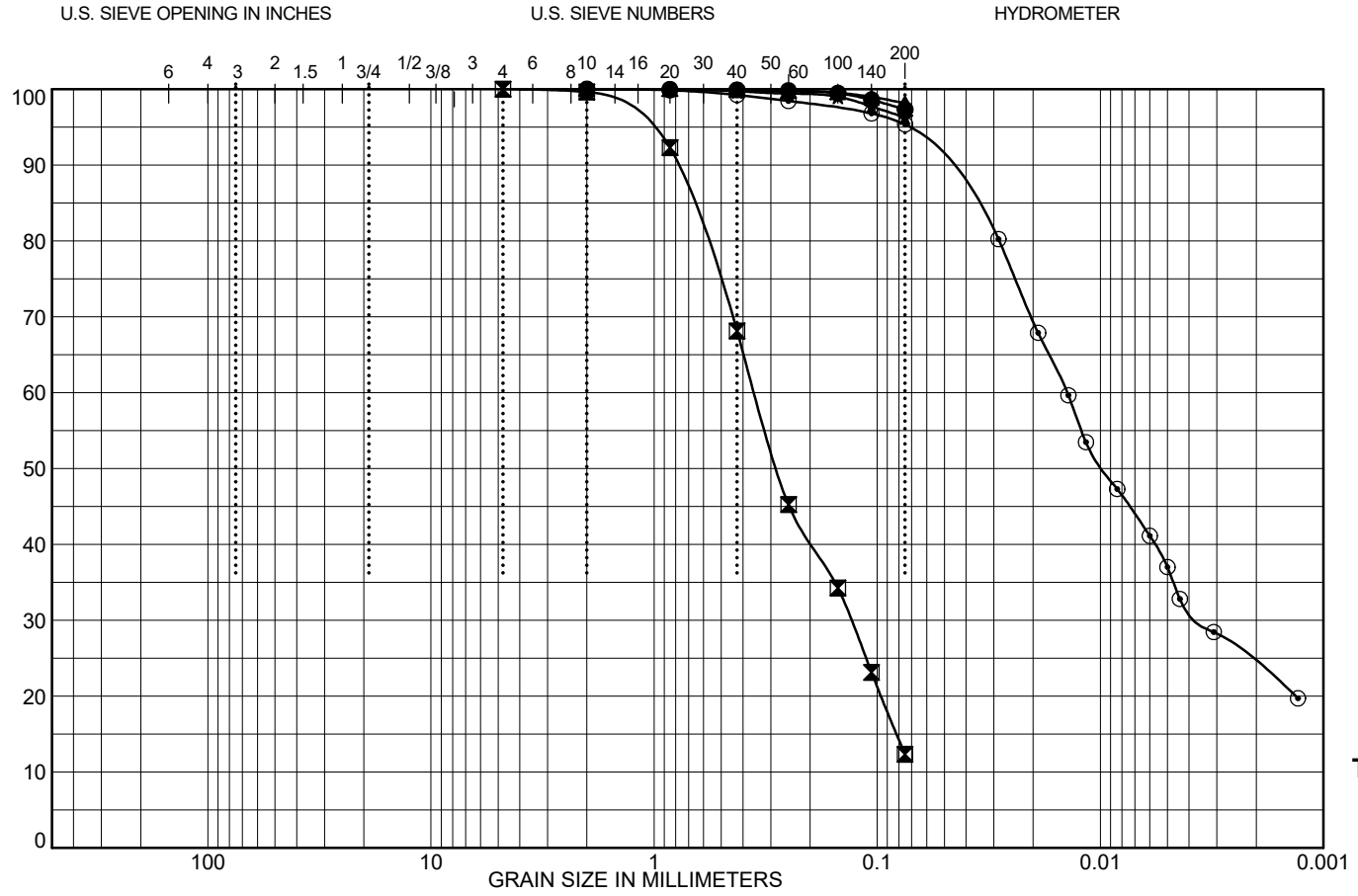
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C7 29.3 - 30.3	0.0	0.6	99.4				124.4	Brown Clay
⊠	C7 30.0 - 30.8	0.0	78.0	22.0				38.2	Black Silty Sand
▲	C7 33.9 - 35.8	0.0	5.4	94.6				74.7	Brown Clay
★	C7 36.5 - 37.3	0.0	87.1	12.9				38.8	Black Sand
⊙	C7 37.3 - 38.7	0.0	81.7	18.3				29.5	Dark Brown Sand with Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠		0.131	0.352	4.76
▲				2
★				2
⊙		0.004	0.014	2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR Date: 12/23/2020

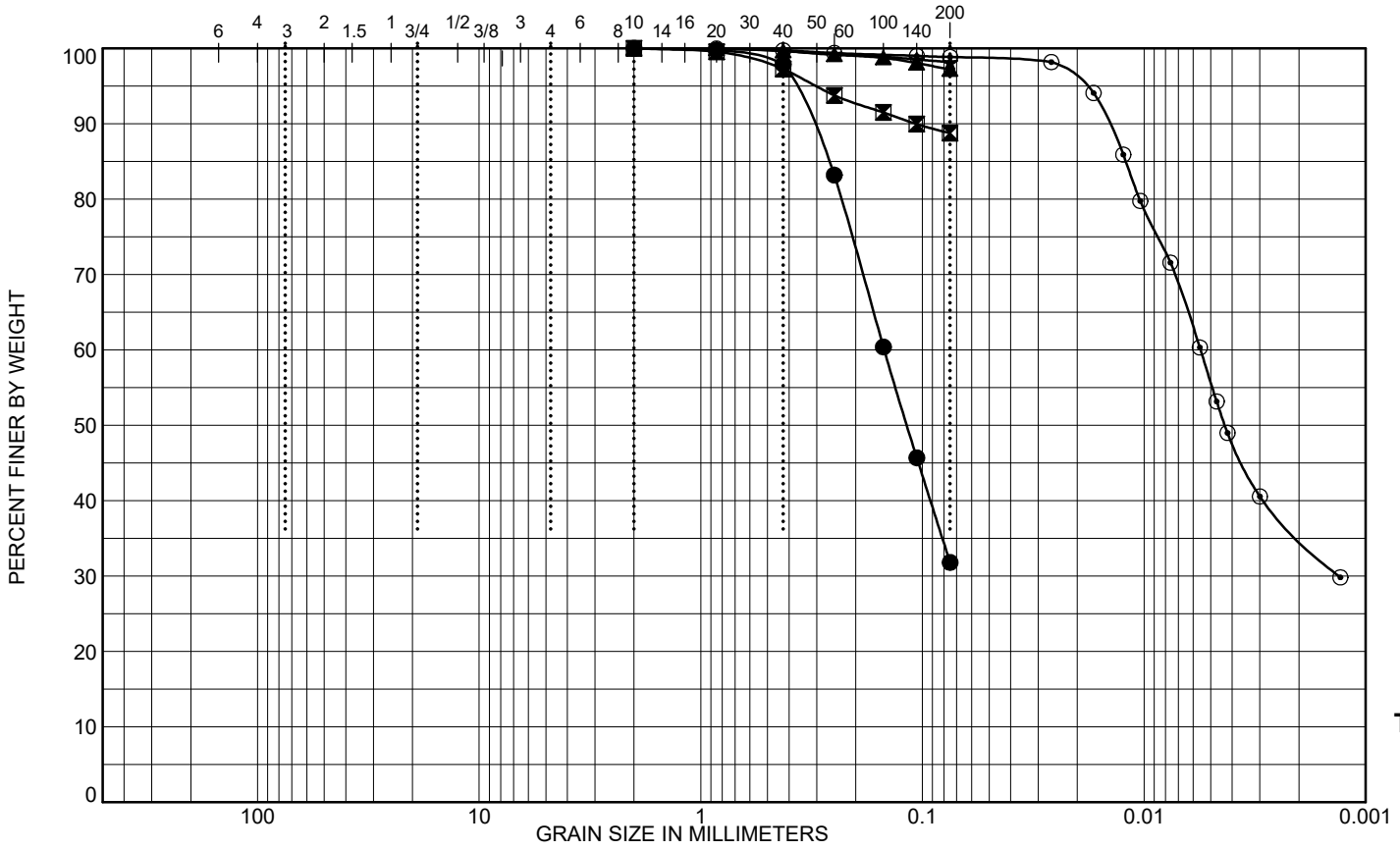
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description / Classification
●	C7 38.7 - 40.8	0.0	2.7	97.3				79.4	Brown Clay
⊠	C7 41.7 - 43.4	0.0	87.7	12.3				35.1	Black Sand
▲	C7 43.1 - 45.8	0.0	1.8	98.2				68.2	Brown Clay
★	C7 46.3 - 50.8	0.0	3.7	96.3				64.4	Brown Clay
⊙	C7 46.3 - 50.8	0.0	4.6	58.4	37.0	56	25	63.7	Elastic Silt (MH)

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●			0.149	2
⊠				2
▲				2
★				2
⊙		0.001	0.006	2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR,SM Date: 12/23/2020

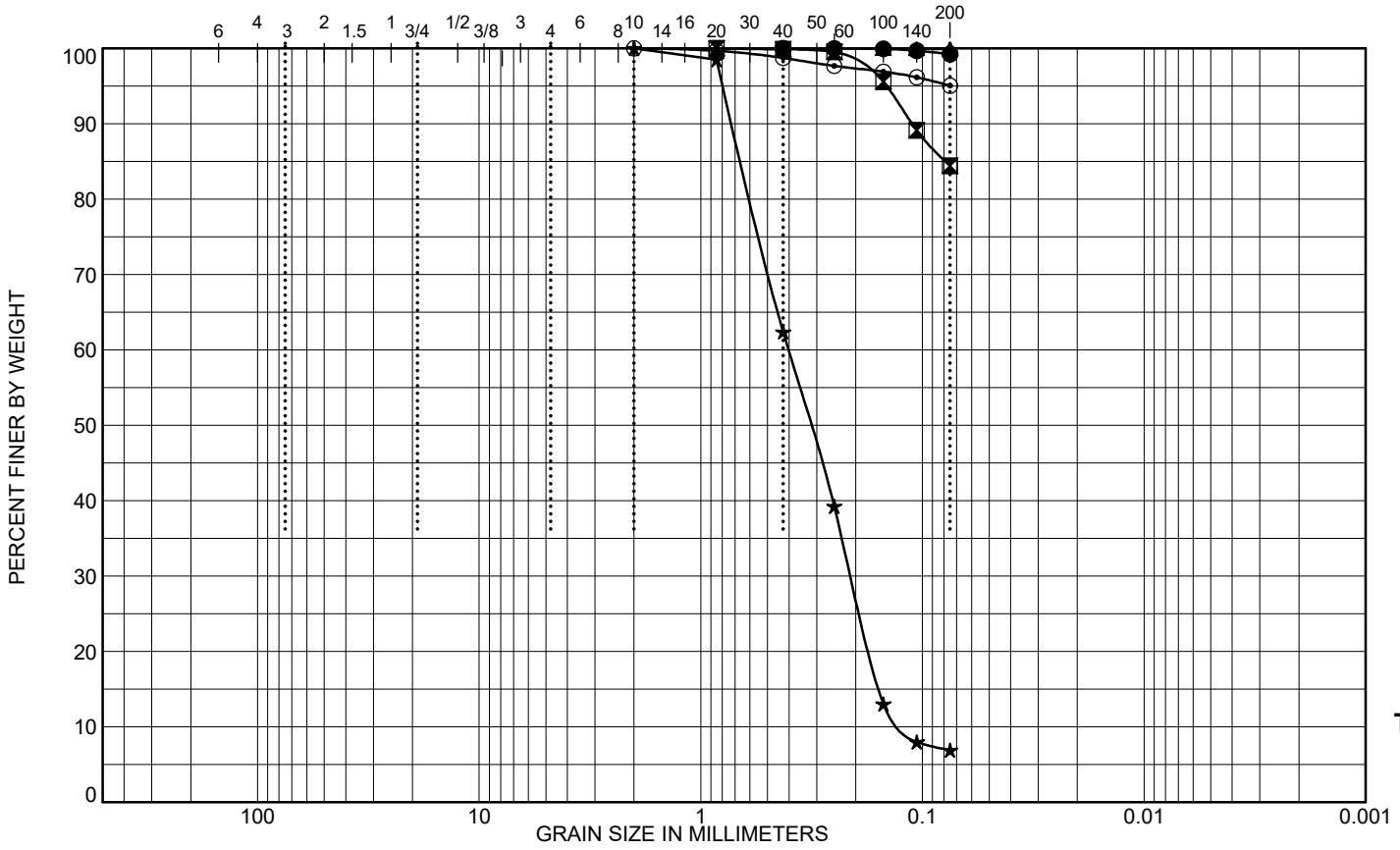
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description / Classification
●	C7 53.2 - 55.3	0.0	68.2	31.8				49.6	Black Sand with Silt
⊠	C7 55.8 - 58.3	0.0	11.3	88.7				79.0	Dark Brown Clay
▲	C7 58.3 - 60.8	0.0	2.8	97.2				78.0	Greyish Brown Clay
★	C7 60.8 - 65.8	0.0	1.8	98.2				80.8	Dark Brown Clay
⊙	C7 61.8 - 65.8	0.0	1.1	43.2	55.7	70	31	74.8	Elastic Silt (MH)

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				0.425
⊠				0.85
▲				0.15
★	0.122	0.209	0.402	2
⊙				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR Date: 12/30/2020

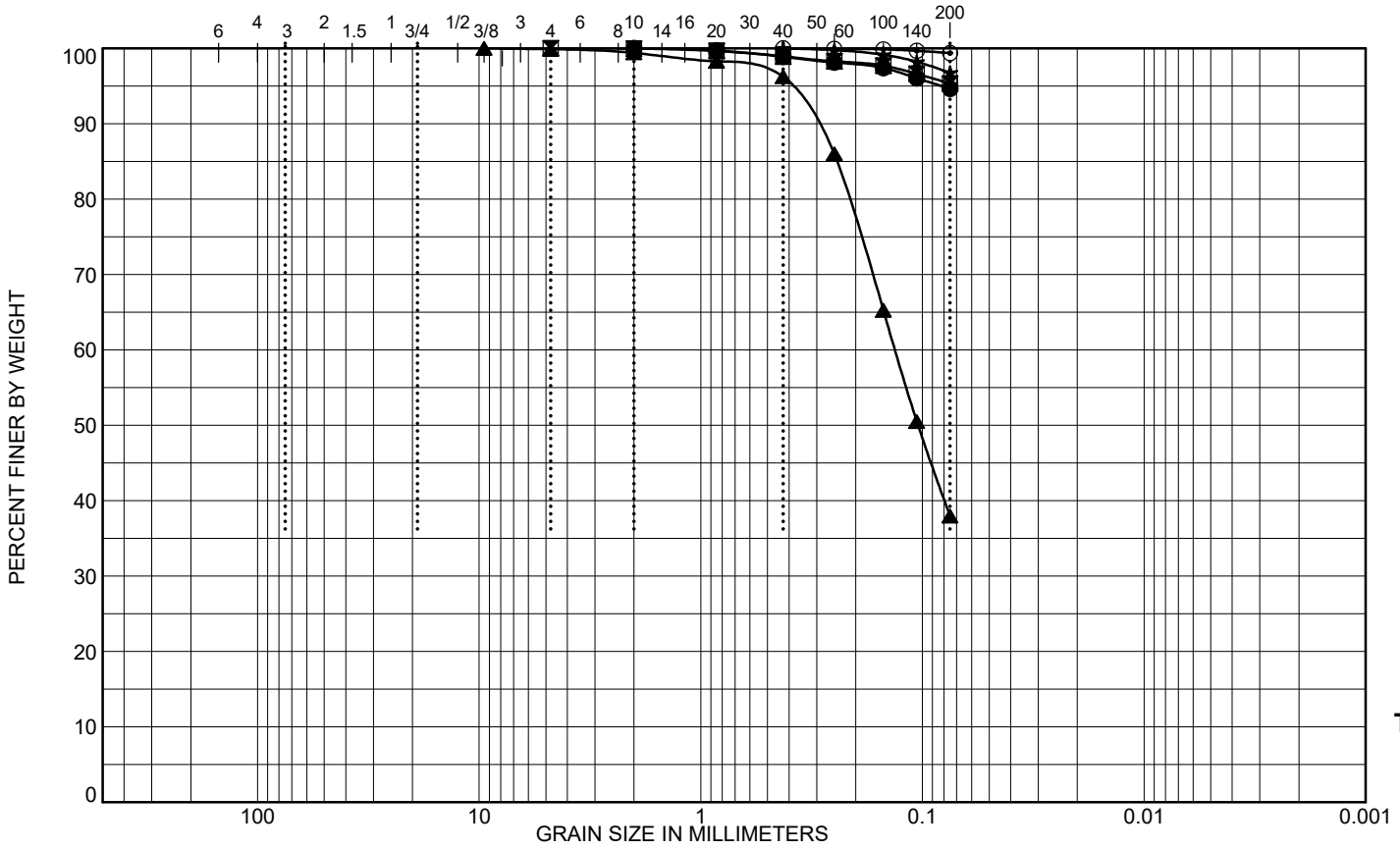
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C7 65.8 - 68.8	0.0	0.8	99.2				63.5	Dark Gray Clay
⊠	C7 68.8 - 70.8	0.0	15.6	84.4				46.3	Dark Gray Sandy Clay
▲	C7 70.2 - 71.9	0.0	0.1	99.9				65.6	Dark Grey Clay
★	C7 71.9 - 72.3	0.0	93.1	6.9				36.7	Black Sand
⊙	C8 48.6 - 49.7	0.0	5.0	95.0				100.6	Dark Brown Clay with Sand

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2
⊠				4.76
▲			0.133	9.5
★				0.425
⊙				0.425

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR Date: 12/30/2020

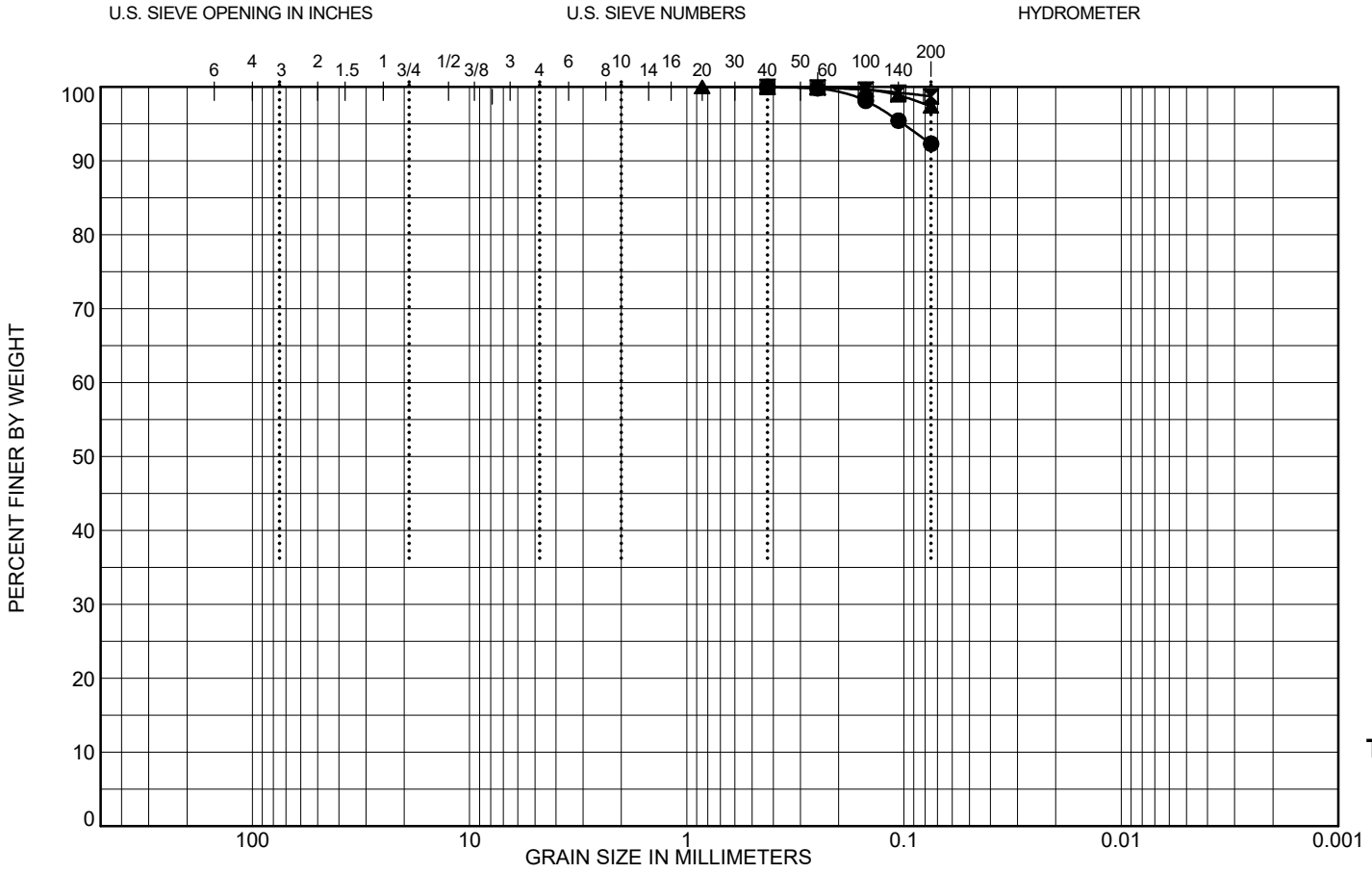
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	C8 61.6 - 65.6	0.0	5.3	94.7				93.5	Dark Brown Clay
⊠	C8 65.6 - 70.6	0.0	4.7	95.3				81.1	Dark Brown Clay with Silt
▲	C8 72.7 - 75.0	0.1	61.9	38.0				58.8	Black Silty Sand
★	D8 55.0 - 59.8	0.0	3.2	96.8				102.1	Dark Brown Clay with Silt
⊙	D8 60.6 - 64.0	0.0	0.6	99.4				96.1	Dark Brown Clay with Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES 1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				0.425
⊠				0.425
▲				0.85

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By:CL,SR Date: 12/30/2020

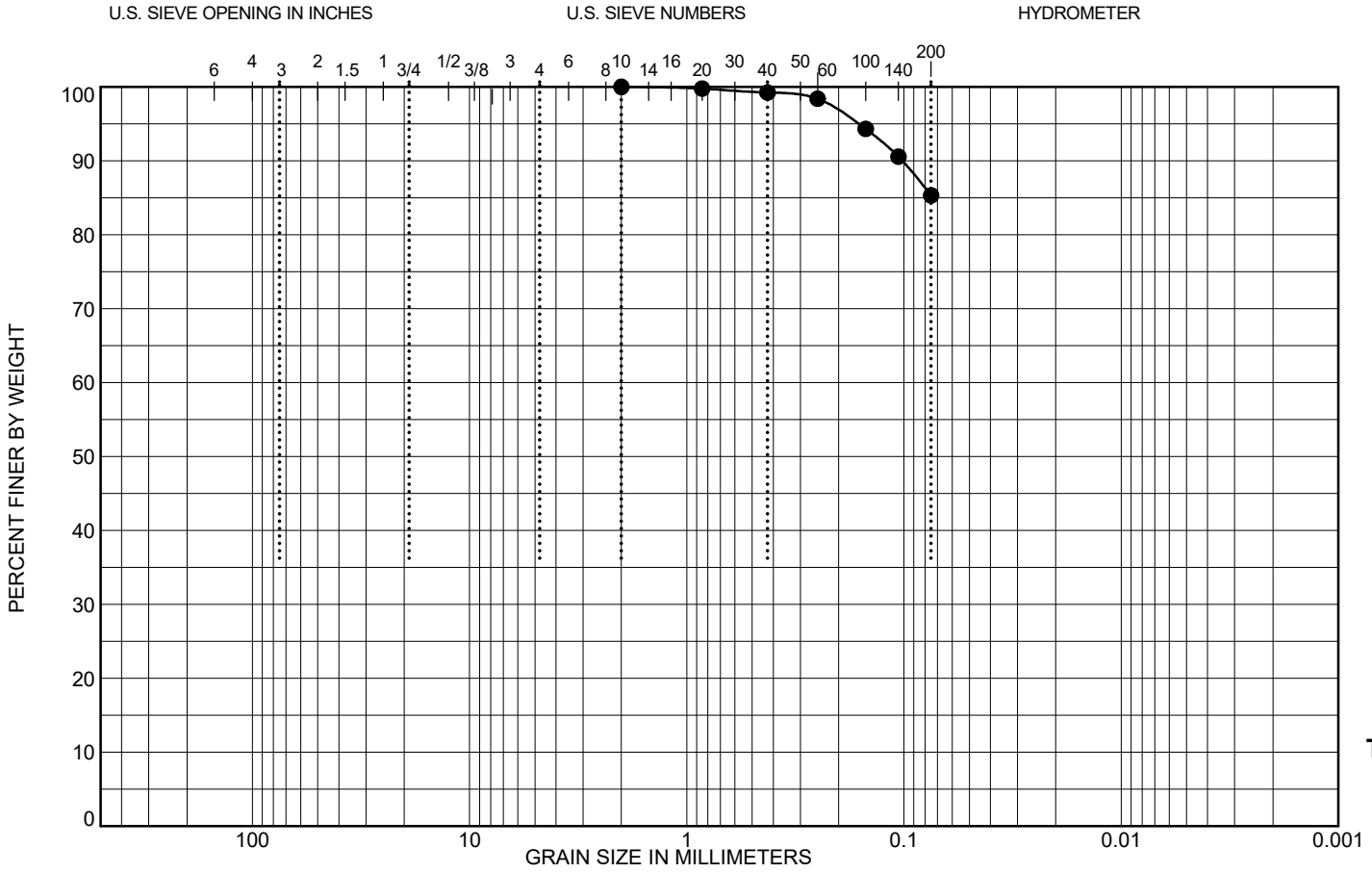
	S No.	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Visual Description
●	D8 64.0 - 69.0	0.0	7.7	92.3				80.2	Dark Brown Clay with Silt
⊠	D8 69.0 - 74.0	0.0	1.3	98.7				74.3	Dark Brown Clay
▲	D8 75.5 - 79.0	0.0	2.6	97.4				69.6	Dark Greyish Brown Clay

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)



	D10	D30	D60	D100
●				2

Test Method: ASTM D422

COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Tested By: SM

Date: 2/11/2021

	Boring	S No.	Depth	%Gravel	%Sand	%Silt	%Clay	LL	PI	MC(%)	Classification
●	D8	D8 47.2-49.0	47.2 - 49.0	0.0	14.7	85.3				77.5	Dark Brown Clay with Silt

GRAIN SIZE DISTRIBUTION

Conowingo Reservoir Dredging, Harford & Cecil Counties, MD - MES
1-18-3-21-8R

Conowingo, Harford & Cecil Co., MD

Project Number: 19-0016 (Northgate# 3037.2)

TLB_GRAIN_SIZE_LANDSCAPE_USCS_LAB_19-0016 CONOWINGO.GPJ SALUT2014.GDT 2/11/21

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 Project Location: Conowingo Date: 12/10/20

Project Name: Conowingo Field Logbook No: n/A Serial No: 1 of 5

Samplers: Wesley Irons / S. Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	Grain Size without hydrometer						HOLD	RUSH	
D3 32.0'-35.9'	12/9/20	1840		1	Soil	X								
D3 26.2'-30.9'	"	1810		"	"	X								
D3 24.4'-25.9'	"	1740		"	"	X								
C3 46.7'-50.5'	"	1705		"	"	X								
C3 38.2'-40.5	"	1626		"	"	X								
C3 40.5-41.8	"	1638		"	"	X								
C4 53.4-55.5'	"	1358		"	"	X								
C4 55.5-58.0'	"	1402		"	"	X								
C4 48.0'-53.0'	"	1305		"	"	X								
C3 29.3-30.5'	"	1545		"	"	X								
C4 44.6'-48.0'	"	1250		"	"	X								
C3 ~~40.6-45.5~~ C3 30.6 - 35.5' 3/15/21	"	1524		"	"	X								
C4 26.4'-28.0'	"	0907		"	"	X								
C4 41.4'-43.0'	"	1243		"	"	X								
C4 36.4'-38.0'	"	1115		"	"	X								

Relinquished by: (Signature)	Date: 12/11/20	Time: 0749	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment:	Date:	Time:	Lab Comments:		

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: SaLUT

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 Project Location: Conowingo Date: 12/10/20

Project Name: Conowingo Field Logbook No: n/A Serial No: 2 of 5

Samplers: Wesley Irons / S. Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	grain size without hydrometer						HOLD	RUSH	
C4 24.9'-26.4'	12/9/20	0905		1	Soil	X								
A3 44.6'-47.4'	12/8/20	1719				X								
C4 28.4'-31.9'	12/9/20	1110				X								
A3 41.6'-43.4	12/8/20	1647				X								
A3 34.7'36.2'	12/8/20	1635				X								
A3 29.9'-33.4'	12/8/20	1539				X								
A3 26.0'-28.4'	12/8/20	1510				X								
A3 28.6'-29.9'	12/8/20	1533				X								
A3 24.6'-26.0'	12/8/20	1505				X								
C2 39.3'-42.3'	12/8/20	1401				X								
C2 34.1'-34.9'	12/8/20	1231				X								
C2 35.3'-37.3'	12/8/20	1243				X								
C2 29.8-32.2	12/8/20	1156				X								
C2 24.5'-27.3'	12/8/20	1105				X								
A2 38.0-40.0'	12/8/20	1040				X								

Relinquished by: (Signature)	Date: 12/11/20	Time: 0749	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Method of Shipment:	Date:	Time:	Lab Comments:	

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory:

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 Project Location: Conowingo Date: 12/10/20

Project Name: Conowingo Field Logbook No: n/A Serial No: 3 of 5

Samplers: Wesley Irons/ S. Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	grain size without hydrometer						HOLD	RUSH	
C2 38.4'-39.3'	12/8/20	1352		1	Soil	X								
A2 33.6'-35.8'	12/8/20	1015				X								
A2 28.4-32.8	12/8/20	0955				X								
A2 23.4'-27.8'	12/8/20	0930				X								
A2 13.2-16.4'	12/8/20	0830				X								
A2 20.2-22.8'		0920				X								
A2 16.4-17.8'		0830				X								
A2 7.8-12.8		0754				X								
A2 18.0'-20.2'		0915				X								
D1 38.0'-42.7'	12/6/20	1251				X								
D1 30.2'-32.7	12/6/20	1147				X								
D1 28.5'-30.2'	12/6/20	1137				X								
D1 24.7'-26.7'	12/6/20	1041				X								
B1 41.2'-43.8'	12/5/20	1717				X								
D1 26.7-27.7	12/6/20	1050				X								

Relinquished by: (Signature) SJBedosky	Date: 12/11/20	Time: 0749	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment:	Date:	Time:	Lab Comments:		

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory:

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 | Project Location: Conowingo | Date: 12/10/20

Project Name: Conowingo | Field Logbook No: N/A | Serial No: 4 of 5

Samplers: Wesley Irons / S. Bodosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	grain size without hydrometer						HOLD	RUSH	
B1 36.6-38.8	12/5/20	1616		1	Soil	X								
D1 20.8-22.7	12/6/20	0930				X								
C1 44.5-45.5	12/5/20	1550				X								
C1 24.7-25.5	12/5/20	1258				X								
D1 32.0-37.7	12/6/20	1225				X								
C1 27.9-30.5	12/5/20	1410				X								
C1 33.3-35.5	12/5/20	1455				X								
C1 28.8-40.5	12/5/20	1530				X								
B5 51.9-54.1	12/10/20	1730				X								
B6 48.5-50.3	12/10/20	1918				X								
B6 46.6-48.5	12/10/20	1915				X								
B6 41.0-45.3	12/10/20	1830				X								
B5 50.4-51.9	12/10/20	1703				X								
B5 45.4-50.4	12/10/20	1703				X								
D5 35.4-40.4	12/10/20	1555				X								

Same 8/5/21, D1 33.0-37.7

Relinquished by: (Signature)	Date: 12/11/20	Time: 0749	Received by: (Signature)	Date: / Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: / Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: / Time:
Method of Shipment:	Date:	Time:	Lab Comments:	

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory:

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 | Project Location: conowingo | Date: 12/11/20

Project Name: Conowingo | Field Logbook No: n/a | Serial No: 5 of 5

Samplers: Wesley Irons / S. Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	grain size w/hydrometer						HOLD	RUSH	
C5 29.4-31.7	12/10/20	1040		1	Soil	X								
C5 34.0-36.7	12/10/20	1050				X								
BS 24.4-25.4	12/10/20	1523				X								
BS 31.0-35.4	12/10/20	1450				X								
BS 40.4-45.4	12/10/20	1703				X								
C5 36.7-41.7	12/10/20	1140				X								
BS 29.4-30.4	12/10/20	1535				X								
C5 49.0-49.9	12/10/20	1257				X								
D3 45.9-50.9	12/10/20	0820				X								
C5 22.1-26.7	12/10/20	1000				X								
D3 36.1-40.9	12/10/20	0750				X								
C5 43.5-46.7	12/10/20	1230				X								
D3 50.9-53.2	12/10/20	0835				X								
D3 40.9-45.9	12/10/20	0810				X								

Relinquished by: (Signature)	Date: 12/11/20	Time: 0745	Received by: (Signature)	Date: / Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: / Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: / Time:
Method of Shipment:	Date:	Time:	Lab Comments:	

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory:

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2
Project Name: Conowingo
Samplers: Wesley Irons / S. Bedosky
Project Location: Conowingo
Field Logbook No: n/A
Date: 12/14/20
Serial No: 1 of 6

Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	Grain Size	Moisture					HOLD	RUSH	REMARKS
C8 48.6-49.7	12/13/20	1334		1	Soil	X	X							
D8 60.6-64.0	12/13/20	1703				X	X							
B8A 81.1-82.4	12/13/20	1248				X	X							
D8 75.5-79.0	12/13/20	1800				X	X							
D8 69.0-74.0	12/13/20	1740				X	X							
B8A 71.9-75.0	12/13/20	1214				X	X							
C8 65.6-70.6	12/13/20	1458				X	X							
B8A 68.7-70.0	12/13/20	1147				X	X							
D8 64.0-69.0	12/13/20	1720				X	X							
D8 55.0-~~59.8~~	12/13/20	1646				X	X							
C8 61.6-65.6	12/13/20	1440				X	X							
B8A 75.3-80.0	12/13/20	1230				X	X							
A8 72.3-74.8	12/13/20	1026				X	X							
B8A 58.8-~~60.6~~	12/13/20	1127				X	X							
A8 45.2-47.3	12/13/20	0852				X	X							

(Margin notes: SDB 2/8/21 — D8 55.0-59.0; SDB 3/15/21 — B8A-58.8-60.0)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Wesley Irons [signature]	12/14/20	1142	[signature]	12/14/20	11:42

Method of Shipment: Drop off   Date: Time:

Lab Comments:

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: SaLUT-TLB

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 Project Location: Conowingo Date: 12/14/20

Project Name: Conowingo Field Logbook No: N/A Serial No: 2 of 6

Samplers: Wesley Irons / S. Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	grain size	moisture					HOLD	RUSH	
B866.7-67.2	12/12/20	1435		1	Soil	X	X							
A862.9-67.3	12/13/20	0953				X	X							
C872.7-75.0	12/13/20	1514				X	X							
A867.3-72.3	12/13/20	1012				X	X							
B865.6-66.7	12/12/20	1337				X	X							
B867.2-68.7	12/12/20	1440				X	X							
A850.5-52.3	12/13/20	0904				X	X							
B863.7-66.7	12/12/20	1430				X	X							
A857.8-62.3	12/13/20	0927				X	X							
A853.1-57.3	12/13/20	0916				X	X							
B851.0-52.5	12/12/20	1150				X	X							
B866.7-68.1	12/12/20	1340				X	X							
B854.5-55.6	12/12/20	1200				X	X							
B858.1-60.6	12/12/20	1245				X	X							
B863.1-65.6	12/12/20	1315				X	X							

Relinquished by: (Signature) Wesley Irons	Date: 12/14/20	Time: 1142	Received by: (Signature) Christine Li	Date: 12/14/20 Time: 11:42
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Method of Shipment: Drop off	Date:	Time:	Lab Comments:	

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: SALUT - TLB

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 Project Location: Conowingo Date: 12/14/20

Project Name: Conowingo Field Logbook No: n/A Serial No: 3 of 6

Samplers: Wesley Irons / S Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	grain size	Moisture					HOLD	RUSH	
B752.5-54.5	12/12/20	1155		1	Soil	X	X							
A8 41.2-42.3	12/13/20	0837				X	X							
B760.6-63.1	12/12/20	1310				X	X							
B755.6-58.1	12/12/20	1240				X	X							
B747.4-48.2	12/12/20	1100				X	X							
C641.5-43.6	12/11/20	1825				X	X							
B748.2-50.6	12/12/20	1110				X	X							
B743.3-45.6	12/12/20	1030				X	X							
B737.6-39.6	12/12/20	0948				X	X							
B739.6	12/12/20	0945				X	X							
B741.0-43.3	12/12/20	1025				X	X							
C654.2-56.1	12/12/20	0900				X	X							
B739.6-40.6	12/12/20	0950				X	X							
C639.8-41.1	12/11/20	1810				X	X							
C636.6-38.8	12/11/20	1800				X	X							

Relinquished by: (Signature) Wes Irons	Date: 12/14/20	Time: 1142	Received by: (Signature) Christine Lin	Date: 12/14/20 Time: 1142
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Method of Shipment: Drop off	Date:	Time:	Lab Comments:	

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: SGLUT-TLB

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 Project Location: Conowingo Date: 12/14/20

Project Name: Conowingo Field Logbook No: N/A Serial No: 4 of 6

Samplers: Wesley Travis / S Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	grain size	Moisture					HOLD	RUSH	
C6461-49.5	12/2/20	0750		1	soil	X	X							
C6361-33.9	12/11/20	1635				X	X							
C6283-31.1	12/11/20	1605				X	X							
C6436-46.1	12/11/20	1827				X	X							
C6495-57.1	12/12/20	0755				X	X							
C6350-31.1	12/11/20	1655				X	X							
C6523-54.2	12/12/20	0857				X	X							
C6234-26.1	12/11/20	1523				X	X							
C6388-39.8	12/11/20	1805				X	X							
C6339-35.0	12/11/20	1652				X	X							
C6201-208	12/11/20	1437				X	X							
C6218-23.4	12/11/20	1511				X	X							
C7 ~~70.2~~-71.9	12/11/20	1305				X	X							
C6272-283	12/11/20	1545				X	X							
C7 71.9-72.3	12/11/20	1310				X	X							

Relinquished by: (Signature) Wesley Travis	Date: 12/14/20	Time: 1142	Received by: (Signature) Christine Lee Christine Lee	Date: 12/14/20 Time: 11:42
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Method of Shipment: Drop off	Date:	Time:	Lab Comments:	

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: SGS LUT - TLB

SGS 1/19/21 C7 70.8-71.9 → C6 43.6-46.1 SGS 3/5-/21

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: ~~SO~~ 3037.2 Project Location: Conowingo Date: 12/14/20

Project Name: Conowingo Field Logbook No: n/A Serial No: 5 of 6

Samplers: Wesley Irons / S. Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	Particle Size	Moisture					HOLD	RUSH	
C7688-70.8	12/11/20	1127		1	Soil	X	X							
C697-20.1	12/11/20	1435				X	X							
C758-68	12/11/20	1125				X	X							
C758.3-60.8	12/11/20	1137				X	X							
C741.7-43.4	12/11/20	0755				X	X							
C753.2-55.3	12/11/20	1105				X	X							
C746.3-50.3	12/11/20	1040				X	X							
C735.9-35.8	12/11/20	0850				X	X							
C738.7-40.8	12/11/20	0942				X	X							
C758-58.3	12/11/20	1135				X	X							
C737.3-38.7	12/11/20	0933				X	X							
C743.4-45.8	12/11/20	1010				X	X							
C760.8-65.8	12/11/20	1154				X	X							
C729.3-30.3	12/11/20	0808				X	X							
C730.0-30.8	12/11/20	0817				X	X							

Relinquished by: (Signature) Wesley Irons	Date: 12/14/20	Time: 1142	Received by: (Signature) Christine Lee	Date: 12/14/20	Time: 11:42
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment: Drop off	Date:	Time:	Lab Comments:		

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: SyLVT-TLB

RC SMB 1/19/21
C746.3-47.0
SMB 1/5/21
C729.3-30.0

northgate
environmental management, inc.

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.02 | Project Location: Conowingo | Date: 12/14/20

Project Name: Conowingo | Field Logbook No: N/A | Serial No: 6 of 6

Samplers: Wesley Evans/Steve Bedosky

SAMPLES						ANALYSES								REMARKS
Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	Grain Size	Moisture	Grain Size w/ Hydrometer	Atterberg			HOLD	RUSH	
C7 36.5-37.3	12/11/20	0924		1	Soil	X	X							
C7 47.0-50.8	12/14/20	1126		1	Soil		X	X	X					
C7 61.8-65.8	12/14/20	1138		1	Soil		X	X	X					

Relinquished by: (Signature) Wesley Evans	Date: 12/14/20	Time: 1142	Received by: (Signature) Christine Li	Date: 12/14/20	Time: 11:42
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment: Drop off	Date:	Time:	Lab Comments:		

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: SaLUT - TLB

APPENDIX G

HORIZONTAL AND VERTICAL POSITIONING DATA FOR CORE LOCATIONS

Appendix G
Horizontal and Vertical Positioning Data

Core	Northing	Easting	Pond Surface Elevation
A-2	744889.9	1526915.9	99.6
A-3	741379.0	1528766.4	89.4
A-8	727961.4	1540756.4	70.4
B-1	748038.2	1527338.5	83.6
B-5	737649.2	1533577.6	86.4
B-6	734800.2	1536219.3	75.9
B-7	731637.5	1539122.1	71.3
B-8A	728753.3	1541588.6	52.5
C-1	748222.1	1528306.8	87.0
C-2	745271.9	1528879.7	84.9
C-3	742732.8	1530231.8	81.3
C-4	740527.1	1532275.0	89.0
C-5	738315.6	1534299.3	94.6
C-6	735480.2	1536947.7	90.8
C-7	732315.8	1539860.7	81.3
C-8	729541.3	1542417.6	67.3
D-1	748403.2	1529297.7	90.4
D-3	748222.1	1530974.9	86.2
D-8	730222.9	1543119.6	68.8

Notes:
Coordinate System: NAD 1983 2011 State Plane Maryland FIPS 1900 Ft US
Vertical Datum NGVD 29
Pond elevaton data supplied by Exelon.

APPENDIX H

PHASE SEPARATION SCIENCE LABORATORY ANALYTICAL REPORTS

PHASE SEPARATION SCIENCE

6630 Baltimore National Pike
Baltimore, MD 21228
410-747-8770
800-932-9047
www.phaseonline.com

Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20120901

March 24, 2021

Nancy Leitner
Northgate Environmental Management, Inc.
47 East All Saints St.
Frederick, MD 21701

Reference: PSS Project No: **20120901**
Project Name: Conowingo
Project Location: Conowingo
Project ID.: 3037.02

Dear Nancy Leitner:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **20120901**. This report has been revised to update sample IDs for 008, 023, 027, 030, and 032; chain of custodies; and report manganese per client request. This report version includes revised sample results. This report cancels and supersedes report version 1.003 dated February 8, 2021.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 12, 2021, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Dan Prucnal
Laboratory Manager

PHASE SEPARATION SCIENCE

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800-932-9047
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Explanation of Qualifiers

Project Name: Conowingo
PSS Project No.: 20120901

Project ID: 3037.02

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/08/2020 at 05:25 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
20120901-001	A2 7.8-12.8	SOIL	12/08/20 07:54
20120901-002	A2 13.2-16.4	SOIL	12/08/20 07:54
20120901-003	A2 16.4-17.8	SOIL	12/08/20 08:30
20120901-004	A2 18.0-20.2	SOIL	12/08/20 09:15
20120901-005	A2 20.2-22.8	SOIL	12/08/20 09:20
20120901-006	A2 28.4-32.8	SOIL	12/08/20 09:55
20120901-007	A2 33.6-35.8	SOIL	12/08/20 10:15
20120901-008	A2 23.4-27.8	SOIL	12/08/20 09:30
20120901-009	A2 38.0-40.0	SOIL	12/08/20 10:40
20120901-010	A3 24.6-26.0	SOIL	12/08/20 15:05
20120901-011	A3 26.0-28.4	SOIL	12/08/20 15:10
20120901-012	A3 28.6-29.9	SOIL	12/08/20 15:33
20120901-013	A3 29.9-33.4	SOIL	12/08/20 15:39
20120901-014	C2 24.5-27.3	SOIL	12/08/20 11:05
20120901-015	C2 29.8-32.2	SOIL	12/08/20 11:56
20120901-016	C2 34.1-34.9	SOIL	12/08/20 12:31
20120901-017	C2 35.3-37.3	SOIL	12/08/20 12:43
20120901-018	C2 38.4-39.3	SOIL	12/08/20 13:52
20120901-019	C2 39.3-42.3	SOIL	12/08/20 14:01
20120901-020	C1 38.8-40.5	SOIL	12/05/20 15:30
20120901-021	C1 27.9-30.5	SOIL	12/05/20 14:10
20120901-022	C1 24.7-25.5	SOIL	12/05/20 12:58
20120901-023	C1 33.3-35.5	SOIL	12/05/20 14:55
20120901-024	C1 44.5-45.5	SOIL	12/05/20 15:50
20120901-025	B1 36.6-38.8	SOIL	12/05/20 16:16
20120901-026	B1 41.2-43.8	SOIL	12/05/20 17:17
20120901-027	D1 20.8-22.7	SOIL	12/06/20 09:30
20120901-028	D1 24.7-26.7	SOIL	12/06/20 10:41
20120901-029	D1 26.7-27.7	SOIL	12/06/20 10:50
20120901-030	D1 28.5-30.2	SOIL	12/06/20 11:37
20120901-031	D1 30.2-32.7	SOIL	12/06/20 11:47
20120901-032	D1 33.0-37.7	SOIL	12/06/20 12:25
20120901-033	D1 38.0-42.7	SOIL	12/06/20 12:51

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PHASE SEPARATION SCIENCE

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Explanation of Qualifiers

Project Name: Conowingo

PSS Project No.: 20120901

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: A2 7.8-12.8 **Date/Time Sampled: 12/08/2020 07:54** **PSS Sample ID: 20120901-001**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 58.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	4.2		1	0.39	12/09/20	12/10/20 20:56	1064
Arsenic	**11**	mg/kg	0.85		1	0.093	12/09/20	12/10/20 20:56	1064
Beryllium	**2.1**	mg/kg	0.85		1	0.21	12/09/20	12/10/20 20:56	1064
Cadmium	**1.3**	mg/kg	0.85		1	0.085	12/09/20	12/10/20 20:56	1064
Chromium	**34**	mg/kg	0.85		1	0.47	12/09/20	12/11/20 15:33	1064
Copper	**44**	mg/kg	0.85		1	0.26	12/09/20	12/10/20 20:56	1064
Lead	**52**	mg/kg	0.85		1	0.36	12/09/20	12/10/20 20:56	1064
Manganese	**2,100**	mg/kg	0.85	E	1	0.71	12/09/20	12/10/20 20:56	1064
Mercury	**0.19**	mg/kg	0.17		1	0.062	12/09/20	12/10/20 20:56	1064
Nickel	**63**	mg/kg	0.85		1	0.3	12/09/20	12/10/20 20:56	1064
Selenium	**1.2**	mg/kg	0.85		1	0.085	12/09/20	12/10/20 20:56	1064
Silver	**0.65**	mg/kg	0.85	J	1	0.093	12/09/20	12/10/20 20:56	1064
Thallium	**0.33**	mg/kg	0.85	J	1	0.22	12/09/20	12/10/20 20:56	1064
Zinc	**230**	mg/kg	17		1	0.93	12/09/20	12/11/20 15:33	1064

Sample ID: A2 13.2-16.4 **Date/Time Sampled: 12/08/2020 07:54** **PSS Sample ID: 20120901-002**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 72.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.8		1	0.26	12/09/20	12/10/20 21:39	1064
Arsenic	**5.1**	mg/kg	0.57		1	0.062	12/09/20	12/10/20 21:39	1064
Beryllium	**1.1**	mg/kg	0.57		1	0.14	12/09/20	12/10/20 21:39	1064
Cadmium	**0.29**	mg/kg	0.57	J	1	0.057	12/09/20	12/10/20 21:39	1064
Chromium	**9.8**	mg/kg	0.57		1	0.31	12/09/20	12/11/20 15:37	1064
Copper	**22**	mg/kg	0.57		1	0.18	12/09/20	12/10/20 21:39	1064
Lead	**18**	mg/kg	0.57		1	0.24	12/09/20	12/10/20 21:39	1064
Manganese	**550**	mg/kg	0.57		1	0.48	12/09/20	12/10/20 21:39	1064
Mercury	**0.13**	mg/kg	0.11		1	0.041	12/09/20	12/10/20 21:39	1064
Nickel	**27**	mg/kg	0.57		1	0.2	12/09/20	12/10/20 21:39	1064
Selenium	**1.7**	mg/kg	0.57		1	0.057	12/09/20	12/10/20 21:39	1064
Silver	**0.11**	mg/kg	0.57	J	1	0.062	12/09/20	12/10/20 21:39	1064
Thallium	ND	mg/kg	0.57		1	0.15	12/09/20	12/10/20 21:39	1064
Zinc	**110**	mg/kg	11		1	0.62	12/09/20	12/11/20 15:37	1064

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Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: A2 16.4-17.8 **Date/Time Sampled: 12/08/2020 08:30** **PSS Sample ID: 20120901-003**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 53.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.48**	mg/kg	3.5	J	1	0.32	12/09/20	12/10/20 21:43	1064
Arsenic	**18**	mg/kg	0.69		1	0.076	12/09/20	12/10/20 21:43	1064
Beryllium	**3.8**	mg/kg	0.69		1	0.17	12/09/20	12/10/20 21:43	1064
Cadmium	**4.1**	mg/kg	0.69		1	0.069	12/09/20	12/10/20 21:43	1064
Chromium	**64**	mg/kg	0.69		1	0.38	12/09/20	12/11/20 15:41	1064
Copper	**89**	mg/kg	0.69		1	0.21	12/09/20	12/10/20 21:43	1064
Lead	**82**	mg/kg	0.69		1	0.29	12/09/20	12/10/20 21:43	1064
Manganese	**2,600**	mg/kg	0.69	E	1	0.58	12/09/20	12/10/20 21:43	1064
Mercury	**0.39**	mg/kg	0.14		1	0.05	12/09/20	12/10/20 21:43	1064
Nickel	**100**	mg/kg	0.69		1	0.24	12/09/20	12/10/20 21:43	1064
Selenium	**2.1**	mg/kg	0.69		1	0.069	12/09/20	12/10/20 21:43	1064
Silver	**6.0**	mg/kg	0.69		1	0.076	12/09/20	12/10/20 21:43	1064
Thallium	**0.40**	mg/kg	0.69	J	1	0.18	12/09/20	12/10/20 21:43	1064
Zinc	**570**	mg/kg	14		1	0.76	12/09/20	12/11/20 15:41	1064

Sample ID: A2 18.0-20.2 **Date/Time Sampled: 12/08/2020 09:15** **PSS Sample ID: 20120901-004**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 76.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.8		1	0.26	12/09/20	12/10/20 21:48	1064
Arsenic	**4.7**	mg/kg	0.56		1	0.061	12/09/20	12/10/20 21:48	1064
Beryllium	**0.89**	mg/kg	0.56		1	0.14	12/09/20	12/10/20 21:48	1064
Cadmium	**0.24**	mg/kg	0.56	J	1	0.056	12/09/20	12/10/20 21:48	1064
Chromium	**16**	mg/kg	0.56		1	0.31	12/09/20	12/11/20 15:45	1064
Copper	**25**	mg/kg	0.56		1	0.17	12/09/20	12/10/20 21:48	1064
Lead	**15**	mg/kg	0.56		1	0.23	12/09/20	12/10/20 21:48	1064
Manganese	**560**	mg/kg	0.56	E	1	0.47	12/09/20	12/10/20 21:48	1064
Mercury	**0.12**	mg/kg	0.11		1	0.041	12/09/20	12/10/20 21:48	1064
Nickel	**29**	mg/kg	0.56		1	0.19	12/09/20	12/10/20 21:48	1064
Selenium	**1.4**	mg/kg	0.56		1	0.056	12/09/20	12/10/20 21:48	1064
Silver	**0.087**	mg/kg	0.56	J	1	0.061	12/09/20	12/10/20 21:48	1064
Thallium	ND	mg/kg	0.56		1	0.14	12/09/20	12/10/20 21:48	1064
Zinc	**100**	mg/kg	11		1	0.61	12/09/20	12/11/20 15:45	1064

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Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: A2 20.2-22.8 **Date/Time Sampled: 12/08/2020 09:20** **PSS Sample ID: 20120901-005**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 56.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	4.0		1	0.36	12/09/20	12/10/20 21:53	1064
Arsenic	**14**	mg/kg	0.79		1	0.087	12/09/20	12/10/20 21:53	1064
Beryllium	**3.6**	mg/kg	0.79		1	0.2	12/09/20	12/10/20 21:53	1064
Cadmium	**2.7**	mg/kg	0.79		1	0.079	12/09/20	12/10/20 21:53	1064
Chromium	**58**	mg/kg	0.79		1	0.44	12/09/20	12/11/20 15:49	1064
Copper	**81**	mg/kg	0.79		1	0.25	12/09/20	12/10/20 21:53	1064
Lead	**70**	mg/kg	0.79		1	0.33	12/09/20	12/10/20 21:53	1064
Manganese	**1,700**	mg/kg	0.79	E	1	0.67	12/09/20	12/10/20 21:53	1064
Mercury	**0.54**	mg/kg	0.16		1	0.058	12/09/20	12/10/20 21:53	1064
Nickel	**79**	mg/kg	0.79		1	0.28	12/09/20	12/10/20 21:53	1064
Selenium	**1.8**	mg/kg	0.79		1	0.079	12/09/20	12/10/20 21:53	1064
Silver	**2.1**	mg/kg	0.79		1	0.087	12/09/20	12/10/20 21:53	1064
Thallium	**0.35**	mg/kg	0.79	J	1	0.21	12/09/20	12/10/20 21:53	1064
Zinc	**540**	mg/kg	16		1	0.87	12/09/20	12/11/20 15:49	1064

Sample ID: A2 28.4-32.8 **Date/Time Sampled: 12/08/2020 09:55** **PSS Sample ID: 20120901-006**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 63.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.7		1	0.34	12/09/20	12/10/20 21:58	1064
Arsenic	**15**	mg/kg	0.74		1	0.081	12/09/20	12/10/20 21:58	1064
Beryllium	**2.5**	mg/kg	0.74		1	0.18	12/09/20	12/10/20 21:58	1064
Cadmium	**0.80**	mg/kg	0.74		1	0.074	12/09/20	12/10/20 21:58	1064
Chromium	**39**	mg/kg	0.74		1	0.41	12/09/20	12/11/20 15:53	1064
Copper	**62**	mg/kg	0.74		1	0.23	12/09/20	12/10/20 21:58	1064
Lead	**57**	mg/kg	0.74		1	0.31	12/09/20	12/10/20 21:58	1064
Manganese	**1,600**	mg/kg	0.74	E	1	0.62	12/09/20	12/10/20 21:58	1064
Mercury	**0.39**	mg/kg	0.15		1	0.054	12/09/20	12/10/20 21:58	1064
Nickel	**59**	mg/kg	0.74		1	0.26	12/09/20	12/10/20 21:58	1064
Selenium	**2.7**	mg/kg	0.74		1	0.074	12/09/20	12/10/20 21:58	1064
Silver	**0.31**	mg/kg	0.74	J	1	0.081	12/09/20	12/10/20 21:58	1064
Thallium	**0.33**	mg/kg	0.74	J	1	0.19	12/09/20	12/10/20 21:58	1064
Zinc	**260**	mg/kg	15		1	0.81	12/09/20	12/11/20 15:53	1064

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Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: A2 33.6-35.8 **Date/Time Sampled: 12/08/2020 10:15** **PSS Sample ID: 20120901-007**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 62.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.0		1	0.28	12/09/20	12/10/20 22:02	1064
Arsenic	**13**	mg/kg	0.60		1	0.066	12/09/20	12/10/20 22:02	1064
Beryllium	**2.7**	mg/kg	0.60		1	0.15	12/09/20	12/10/20 22:02	1064
Cadmium	**0.76**	mg/kg	0.60		1	0.06	12/09/20	12/10/20 22:02	1064
Chromium	**43**	mg/kg	0.60		1	0.33	12/09/20	12/11/20 15:58	1064
Copper	**69**	mg/kg	0.60		1	0.19	12/09/20	12/10/20 22:02	1064
Lead	**60**	mg/kg	0.60		1	0.25	12/09/20	12/10/20 22:02	1064
Manganese	**1,200**	mg/kg	0.60	E	1	0.5	12/09/20	12/10/20 22:02	1064
Mercury	**0.51**	mg/kg	0.12		1	0.044	12/09/20	12/10/20 22:02	1064
Nickel	**54**	mg/kg	0.60		1	0.21	12/09/20	12/10/20 22:02	1064
Selenium	**3.2**	mg/kg	0.60		1	0.06	12/09/20	12/10/20 22:02	1064
Silver	**0.24**	mg/kg	0.60	J	1	0.066	12/09/20	12/10/20 22:02	1064
Thallium	**0.29**	mg/kg	0.60	J	1	0.16	12/09/20	12/10/20 22:02	1064
Zinc	**300**	mg/kg	12		1	0.66	12/09/20	12/11/20 15:58	1064

Sample ID: A2 23.4-27.8 **Date/Time Sampled: 12/08/2020 09:30** **PSS Sample ID: 20120901-008**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 61.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.30**	mg/kg	3.2	J	1	0.29	12/09/20	12/10/20 22:07	1064
Arsenic	**17**	mg/kg	0.63		1	0.069	12/09/20	12/10/20 22:07	1064
Beryllium	**3.4**	mg/kg	0.63		1	0.16	12/09/20	12/10/20 22:07	1064
Cadmium	**1.7**	mg/kg	0.63		1	0.063	12/09/20	12/10/20 22:07	1064
Chromium	**48**	mg/kg	0.63		1	0.35	12/09/20	12/11/20 16:02	1064
Copper	**83**	mg/kg	0.63		1	0.2	12/09/20	12/10/20 22:07	1064
Lead	**70**	mg/kg	0.63		1	0.26	12/09/20	12/10/20 22:07	1064
Manganese	**1,400**	mg/kg	0.63	E	1	0.53	12/09/20	12/10/20 22:07	1064
Mercury	**0.41**	mg/kg	0.13		1	0.046	12/09/20	12/10/20 22:07	1064
Nickel	**73**	mg/kg	0.63		1	0.22	12/09/20	12/10/20 22:07	1064
Selenium	**3.5**	mg/kg	0.63		1	0.063	12/09/20	12/10/20 22:07	1064
Silver	**1.4**	mg/kg	0.63		1	0.069	12/09/20	12/10/20 22:07	1064
Thallium	**0.35**	mg/kg	0.63	J	1	0.16	12/09/20	12/10/20 22:07	1064
Zinc	**430**	mg/kg	13		1	0.69	12/09/20	12/11/20 16:02	1064

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Sample ID: A2 38.0-40.0 **Date/Time Sampled: 12/08/2020 10:40** **PSS Sample ID: 20120901-009**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 82.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.0		1	0.18	12/09/20	12/10/20 22:12	1064
Arsenic	**1.5**	mg/kg	0.40		1	0.044	12/09/20	12/10/20 22:12	1064
Beryllium	**0.23**	mg/kg	0.40	J	1	0.099	12/09/20	12/10/20 22:12	1064
Cadmium	**0.051**	mg/kg	0.40	J	1	0.04	12/09/20	12/10/20 22:12	1064
Chromium	**6.0**	mg/kg	0.40		1	0.22	12/09/20	12/11/20 16:06	1064
Copper	**3.7**	mg/kg	0.40		1	0.12	12/09/20	12/10/20 22:12	1064
Lead	**7.2**	mg/kg	0.40		1	0.17	12/09/20	12/10/20 22:12	1064
Manganese	**57**	mg/kg	0.40		1	0.33	12/09/20	12/10/20 22:12	1064
Mercury	ND	mg/kg	0.079		1	0.029	12/09/20	12/10/20 22:12	1064
Nickel	**10**	mg/kg	0.40		1	0.14	12/09/20	12/10/20 22:12	1064
Selenium	**0.077**	mg/kg	0.40	J	1	0.04	12/09/20	12/10/20 22:12	1064
Silver	ND	mg/kg	0.40		1	0.044	12/09/20	12/10/20 22:12	1064
Thallium	ND	mg/kg	0.40		1	0.1	12/09/20	12/10/20 22:12	1064
Zinc	**29**	mg/kg	7.9		1	0.44	12/09/20	12/11/20 16:06	1064

Sample ID: A3 24.6-26.0 **Date/Time Sampled: 12/08/2020 15:05** **PSS Sample ID: 20120901-010**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 75.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	0.26	12/09/20	12/10/20 22:17	1064
Arsenic	**3.6**	mg/kg	0.57		1	0.063	12/09/20	12/10/20 22:17	1064
Beryllium	**0.86**	mg/kg	0.57		1	0.14	12/09/20	12/10/20 22:17	1064
Cadmium	**0.22**	mg/kg	0.57	J	1	0.057	12/09/20	12/10/20 22:17	1064
Chromium	**7.8**	mg/kg	0.57		1	0.32	12/09/20	12/11/20 16:29	1064
Copper	**18**	mg/kg	0.57		1	0.18	12/09/20	12/10/20 22:17	1064
Lead	**15**	mg/kg	0.57		1	0.24	12/09/20	12/10/20 22:17	1064
Manganese	**550**	mg/kg	0.57		1	0.48	12/09/20	12/10/20 22:17	1064
Mercury	**0.14**	mg/kg	0.11		1	0.042	12/09/20	12/10/20 22:17	1064
Nickel	**21**	mg/kg	0.57		1	0.2	12/09/20	12/10/20 22:17	1064
Selenium	**1.2**	mg/kg	0.57		1	0.057	12/09/20	12/10/20 22:17	1064
Silver	ND	mg/kg	0.57		1	0.063	12/09/20	12/10/20 22:17	1064
Thallium	ND	mg/kg	0.57		1	0.15	12/09/20	12/10/20 22:17	1064
Zinc	**71**	mg/kg	11		1	0.63	12/09/20	12/11/20 16:29	1064

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Project Name: Conowingo
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Sample ID: A3 26.0-28.4 **Date/Time Sampled: 12/08/2020 15:10** **PSS Sample ID: 20120901-011**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 64.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	0.27	12/09/20	12/10/20 22:21	1064
Arsenic	**12**	mg/kg	0.58		1	0.064	12/09/20	12/10/20 22:21	1064
Beryllium	**2.2**	mg/kg	0.58		1	0.14	12/09/20	12/10/20 22:21	1064
Cadmium	**1.4**	mg/kg	0.58		1	0.058	12/09/20	12/10/20 22:21	1064
Chromium	**30**	mg/kg	0.58		1	0.32	12/09/20	12/11/20 16:33	1064
Copper	**53**	mg/kg	0.58		1	0.18	12/09/20	12/10/20 22:21	1064
Lead	**47**	mg/kg	0.58		1	0.24	12/09/20	12/10/20 22:21	1064
Manganese	**1,700**	mg/kg	0.58	E	1	0.49	12/09/20	12/10/20 22:21	1064
Mercury	**0.30**	mg/kg	0.12		1	0.042	12/09/20	12/10/20 22:21	1064
Nickel	**63**	mg/kg	0.58		1	0.2	12/09/20	12/10/20 22:21	1064
Selenium	**2.0**	mg/kg	0.58		1	0.058	12/09/20	12/10/20 22:21	1064
Silver	**0.83**	mg/kg	0.58		1	0.064	12/09/20	12/10/20 22:21	1064
Thallium	**0.24**	mg/kg	0.58	J	1	0.15	12/09/20	12/10/20 22:21	1064
Zinc	**260**	mg/kg	12		1	0.64	12/09/20	12/11/20 16:33	1064

Sample ID: A3 28.6-29.9 **Date/Time Sampled: 12/08/2020 15:33** **PSS Sample ID: 20120901-012**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 74.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.4		1	0.22	12/09/20	12/22/20 21:29	1064
Arsenic	**3.5**	mg/kg	0.48		1	0.053	12/09/20	12/22/20 21:29	1064
Beryllium	**0.80**	mg/kg	0.48		1	0.12	12/09/20	12/22/20 21:29	1064
Cadmium	**0.27**	mg/kg	0.48	J	1	0.048	12/09/20	12/22/20 21:29	1064
Chromium	**12**	mg/kg	0.48		1	0.26	12/09/20	12/22/20 21:29	1064
Copper	**19**	mg/kg	0.48		1	0.15	12/09/20	12/22/20 21:29	1064
Lead	**15**	mg/kg	0.48		1	0.2	12/09/20	12/22/20 21:29	1064
Manganese	ND	mg/kg	0.48		1	0.4	12/09/20	12/10/20 22:45	1064
Mercury	**0.13**	mg/kg	0.095		1	0.035	12/09/20	12/22/20 21:29	1064
Nickel	**24**	mg/kg	0.48		1	0.17	12/09/20	12/22/20 21:29	1064
Selenium	**1.2**	mg/kg	0.48		1	0.048	12/09/20	12/22/20 21:29	1064
Silver	**0.070**	mg/kg	0.48	J	1	0.053	12/09/20	12/22/20 21:29	1064
Thallium	ND	mg/kg	0.48		1	0.12	12/09/20	12/22/20 21:29	1064
Zinc	**87**	mg/kg	9.5		1	0.53	12/09/20	12/22/20 21:29	1064

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Sample ID: A3 29.9-33.4 **Date/Time Sampled: 12/08/2020 15:39** **PSS Sample ID: 20120901-013**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 58.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.58**	mg/kg	4.2	J	1	0.39	12/09/20	12/10/20 22:50	1064
Arsenic	**19**	mg/kg	0.84		1	0.093	12/09/20	12/10/20 22:50	1064
Beryllium	**3.5**	mg/kg	0.84		1	0.21	12/09/20	12/10/20 22:50	1064
Cadmium	**2.2**	mg/kg	0.84		1	0.084	12/09/20	12/10/20 22:50	1064
Chromium	**55**	mg/kg	0.84		1	0.46	12/09/20	12/11/20 16:42	1064
Copper	**82**	mg/kg	0.84		1	0.26	12/09/20	12/10/20 22:50	1064
Lead	**76**	mg/kg	0.84		1	0.35	12/09/20	12/10/20 22:50	1064
Manganese	**2,500**	mg/kg	0.84	E	1	0.71	12/09/20	12/10/20 22:50	1064
Mercury	**0.36**	mg/kg	0.17		1	0.061	12/09/20	12/10/20 22:50	1064
Nickel	**100**	mg/kg	0.84		1	0.29	12/09/20	12/10/20 22:50	1064
Selenium	**2.7**	mg/kg	0.84		1	0.084	12/09/20	12/10/20 22:50	1064
Silver	**1.5**	mg/kg	0.84		1	0.093	12/09/20	12/10/20 22:50	1064
Thallium	**0.42**	mg/kg	0.84	J	1	0.22	12/09/20	12/10/20 22:50	1064
Zinc	**410**	mg/kg	17		1	0.93	12/09/20	12/11/20 16:42	1064

Sample ID: C2 24.5-27.3 **Date/Time Sampled: 12/08/2020 11:05** **PSS Sample ID: 20120901-014**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 79.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	0.26	12/09/20	12/10/20 22:55	1064
Arsenic	**4.7**	mg/kg	0.57		1	0.063	12/09/20	12/10/20 22:55	1064
Beryllium	**0.90**	mg/kg	0.57		1	0.14	12/09/20	12/10/20 22:55	1064
Cadmium	**2.0**	mg/kg	0.57		1	0.057	12/09/20	12/10/20 22:55	1064
Chromium	**4.9**	mg/kg	0.57		1	0.32	12/09/20	12/11/20 16:46	1064
Copper	**19**	mg/kg	0.57		1	0.18	12/09/20	12/10/20 22:55	1064
Lead	**13**	mg/kg	0.57		1	0.24	12/09/20	12/10/20 22:55	1064
Manganese	**260**	mg/kg	0.57		1	0.48	12/09/20	12/10/20 22:55	1064
Mercury	**0.099**	mg/kg	0.11	J	1	0.042	12/09/20	12/10/20 22:55	1064
Nickel	**23**	mg/kg	0.57		1	0.2	12/09/20	12/10/20 22:55	1064
Selenium	**1.8**	mg/kg	0.57		1	0.057	12/09/20	12/10/20 22:55	1064
Silver	ND	mg/kg	0.57		1	0.063	12/09/20	12/10/20 22:55	1064
Thallium	ND	mg/kg	0.57		1	0.15	12/09/20	12/10/20 22:55	1064
Zinc	**87**	mg/kg	11		1	0.63	12/09/20	12/11/20 16:46	1064

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Sample ID: C2 29.8-32.2 **Date/Time Sampled: 12/08/2020 11:56** **PSS Sample ID: 20120901-015**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 57.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.4		1	0.31	12/09/20	12/10/20 22:59	1064
Arsenic	**14**	mg/kg	0.67		1	0.074	12/09/20	12/10/20 22:59	1064
Beryllium	**3.0**	mg/kg	0.67		1	0.17	12/09/20	12/10/20 22:59	1064
Cadmium	**3.6**	mg/kg	0.67		1	0.067	12/09/20	12/10/20 22:59	1064
Chromium	**56**	mg/kg	0.67		1	0.37	12/09/20	12/11/20 16:50	1064
Copper	**73**	mg/kg	0.67		1	0.21	12/09/20	12/10/20 22:59	1064
Lead	**67**	mg/kg	0.67		1	0.28	12/09/20	12/10/20 22:59	1064
Manganese	**2,300**	mg/kg	0.67	E	1	0.56	12/09/20	12/10/20 22:59	1064
Mercury	**0.33**	mg/kg	0.13		1	0.049	12/09/20	12/10/20 22:59	1064
Nickel	**83**	mg/kg	0.67		1	0.23	12/09/20	12/10/20 22:59	1064
Selenium	**1.8**	mg/kg	0.67		1	0.067	12/09/20	12/10/20 22:59	1064
Silver	**3.7**	mg/kg	0.67		1	0.074	12/09/20	12/10/20 22:59	1064
Thallium	**0.33**	mg/kg	0.67	J	1	0.17	12/09/20	12/10/20 22:59	1064
Zinc	**450**	mg/kg	13		1	0.74	12/09/20	12/11/20 16:50	1064

Sample ID: C2 34.1-34.9 **Date/Time Sampled: 12/08/2020 12:31** **PSS Sample ID: 20120901-016**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 58.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	4.2		1	0.38	12/09/20	12/10/20 23:04	1064
Arsenic	**9.7**	mg/kg	0.83		1	0.092	12/09/20	12/10/20 23:04	1064
Beryllium	**2.1**	mg/kg	0.83		1	0.21	12/09/20	12/10/20 23:04	1064
Cadmium	**1.6**	mg/kg	0.83		1	0.083	12/09/20	12/10/20 23:04	1064
Chromium	**41**	mg/kg	0.83		1	0.46	12/09/20	12/11/20 16:54	1064
Copper	**50**	mg/kg	0.83		1	0.26	12/09/20	12/10/20 23:04	1064
Lead	**43**	mg/kg	0.83		1	0.35	12/09/20	12/10/20 23:04	1064
Manganese	**1,400**	mg/kg	0.83	E	1	0.7	12/09/20	12/10/20 23:04	1064
Mercury	**0.30**	mg/kg	0.17		1	0.061	12/09/20	12/10/20 23:04	1064
Nickel	**56**	mg/kg	0.83		1	0.29	12/09/20	12/10/20 23:04	1064
Selenium	**2.2**	mg/kg	0.83		1	0.083	12/09/20	12/10/20 23:04	1064
Silver	**1.2**	mg/kg	0.83		1	0.092	12/09/20	12/10/20 23:04	1064
Thallium	ND	mg/kg	0.83		1	0.22	12/09/20	12/10/20 23:04	1064
Zinc	**300**	mg/kg	17		1	0.92	12/09/20	12/11/20 16:54	1064

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Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: C2 35.3-37.3 **Date/Time Sampled: 12/08/2020 12:43** **PSS Sample ID: 20120901-017**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 60.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	0.27	12/09/20	12/10/20 23:09	1064
Arsenic	**14**	mg/kg	0.58		1	0.064	12/09/20	12/10/20 23:09	1064
Beryllium	**3.3**	mg/kg	0.58		1	0.15	12/09/20	12/10/20 23:09	1064
Cadmium	**2.2**	mg/kg	0.58		1	0.058	12/09/20	12/10/20 23:09	1064
Chromium	**48**	mg/kg	0.58		1	0.32	12/09/20	12/11/20 16:58	1064
Copper	**76**	mg/kg	0.58		1	0.18	12/09/20	12/10/20 23:09	1064
Lead	**63**	mg/kg	0.58		1	0.25	12/09/20	12/10/20 23:09	1064
Manganese	**1,500**	mg/kg	0.58	E	1	0.49	12/09/20	12/10/20 23:09	1064
Mercury	**0.42**	mg/kg	0.12		1	0.043	12/09/20	12/10/20 23:09	1064
Nickel	**78**	mg/kg	0.58		1	0.2	12/09/20	12/10/20 23:09	1064
Selenium	**2.6**	mg/kg	0.58		1	0.058	12/09/20	12/10/20 23:09	1064
Silver	**1.8**	mg/kg	0.58		1	0.064	12/09/20	12/10/20 23:09	1064
Thallium	**0.32**	mg/kg	0.58	J	1	0.15	12/09/20	12/10/20 23:09	1064
Zinc	**440**	mg/kg	12		1	0.64	12/09/20	12/11/20 16:58	1064

Sample ID: C2 38.4-39.3 **Date/Time Sampled: 12/08/2020 13:52** **PSS Sample ID: 20120901-018**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 60.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.40**	mg/kg	3.3	J	1	0.3	12/09/20	12/10/20 23:14	1064
Arsenic	**14**	mg/kg	0.65		1	0.072	12/09/20	12/10/20 23:14	1064
Beryllium	**2.6**	mg/kg	0.65		1	0.16	12/09/20	12/10/20 23:14	1064
Cadmium	**1.0**	mg/kg	0.65		1	0.065	12/09/20	12/10/20 23:14	1064
Chromium	**42**	mg/kg	0.65		1	0.36	12/09/20	12/11/20 17:02	1064
Copper	**65**	mg/kg	0.65		1	0.2	12/09/20	12/10/20 23:14	1064
Lead	**60**	mg/kg	0.65		1	0.27	12/09/20	12/10/20 23:14	1064
Manganese	**1,500**	mg/kg	0.65	E	1	0.55	12/09/20	12/10/20 23:14	1064
Mercury	**0.35**	mg/kg	0.13		1	0.048	12/09/20	12/10/20 23:14	1064
Nickel	**61**	mg/kg	0.65		1	0.23	12/09/20	12/10/20 23:14	1064
Selenium	**3.1**	mg/kg	0.65		1	0.065	12/09/20	12/10/20 23:14	1064
Silver	**0.52**	mg/kg	0.65	J	1	0.072	12/09/20	12/10/20 23:14	1064
Thallium	**0.33**	mg/kg	0.65	J	1	0.17	12/09/20	12/10/20 23:14	1064
Zinc	**250**	mg/kg	13		1	0.72	12/09/20	12/11/20 17:02	1064

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Project Name: Conowingo
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Sample ID: C2 39.3-42.3 **Date/Time Sampled: 12/08/2020 14:01** **PSS Sample ID: 20120901-019**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 68.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.7		1	0.25	12/09/20	12/10/20 23:18	1064
Arsenic	**8.3**	mg/kg	0.54		1	0.06	12/09/20	12/10/20 23:18	1064
Beryllium	**1.6**	mg/kg	0.54		1	0.14	12/09/20	12/10/20 23:18	1064
Cadmium	**0.39**	mg/kg	0.54	J	1	0.054	12/09/20	12/10/20 23:18	1064
Chromium	**16**	mg/kg	0.54		1	0.3	12/09/20	12/11/20 17:07	1064
Copper	**41**	mg/kg	0.54		1	0.17	12/09/20	12/10/20 23:18	1064
Lead	**36**	mg/kg	0.54		1	0.23	12/09/20	12/10/20 23:18	1064
Manganese	**630**	mg/kg	0.54	E	1	0.46	12/09/20	12/10/20 23:18	1064
Mercury	**0.41**	mg/kg	0.11		1	0.04	12/09/20	12/10/20 23:18	1064
Nickel	**32**	mg/kg	0.54		1	0.19	12/09/20	12/10/20 23:18	1064
Selenium	**3.5**	mg/kg	0.54		1	0.054	12/09/20	12/10/20 23:18	1064
Silver	**0.10**	mg/kg	0.54	J	1	0.06	12/09/20	12/10/20 23:18	1064
Thallium	**0.17**	mg/kg	0.54	J	1	0.14	12/09/20	12/10/20 23:18	1064
Zinc	**140**	mg/kg	11		1	0.6	12/09/20	12/11/20 17:07	1064

Sample ID: C1 38.8-40.5 **Date/Time Sampled: 12/05/2020 15:30** **PSS Sample ID: 20120901-020**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 68.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180299 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.1		1	0.28	12/09/20	12/10/20 23:23	1064
Arsenic	**4.6**	mg/kg	0.62		1	0.068	12/09/20	12/10/20 23:23	1064
Beryllium	**1.3**	mg/kg	0.62		1	0.15	12/09/20	12/10/20 23:23	1064
Cadmium	**0.41**	mg/kg	0.62	J	1	0.062	12/09/20	12/10/20 23:23	1064
Chromium	**25**	mg/kg	0.62		1	0.34	12/09/20	12/11/20 17:30	1064
Copper	**30**	mg/kg	0.62		1	0.19	12/09/20	12/10/20 23:23	1064
Lead	**21**	mg/kg	0.62		1	0.26	12/09/20	12/10/20 23:23	1064
Manganese	**500**	mg/kg	0.62		1	0.52	12/09/20	12/10/20 23:23	1064
Mercury	**0.28**	mg/kg	0.12		1	0.045	12/09/20	12/10/20 23:23	1064
Nickel	**26**	mg/kg	0.62		1	0.22	12/09/20	12/10/20 23:23	1064
Selenium	**2.0**	mg/kg	0.62		1	0.062	12/09/20	12/10/20 23:23	1064
Silver	**0.15**	mg/kg	0.62	J	1	0.068	12/09/20	12/10/20 23:23	1064
Thallium	ND	mg/kg	0.62		1	0.16	12/09/20	12/10/20 23:23	1064
Zinc	**110**	mg/kg	12		1	0.68	12/09/20	12/11/20 17:30	1064

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Project Name: Conowingo
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Sample ID: C1 27.9-30.5 **Date/Time Sampled: 12/05/2020 14:10** **PSS Sample ID: 20120901-021**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 62.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.37**	mg/kg	2.8	J	1	0.26	12/09/20	12/10/20 17:37	1051
Arsenic	**6.2**	mg/kg	0.56		1	0.061	12/09/20	12/10/20 17:37	1051
Beryllium	**1.6**	mg/kg	0.56		1	0.14	12/09/20	12/10/20 17:37	1051
Cadmium	**0.66**	mg/kg	0.56		1	0.056	12/09/20	12/10/20 17:37	1051
Chromium	**15**	mg/kg	0.56		1	0.31	12/09/20	12/10/20 17:37	1051
Copper	**34**	mg/kg	0.56		1	0.17	12/09/20	12/10/20 17:37	1051
Lead	**31**	mg/kg	0.56		1	0.23	12/09/20	12/10/20 17:37	1051
Manganese	**510**	mg/kg	0.56		1	0.47	12/09/20	12/10/20 17:37	1051
Mercury	**0.28**	mg/kg	0.11		1	0.041	12/09/20	12/10/20 17:37	1051
Nickel	**37**	mg/kg	0.56		1	0.19	12/09/20	12/10/20 17:37	1051
Selenium	**2.5**	mg/kg	0.56		1	0.056	12/09/20	12/10/20 17:37	1051
Silver	**0.33**	mg/kg	0.56	J	1	0.061	12/09/20	12/10/20 17:37	1051
Thallium	ND	mg/kg	0.56		1	0.14	12/09/20	12/10/20 17:37	1051
Zinc	**190**	mg/kg	11		1	0.61	12/09/20	12/10/20 17:37	1051

Sample ID: C1 24.7-25.5 **Date/Time Sampled: 12/05/2020 12:58** **PSS Sample ID: 20120901-022**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 68.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.56**	mg/kg	3.1	J	1	0.29	12/09/20	12/10/20 18:01	1051
Arsenic	**8.2**	mg/kg	0.62		1	0.068	12/09/20	12/10/20 18:01	1051
Beryllium	**1.2**	mg/kg	0.62		1	0.16	12/09/20	12/10/20 18:01	1051
Cadmium	**0.53**	mg/kg	0.62	J	1	0.062	12/09/20	12/10/20 18:01	1051
Chromium	**24**	mg/kg	0.62		1	0.34	12/09/20	12/10/20 18:01	1051
Copper	**28**	mg/kg	0.62		1	0.19	12/09/20	12/10/20 18:01	1051
Lead	**20**	mg/kg	0.62		1	0.26	12/09/20	12/10/20 18:01	1051
Manganese	**710**	mg/kg	0.62	E	1	0.52	12/09/20	12/10/20 18:01	1051
Mercury	**0.12**	mg/kg	0.12	J	1	0.045	12/09/20	12/10/20 18:01	1051
Nickel	**49**	mg/kg	0.62		1	0.22	12/09/20	12/10/20 18:01	1051
Selenium	**0.95**	mg/kg	0.62		1	0.062	12/09/20	12/10/20 18:01	1051
Silver	**0.16**	mg/kg	0.62	J	1	0.068	12/09/20	12/10/20 18:01	1051
Thallium	**0.18**	mg/kg	0.62	J	1	0.16	12/09/20	12/10/20 18:01	1051
Zinc	**180**	mg/kg	12		1	0.68	12/09/20	12/10/20 18:01	1051

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Sample ID: C1 33.3-35.5 **Date/Time Sampled: 12/05/2020 14:55** **PSS Sample ID: 20120901-023**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 63.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.63**	mg/kg	2.7	J	1	0.25	12/09/20	12/10/20 18:06	1051
Arsenic	**6.0**	mg/kg	0.55		1	0.06	12/09/20	12/10/20 18:06	1051
Beryllium	**1.5**	mg/kg	0.55		1	0.14	12/09/20	12/10/20 18:06	1051
Cadmium	**0.53**	mg/kg	0.55	J	1	0.055	12/09/20	12/10/20 18:06	1051
Chromium	**14**	mg/kg	0.55		1	0.3	12/09/20	12/10/20 18:06	1051
Copper	**34**	mg/kg	0.55		1	0.17	12/09/20	12/10/20 18:06	1051
Lead	**27**	mg/kg	0.55		1	0.23	12/09/20	12/10/20 18:06	1051
Manganese	**490**	mg/kg	0.55		1	0.46	12/09/20	12/10/20 18:06	1051
Mercury	**0.31**	mg/kg	0.11		1	0.04	12/09/20	12/10/20 18:06	1051
Nickel	**33**	mg/kg	0.55		1	0.19	12/09/20	12/10/20 18:06	1051
Selenium	**2.7**	mg/kg	0.55		1	0.055	12/09/20	12/10/20 18:06	1051
Silver	**0.28**	mg/kg	0.55	J	1	0.06	12/09/20	12/10/20 18:06	1051
Thallium	ND	mg/kg	0.55		1	0.14	12/09/20	12/10/20 18:06	1051
Zinc	**140**	mg/kg	11		1	0.6	12/09/20	12/10/20 18:06	1051

Sample ID: C1 44.5-45.5 **Date/Time Sampled: 12/05/2020 15:50** **PSS Sample ID: 20120901-024**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 70.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.58**	mg/kg	3.3	J	1	0.3	12/09/20	12/10/20 18:11	1051
Arsenic	**6.6**	mg/kg	0.65		1	0.072	12/09/20	12/10/20 18:11	1051
Beryllium	**1.8**	mg/kg	0.65		1	0.16	12/09/20	12/10/20 18:11	1051
Cadmium	**0.59**	mg/kg	0.65	J	1	0.065	12/09/20	12/10/20 18:11	1051
Chromium	**61**	mg/kg	0.65		1	0.36	12/09/20	12/10/20 18:11	1051
Copper	**41**	mg/kg	0.65		1	0.2	12/09/20	12/10/20 18:11	1051
Lead	**27**	mg/kg	0.65		1	0.27	12/09/20	12/10/20 18:11	1051
Manganese	**680**	mg/kg	0.65	E	1	0.55	12/09/20	12/10/20 18:11	1051
Mercury	**0.29**	mg/kg	0.13		1	0.048	12/09/20	12/10/20 18:11	1051
Nickel	**40**	mg/kg	0.65		1	0.23	12/09/20	12/10/20 18:11	1051
Selenium	**2.9**	mg/kg	0.65		1	0.065	12/09/20	12/10/20 18:11	1051
Silver	**0.28**	mg/kg	0.65	J	1	0.072	12/09/20	12/10/20 18:11	1051
Thallium	ND	mg/kg	0.65		1	0.17	12/09/20	12/10/20 18:11	1051
Zinc	**180**	mg/kg	13		1	0.72	12/09/20	12/10/20 18:11	1051

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Sample ID: B1 36.6-38.8 **Date/Time Sampled: 12/05/2020 16:16** **PSS Sample ID: 20120901-025**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 68.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.47**	mg/kg	3.4	J	1	0.32	12/09/20	12/10/20 18:15	1051
Arsenic	**9.6**	mg/kg	0.69		1	0.075	12/09/20	12/10/20 18:15	1051
Beryllium	**1.5**	mg/kg	0.69		1	0.17	12/09/20	12/10/20 18:15	1051
Cadmium	**0.49**	mg/kg	0.69	J	1	0.069	12/09/20	12/10/20 18:15	1051
Chromium	**19**	mg/kg	0.69		1	0.38	12/09/20	12/10/20 18:15	1051
Copper	**49**	mg/kg	0.69		1	0.21	12/09/20	12/10/20 18:15	1051
Lead	**35**	mg/kg	0.69		1	0.29	12/09/20	12/10/20 18:15	1051
Manganese	**590**	mg/kg	0.69		1	0.58	12/09/20	12/10/20 18:15	1051
Mercury	**0.34**	mg/kg	0.14		1	0.05	12/09/20	12/10/20 18:15	1051
Nickel	**42**	mg/kg	0.69		1	0.24	12/09/20	12/10/20 18:15	1051
Selenium	**4.3**	mg/kg	0.69		1	0.069	12/09/20	12/10/20 18:15	1051
Silver	**0.13**	mg/kg	0.69	J	1	0.075	12/09/20	12/10/20 18:15	1051
Thallium	**0.19**	mg/kg	0.69	J	1	0.18	12/09/20	12/10/20 18:15	1051
Zinc	**170**	mg/kg	14		1	0.75	12/09/20	12/10/20 18:15	1051

Sample ID: B1 41.2-43.8 **Date/Time Sampled: 12/05/2020 17:17** **PSS Sample ID: 20120901-026**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 55.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.44**	mg/kg	4.4	J	1	0.41	12/09/20	12/10/20 18:20	1051
Arsenic	**19**	mg/kg	0.89		1	0.098	12/09/20	12/10/20 18:20	1051
Beryllium	**3.7**	mg/kg	0.89		1	0.22	12/09/20	12/10/20 18:20	1051
Cadmium	**1.2**	mg/kg	0.89		1	0.089	12/09/20	12/10/20 18:20	1051
Chromium	**61**	mg/kg	0.89		1	0.49	12/09/20	12/10/20 18:20	1051
Copper	**100**	mg/kg	0.89		1	0.28	12/09/20	12/10/20 18:20	1051
Lead	**73**	mg/kg	0.89		1	0.37	12/09/20	12/10/20 18:20	1051
Manganese	**1,500**	mg/kg	0.89	E	1	0.75	12/09/20	12/10/20 18:20	1051
Mercury	**0.70**	mg/kg	0.18		1	0.065	12/09/20	12/10/20 18:20	1051
Nickel	**94**	mg/kg	0.89		1	0.31	12/09/20	12/10/20 18:20	1051
Selenium	**5.0**	mg/kg	0.89		1	0.089	12/09/20	12/10/20 18:20	1051
Silver	**0.45**	mg/kg	0.89	J	1	0.098	12/09/20	12/10/20 18:20	1051
Thallium	**0.40**	mg/kg	0.89	J	1	0.23	12/09/20	12/10/20 18:20	1051
Zinc	**440**	mg/kg	18		1	0.98	12/09/20	12/10/20 18:20	1051

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PSS Project No.: 20120901

Sample ID: D1 20.8-22.7 **Date/Time Sampled: 12/06/2020 09:30** **PSS Sample ID: 20120901-027**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 71.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	0.26	12/09/20	12/10/20 18:49	1051
Arsenic	**7.0**	mg/kg	0.57		1	0.063	12/09/20	12/10/20 18:49	1051
Beryllium	**1.2**	mg/kg	0.57		1	0.14	12/09/20	12/10/20 18:49	1051
Cadmium	**0.48**	mg/kg	0.57	J	1	0.057	12/09/20	12/10/20 18:49	1051
Chromium	**15**	mg/kg	0.57		1	0.32	12/09/20	12/10/20 18:49	1051
Copper	**27**	mg/kg	0.57		1	0.18	12/09/20	12/10/20 18:49	1051
Lead	**21**	mg/kg	0.57		1	0.24	12/09/20	12/10/20 18:49	1051
Manganese	**600**	mg/kg	0.57	E	1	0.48	12/09/20	12/10/20 18:49	1051
Mercury	**0.11**	mg/kg	0.11	J	1	0.042	12/09/20	12/10/20 18:49	1051
Nickel	**45**	mg/kg	0.57		1	0.2	12/09/20	12/10/20 18:49	1051
Selenium	**1.5**	mg/kg	0.57		1	0.057	12/09/20	12/10/20 18:49	1051
Silver	**0.25**	mg/kg	0.57	J	1	0.063	12/09/20	12/10/20 18:49	1051
Thallium	ND	mg/kg	0.57		1	0.15	12/09/20	12/10/20 18:49	1051
Zinc	**160**	mg/kg	11		1	0.63	12/09/20	12/10/20 18:49	1051

Sample ID: D1 24.7-26.7 **Date/Time Sampled: 12/06/2020 10:41** **PSS Sample ID: 20120901-028**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 56.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.44**	mg/kg	3.9	J	1	0.36	12/09/20	12/10/20 18:54	1051
Arsenic	**19**	mg/kg	0.79		1	0.086	12/09/20	12/10/20 18:54	1051
Beryllium	**3.4**	mg/kg	0.79		1	0.2	12/09/20	12/10/20 18:54	1051
Cadmium	**3.9**	mg/kg	0.79		1	0.079	12/09/20	12/10/20 18:54	1051
Chromium	**60**	mg/kg	0.79		1	0.43	12/09/20	12/10/20 18:54	1051
Copper	**85**	mg/kg	0.79		1	0.24	12/09/20	12/10/20 18:54	1051
Lead	**72**	mg/kg	0.79		1	0.33	12/09/20	12/10/20 18:54	1051
Manganese	**2,900**	mg/kg	0.79	E	1	0.66	12/09/20	12/10/20 18:54	1051
Mercury	**0.34**	mg/kg	0.16		1	0.057	12/09/20	12/10/20 18:54	1051
Nickel	**110**	mg/kg	0.79		1	0.28	12/09/20	12/10/20 18:54	1051
Selenium	**2.5**	mg/kg	0.79		1	0.079	12/09/20	12/10/20 18:54	1051
Silver	**5.0**	mg/kg	0.79		1	0.086	12/09/20	12/10/20 18:54	1051
Thallium	**0.38**	mg/kg	0.79	J	1	0.2	12/09/20	12/10/20 18:54	1051
Zinc	**570**	mg/kg	16		1	0.86	12/09/20	12/10/20 18:54	1051

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Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: D1 26.7-27.7 **Date/Time Sampled: 12/06/2020 10:50** **PSS Sample ID: 20120901-029**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 74.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.40**	mg/kg	3.0	J	1	0.28	12/09/20	12/10/20 18:59	1051
Arsenic	**7.5**	mg/kg	0.61		1	0.067	12/09/20	12/10/20 18:59	1051
Beryllium	**1.6**	mg/kg	0.61		1	0.15	12/09/20	12/10/20 18:59	1051
Cadmium	**0.55**	mg/kg	0.61	J	1	0.061	12/09/20	12/10/20 18:59	1051
Chromium	**11**	mg/kg	0.61		1	0.33	12/09/20	12/10/20 18:59	1051
Copper	**33**	mg/kg	0.61		1	0.19	12/09/20	12/10/20 18:59	1051
Lead	**24**	mg/kg	0.61		1	0.26	12/09/20	12/10/20 18:59	1051
Manganese	**590**	mg/kg	0.61		1	0.51	12/09/20	12/10/20 18:59	1051
Mercury	**0.25**	mg/kg	0.12		1	0.044	12/09/20	12/10/20 18:59	1051
Nickel	**39**	mg/kg	0.61		1	0.21	12/09/20	12/10/20 18:59	1051
Selenium	**2.7**	mg/kg	0.61		1	0.061	12/09/20	12/10/20 18:59	1051
Silver	**0.25**	mg/kg	0.61	J	1	0.067	12/09/20	12/10/20 18:59	1051
Thallium	ND	mg/kg	0.61		1	0.16	12/09/20	12/10/20 18:59	1051
Zinc	**150**	mg/kg	12		1	0.67	12/09/20	12/10/20 18:59	1051

Sample ID: D1 28.5-30.2 **Date/Time Sampled: 12/06/2020 11:37** **PSS Sample ID: 20120901-030**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 55.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.52**	mg/kg	3.3	J	1	0.3	12/09/20	12/10/20 19:03	1051
Arsenic	**19**	mg/kg	0.65		1	0.071	12/09/20	12/10/20 19:03	1051
Beryllium	**3.5**	mg/kg	0.65		1	0.16	12/09/20	12/10/20 19:03	1051
Cadmium	**4.0**	mg/kg	0.65		1	0.065	12/09/20	12/10/20 19:03	1051
Chromium	**97**	mg/kg	0.65		1	0.36	12/09/20	12/10/20 19:03	1051
Copper	**90**	mg/kg	0.65		1	0.2	12/09/20	12/10/20 19:03	1051
Lead	**60**	mg/kg	0.65		1	0.27	12/09/20	12/10/20 19:03	1051
Manganese	**1,900**	mg/kg	0.65	E	1	0.55	12/09/20	12/10/20 19:03	1051
Mercury	**0.38**	mg/kg	0.13		1	0.047	12/09/20	12/10/20 19:03	1051
Nickel	**120**	mg/kg	0.65		1	0.23	12/09/20	12/10/20 19:03	1051
Selenium	**2.7**	mg/kg	0.65		1	0.065	12/09/20	12/10/20 19:03	1051
Silver	**3.6**	mg/kg	0.65		1	0.071	12/09/20	12/10/20 19:03	1051
Thallium	**0.31**	mg/kg	0.65	J	1	0.17	12/09/20	12/10/20 19:03	1051
Zinc	**610**	mg/kg	13		1	0.71	12/09/20	12/10/20 19:03	1051

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Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: D1 30.2-32.7 **Date/Time Sampled: 12/06/2020 11:47** **PSS Sample ID: 20120901-031**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 61.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.43**	mg/kg	3.0	J	1	0.28	12/09/20	12/10/20 19:08	1051
Arsenic	**16**	mg/kg	0.60		1	0.066	12/09/20	12/10/20 19:08	1051
Beryllium	**3.3**	mg/kg	0.60		1	0.15	12/09/20	12/10/20 19:08	1051
Cadmium	**2.9**	mg/kg	0.60		1	0.06	12/09/20	12/10/20 19:08	1051
Chromium	**55**	mg/kg	0.60		1	0.33	12/09/20	12/10/20 19:08	1051
Copper	**85**	mg/kg	0.60		1	0.19	12/09/20	12/10/20 19:08	1051
Lead	**58**	mg/kg	0.60		1	0.25	12/09/20	12/10/20 19:08	1051
Manganese	**1,700**	mg/kg	0.60	E	1	0.51	12/09/20	12/10/20 19:08	1051
Mercury	**0.39**	mg/kg	0.12		1	0.044	12/09/20	12/10/20 19:08	1051
Nickel	**97**	mg/kg	0.60		1	0.21	12/09/20	12/10/20 19:08	1051
Selenium	**3.4**	mg/kg	0.60		1	0.06	12/09/20	12/10/20 19:08	1051
Silver	**2.3**	mg/kg	0.60		1	0.066	12/09/20	12/10/20 19:08	1051
Thallium	**0.29**	mg/kg	0.60	J	1	0.16	12/09/20	12/10/20 19:08	1051
Zinc	**530**	mg/kg	12		1	0.66	12/09/20	12/10/20 19:08	1051

Sample ID: D1 33.0-37.7 **Date/Time Sampled: 12/06/2020 12:25** **PSS Sample ID: 20120901-032**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 54.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.5		1	0.33	12/09/20	12/10/20 19:13	1051
Arsenic	**23**	mg/kg	0.71		1	0.078	12/09/20	12/10/20 19:13	1051
Beryllium	**4.7**	mg/kg	0.71		1	0.18	12/09/20	12/10/20 19:13	1051
Cadmium	**3.5**	mg/kg	0.71		1	0.071	12/09/20	12/10/20 19:13	1051
Chromium	**100**	mg/kg	0.71		1	0.39	12/09/20	12/10/20 19:13	1051
Copper	**120**	mg/kg	0.71		1	0.22	12/09/20	12/10/20 19:13	1051
Lead	**84**	mg/kg	0.71		1	0.3	12/09/20	12/10/20 19:13	1051
Manganese	**1,700**	mg/kg	0.71	E	1	0.6	12/09/20	12/10/20 19:13	1051
Mercury	**0.62**	mg/kg	0.14		1	0.052	12/09/20	12/10/20 19:13	1051
Nickel	**120**	mg/kg	0.71		1	0.25	12/09/20	12/10/20 19:13	1051
Selenium	**5.3**	mg/kg	0.71		1	0.071	12/09/20	12/10/20 19:13	1051
Silver	**3.7**	mg/kg	0.71		1	0.078	12/09/20	12/10/20 19:13	1051
Thallium	**0.41**	mg/kg	0.71	J	1	0.18	12/09/20	12/10/20 19:13	1051
Zinc	**790**	mg/kg	14		1	0.78	12/09/20	12/10/20 19:13	1051

PHASE SEPARATION SCIENCE

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20120901

Sample ID: D1 38.0-42.7 **Date/Time Sampled: 12/06/2020 12:51** **PSS Sample ID: 20120901-033**
Matrix: SOIL **Date/Time Received: 12/08/2020 17:25** **% Solids SM2540G-11: 57.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180281 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.56**	mg/kg	3.2	J	1	0.3	12/09/20	12/10/20 19:18	1051
Arsenic	**19**	mg/kg	0.64		1	0.071	12/09/20	12/10/20 19:18	1051
Beryllium	**4.7**	mg/kg	0.64		1	0.16	12/09/20	12/10/20 19:18	1051
Cadmium	**4.2**	mg/kg	0.64		1	0.064	12/09/20	12/10/20 19:18	1051
Chromium	**85**	mg/kg	0.64		1	0.35	12/09/20	12/10/20 19:18	1051
Copper	**110**	mg/kg	0.64		1	0.2	12/09/20	12/10/20 19:18	1051
Lead	**84**	mg/kg	0.64		1	0.27	12/09/20	12/10/20 19:18	1051
Manganese	**2,000**	mg/kg	0.64	E	1	0.54	12/09/20	12/10/20 19:18	1051
Mercury	**0.59**	mg/kg	0.13		1	0.047	12/09/20	12/10/20 19:18	1051
Nickel	**110**	mg/kg	0.64		1	0.22	12/09/20	12/10/20 19:18	1051
Selenium	**3.3**	mg/kg	0.64		1	0.064	12/09/20	12/10/20 19:18	1051
Silver	**5.3**	mg/kg	0.64		1	0.071	12/09/20	12/10/20 19:18	1051
Thallium	**0.36**	mg/kg	0.64	J	1	0.17	12/09/20	12/10/20 19:18	1051
Zinc	**750**	mg/kg	13		1	0.71	12/09/20	12/10/20 19:18	1051

ANALYTICAL REPORT

December 21, 2020

Phase Separation Science, Inc

Sample Delivery Group:	L1295278
Samples Received:	12/10/2020
Project Number:	20120901
Description:	CONOWINGO

Report To: Lynn Jackson
6630 Baltimore National Pike
Baltimore, MD 21228

Entire Report Reviewed By:

Nancy McLain
Project Manager

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20120901-001 L1295278-01 Solid

Collected by | Collected date/time 12/08/20 07:54 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-002 L1295278-02 Solid

Collected by | Collected date/time 12/08/20 07:54 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-003 L1295278-03 Solid

Collected by | Collected date/time 12/08/20 08:30 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-004 L1295278-04 Solid

Collected by | Collected date/time 12/08/20 09:15 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-005 L1295278-05 Solid

Collected by | Collected date/time 12/08/20 09:20 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-006 L1295278-06 Solid

Collected by | Collected date/time 12/08/20 09:55 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-007 L1295278-07 Solid

Collected by | Collected date/time 12/08/20 10:15 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-008 L1295278-08 Solid

Collected by | Collected date/time 12/08/20 09:30 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-009 L1295278-09 Solid

Collected by | Collected date/time 12/08/20 10:40 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-010 L1295278-10 Solid

Collected by | Collected date/time 12/08/20 15:05 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-011 L1295278-11 Solid

Collected by | Collected date/time 12/08/20 15:10 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-012 L1295278-12 Solid

Collected by | Collected date/time 12/08/20 15:33 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-013 L1295278-13 Solid

Collected by | Collected date/time 12/08/20 15:39 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-014 L1295278-14 Solid

Collected by | Collected date/time 12/08/20 11:05 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-015 L1295278-15 Solid

Collected by | Collected date/time 12/08/20 11:56 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-016 L1295278-16 Solid

Collected by | Collected date/time 12/08/20 12:31 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-017 L1295278-17 Solid

Collected by | Collected date/time 12/08/20 12:43 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-018 L1295278-18 Solid

Collected by | Collected date/time 12/08/20 13:52 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-019 L1295278-19 Solid

Collected by | Collected date/time 12/08/20 13:52 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-020 L1295278-20 Solid

Collected by | Collected date/time 12/05/20 15:30 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-021 L1295278-21 Solid

Collected by | Collected date/time 12/05/20 14:10 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-022 L1295278-22 Solid

Collected by | Collected date/time 12/05/20 12:58 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-023 L1295278-23 Solid

Collected by | Collected date/time 12/05/20 14:55 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-024 L1295278-24 Solid

Collected by | Collected date/time 12/05/20 15:50 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-025 L1295278-25 Solid

Collected by | Collected date/time 12/05/20 16:16 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-026 L1295278-26 Solid

Collected by | Collected date/time 12/05/20 17:17 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-027 L1295278-27 Solid

Collected by | Collected date/time 12/06/20 09:30 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-028 L1295278-28 Solid

Collected by | Collected date/time 12/06/20 10:41 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-029 L1295278-29 Solid

Collected by | Collected date/time 12/06/20 10:50 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-030 L1295278-30 Solid

Collected by | Collected date/time 12/06/20 11:37 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-031 L1295278-31 Solid

Collected by | Collected date/time 12/06/20 11:47 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

20120901-032 L1295278-32 Solid

Collected by | Collected date/time 12/06/20 12:25 | Received date/time 12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

	Collected by	Collected date/time	Received date/time
20120901-033 L1295278-33 Solid		12/06/20 12:51	12/10/20 09:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Subcontracted Analyses	WG1590368	1	12/21/20 00:00	12/21/20 00:00	-	Green Bay, WI 54302

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Nancy McLain
Project Manager

Project Narrative

L1295278 -01, -02, -03, -04, -05, -06, -07, -08, -09, -10, -11, -12, -13, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33 contains subout data that is included after the chain of custody.

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

SDG	Sample Delivery Group.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA

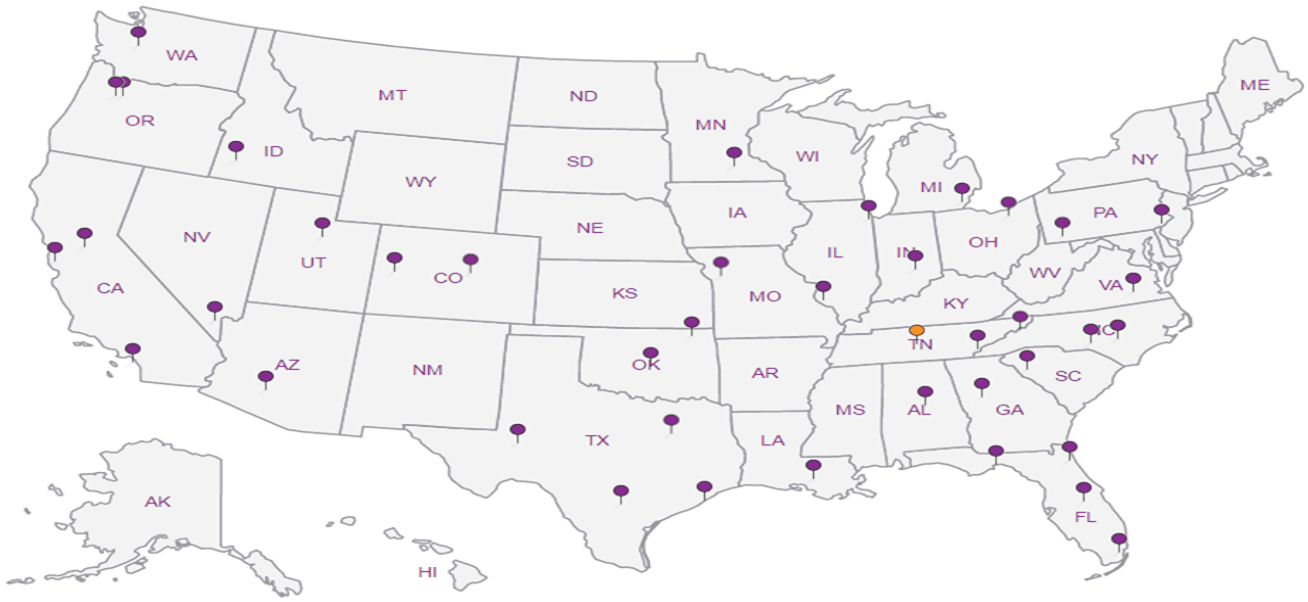
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Chain of Custody Form for Subcontracted Analyses

L1295278

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20120901**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601
Phone : 724-850-5600

For Questions or issues please contact: Lynn Jackson

Report Due On :12/22/20 05:00

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative	
20120901-001	A2 7.8-12.8	12/08/20	07:54	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-01
20120901-002	A2 13.2-16.4	12/08/20	07:54	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	02
20120901-003	A2 16.4-17.8	12/08/20	08:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	03
20120901-004	A2 18.0-20.2	12/08/20	09:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	04
20120901-005	A2 20.2-22.8	12/08/20	09:20	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	05
20120901-006	A2 28.4-32.8	12/08/20	09:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	06
20120901-007	A2 33.6-35.8	12/08/20	10:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	07
20120901-008	A2 23.4-23.8	12/08/20	09:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	08
20120901-009	A2 38.0-40.0	12/08/20	10:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	09
20120901-010	A3 24.6-26.0	12/08/20	15:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	10
20120901-011	A3 26.0-28.4	12/08/20	15:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	11
20120901-012	A3 28.6-29.9	12/08/20	15:33	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	12
20120901-013	A3 29.9-33.4	12/08/20	15:39	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	13
20120901-014	C2 24.5-27.3	12/08/20	11:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	14
20120901-015	C2 29.8-32.2	12/08/20	11:56	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	15
20120901-016	C2 34.1-34.9	12/08/20	12:31	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	16
20120901-017	C2 35.3-37.3	12/08/20	12:43	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	17
20120901-018	C2 38.4-39.3	12/08/20	13:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	18
20120901-019	C2 39.3-42.3	12/08/20	13:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	19
20120901-020	C1 38.8-40.5	12/05/20	15:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	20
20120901-021	C1 27.9-30.5	12/05/20	14:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	21
20120901-022	C1 24.7-25.5	12/05/20	12:58	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	22
20120901-023	C1 33.3-35.3	12/05/20	14:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	23

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20120901**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative	
20120901-024	CI 44.5-45.5	12/05/20	15:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-24
20120901-025	BI 36.6-38.8	12/05/20	16:16	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-25
20120901-026	BI 41.2-43.8	12/05/20	17:17	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-26
20120901-027	DI 20.8-32.7	12/06/20	09:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-27
20120901-028	DI 24.7-26.7	12/06/20	10:41	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-28
20120901-029	DI 26.7-27.7	12/06/20	10:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-29
20120901-030	DI 28.8-30.2	12/06/20	11:37	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-30
20120901-031	DI 30.2-32.7	12/06/20	11:47	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-31
20120901-032	DI 32.0-37.7	12/06/20	12:25	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-32
20120901-033	DI 38.0-42.7	12/06/20	12:51	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL	-33

Data Deliverables Required: MS MSD SUM
Send Report Attn : reporting@phaseonline.com
Airbill No.: _____ Carrier : Pace Courier
Condition Upon Receipt : _____
Comments : _____

Perform Q.C. on Sample : _____
Send InvoiceAttn : invoicing@phaseonline.com

1.6 ± 0 = 1.6 MM AT

Samples Relinquished By : _____ Date : 12/9/20 Time: 1730 Samples Received By : _____
Samples Relinquished By: _____ Date : 12/9/20 Time : 1800 Samples Received By: _____
Samples Relinquished By: _____ Date: _____ Time: _____ Samples Received By: _____

12/10/2020 781161511796 0945

J025

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 21, 2020

subouts@pacenational
Pace Analytical National
12065 Lebanon Rd
Mount Juliet, TN 37122

RE: Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Dear subouts@pacenational:

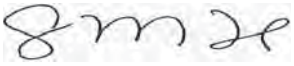
Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Angela Lane
angela.lane@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: SuboutTeam@pacenatio, Pace Analytical National

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE SUMMARY

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40219788001	20120901-001	Solid	12/08/20 07:54	12/12/20 10:45
40219788002	20120901-002	Solid	12/08/20 07:54	12/12/20 10:45
40219788003	20120901-003	Solid	12/08/20 08:30	12/12/20 10:45
40219788004	20120901-004	Solid	12/08/20 09:15	12/12/20 10:45
40219788005	20120901-005	Solid	12/08/20 09:20	12/12/20 10:45
40219788006	20120901-006	Solid	12/08/20 09:55	12/12/20 10:45
40219788007	20120901-007	Solid	12/08/20 10:15	12/12/20 10:45
40219788008	20120901-008	Solid	12/08/20 09:30	12/12/20 10:45
40219788009	20120901-009	Solid	12/08/20 10:40	12/12/20 10:45
40219788010	20120901-010	Solid	12/08/20 15:05	12/12/20 10:45
40219788011	20120901-011	Solid	12/08/20 15:10	12/12/20 10:45
40219788012	20120901-012	Solid	12/08/20 15:33	12/12/20 10:45
40219788013	20120901-013	Solid	12/08/20 15:39	12/12/20 10:45
40219788014	20120901-014	Solid	12/08/20 11:05	12/12/20 10:45
40219788015	20120901-015	Solid	12/08/20 11:56	12/12/20 10:45
40219788016	20120901-016	Solid	12/08/20 12:31	12/12/20 10:45
40219788017	20120901-017	Solid	12/08/20 12:43	12/12/20 10:45
40219788018	20120901-018	Solid	12/08/20 13:52	12/12/20 10:45
40219788019	20120901-019	Solid	12/08/20 13:52	12/12/20 10:45
40219788020	20120901-020	Solid	12/05/20 15:30	12/12/20 10:45
40219788021	20120901-021	Solid	12/05/20 14:10	12/12/20 10:45
40219788022	20120901-022	Solid	12/05/20 12:58	12/12/20 10:45
40219788023	20120901-023	Solid	12/05/20 14:55	12/12/20 10:45
40219788024	20120901-024	Solid	12/05/20 15:50	12/12/20 10:45
40219788025	20120901-025	Solid	12/05/20 16:16	12/12/20 10:45
40219788026	20120901-026	Solid	12/05/20 17:17	12/12/20 10:45
40219788027	20120901-027	Solid	12/06/20 09:30	12/12/20 10:45
40219788028	20120901-028	Solid	12/06/20 10:41	12/12/20 10:45
40219788029	20120901-029	Solid	12/06/20 10:50	12/12/20 10:45
40219788030	20120901-030	Solid	12/06/20 11:37	12/12/20 10:45
40219788031	20120901-031	Solid	12/06/20 11:47	12/12/20 10:45
40219788032	20120901-032	Solid	12/06/20 12:25	12/12/20 10:45
40219788033	20120901-033	Solid	12/06/20 12:51	12/12/20 10:45

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40219788001	20120901-001	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788002	20120901-002	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788003	20120901-003	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788004	20120901-004	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788005	20120901-005	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788006	20120901-006	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788007	20120901-007	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788008	20120901-008	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788009	20120901-009	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788010	20120901-010	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788011	20120901-011	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788012	20120901-012	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788013	20120901-013	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788014	20120901-014	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788015	20120901-015	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788016	20120901-016	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788017	20120901-017	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788018	20120901-018	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788019	20120901-019	ASTM D2974-87	N1H	1

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 9060	TJJ	6
40219788020	20120901-020	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788021	20120901-021	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788022	20120901-022	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788023	20120901-023	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788024	20120901-024	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788025	20120901-025	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788026	20120901-026	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788027	20120901-027	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788028	20120901-028	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788029	20120901-029	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788030	20120901-030	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788031	20120901-031	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788032	20120901-032	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6
40219788033	20120901-033	ASTM D2974-87	N1H	1
		EPA 9060	TJJ	6

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-001 **Lab ID: 40219788001** Collected: 12/08/20 07:54 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**39.0**	%	0.10	0.10	1		12/16/20 15:49		
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**87600**	mg/kg	5080	1520	1		12/16/20 16:19	7440-44-0	
Total Organic Carbon	**68000**	mg/kg	5100	1530	1		12/16/20 16:25	7440-44-0	
Total Organic Carbon	**77700**	mg/kg	5300	1590	1		12/16/20 16:32	7440-44-0	
Total Organic Carbon	**84900**	mg/kg	5170	1550	1		12/16/20 16:38	7440-44-0	
Mean Total Organic Carbon	**79500**	mg/kg	5160	1550	1		12/16/20 16:19	7440-44-0	C4
Surrogates									
RSD%	**11.0**	%			1		12/16/20 16:19		

Sample: 20120901-002 **Lab ID: 40219788002** Collected: 12/08/20 07:54 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**27.5**	%	0.10	0.10	1		12/16/20 15:49		
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**386000**	mg/kg	34800	10400	1		12/16/20 17:30	7440-44-0	
Total Organic Carbon	**425000**	mg/kg	37000	11100	1		12/16/20 17:37	7440-44-0	
Total Organic Carbon	**392000**	mg/kg	38600	11600	1		12/16/20 17:42	7440-44-0	
Total Organic Carbon	**400000**	mg/kg	39100	11700	1		12/16/20 17:48	7440-44-0	
Mean Total Organic Carbon	**401000**	mg/kg	37400	11200	1		12/16/20 17:30	7440-44-0	C4
Surrogates									
RSD%	**4.3**	%			1		12/16/20 17:30		

Sample: 20120901-003 **Lab ID: 40219788003** Collected: 12/08/20 08:30 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**46.3**	%	0.10	0.10	1		12/16/20 15:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-003 **Lab ID: 40219788003** Collected: 12/08/20 08:30 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**95300**	mg/kg	5610	1680	1		12/16/20 18:41	7440-44-0	
Total Organic Carbon	**59600**	mg/kg	5690	1700	1		12/16/20 18:46	7440-44-0	
Total Organic Carbon	**60200**	mg/kg	5510	1650	1		12/16/20 18:53	7440-44-0	
Total Organic Carbon	**63500**	mg/kg	5550	1660	1		12/16/20 18:58	7440-44-0	
Mean Total Organic Carbon	**69600**	mg/kg	5590	1680	1		12/16/20 18:41	7440-44-0	C4
Surrogates									
RSD%	**24.7**	%			1		12/16/20 18:41		

Sample: 20120901-004 **Lab ID: 40219788004** Collected: 12/08/20 09:15 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**23.2**	%	0.10	0.10	1		12/16/20 15:49		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**327000**	mg/kg	25800	7720	1		12/16/20 19:05	7440-44-0	
Total Organic Carbon	**390000**	mg/kg	24600	7360	1		12/16/20 19:10	7440-44-0	
Total Organic Carbon	**383000**	mg/kg	23700	7110	1		12/16/20 19:17	7440-44-0	
Total Organic Carbon	**332000**	mg/kg	23000	6900	1		12/16/20 19:22	7440-44-0	
Mean Total Organic Carbon	**358000**	mg/kg	24300	7270	1		12/16/20 19:05	7440-44-0	C4
Surrogates									
RSD%	**9.1**	%			1		12/16/20 19:05		

Sample: 20120901-005 **Lab ID: 40219788005** Collected: 12/08/20 09:20 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.2**	%	0.10	0.10	1		12/16/20 15:50		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**66300**	mg/kg	5930	1780	1		12/16/20 19:40	7440-44-0	
Total Organic Carbon	**65800**	mg/kg	5750	1720	1		12/16/20 19:45	7440-44-0	
Total Organic Carbon	**69100**	mg/kg	5860	1760	1		12/16/20 19:52	7440-44-0	

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-005 **Lab ID: 40219788005** Collected: 12/08/20 09:20 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**67900**	mg/kg	5770	1730	1		12/16/20 19:58	7440-44-0	
Mean Total Organic Carbon	**67300**	mg/kg	5830	1750	1		12/16/20 19:40	7440-44-0	C4
Surrogates									
RSD%	**2.3**	%			1		12/16/20 19:40		

Sample: 20120901-006 **Lab ID: 40219788006** Collected: 12/08/20 09:55 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**37.0**	%	0.10	0.10	1		12/16/20 15:50		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**79400**	mg/kg	7750	2320	1		12/16/20 20:04	7440-44-0	
Total Organic Carbon	**88500**	mg/kg	7890	2370	1		12/16/20 20:09	7440-44-0	
Total Organic Carbon	**84300**	mg/kg	7760	2330	1		12/16/20 20:15	7440-44-0	
Total Organic Carbon	**75900**	mg/kg	7490	2250	1		12/16/20 20:20	7440-44-0	
Mean Total Organic Carbon	**82000**	mg/kg	7720	2310	1		12/16/20 20:04	7440-44-0	C4
Surrogates									
RSD%	**6.8**	%			1		12/16/20 20:04		

Sample: 20120901-007 **Lab ID: 40219788007** Collected: 12/08/20 10:15 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**37.1**	%	0.10	0.10	1		12/16/20 15:50		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**157000**	mg/kg	7000	2100	1		12/16/20 20:27	7440-44-0	
Total Organic Carbon	**154000**	mg/kg	7000	2100	1		12/16/20 20:32	7440-44-0	
Total Organic Carbon	**149000**	mg/kg	7230	2170	1		12/16/20 20:38	7440-44-0	
Total Organic Carbon	**153000**	mg/kg	7220	2170	1		12/16/20 20:43	7440-44-0	
Mean Total Organic Carbon	**153000**	mg/kg	7110	2130	1		12/16/20 20:27	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-007 **Lab ID: 40219788007** Collected: 12/08/20 10:15 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Surrogates									
RSD%	**2.0**	%			1		12/16/20 20:27		

Sample: 20120901-008 **Lab ID: 40219788008** Collected: 12/08/20 09:30 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**38.7**	%	0.10	0.10	1		12/16/20 15:50		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**116000**	mg/kg	9480	2840	1		12/16/20 20:49	7440-44-0	
Total Organic Carbon	**115000**	mg/kg	8940	2680	1		12/16/20 20:55	7440-44-0	
Total Organic Carbon	**115000**	mg/kg	9000	2700	1		12/16/20 21:01	7440-44-0	
Total Organic Carbon	**115000**	mg/kg	9150	2740	1		12/16/20 21:06	7440-44-0	
Mean Total Organic Carbon	**115000**	mg/kg	9150	2740	1		12/16/20 20:49	7440-44-0	C4
Surrogates									
RSD%	**0.69**	%			1		12/16/20 20:49		

Sample: 20120901-009 **Lab ID: 40219788009** Collected: 12/08/20 10:40 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**17.3**	%	0.10	0.10	1		12/16/20 15:50		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**3050**	mg/kg	777	233	1		12/16/20 21:12	7440-44-0	
Total Organic Carbon	**2880**	mg/kg	777	233	1		12/16/20 21:18	7440-44-0	
Total Organic Carbon	**3950**	mg/kg	775	233	1		12/16/20 21:25	7440-44-0	
Total Organic Carbon	**3140**	mg/kg	775	232	1		12/16/20 21:31	7440-44-0	
Mean Total Organic Carbon	**3250**	mg/kg	776	233	1		12/16/20 21:12	7440-44-0	C4
Surrogates									
RSD%	**14.6**	%			1		12/16/20 21:12		

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-010 **Lab ID: 40219788010** Collected: 12/08/20 15:05 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**24.4**	%	0.10	0.10	1		12/16/20 15:50		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**531000**	mg/kg	25900	7770	1		12/16/20 22:03	7440-44-0	
Total Organic Carbon	**470000**	mg/kg	27400	8220	1		12/16/20 22:09	7440-44-0	
Total Organic Carbon	**595000**	mg/kg	25500	7640	1		12/16/20 22:15	7440-44-0	
Total Organic Carbon	**546000**	mg/kg	24000	7210	1		12/16/20 22:22	7440-44-0	
Mean Total Organic Carbon	**536000**	mg/kg	25700	7710	1		12/16/20 22:03	7440-44-0	C4
Surrogates									
RSD%	**9.6**	%			1		12/16/20 22:03		

Sample: 20120901-011 **Lab ID: 40219788011** Collected: 12/08/20 15:10 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**34.6**	%	0.10	0.10	1		12/16/20 15:50		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**109000**	mg/kg	5680	1700	1		12/16/20 22:29	7440-44-0	
Total Organic Carbon	**105000**	mg/kg	5620	1690	1		12/16/20 22:35	7440-44-0	
Total Organic Carbon	**101000**	mg/kg	5670	1700	1		12/16/20 22:42	7440-44-0	
Total Organic Carbon	**101000**	mg/kg	5730	1720	1		12/16/20 22:47	7440-44-0	
Mean Total Organic Carbon	**104000**	mg/kg	5670	1700	1		12/16/20 22:29	7440-44-0	C4
Surrogates									
RSD%	**4.0**	%			1		12/16/20 22:29		

Sample: 20120901-012 **Lab ID: 40219788012** Collected: 12/08/20 15:33 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**24.2**	%	0.10	0.10	1		12/16/20 15:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-012 **Lab ID: 40219788012** Collected: 12/08/20 15:33 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**675000**	mg/kg	29700	8920	1		12/16/20 22:53	7440-44-0	
Total Organic Carbon	**620000**	mg/kg	34200	10200	1		12/16/20 23:00	7440-44-0	
Total Organic Carbon	**600000**	mg/kg	34400	10300	1		12/16/20 23:06	7440-44-0	
Total Organic Carbon	**591000**	mg/kg	38500	11500	1		12/16/20 23:12	7440-44-0	
Mean Total Organic Carbon	**622000**	mg/kg	34200	10300	1		12/16/20 22:53	7440-44-0	C4
Surrogates									
RSD%	**6.0**	%			1		12/16/20 22:53		

Sample: 20120901-013 **Lab ID: 40219788013** Collected: 12/08/20 15:39 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**40.9**	%	0.10	0.10	1		12/16/20 15:51		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**66700**	mg/kg	7590	2280	1		12/16/20 23:17	7440-44-0	
Total Organic Carbon	**68100**	mg/kg	7830	2350	1		12/16/20 23:22	7440-44-0	
Total Organic Carbon	**67100**	mg/kg	7760	2330	1		12/16/20 23:28	7440-44-0	
Total Organic Carbon	**60000**	mg/kg	7540	2260	1		12/16/20 23:33	7440-44-0	
Mean Total Organic Carbon	**65500**	mg/kg	7680	2300	1		12/16/20 23:17	7440-44-0	C4
Surrogates									
RSD%	**5.6**	%			1		12/16/20 23:17		

Sample: 20120901-014 **Lab ID: 40219788014** Collected: 12/08/20 11:05 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**19.8**	%	0.10	0.10	1		12/16/20 15:51		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**629000**	mg/kg	31400	9410	1		12/16/20 23:39	7440-44-0	
Total Organic Carbon	**683000**	mg/kg	29000	8700	1		12/16/20 23:44	7440-44-0	
Total Organic Carbon	**561000**	mg/kg	31800	9520	1		12/16/20 23:50	7440-44-0	

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-014 **Lab ID: 40219788014** Collected: 12/08/20 11:05 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**626000**	mg/kg	37300	11200	1		12/16/20 23:57	7440-44-0	
Mean Total Organic Carbon	**624000**	mg/kg	32400	9710	1		12/16/20 23:39	7440-44-0	C4
Surrogates									
RSD%	**8.0**	%			1		12/16/20 23:39		

Sample: 20120901-015 **Lab ID: 40219788015** Collected: 12/08/20 11:56 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**44.1**	%	0.10	0.10	1		12/16/20 15:51		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**71300**	mg/kg	7220	2160	1		12/17/20 00:14	7440-44-0	
Total Organic Carbon	**79300**	mg/kg	7170	2150	1		12/17/20 00:20	7440-44-0	
Total Organic Carbon	**72200**	mg/kg	6890	2060	1		12/17/20 00:25	7440-44-0	
Total Organic Carbon	**77300**	mg/kg	7140	2140	1		12/17/20 00:31	7440-44-0	
Mean Total Organic Carbon	**75000**	mg/kg	7100	2130	1		12/17/20 00:14	7440-44-0	C4
Surrogates									
RSD%	**5.2**	%			1		12/17/20 00:14		

Sample: 20120901-016 **Lab ID: 40219788016** Collected: 12/08/20 12:31 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**39.8**	%	0.10	0.10	1		12/16/20 15:51		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**195000**	mg/kg	6610	1980	1		12/17/20 00:36	7440-44-0	
Total Organic Carbon	**186000**	mg/kg	6460	1940	1		12/17/20 00:42	7440-44-0	
Total Organic Carbon	**143000**	mg/kg	6670	2000	1		12/17/20 00:48	7440-44-0	
Total Organic Carbon	**144000**	mg/kg	6480	1940	1		12/17/20 00:55	7440-44-0	
Mean Total Organic Carbon	**167000**	mg/kg	6550	1970	1		12/17/20 00:36	7440-44-0	C4

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-016 **Lab ID: 40219788016** Collected: 12/08/20 12:31 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Surrogates									
RSD%	**16.4**	%			1		12/17/20 00:36		

Sample: 20120901-017 **Lab ID: 40219788017** Collected: 12/08/20 12:43 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**39.1**	%	0.10	0.10	1		12/16/20 15:51		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**117000**	mg/kg	6030	1810	1		12/17/20 01:01	7440-44-0	
Total Organic Carbon	**116000**	mg/kg	6230	1870	1		12/17/20 01:06	7440-44-0	
Total Organic Carbon	**91200**	mg/kg	6150	1840	1		12/17/20 01:12	7440-44-0	
Total Organic Carbon	**98200**	mg/kg	6230	1870	1		12/17/20 01:19	7440-44-0	
Mean Total Organic Carbon	**106000**	mg/kg	6160	1850	1		12/17/20 01:01	7440-44-0	C4
Surrogates									
RSD%	**12.2**	%			1		12/17/20 01:01		

Sample: 20120901-018 **Lab ID: 40219788018** Collected: 12/08/20 13:52 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**34.5**	%	0.10	0.10	1		12/16/20 15:51		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**152000**	mg/kg	7350	2200	1		12/17/20 01:24	7440-44-0	
Total Organic Carbon	**148000**	mg/kg	7580	2270	1		12/17/20 01:30	7440-44-0	
Total Organic Carbon	**155000**	mg/kg	7370	2210	1		12/17/20 01:35	7440-44-0	
Total Organic Carbon	**137000**	mg/kg	7140	2140	1		12/17/20 01:41	7440-44-0	
Mean Total Organic Carbon	**148000**	mg/kg	7360	2210	1		12/17/20 01:24	7440-44-0	C4
Surrogates									
RSD%	**5.5**	%			1		12/17/20 01:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-019 **Lab ID: 40219788019** Collected: 12/08/20 13:52 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**29.3**	%	0.10	0.10	1		12/16/20 15:51		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**721000**	mg/kg	35100	10500	1		12/17/20 01:48	7440-44-0	
Total Organic Carbon	**683000**	mg/kg	33900	10200	1		12/17/20 01:54	7440-44-0	
Total Organic Carbon	**597000**	mg/kg	40100	12000	1		12/17/20 02:00	7440-44-0	
Total Organic Carbon	**648000**	mg/kg	40800	12200	1		12/17/20 02:06	7440-44-0	
Mean Total Organic Carbon	**662000**	mg/kg	37500	11200	1		12/17/20 01:48	7440-44-0	C4
Surrogates									
RSD%	**8.0**	%			1		12/17/20 01:48		

Sample: 20120901-020 **Lab ID: 40219788020** Collected: 12/05/20 15:30 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**32.2**	%	0.10	0.10	1		12/16/20 17:08		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**755000**	mg/kg	47000	14100	1		12/17/20 02:12	7440-44-0	
Total Organic Carbon	**769000**	mg/kg	41500	12400	1		12/17/20 02:18	7440-44-0	
Total Organic Carbon	**807000**	mg/kg	40900	12300	1		12/17/20 02:23	7440-44-0	
Total Organic Carbon	**689000**	mg/kg	43200	12900	1		12/17/20 02:29	7440-44-0	
Mean Total Organic Carbon	**755000**	mg/kg	43100	12900	1		12/17/20 02:12	7440-44-0	C4
Surrogates									
RSD%	**6.5**	%			1		12/17/20 02:12		

Sample: 20120901-021 **Lab ID: 40219788021** Collected: 12/05/20 14:10 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**30.0**	%	0.10	0.10	1		12/16/20 17:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-021 **Lab ID: 40219788021** Collected: 12/05/20 14:10 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**639000**	mg/kg	33200	9970	1		12/17/20 18:43	7440-44-0	
Total Organic Carbon	**665000**	mg/kg	37000	11100	1		12/17/20 18:50	7440-44-0	
Total Organic Carbon	**655000**	mg/kg	37600	11300	1		12/17/20 18:56	7440-44-0	
Total Organic Carbon	**659000**	mg/kg	39200	11700	1		12/17/20 19:02	7440-44-0	
Mean Total Organic Carbon	**654000**	mg/kg	36700	11000	1		12/17/20 18:43	7440-44-0	C4
Surrogates									
RSD%	**1.7**	%			1		12/17/20 18:43		

Sample: 20120901-022 **Lab ID: 40219788022** Collected: 12/05/20 12:58 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**31.2**	%	0.10	0.10	1		12/16/20 17:08		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**138000**	mg/kg	5490	1640	1		12/17/20 20:02	7440-44-0	
Total Organic Carbon	**119000**	mg/kg	5480	1640	1		12/17/20 20:08	7440-44-0	
Total Organic Carbon	**114000**	mg/kg	5430	1630	1		12/17/20 20:14	7440-44-0	
Total Organic Carbon	**130000**	mg/kg	5430	1630	1		12/17/20 20:25	7440-44-0	
Mean Total Organic Carbon	**125000**	mg/kg	5460	1640	1		12/17/20 20:02	7440-44-0	C4
Surrogates									
RSD%	**8.5**	%			1		12/17/20 20:02		

Sample: 20120901-023 **Lab ID: 40219788023** Collected: 12/05/20 14:55 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**39.2**	%	0.10	0.10	1		12/16/20 17:09		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**646000**	mg/kg	37500	11200	1		12/17/20 21:20	7440-44-0	
Total Organic Carbon	**724000**	mg/kg	43600	13100	1		12/17/20 21:26	7440-44-0	
Total Organic Carbon	**593000**	mg/kg	38000	11400	1		12/17/20 21:32	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-023 **Lab ID: 40219788023** Collected: 12/05/20 14:55 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**711000**	mg/kg	46700	14000	1		12/17/20 21:38	7440-44-0	
Mean Total Organic Carbon	**669000**	mg/kg	41500	12400	1		12/17/20 21:20	7440-44-0	C4
Surrogates									
RSD%	**9.1**	%			1		12/17/20 21:20		

Sample: 20120901-024 **Lab ID: 40219788024** Collected: 12/05/20 15:50 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**31.5**	%	0.10	0.10	1		12/16/20 17:09		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**567000**	mg/kg	29100	8740	1		12/17/20 21:44	7440-44-0	
Total Organic Carbon	**422000**	mg/kg	28300	8480	1		12/17/20 21:51	7440-44-0	
Total Organic Carbon	**630000**	mg/kg	28500	8550	1		12/17/20 21:57	7440-44-0	
Total Organic Carbon	**501000**	mg/kg	30000	8990	1		12/17/20 22:03	7440-44-0	
Mean Total Organic Carbon	**530000**	mg/kg	29000	8690	1		12/17/20 21:44	7440-44-0	C4
Surrogates									
RSD%	**16.8**	%			1		12/17/20 21:44		

Sample: 20120901-025 **Lab ID: 40219788025** Collected: 12/05/20 16:16 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**32.1**	%	0.10	0.10	1		12/16/20 17:09		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**341000**	mg/kg	24100	7240	1		12/20/20 16:24	7440-44-0	
Total Organic Carbon	**310000**	mg/kg	25000	7500	1		12/20/20 16:31	7440-44-0	
Total Organic Carbon	**386000**	mg/kg	26300	7880	1		12/20/20 16:37	7440-44-0	
Total Organic Carbon	**338000**	mg/kg	28500	8530	1		12/20/20 16:44	7440-44-0	
Mean Total Organic Carbon	**344000**	mg/kg	26000	7790	1		12/20/20 16:24	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-025 **Lab ID: 40219788025** Collected: 12/05/20 16:16 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Surrogates									
RSD%	**9.1**	%			1		12/20/20 16:24		

Sample: 20120901-026 **Lab ID: 40219788026** Collected: 12/05/20 17:17 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**44.2**	%	0.10	0.10	1		12/16/20 17:09		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**117000**	mg/kg	9570	2870	1		12/20/20 16:49	7440-44-0	
Total Organic Carbon	**126000**	mg/kg	9480	2840	1		12/20/20 16:54	7440-44-0	
Total Organic Carbon	**121000**	mg/kg	8950	2680	1		12/20/20 17:00	7440-44-0	
Total Organic Carbon	**113000**	mg/kg	8950	2680	1		12/20/20 17:05	7440-44-0	
Mean Total Organic Carbon	**119000**	mg/kg	9240	2770	1		12/20/20 16:49	7440-44-0	C4
Surrogates									
RSD%	**4.4**	%			1		12/20/20 16:49		

Sample: 20120901-027 **Lab ID: 40219788027** Collected: 12/06/20 09:30 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**30.5**	%	0.10	0.10	1		12/16/20 17:09		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**141000**	mg/kg	7560	2270	1		12/20/20 17:11	7440-44-0	
Total Organic Carbon	**137000**	mg/kg	7310	2190	1		12/20/20 17:17	7440-44-0	
Total Organic Carbon	**155000**	mg/kg	7370	2210	1		12/20/20 17:23	7440-44-0	
Total Organic Carbon	**141000**	mg/kg	7670	2300	1		12/20/20 17:29	7440-44-0	
Mean Total Organic Carbon	**143000**	mg/kg	7480	2240	1		12/20/20 17:11	7440-44-0	C4
Surrogates									
RSD%	**5.4**	%			1		12/20/20 17:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-028 **Lab ID: 40219788028** Collected: 12/06/20 10:41 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**39.6**	%	0.10	0.10	1		12/16/20 17:09		
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**117000**	mg/kg	8050	2410	1		12/20/20 17:35	7440-44-0	
Total Organic Carbon	**102000**	mg/kg	7820	2340	1		12/20/20 17:41	7440-44-0	
Total Organic Carbon	**89500**	mg/kg	7870	2360	1		12/20/20 17:46	7440-44-0	
Total Organic Carbon	**112000**	mg/kg	8190	2460	1		12/20/20 17:52	7440-44-0	
Mean Total Organic Carbon	**105000**	mg/kg	7980	2390	1		12/20/20 17:35	7440-44-0	C4
Surrogates									
RSD%	**11.7**	%			1		12/20/20 17:35		

Sample: 20120901-029 **Lab ID: 40219788029** Collected: 12/06/20 10:50 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**25.7**	%	0.10	0.10	1		12/16/20 17:09		
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**655000**	mg/kg	37100	11100	1		12/20/20 17:57	7440-44-0	
Total Organic Carbon	**746000**	mg/kg	38200	11500	1		12/20/20 18:04	7440-44-0	
Total Organic Carbon	**744000**	mg/kg	40000	12000	1		12/20/20 18:11	7440-44-0	
Total Organic Carbon	**670000**	mg/kg	39800	11900	1		12/20/20 18:16	7440-44-0	
Mean Total Organic Carbon	**704000**	mg/kg	38800	11600	1		12/20/20 17:57	7440-44-0	C4
Surrogates									
RSD%	**6.8**	%			1		12/20/20 17:57		

Sample: 20120901-030 **Lab ID: 40219788030** Collected: 12/06/20 11:37 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**44.6**	%	0.10	0.10	1		12/16/20 17:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-030 **Lab ID: 40219788030** Collected: 12/06/20 11:37 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**77800**	mg/kg	8780	2630	1		12/20/20 18:22	7440-44-0	
Total Organic Carbon	**89000**	mg/kg	8600	2580	1		12/20/20 18:28	7440-44-0	
Total Organic Carbon	**94300**	mg/kg	8680	2600	1		12/20/20 18:33	7440-44-0	
Total Organic Carbon	**84000**	mg/kg	8870	2660	1		12/20/20 18:39	7440-44-0	
Mean Total Organic Carbon	**86300**	mg/kg	8730	2620	1		12/20/20 18:22	7440-44-0	C4
Surrogates									
RSD%	**8.2**	%			1		12/20/20 18:22		

Sample: 20120901-031 **Lab ID: 40219788031** Collected: 12/06/20 11:47 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**38.0**	%	0.10	0.10	1		12/16/20 17:10		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**185000**	mg/kg	9610	2880	1		12/20/20 18:44	7440-44-0	
Total Organic Carbon	**183000**	mg/kg	10300	3090	1		12/20/20 18:50	7440-44-0	
Total Organic Carbon	**191000**	mg/kg	10400	3130	1		12/20/20 18:55	7440-44-0	
Total Organic Carbon	**216000**	mg/kg	9540	2860	1		12/20/20 19:01	7440-44-0	
Mean Total Organic Carbon	**194000**	mg/kg	9980	2990	1		12/20/20 18:44	7440-44-0	C4
Surrogates									
RSD%	**7.8**	%			1		12/20/20 18:44		

Sample: 20120901-032 **Lab ID: 40219788032** Collected: 12/06/20 12:25 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**42.3**	%	0.10	0.10	1		12/16/20 17:10		
Total Organic Carbon Quad	Analytical Method: EPA 9060 Pace Analytical Services - Green Bay								
Total Organic Carbon	**95600**	mg/kg	9560	2870	1		12/20/20 19:07	7440-44-0	
Total Organic Carbon	**97500**	mg/kg	9550	2860	1		12/20/20 19:13	7440-44-0	
Total Organic Carbon	**89100**	mg/kg	9580	2870	1		12/20/20 19:18	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Sample: 20120901-032 **Lab ID: 40219788032** Collected: 12/06/20 12:25 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**92700**	mg/kg	9530	2860	1		12/20/20 19:23	7440-44-0	
Mean Total Organic Carbon	**93700**	mg/kg	9550	2860	1		12/20/20 19:07	7440-44-0	C4
Surrogates									
RSD%	**3.9**	%			1		12/20/20 19:07		

Sample: 20120901-033 **Lab ID: 40219788033** Collected: 12/06/20 12:51 Received: 12/12/20 10:45 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**42.7**	%	0.10	0.10	1		12/16/20 17:10		
Total Organic Carbon Quad	Analytical Method: EPA 9060								
	Pace Analytical Services - Green Bay								
Total Organic Carbon	**118000**	mg/kg	9730	2920	1		12/20/20 19:29	7440-44-0	
Total Organic Carbon	**126000**	mg/kg	9880	2960	1		12/20/20 19:34	7440-44-0	
Total Organic Carbon	**134000**	mg/kg	9970	2990	1		12/20/20 19:41	7440-44-0	
Total Organic Carbon	**118000**	mg/kg	9430	2830	1		12/20/20 19:46	7440-44-0	
Mean Total Organic Carbon	**124000**	mg/kg	9750	2920	1		12/20/20 19:29	7440-44-0	C4
Surrogates									
RSD%	**6.4**	%			1		12/20/20 19:29		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

QC Batch:	373991	Analysis Method:	ASTM D2974-87
QC Batch Method:	ASTM D2974-87	Analysis Description:	Dry Weight/Percent Moisture
		Laboratory:	Pace Analytical Services - Green Bay

Associated Lab Samples: 40219788001, 40219788002, 40219788003, 40219788004, 40219788005, 40219788006, 40219788007, 40219788008, 40219788009, 40219788010, 40219788011, 40219788012, 40219788013, 40219788014, 40219788015, 40219788016, 40219788017, 40219788018, 40219788019

SAMPLE DUPLICATE: 2161315

Parameter	Units	40219788004 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.2	23.1	0	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

QC Batch: 374002
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40219788020, 40219788021, 40219788022, 40219788023, 40219788024, 40219788025, 40219788026, 40219788027, 40219788028, 40219788029, 40219788030, 40219788031, 40219788032, 40219788033

SAMPLE DUPLICATE: 2161467

Parameter	Units	40219788032 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	42.3	41.5	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

QC Batch: 373853 — Analysis Method: EPA 9060
QC Batch Method: EPA 9060 — Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 40219788001, 40219788002, 40219788003, 40219788004, 40219788005, 40219788006, 40219788007, 40219788008, 40219788009, 40219788010, 40219788011, 40219788012, 40219788013, 40219788014, 40219788015, 40219788016, 40219788017, 40219788018, 40219788019, 40219788020

METHOD BLANK: 2160635 — Matrix: Solid

Associated Lab Samples: 40219788001, 40219788002, 40219788003, 40219788004, 40219788005, 40219788006, 40219788007, 40219788008, 40219788009, 40219788010, 40219788011, 40219788012, 40219788013, 40219788014, 40219788015, 40219788016, 40219788017, 40219788018, 40219788019, 40219788020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<194	647	194	12/16/20 15:30	

LABORATORY CONTROL SAMPLE: 2160636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	121000	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2160637 2160638

Parameter	Units	40219788001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	79500	47300	48000	130000	131000	106	107	50-150	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2160639 2160640

Parameter	Units	40219788002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	401000	369000	354000	810000	844000	111	125	50-150	4	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

QC Batch: 374018 | Analysis Method: EPA 9060
QC Batch Method: EPA 9060 | Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 40219788021, 40219788022, 40219788023, 40219788024, 40219788025, 40219788026, 40219788027, 40219788028, 40219788029, 40219788030, 40219788031, 40219788032, 40219788033

METHOD BLANK: 2161540 Matrix: Solid
Associated Lab Samples: 40219788021, 40219788022, 40219788023, 40219788024, 40219788025, 40219788026, 40219788027, 40219788028, 40219788029, 40219788030, 40219788031, 40219788032, 40219788033

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	<194	647	194	12/17/20 17:55	

LABORATORY CONTROL SAMPLE: 2161541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	121000	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2161542 2161543

Parameter	Units	40219788021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	654000	346000	381000	1020000	1070000	105	110	50-150	5	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2161544 2161545

Parameter	Units	40219788022 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	125000	50500	49700	181000	174000	110	98	50-150	4	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALIFIERS

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

C4 Sample container did not meet EPA or method requirements.

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40219788001	**20120901-001**	ASTM D2974-87	373991		
40219788002	**20120901-002**	ASTM D2974-87	373991		
40219788003	**20120901-003**	ASTM D2974-87	373991		
40219788004	**20120901-004**	ASTM D2974-87	373991		
40219788005	**20120901-005**	ASTM D2974-87	373991		
40219788006	**20120901-006**	ASTM D2974-87	373991		
40219788007	**20120901-007**	ASTM D2974-87	373991		
40219788008	**20120901-008**	ASTM D2974-87	373991		
40219788009	**20120901-009**	ASTM D2974-87	373991		
40219788010	**20120901-010**	ASTM D2974-87	373991		
40219788011	**20120901-011**	ASTM D2974-87	373991		
40219788012	**20120901-012**	ASTM D2974-87	373991		
40219788013	**20120901-013**	ASTM D2974-87	373991		
40219788014	**20120901-014**	ASTM D2974-87	373991		
40219788015	**20120901-015**	ASTM D2974-87	373991		
40219788016	**20120901-016**	ASTM D2974-87	373991		
40219788017	**20120901-017**	ASTM D2974-87	373991		
40219788018	**20120901-018**	ASTM D2974-87	373991		
40219788019	**20120901-019**	ASTM D2974-87	373991		
40219788020	**20120901-020**	ASTM D2974-87	374002		
40219788021	**20120901-021**	ASTM D2974-87	374002		
40219788022	**20120901-022**	ASTM D2974-87	374002		
40219788023	**20120901-023**	ASTM D2974-87	374002		
40219788024	**20120901-024**	ASTM D2974-87	374002		
40219788025	**20120901-025**	ASTM D2974-87	374002		
40219788026	**20120901-026**	ASTM D2974-87	374002		
40219788027	**20120901-027**	ASTM D2974-87	374002		
40219788028	**20120901-028**	ASTM D2974-87	374002		
40219788029	**20120901-029**	ASTM D2974-87	374002		
40219788030	**20120901-030**	ASTM D2974-87	374002		
40219788031	**20120901-031**	ASTM D2974-87	374002		
40219788032	**20120901-032**	ASTM D2974-87	374002		
40219788033	**20120901-033**	ASTM D2974-87	374002		
40219788001	**20120901-001**	EPA 9060	373853		
40219788001	**20120901-001**	EPA 9060	373854		
40219788002	**20120901-002**	EPA 9060	373853		
40219788002	**20120901-002**	EPA 9060	373854		
40219788003	**20120901-003**	EPA 9060	373853		
40219788003	**20120901-003**	EPA 9060	373854		
40219788004	**20120901-004**	EPA 9060	373853		
40219788004	**20120901-004**	EPA 9060	373854		
40219788005	**20120901-005**	EPA 9060	373853		
40219788005	**20120901-005**	EPA 9060	373854		

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40219788006	**20120901-006**	EPA 9060	373853		
40219788006	**20120901-006**	EPA 9060	373854		
40219788007	**20120901-007**	EPA 9060	373853		
40219788007	**20120901-007**	EPA 9060	373854		
40219788008	**20120901-008**	EPA 9060	373853		
40219788008	**20120901-008**	EPA 9060	373854		
40219788009	**20120901-009**	EPA 9060	373853		
40219788009	**20120901-009**	EPA 9060	373854		
40219788010	**20120901-010**	EPA 9060	373853		
40219788010	**20120901-010**	EPA 9060	373854		
40219788011	**20120901-011**	EPA 9060	373853		
40219788011	**20120901-011**	EPA 9060	373854		
40219788012	**20120901-012**	EPA 9060	373853		
40219788012	**20120901-012**	EPA 9060	373854		
40219788013	**20120901-013**	EPA 9060	373853		
40219788013	**20120901-013**	EPA 9060	373854		
40219788014	**20120901-014**	EPA 9060	373853		
40219788014	**20120901-014**	EPA 9060	373854		
40219788015	**20120901-015**	EPA 9060	373853		
40219788015	**20120901-015**	EPA 9060	373854		
40219788016	**20120901-016**	EPA 9060	373853		
40219788016	**20120901-016**	EPA 9060	373854		
40219788017	**20120901-017**	EPA 9060	373853		
40219788017	**20120901-017**	EPA 9060	373854		
40219788018	**20120901-018**	EPA 9060	373853		
40219788018	**20120901-018**	EPA 9060	373854		
40219788019	**20120901-019**	EPA 9060	373853		
40219788019	**20120901-019**	EPA 9060	373854		
40219788020	**20120901-020**	EPA 9060	373853		
40219788020	**20120901-020**	EPA 9060	373854		
40219788021	**20120901-021**	EPA 9060	374018		
40219788021	**20120901-021**	EPA 9060	374019		
40219788022	**20120901-022**	EPA 9060	374018		

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20120901 CONOWINGO
Pace Project No.: 40219788

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40219788022	**20120901-022**	EPA 9060	374019		
40219788023	**20120901-023**	EPA 9060	374018		
40219788023	**20120901-023**	EPA 9060	374019		
40219788024	**20120901-024**	EPA 9060	374018		
40219788024	**20120901-024**	EPA 9060	374019		
40219788025	**20120901-025**	EPA 9060	374018		
40219788025	**20120901-025**	EPA 9060	374019		
40219788026	**20120901-026**	EPA 9060	374018		
40219788026	**20120901-026**	EPA 9060	374019		
40219788027	**20120901-027**	EPA 9060	374018		
40219788027	**20120901-027**	EPA 9060	374019		
40219788028	**20120901-028**	EPA 9060	374018		
40219788028	**20120901-028**	EPA 9060	374019		
40219788029	**20120901-029**	EPA 9060	374018		
40219788029	**20120901-029**	EPA 9060	374019		
40219788030	**20120901-030**	EPA 9060	374018		
40219788030	**20120901-030**	EPA 9060	374019		
40219788031	**20120901-031**	EPA 9060	374018		
40219788031	**20120901-031**	EPA 9060	374019		
40219788032	**20120901-032**	EPA 9060	374018		
40219788032	**20120901-032**	EPA 9060	374019		
40219788033	**20120901-033**	EPA 9060	374018		
40219788033	**20120901-033**	EPA 9060	374019		

CHAIN-OF-CUSTODY / Analytical Request Document

4024788

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Pace Analytical National	Report To:	Pace Analytical National Subout Team	Attention:	Lynn Jackson
Address:	12065 Lebanon Road	Copy To:		Company Name:	
Mount Juliet, TN 37122				Address:	
Email:	MTJLSuboutTeam@pacelabs.com	Purchase Order #:	L1295278	Pace Quote:	
Phone:	(615)773-9756 Fax: (615)758-5859	Project Name:	CONOWINGO	Pace Project Manager:	Cindy Varga
Requested Due Date:	22-Dec	Project #:	20120901	Pace Profile #:	38076

Regulatory Agency

State / Location: VA

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: Dry Weight	Total Organic Carbon	Residual Chlorine (Y/N)	Certs not needed.
1	20120901-001	SL				08-Dec	7:54		1								1		X	X		001
2	20120901-002	SL				08-Dec	7:54		1								1		X	X		002
3	20120901-003	SL				08-Dec	8:30		1								1		X	X		003
4	20120901-004	SL				08-Dec	9:15		1								1		X	X		004
5	20120901-005	SL				08-Dec	9:20		1								1		X	X		005
6	20120901-006	SL				08-Dec	9:55		1								1		X	X		006
7	20120901-007	SL				08-Dec	10:15		1								1		X	X		007
8	20120901-008	SL				08-Dec	9:30		1								1		X	X		008
9	20120901-009	SL				08-Dec	10:40		1								1		X	X		009
10	20120901-010	SL				08-Dec	15:05		1								1		X	X		010
11	20120901-011	SL				08-Dec	15:10		1								1		X	X		011
12	20120901-012	SL				08-Dec	15:33		1								1		X	X		012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	James C Huckaba	11-Dec	9:59							
Pace Analytical National Batch: WG1590368	Fedex	12/12/20	1045	[signature] Pace	12/12/20	1045	0.5	Y	Y	Y
Pace Analytical National SDGs: L1295278										
Location: Green Bay, WI 54302										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed:

CHAIN-OF-CUSTODY / Analytical Request Document

40249788

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 2 Of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Pace Analytical National	Report To:	Pace Analytical National Subout Team	Attention:	Lynn Jackson
Address:	12065 Lebanon Road	Copy To:		Company Name:	
	Mount Juliet, TN 37122			Address:	
Email:	MTJLSuboutTeam@pacelabs.com	Purchase Order #:	L1295278	Pace Quote:	
Phone:	(615)773-9756 Fax (615)758-5859	Project Name:	CONOWINGO	Pace Project Manager:	Cindy Varga
Requested Due Date:	22-Dec	Project #:	20120901	Pace Profile #:	38076

Regulatory Agency	State / Location
	VA

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Dry Weight	Total Organic Carbon	Residual Chlorine (Y/N)	
1	20120901-013	SL				08-Dec	15:39		1								1		X	X		013
2	20120901-014	SL				08-Dec	11:05		1								1		X	X		014
3	20120901-015	SL				08-Dec	11:56		1								1		X	X		015
4	20120901-016	SL				08-Dec	12:31		1								1		X	X		016
5	20120901-017	SL				08-Dec	12:43		1								1		X	X		017
6	20120901-018	SL				08-Dec	13:52		1								1		X	X		018
7	20120901-019	SL				08-Dec	13:52		1								1		X	X		019
8	20120901-020	SL				05-Dec	15:30		1								1		X	X		020
9	20120901-021	SL				05-Dec	14:10		1								1		X	X		021
10	20120901-022	SL				05-Dec	12:58		1								1		X	X		022
11	20120901-023	SL				05-Dec	14:55		1								1		X	X		023
12	20120901-024	SL				05-Dec	15:50		1								1		X	X		024

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	James C Huckaba	11-Dec	9:59							
Pace Analytical National Batch: WG1590368	Fedex	12/12/20	1045	[signature] Pace	12/12/20	1045	0.5	Y	Y	Y
Pace Analytical National SDGs: L1295278										
Location: Green Bay, WI 54302										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	
SIGNATURE of SAMPLER:	DATE Signed:

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

4049788

Page : 3 Of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	Pace Analytical National	Report To:	Pace Analytical National Subout Team	Attention:	Lynn Jackson
Address:	12065 Lebanon Road	Copy To:		Company Name:	
	Mount Juliet, TN 37122			Address:	
Email:	MTJLSuboutTeam@pacelabs.com	Purchase Order #:	L1295278	Pace Quote:	
Phone:	(615)773-9756 Fax: (615)758-5859	Project Name:	CONOWINGO	Pace Project Manager:	Cindy Varga
Requested Due Date:	22-Dec	Project #:	20120901	Pace Profile #:	38076

Regulatory Agency
State / Location
VA

ITEM #	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Y/N	Analyses Test: Dry Weight	Total Organic Carbon	Residual Chlorine (Y/N)	
1	20120901-025	SL				05-Dec	16:16		1								1		X	X		025
2	20120901-026	SL				05-Dec	17:17		1								1		X	X		026
3	20120901-027	SL				06-Dec	9:30		1								1		X	X		027
4	20120901-028	SL				06-Dec	10:41		1								1		X	X		028
5	20120901-029	SL				06-Dec	10:50		1								1		X	X		029
6	20120901-030	SL				06-Dec	11:37		1								1		X	X		030
7	20120901-031	SL				06-Dec	11:47		1								1		X	X		031
8	20120901-032	SL				06-Dec	12:25		1								1		X	X		032
9	20120901-033	SL				06-Dec	12:51		1								1		X	X		033
10																						
11																						
12																						

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	James C Huckaba	11-Dec	9:59							
Pace Analytical National Batch: WG1590368	Fedex	12/12/20	1045	pace	12/12/20	1045	0.5	Y	Y	Y
Pace Analytical National SDGs: L1295278										
Location: Green Bay, WI 54302										

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:	DATE Signed:	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Pace National Project # 40249788

All containers needing preservation have been checked and noted below: □Yes □No ~~□N/A~~

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Initial when completed: Date/ Time:

Pace Lab #	Glass								Plastic					Vials						Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN							
001																																	2.5 / 5 / 10
002																																	2.5 / 5 / 10
003																																	2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
008																																	2.5 / 5 / 10
009																																	2.5 / 5 / 10
010																																	2.5 / 5 / 10
011																																	2.5 / 5 / 10
012																																	2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : □Yes □No ~~□N/A~~ ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	2 oz clear glass jar

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Pace National Project #: 40219788

	Glass								Plastic					Vials						Jars				General									
Pace Lab #	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
021																										-							2.5 / 5 / 10
022																										-							2.5 / 5 / 10
023																										-							2.5 / 5 / 10
024																										-							2.5 / 5 / 10
025																										-							2.5 / 5 / 10
026																										-							2.5 / 5 / 10
027																										-							2.5 / 5 / 10
028																										-							2.5 / 5 / 10
029																										-							2.5 / 5 / 10
030																										-							2.5 / 5 / 10
031																										-							2.5 / 5 / 10
032																										-							2.5 / 5 / 10
033																										-							2.5 / 5 / 10
																																	2.5 / 5 / 10
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																																	2.5 / 5 / 10

MLR 12-12-20

F-GB-C-046-Rev.03 (11Feb2020) Sample Preservation Receipt Form

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40219788

40219788

Client Name: Pace National

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 9463 1915 6719

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used SR - 86 **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0 /Corr: 0.5

Temp Blank Present: ☒ yes ☐ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents: Date: 12/12/20 Initials: MR

Labeled By Initials: MLR

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out: MLR 12-12-20	☒Yes ☒No ☐N/A	2. copy to info; invoice company + address,
Chain of Custody Relinquished: (1)	☒Yes ☐No ☐N/A	3. sample type MLR 12-12-20
Sampler Name & Signature on COC: MLR 12-12-20	☐Yes ☒No ☒N/A	4. IR NO MLR 12-12-20
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☐No ☒N/A	8. amber MLR 12-12-20
Correct Containers Used: MLR 12-12-20	☒Yes ☒No	9. TOC requires ~~clear~~ glass MLR 12-12-20
-Pace Containers Used:	☐Yes ☒No ☐N/A	
-Pace IR Containers Used: MLR 12-12-20	☒Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☒Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution: I'll no year MLR 12-12-20

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

6630 Baltimore National Pike
Baltimore, MD 21228
410-747-8770
800-932-9047
www.phaseonline.com

Project Name: Conowingo

PSS Project No.: 20120901

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Received only one container per sample, a 2oz glass container was split from each sample for TOC analysis.

General Comments:

Per client, sample ID for sample 030 is D1 28.5-30.2.

Analytical:

PP Metals

Batch: 180299

Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see QC summary.The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration : manganese

Mercury results for the low-level ICV and low-level CCVs 2,3, and 5 exceeded the control limitss; see QC summary.

Analytical:

RCRA Metals

Batch: 180281

Method exceedance:
Low Level Continuing Calibration Verification (LLCCV) #04 falls outside of acceptance limits (70-130% recovery) for chromium at 209% recovery. The samples are 10 times the LLCCV concentration for this analyte. All other bracketing QC passes for these analytes.

Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see QC summary.
The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration : manganese

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

PHASE SEPARATION SCIENCE

6630 Baltimore National Pike
Baltimore, MD 21228
410-747-8770
800-932-9047
www.phaseonline.com

Lab Chronology

Project Name: Conowingo
PSS Project No.: 20120901

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SM2540G	A2 7.8-12.8	Initial	20120901-001	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 13.2-16.4	Initial	20120901-002	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 16.4-17.8	Initial	20120901-003	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 18.0-20.2	Initial	20120901-004	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 20.2-22.8	Initial	20120901-005	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 28.4-32.8	Initial	20120901-006	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 33.6-35.8	Initial	20120901-007	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 23.4-27.8	Initial	20120901-008	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 38.0-40.0	Initial	20120901-009	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A3 24.6-26.0	Initial	20120901-010	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A3 26.0-28.4	Initial	20120901-011	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A3 28.6-29.9	Initial	20120901-012	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A3 29.9-33.4	Initial	20120901-013	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C2 24.5-27.3	Initial	20120901-014	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C2 29.8-32.2	Initial	20120901-015	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C2 34.1-34.9	Initial	20120901-016	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C2 35.3-37.3	Initial	20120901-017	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C2 38.4-39.3	Initial	20120901-018	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C2 39.3-42.3	Initial	20120901-019	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C1 38.8-40.5	Initial	20120901-020	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	180209-1-BLK	BLK	180209-1-BLK	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A2 7.8-12.8 D	MD	20120901-001 D	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	A3 26.0-28.4 D	MD	20120901-011 D	S	180209	180209	12/09/2020 12:35	12/09/2020 12:35
	C1 27.9-30.5	Initial	20120901-021	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	C1 24.7-25.5	Initial	20120901-022	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	C1 33.3-35.5	Initial	20120901-023	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	C1 44.5-45.5	Initial	20120901-024	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	B1 36.6-38.8	Initial	20120901-025	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	B1 41.2-43.8	Initial	20120901-026	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 20.8-22.7	Initial	20120901-027	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 24.7-26.7	Initial	20120901-028	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 26.7-27.7	Initial	20120901-029	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 28.5-30.2	Initial	20120901-030	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 30.2-32.7	Initial	20120901-031	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 33.0-37.7	Initial	20120901-032	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 38.0-42.7	Initial	20120901-033	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	180216-1-BLK	BLK	180216-1-BLK	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	C1 27.9-30.5 D	MD	20120901-021 D	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
	D1 30.2-32.7 D	MD	20120901-031 D	S	180216	180216	12/09/2020 13:21	12/09/2020 13:21
SW-846 6020 A	C1 27.9-30.5	Initial	20120901-021	S	84159	180281	12/09/2020 17:49	12/10/2020 17:37
	C1 24.7-25.5	Initial	20120901-022	S	84159	180281	12/09/2020 17:49	12/10/2020 18:01
	C1 33.3-35.5	Initial	20120901-023	S	84159	180281	12/09/2020 17:49	12/10/2020 18:06
	C1 44.5-45.5	Initial	20120901-024	S	84159	180281	12/09/2020 17:49	12/10/2020 18:11
	B1 36.6-38.8	Initial	20120901-025	S	84159	180281	12/09/2020 17:49	12/10/2020 18:15
	B1 41.2-43.8	Initial	20120901-026	S	84159	180281	12/09/2020 17:49	12/10/2020 18:20

PHASE SEPARATION SCIENCE

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20120901

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 6020 A	D1 20.8-22.7	Initial	20120901-027	S	84159	180281	12/09/2020 17:49	12/10/2020 18:49
	D1 24.7-26.7	Initial	20120901-028	S	84159	180281	12/09/2020 17:49	12/10/2020 18:54
	D1 26.7-27.7	Initial	20120901-029	S	84159	180281	12/09/2020 17:49	12/10/2020 18:59
	D1 28.5-30.2	Initial	20120901-030	S	84159	180281	12/09/2020 17:49	12/10/2020 19:03
	D1 30.2-32.7	Initial	20120901-031	S	84159	180281	12/09/2020 17:49	12/10/2020 19:08
	D1 33.0-37.7	Initial	20120901-032	S	84159	180281	12/09/2020 17:49	12/10/2020 19:13
	D1 38.0-42.7	Initial	20120901-033	S	84159	180281	12/09/2020 17:49	12/10/2020 19:18
	84159-1-BKS	BKS	84159-1-BKS	S	84159	180281	12/09/2020 17:49	12/10/2020 15:28
	84159-1-BLK	BLK	84159-1-BLK	S	84159	180281	12/09/2020 17:49	12/10/2020 15:23
	C1 27.9-30.5 S	MS	20120901-021 S	S	84159	180281	12/09/2020 17:49	12/10/2020 17:42
	C1 27.9-30.5 SD	MSD	20120901-021 S	S	84159	180281	12/09/2020 17:49	12/10/2020 17:47
	A2 7.8-12.8	Initial	20120901-001	S	84158	180299	12/09/2020 17:25	12/10/2020 20:56
	A2 13.2-16.4	Initial	20120901-002	S	84158	180299	12/09/2020 17:25	12/10/2020 21:39
	A2 16.4-17.8	Initial	20120901-003	S	84158	180299	12/09/2020 17:25	12/10/2020 21:43
	A2 18.0-20.2	Initial	20120901-004	S	84158	180299	12/09/2020 17:25	12/10/2020 21:48
	A2 20.2-22.8	Initial	20120901-005	S	84158	180299	12/09/2020 17:25	12/10/2020 21:53
	A2 28.4-32.8	Initial	20120901-006	S	84158	180299	12/09/2020 17:25	12/10/2020 21:58
	A2 33.6-35.8	Initial	20120901-007	S	84158	180299	12/09/2020 17:25	12/10/2020 22:02
	A2 23.4-27.8	Initial	20120901-008	S	84158	180299	12/09/2020 17:25	12/10/2020 22:07
	A2 38.0-40.0	Initial	20120901-009	S	84158	180299	12/09/2020 17:25	12/10/2020 22:12
	A3 24.6-26.0	Initial	20120901-010	S	84158	180299	12/09/2020 17:25	12/10/2020 22:17
	A3 26.0-28.4	Initial	20120901-011	S	84158	180299	12/09/2020 17:25	12/10/2020 22:21
	A3 28.6-29.9	Initial	20120901-012	S	84158	180299	12/09/2020 17:25	12/10/2020 22:45
	A3 29.9-33.4	Initial	20120901-013	S	84158	180299	12/09/2020 17:25	12/10/2020 22:50
	C2 24.5-27.3	Initial	20120901-014	S	84158	180299	12/09/2020 17:25	12/10/2020 22:55
	C2 29.8-32.2	Initial	20120901-015	S	84158	180299	12/09/2020 17:25	12/10/2020 22:59
	C2 34.1-34.9	Initial	20120901-016	S	84158	180299	12/09/2020 17:25	12/10/2020 23:04
	C2 35.3-37.3	Initial	20120901-017	S	84158	180299	12/09/2020 17:25	12/10/2020 23:09
	C2 38.4-39.3	Initial	20120901-018	S	84158	180299	12/09/2020 17:25	12/10/2020 23:14
	C2 39.3-42.3	Initial	20120901-019	S	84158	180299	12/09/2020 17:25	12/10/2020 23:18
	C1 38.8-40.5	Initial	20120901-020	S	84158	180299	12/09/2020 17:25	12/10/2020 23:23
	84158-1-BKS	BKS	84158-1-BKS	S	84158	180299	12/09/2020 17:25	12/10/2020 20:51
	84158-1-BLK	BLK	84158-1-BLK	S	84158	180299	12/09/2020 17:25	12/10/2020 20:47
	A2 7.8-12.8 S	MS	20120901-001 S	S	84158	180299	12/09/2020 17:25	12/10/2020 21:01
	A2 7.8-12.8 SD	MSD	20120901-001 S	S	84158	180299	12/09/2020 17:25	12/10/2020 21:06
	A2 7.8-12.8	Reanalysis	20120901-001	S	84158	180371	12/09/2020 17:25	12/11/2020 15:33
	A2 13.2-16.4	Reanalysis	20120901-002	S	84158	180371	12/09/2020 17:25	12/11/2020 15:37
	A2 16.4-17.8	Reanalysis	20120901-003	S	84158	180371	12/09/2020 17:25	12/11/2020 15:41
	A2 18.0-20.2	Reanalysis	20120901-004	S	84158	180371	12/09/2020 17:25	12/11/2020 15:45
	A2 20.2-22.8	Reanalysis	20120901-005	S	84158	180371	12/09/2020 17:25	12/11/2020 15:49
	A2 28.4-32.8	Reanalysis	20120901-006	S	84158	180371	12/09/2020 17:25	12/11/2020 15:53
	A2 33.6-35.8	Reanalysis	20120901-007	S	84158	180371	12/09/2020 17:25	12/11/2020 15:58
	A2 23.4-27.8	Reanalysis	20120901-008	S	84158	180371	12/09/2020 17:25	12/11/2020 16:02
	A2 38.0-40.0	Reanalysis	20120901-009	S	84158	180371	12/09/2020 17:25	12/11/2020 16:06
	A3 24.6-26.0	Reanalysis	20120901-010	S	84158	180371	12/09/2020 17:25	12/11/2020 16:29
	A3 26.0-28.4	Reanalysis	20120901-011	S	84158	180371	12/09/2020 17:25	12/11/2020 16:33

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20120901

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 6020 A	A3 29.9-33.4	Reanalysis	20120901-013	S	84158	180371	12/09/2020 17:25	12/11/2020 16:42
	C2 24.5-27.3	Reanalysis	20120901-014	S	84158	180371	12/09/2020 17:25	12/11/2020 16:46
	C2 29.8-32.2	Reanalysis	20120901-015	S	84158	180371	12/09/2020 17:25	12/11/2020 16:50
	C2 34.1-34.9	Reanalysis	20120901-016	S	84158	180371	12/09/2020 17:25	12/11/2020 16:54
	C2 35.3-37.3	Reanalysis	20120901-017	S	84158	180371	12/09/2020 17:25	12/11/2020 16:58
	C2 38.4-39.3	Reanalysis	20120901-018	S	84158	180371	12/09/2020 17:25	12/11/2020 17:02
	C2 39.3-42.3	Reanalysis	20120901-019	S	84158	180371	12/09/2020 17:25	12/11/2020 17:07
	C1 38.8-40.5	Reanalysis	20120901-020	S	84158	180371	12/09/2020 17:25	12/11/2020 17:30
	A3 28.6-29.9	Reanalysis	20120901-012	S	84158	180610	12/09/2020 17:25	12/22/2020 21:29

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QC Summary

Project Name Conowingo
PSS Project No.: 20120901

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180299 Matrix: Solid Date Prep: 12/09/20
MB Sample Id: 84158-1-BLK LCS Sample Id: 84158-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<0.2224	19.34	18.36	95	80-120	mg/kg	
Arsenic	<0.05318	19.34	18.86	98	80-120	mg/kg	
Beryllium	<0.1209	19.34	19.67	102	80-120	mg/kg	
Cadmium	<0.04834	19.34	18.16	94	80-120	mg/kg	
Chromium	<0.2659	19.34	17.44	90	80-120	mg/kg	
Copper	<0.1499	19.34	18.43	95	80-120	mg/kg	
Lead	<0.2030	19.34	19.21	99	80-120	mg/kg	
Manganese	<0.4061	19.34	19.04	98	80-120	mg/kg	
Mercury	<0.03529	0.4834	0.4854	100	80-120	mg/kg	
Nickel	<0.1692	19.34	18.26	94	80-120	mg/kg	
Selenium	<0.04834	19.34	17.47	90	80-120	mg/kg	
Silver	<0.05318	19.34	18.02	93	80-120	mg/kg	
Thallium	<0.1257	19.34	18.55	96	80-120	mg/kg	
Zinc	<0.5318	96.68	83.09	86	80-120	mg/kg	

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180281 Matrix: Solid Date Prep: 12/09/20
MB Sample Id: 84159-1-BLK LCS Sample Id: 84159-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<0.1745	15.17	16.30	107	80-120	mg/kg	
Arsenic	<0.04172	15.17	15.97	105	80-120	mg/kg	
Beryllium	<0.09483	15.17	14.15	93	80-120	mg/kg	
Cadmium	<0.03793	15.17	15.61	103	80-120	mg/kg	
Chromium	<0.2086	15.17	16.57	109	80-120	mg/kg	
Copper	<0.1176	15.17	14.99	99	80-120	mg/kg	
Lead	<0.1593	15.17	14.75	97	80-120	mg/kg	
Manganese	<0.3186	15.17	15.52	102	80-120	mg/kg	
Mercury	<0.02769	0.3793	0.3675	97	80-120	mg/kg	
Nickel	<0.1328	15.17	16.23	107	80-120	mg/kg	
Selenium	<0.03793	15.17	14.41	95	80-120	mg/kg	
Silver	<0.04172	15.17	14.84	98	80-120	mg/kg	
Thallium	<0.09862	15.17	14.17	93	80-120	mg/kg	
Zinc	<0.4172	75.86	90.53	119	80-120	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20120901

Analytical Method: SW-846 6020 A
Prep Method: SW3050B
Seq Number: 180299 Matrix: Soil Date Prep: 12/09/20
Parent Sample Id: 20120901-001 MS Sample Id: 20120901-001 S MSD Sample Id: 20120901-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	<0.3017	26.23	18.13	69	21.29	70	75-125	1	30	mg/kg	X
Arsenic	10.78	26.23	38.08	104	38.08	90	75-125	14	30	mg/kg	
Beryllium	2.057	26.23	29.96	106	31.52	97	75-125	9	30	mg/kg	
Cadmium	1.330	26.23	26.75	97	28.60	90	75-125	7	30	mg/kg	
Chromium	31.28	26.23	60.38	111	57.38	86	75-125	25	30	mg/kg	
Copper	44.47	26.23	73.42	110	70.67	86	75-125	24	30	mg/kg	
Lead	51.85	26.23	81.80	114	78.36	87	75-125	27	30	mg/kg	
Manganese	2121	26.23	2067	0	1797	0	75-125	NC	30	mg/kg	X
Mercury	0.1914	0.6558	0.9267	112	0.9107	95	75-125	16	30	mg/kg	
Nickel	63.02	26.23	90.18	104	89.20	86	75-125	19	30	mg/kg	
Selenium	1.180	26.23	23.69	86	25.60	80	75-125	7	30	mg/kg	
Silver	0.6546	26.23	26.62	99	27.63	89	75-125	11	30	mg/kg	
Thallium	0.3345	26.23	25.69	97	27.44	89	75-125	9	20	mg/kg	
Zinc	224.1	131.2	342.9	91	349.2	82	75-125	10	30	mg/kg	

Analytical Method: SW-846 6020 A
Prep Method: SW3050B
Seq Number: 180281 Matrix: Soil Date Prep: 12/09/20
Parent Sample Id: 20120901-021 MS Sample Id: 20120901-021 S MSD Sample Id: 20120901-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	0.3659	24.35	19.14	77	27.24	89	75-125	14	30	mg/kg	
Arsenic	6.231	24.35	30.44	99	41.71	117	75-125	17	30	mg/kg	
Beryllium	1.611	24.35	23.25	89	30.86	97	75-125	9	30	mg/kg	
Cadmium	0.6612	24.35	25.34	101	35.35	115	75-125	13	30	mg/kg	
Chromium	14.53	24.35	42.18	114	53.23	128	75-125	12	30	mg/kg	X
Copper	33.58	24.35	56.49	94	74.33	135	75-125	36	30	mg/kg	XF
Lead	30.58	24.35	56.34	106	55.60	83	75-125	24	30	mg/kg	
Manganese	513.2	24.35	497.9	0	517.1	13	75-125	200	30	mg/kg	XF
Mercury	0.2802	0.6088	0.8840	99	1.019	98	75-125	1	30	mg/kg	
Nickel	36.80	24.35	61.26	100	75.12	127	75-125	24	30	mg/kg	X
Selenium	2.549	24.35	28.66	107	34.09	104	75-125	3	30	mg/kg	
Silver	0.3264	24.35	22.13	90	29.57	97	75-125	7	30	mg/kg	
Thallium	<0.1583	24.35	20.04	82	27.32	90	75-125	9	20	mg/kg	
Zinc	192.4	121.8	269.8	64	357.4	109	75-125	52	30	mg/kg	XF

Analytical Method: SM2540G
Seq Number: 180209 Matrix: Soil
Parent Sample Id: 20120901-001 MD Sample Id: 20120901-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	58.3	58.7	1	10	%	

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Analytical Method: SM2540G

Seq Number: 180209 Matrix: Soil
Parent Sample Id: 20120901-011 MD Sample Id: 20120901-011 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	64.0	63.9	0	10	%	

Analytical Method: SM2540G

Seq Number: 180216 Matrix: Soil
Parent Sample Id: 20120901-021 MD Sample Id: 20120901-021 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	62.7	62.2	1	10	%	

Analytical Method: SM2540G

Seq Number: 180216 Matrix: Soil
Parent Sample Id: 20120901-031 MD Sample Id: 20120901-031 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	61.3	61.2	0	10	%	

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water

CCV Sample Id: CCV 1 Analyzed Date: 12/10/20 15:57

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	38.25	96	90-110	ug/L	
Arsenic	40.00	42.58	106	90-110	ug/L	
Beryllium	40.00	36.71	92	90-110	ug/L	
Cadmium	40.00	41.91	105	90-110	ug/L	
Chromium	40.00	43.31	108	90-110	ug/L	
Copper	40.00	39.57	99	90-110	ug/L	
Lead	40.00	38.31	96	90-110	ug/L	
Manganese	40.00	39.09	98	90-110	ug/L	
Mercury	1.000	0.9290	93	90-110	ug/L	
Nickel	40.00	42.35	106	90-110	ug/L	
Selenium	40.00	40.59	101	90-110	ug/L	
Silver	40.00	38.87	97	90-110	ug/L	
Thallium	40.00	37.36	93	90-110	ug/L	
Zinc	200	214.6	107	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water

CCV Sample Id: CCV 2 Analyzed Date: 12/10/20 16:57

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	37.09	93	90-110	ug/L	
Arsenic	40.00	43.13	108	90-110	ug/L	
Beryllium	40.00	36.75	92	90-110	ug/L	
Cadmium	40.00	41.99	105	90-110	ug/L	
Chromium	40.00	43.41	109	90-110	ug/L	
Copper	40.00	39.96	100	90-110	ug/L	
Lead	40.00	38.14	95	90-110	ug/L	
Manganese	40.00	38.94	97	90-110	ug/L	
Mercury	1.000	0.9230	92	90-110	ug/L	
Nickel	40.00	42.34	106	90-110	ug/L	
Selenium	40.00	41.24	103	90-110	ug/L	
Silver	40.00	38.80	97	90-110	ug/L	
Thallium	40.00	37.06	93	90-110	ug/L	
Zinc	200	216	108	90-110	ug/L	

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Project Name Conowingo
PSS Project No.: 20120901

Analytical Method: SW-846 6020 A
Seq Number: 180281 Matrix: Water
CCV Sample Id: CCV 3 Analyzed Date: 12/10/20 18:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	37.27	93	90-110	ug/L	
Arsenic	40.00	43.03	108	90-110	ug/L	
Beryllium	40.00	38.87	97	90-110	ug/L	
Cadmium	40.00	42.28	106	90-110	ug/L	
Chromium	40.00	43.66	109	90-110	ug/L	
Copper	40.00	39.35	98	90-110	ug/L	
Lead	40.00	38.18	95	90-110	ug/L	
Manganese	40.00	37.74	94	90-110	ug/L	
Mercury	1.000	0.9780	98	90-110	ug/L	
Nickel	40.00	43.05	108	90-110	ug/L	
Selenium	40.00	41.04	103	90-110	ug/L	
Silver	40.00	38.61	97	90-110	ug/L	
Thallium	40.00	38.13	95	90-110	ug/L	
Zinc	200	215.5	108	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180281 Matrix: Water
CCV Sample Id: CCV 4 Analyzed Date: 12/10/20 19:46

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	37.65	94	90-110	ug/L	
Arsenic	40.00	43.17	108	90-110	ug/L	
Beryllium	40.00	39.46	99	90-110	ug/L	
Cadmium	40.00	42.01	105	90-110	ug/L	
Chromium	40.00	43.01	108	90-110	ug/L	
Copper	40.00	39.26	98	90-110	ug/L	
Lead	40.00	38.14	95	90-110	ug/L	
Manganese	40.00	37.98	95	90-110	ug/L	
Mercury	1.000	0.9550	96	90-110	ug/L	
Nickel	40.00	42.32	106	90-110	ug/L	
Selenium	40.00	41.23	103	90-110	ug/L	
Silver	40.00	38.57	96	90-110	ug/L	
Thallium	40.00	37.58	94	90-110	ug/L	
Zinc	200	212.7	106	90-110	ug/L	

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Project Name Conowingo
PSS Project No.: 20120901

Analytical Method: SW-846 6020 A
Seq Number: 180299 Matrix: Water
CCV Sample Id: CCV 2 Analyzed Date: 12/10/20 20:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	37.05	93	90-110	ug/L	
Arsenic	40.00	38.41	96	90-110	ug/L	
Beryllium	40.00	39.51	99	90-110	ug/L	
Cadmium	40.00	38.08	95	90-110	ug/L	
Copper	40.00	37.67	94	90-110	ug/L	
Lead	40.00	40.41	101	90-110	ug/L	
Manganese	40.00	39.31	98	90-110	ug/L	
Mercury	1.000	1.073	107	90-110	ug/L	
Nickel	40.00	36.84	92	90-110	ug/L	
Selenium	40.00	36.57	91	90-110	ug/L	
Silver	40.00	39.00	98	90-110	ug/L	
Thallium	40.00	39.18	98	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180299 Matrix: Water
CCV Sample Id: CCV 3 Analyzed Date: 12/10/20 21:24

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	36.66	92	90-110	ug/L	
Arsenic	40.00	38.24	96	90-110	ug/L	
Beryllium	40.00	40.63	102	90-110	ug/L	
Cadmium	40.00	37.76	94	90-110	ug/L	
Copper	40.00	37.55	94	90-110	ug/L	
Lead	40.00	39.81	100	90-110	ug/L	
Manganese	40.00	39.39	98	90-110	ug/L	
Mercury	1.000	0.9860	99	90-110	ug/L	
Nickel	40.00	36.86	92	90-110	ug/L	
Selenium	40.00	36.55	91	90-110	ug/L	
Silver	40.00	38.24	96	90-110	ug/L	
Thallium	40.00	38.39	96	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water

CCV Sample Id: CCV 4 Analyzed Date: 12/10/20 22:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	37.27	93	90-110	ug/L	
Arsenic	40.00	39.47	99	90-110	ug/L	
Beryllium	40.00	40.14	100	90-110	ug/L	
Cadmium	40.00	38.62	97	90-110	ug/L	
Copper	40.00	38.81	97	90-110	ug/L	
Lead	40.00	39.24	98	90-110	ug/L	
Manganese	40.00	38.11	95	90-110	ug/L	
Mercury	1.000	1.021	102	90-110	ug/L	
Nickel	40.00	38.21	96	90-110	ug/L	
Selenium	40.00	37.53	94	90-110	ug/L	
Silver	40.00	38.56	96	90-110	ug/L	
Thallium	40.00	38.38	96	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water

CCV Sample Id: CCV 5 Analyzed Date: 12/10/20 23:37

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	37.17	93	90-110	ug/L	
Arsenic	40.00	39.47	99	90-110	ug/L	
Beryllium	40.00	38.06	95	90-110	ug/L	
Cadmium	40.00	38.63	97	90-110	ug/L	
Copper	40.00	38.26	96	90-110	ug/L	
Lead	40.00	38.57	96	90-110	ug/L	
Manganese	40.00	36.62	92	90-110	ug/L	
Mercury	1.000	0.8950	90	90-110	ug/L	
Nickel	40.00	37.86	95	90-110	ug/L	
Selenium	40.00	36.61	92	90-110	ug/L	
Silver	40.00	38.98	97	90-110	ug/L	
Thallium	40.00	37.56	94	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water

Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 12/10/20 13:32

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	40.00	39.70	99	90-110	ug/L	
Arsenic	40.00	42.01	105	90-110	ug/L	
Beryllium	40.00	41.26	103	90-110	ug/L	
Cadmium	40.00	42.07	105	90-110	ug/L	
Chromium	40.00	42.42	106	90-110	ug/L	
Copper	40.00	39.27	98	90-110	ug/L	
Lead	40.00	39.71	99	90-110	ug/L	
Manganese	40.00	39.75	99	90-110	ug/L	
Mercury	1.000	1.015	102	90-110	ug/L	
Nickel	40.00	41.87	105	90-110	ug/L	
Selenium	40.00	36.98	92	90-110	ug/L	
Silver	40.00	40.42	101	90-110	ug/L	
Thallium	40.00	40.05	100	90-110	ug/L	
Zinc	200	210.8	105	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water

Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 12/10/20 17:18

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	40.00	37.48	94	90-110	ug/L	
Arsenic	40.00	40.91	102	90-110	ug/L	
Beryllium	40.00	40.93	102	90-110	ug/L	
Cadmium	40.00	37.79	94	90-110	ug/L	
Copper	40.00	39.03	98	90-110	ug/L	
Lead	40.00	40.76	102	90-110	ug/L	
Manganese	40.00	38.50	96	90-110	ug/L	
Mercury	1.000	1.015	102	90-110	ug/L	
Nickel	40.00	38.38	96	90-110	ug/L	
Selenium	40.00	38.76	97	90-110	ug/L	
Silver	40.00	38.95	97	90-110	ug/L	
Thallium	40.00	39.89	100	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water

Parent Sample Id: LLCCV 1 LLCCV Sample Id: LLCCV 1 Analyzed Date: 12/10/20 16:02

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	6.094	122	70-130	ug/L	
Arsenic	1.000	1.289	129	70-130	ug/L	
Beryllium	1.000	1.045	105	70-130	ug/L	
Cadmium	1.000	1.193	119	70-130	ug/L	
Chromium	1.000	1.261	126	70-130	ug/L	
Copper	1.000	0.9280	93	70-130	ug/L	
Lead	1.000	1.093	109	70-130	ug/L	
Manganese	1.000	1.135	114	70-130	ug/L	
Mercury	0.2000	0.2380	119	70-130	ug/L	
Nickel	1.000	1.197	120	70-130	ug/L	
Selenium	1.000	1.280	128	70-130	ug/L	
Silver	1.000	1.070	107	70-130	ug/L	
Thallium	1.000	1.081	108	70-130	ug/L	
Zinc	20.00	23.13	116	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water

Parent Sample Id: LLCCV 2 LLCCV Sample Id: LLCCV 2 Analyzed Date: 12/10/20 17:05

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.778	96	70-130	ug/L	
Arsenic	1.000	1.083	108	70-130	ug/L	
Beryllium	1.000	0.9420	94	70-130	ug/L	
Cadmium	1.000	1.081	108	70-130	ug/L	
Chromium	1.000	1.087	109	70-130	ug/L	
Copper	1.000	0.7270	73	70-130	ug/L	
Lead	1.000	0.9550	96	70-130	ug/L	
Manganese	1.000	0.9570	96	70-130	ug/L	
Mercury	0.2000	0.1820	91	70-130	ug/L	
Nickel	1.000	1.075	108	70-130	ug/L	
Selenium	1.000	1.136	114	70-130	ug/L	
Silver	1.000	0.9330	93	70-130	ug/L	
Thallium	1.000	0.9170	92	70-130	ug/L	
Zinc	20.00	21.61	108	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water

Parent Sample Id: LLCCV 3 LLCCV Sample Id: LLCCV 3 Analyzed Date: 12/10/20 18:39

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.884	98	70-130	ug/L	
Arsenic	1.000	1.158	116	70-130	ug/L	
Beryllium	1.000	0.9880	99	70-130	ug/L	
Cadmium	1.000	1.106	111	70-130	ug/L	
Chromium	1.000	1.120	112	70-130	ug/L	
Copper	1.000	0.7050	71	70-130	ug/L	
Lead	1.000	0.9680	97	70-130	ug/L	
Manganese	1.000	0.9530	95	70-130	ug/L	
Mercury	0.2000	0.1730	87	70-130	ug/L	
Nickel	1.000	1.117	112	70-130	ug/L	
Selenium	1.000	1.041	104	70-130	ug/L	
Silver	1.000	0.9420	94	70-130	ug/L	
Thallium	1.000	0.9450	95	70-130	ug/L	
Zinc	20.00	21.88	109	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water

Parent Sample Id: LLCCV 4 LLCCV Sample Id: LLCCV 4 Analyzed Date: 12/10/20 19:56

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.935	99	70-130	ug/L	
Arsenic	1.000	1.184	118	70-130	ug/L	
Beryllium	1.000	1.021	102	70-130	ug/L	
Cadmium	1.000	1.150	115	70-130	ug/L	
Chromium	1.000	2.086	209	70-130	ug/L	X
Copper	1.000	0.7380	74	70-130	ug/L	
Lead	1.000	0.9690	97	70-130	ug/L	
Manganese	1.000	0.9320	93	70-130	ug/L	
Mercury	0.2000	0.1800	90	70-130	ug/L	
Nickel	1.000	1.145	115	70-130	ug/L	
Selenium	1.000	1.066	107	70-130	ug/L	
Silver	1.000	0.9520	95	70-130	ug/L	
Thallium	1.000	0.9700	97	70-130	ug/L	
Zinc	20.00	22.92	115	70-130	ug/L	

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Project Name Conowingo
PSS Project No.: 20120901

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water
Parent Sample Id: LLCCV 2 LLCCV Sample Id: LLCCV 2 Analyzed Date: 12/10/20 20:18

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.640	93	70-130	ug/L	
Arsenic	1.000	0.9130	91	70-130	ug/L	
Beryllium	1.000	0.9760	98	70-130	ug/L	
Cadmium	1.000	1.018	102	70-130	ug/L	
Copper	1.000	0.9430	94	70-130	ug/L	
Lead	1.000	1.028	103	70-130	ug/L	
Manganese	1.000	0.9160	92	70-130	ug/L	
Mercury	0.2000	0.3440	172	70-130	ug/L	X
Nickel	1.000	0.9000	90	70-130	ug/L	
Selenium	1.000	1.037	104	70-130	ug/L	
Silver	1.000	0.9290	93	70-130	ug/L	
Thallium	1.000	1.034	103	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water
Parent Sample Id: LLCCV 3 LLCCV Sample Id: LLCCV 3 Analyzed Date: 12/10/20 21:29

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.553	91	70-130	ug/L	
Arsenic	1.000	0.9050	91	70-130	ug/L	
Beryllium	1.000	1.018	102	70-130	ug/L	
Cadmium	1.000	0.9370	94	70-130	ug/L	
Copper	1.000	0.9120	91	70-130	ug/L	
Lead	1.000	1.037	104	70-130	ug/L	
Manganese	1.000	0.9360	94	70-130	ug/L	
Mercury	0.2000	0.2930	147	70-130	ug/L	X
Nickel	1.000	0.8860	89	70-130	ug/L	
Selenium	1.000	0.9060	91	70-130	ug/L	
Silver	1.000	0.9950	100	70-130	ug/L	
Thallium	1.000	0.9810	98	70-130	ug/L	

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Project Name Conowingo
PSS Project No.: 20120901

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water
Parent Sample Id: LLCCV 4 LLCCV Sample Id: LLCCV 4 Analyzed Date: 12/10/20 22:36

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.671	93	70-130	ug/L	
Arsenic	1.000	0.9170	92	70-130	ug/L	
Beryllium	1.000	1.029	103	70-130	ug/L	
Cadmium	1.000	1.044	104	70-130	ug/L	
Copper	1.000	1.007	101	70-130	ug/L	
Lead	1.000	0.9430	94	70-130	ug/L	
Manganese	1.000	0.9140	91	70-130	ug/L	
Mercury	0.2000	0.2270	114	70-130	ug/L	
Nickel	1.000	0.9330	93	70-130	ug/L	
Selenium	1.000	0.9170	92	70-130	ug/L	
Silver	1.000	0.9960	100	70-130	ug/L	
Thallium	1.000	0.9390	94	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water
Parent Sample Id: LLCCV 5 LLCCV Sample Id: LLCCV 5 Analyzed Date: 12/10/20 23:42

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.654	93	70-130	ug/L	
Arsenic	1.000	0.9360	94	70-130	ug/L	
Beryllium	1.000	0.9980	100	70-130	ug/L	
Cadmium	1.000	0.9200	92	70-130	ug/L	
Copper	1.000	0.9790	98	70-130	ug/L	
Lead	1.000	0.9380	94	70-130	ug/L	
Manganese	1.000	0.8710	87	70-130	ug/L	
Mercury	0.2000	0.2690	135	70-130	ug/L	X
Nickel	1.000	0.9410	94	70-130	ug/L	
Selenium	1.000	0.9810	98	70-130	ug/L	
Silver	1.000	0.9490	95	70-130	ug/L	
Thallium	1.000	0.9660	97	70-130	ug/L	

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Project Name Conowingo
PSS Project No.: 20120901

Analytical Method: SW-846 6020 A

Seq Number: 180281 Matrix: Water
Parent Sample Id: LLICV 1 LLICV Sample Id: LLICV 1 Analyzed Date: 12/10/20 13:41

Parameter	Spike Amount	LLICV Result	LLICV %Rec	Limits	Units	Flag
Antimony	5.000	5.294	106	70-130	ug/L	
Arsenic	1.000	1.192	119	70-130	ug/L	
Beryllium	1.000	1.059	106	70-130	ug/L	
Cadmium	1.000	1.174	117	70-130	ug/L	
Chromium	1.000	1.135	114	70-130	ug/L	
Copper	1.000	0.8720	87	70-130	ug/L	
Lead	1.000	1.001	100	70-130	ug/L	
Manganese	1.000	1.005	101	70-130	ug/L	
Mercury	0.2000	0.2330	117	70-130	ug/L	
Nickel	1.000	1.139	114	70-130	ug/L	
Selenium	1.000	1.041	104	70-130	ug/L	
Silver	1.000	0.9850	99	70-130	ug/L	
Thallium	1.000	1.048	105	70-130	ug/L	
Zinc	20.00	22.14	111	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180299 Matrix: Water
Parent Sample Id: LLICV 1 LLICV Sample Id: LLICV 1 Analyzed Date: 12/10/20 17:32

Parameter	Spike Amount	LLICV Result	LLICV %Rec	Limits	Units	Flag
Antimony	5.000	4.581	92	70-130	ug/L	
Arsenic	1.000	0.9830	98	70-130	ug/L	
Beryllium	1.000	1.060	106	70-130	ug/L	
Cadmium	1.000	1.019	102	70-130	ug/L	
Copper	1.000	0.9240	92	70-130	ug/L	
Lead	1.000	1.036	104	70-130	ug/L	
Manganese	1.000	0.9740	97	70-130	ug/L	
Mercury	0.2000	0.2700	135	70-130	ug/L	X
Nickel	1.000	0.9220	92	70-130	ug/L	
Selenium	1.000	1.086	109	70-130	ug/L	
Silver	1.000	0.9230	92	70-130	ug/L	
Thallium	1.000	1.073	107	70-130	ug/L	

X = Recovery outside of QC Criteria

northgate environmental management, inc.

20120901

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.02 | Project Location: CONOWINGO | Date: 12/8/20

Project Name: CONOWINGO | Field Logbook No: NA | Serial No: 1 8 3

Samplers: W. EKONS / S. BEDOSKY

	SAMPLES						ANALYSES								REMARKS
	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	PP METALS	TOC					HOLD	RUSH	
1	A2 7.8-12.8	12/8/20	0754		1	SED	X	X							
2	A2 13.2-16.4		0754		1		X	X							
3	A2 16.4-17.8		0830		1		X	X							
4	A2 18.0-20.2		0915		1		X	X							
5	A2 20.2-22.8		0920		1		X	X							
6	A2 28.4-32.8		0955		1		X	X							
7	A2 33.6-35.8		1015		1		X	X							
8	A2 23.4-~~25.8~~		0930		1		X	X							
9	A2 38.0-40.0		1040		1		X	X							
10	A3 24.6-26.0		1505		1		X	X							
11	A3 26.0-28.4		1516		1		X	X							
12	A3 28.6-29.9		1533		1		X	X							
13	A3 29.9-33.4		1539		1		X	X							

re SJB 1/27/21

A2 23.4-27.8 SJB 3/5/21

~~# of Coolers:~~ 1
~~Custody Seal:~~ ABS
~~Ice Present:~~ PRES
~~Shipping Carrier:~~ Client
Temp: 2.3=5.3°C

Relinquished by: (Signature) [signature]	Date: 12/8/20	Time: 1640	Received by: (Signature) [signature]	Date: 12/8/20	Time: 1725
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment:	Date:	Time:	Lab Comments:		

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory:

northgate
environmental management, inc

20120901

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.02 Project Location: CONONINGO Date: 12/8/20

Project Name: CONONINGO Field Logbook No: NA Serial No: 2063

Samplers: W/ IRONS / S. BEDOSKY

	SAMPLES						ANALYSES								REMARKS
	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	PP METALS	TOC					HOLD	RUSH	
14	C2 24.5-27.3	12/8/20	1105		1	SED	X	X							
15	C2 29.8-32.2		1156		1		X	X		re					
16	C2 34.1-34.9		1231		1		X	X		SBB					
17	C2 35.3-37.3		1243		1		X	X		1/27/21					
18	C2 38.4-39.3		1352		1		X	X							
19	C2 39.3-42.3		1401		1		X	X							

# of Coolers:
Custody Seal:
Ice Present: Temp:
Shipping Carrier:

Relinquished by: (Signature)	Date: 12/8/20	Time: 1640	Received by: (Signature)	Date: 12/8/20	Time: 1725
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment:	Date:	Time:	Lab Comments:		

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory:

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environmental management, inc

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CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.02 Project Location: Conowingo Date: 12/8/20

Project Name: CONOWINGO Field Logbook No: NA Serial No: 3 of 3

Samplers: W. IRONS / S. BEDOSKY

	SAMPLES						ANALYSES							REMARKS
	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	PRIORITY POLLUTANT METALS	TAL				HOLD	RUSH	
20	C1 58.8-60.5	12/5/20	1530		1	SED	X	X						
21	C1 27.9-30.5		1410		1		X	X						
22	C1 24.1-25.5		1258		1		X	X						
23	~~C1 33.3-35.5~~		1455		1		X	X						
24	C1 44.5-45.5		1550		1		X	X						
25	B1 36.6-38.8	12/5/20	1616		1	SED	X	X						
26	B1 41.2-43.8		1717		1		X	X						
27	D1 20.8-22.7	12/6/20	0930		1		X	X						
28	D1 24.7-26.7		1041		1		X	X						
29	D1 26.7-27.7		1050		1		X	X						
30	~~B1 28.8-30.2~~		1137		1		X	X						
31	D1 30.2-32.7		1147		1		X	X						
32	D1 ~~32.5~~-37.7		1225		1		X	X						
33	D1 38.0-42.7		1251		1		X	X						
					1									

# of Coolers:
Custody Seal:
Ice Present: Temp:
Shipping Carrier:

Relinquished by: (Signature)		Date: 12/8/20	Time: 1640	Received by: (Signature)	Date: 12/8/20 Time: 1735
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)		Date:	Time:	Received by: (Signature)	Date: Time:
Method of Shipment:		Date:	Time:	Lab Comments:	
Sample Collector:	Northgate Environmental Management, Inc. 47 East All Saints Street Frederick, MD 21701 (850) 508-5313			Analytical Laboratory:	

C1 33.3-35.5 SDG 1/27/21
D1 28.5-30.2
D1 33.0-37.7 SDG 1/27/21

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Sample Receipt Checklist

Project Name: Conowingo
PSS Project No.: 20120901

Client Name	Northgate Environmental Manageme	**Received By**	Thomas Wingate
Disposal Date	01/12/2021	**Date Received**	12/08/2020 05:25:00 PM
		Delivered By	Client
		Tracking No	Not Applicable
		Logged In By	Thomas Wingate

Shipping Container(s)
No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5.3
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	W.Irons, S.Bedosky
COC agrees with sample labels?	Yes	MD DW Cert. No.	N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Holding Time

		Total No. of Samples Received	33
All Samples Received Within Holding Time(s)?	Yes	Total No. of Containers Received	66

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Received only one container per sample, a 2oz glass container was split from each sample for TOC analysis.

Samples Inspected/Checklist Completed By: Thomas Wingate — Date: 12/09/2020

PM Review and Approval: Lynn Jackson — Date: 12/09/2020

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121018

March 24, 2021

Nancy Leitner
Northgate Environmental Management, Inc.
47 East All Saints St.
Frederick, MD 21701

Reference: PSS Project No: **20121018**
Project Name: Conowingo
Project Location: Conowingo
Project ID.: 3037.02

Dear Nancy Leitner:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **20121018**. This report has been revised to report manganese per client request. This report version includes revised sample results. This report cancels and supersedes report version 1.002 dated February 8, 2021.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 14, 2021, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal
Laboratory Manager

PHASE SEPARATION SCIENCE

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Baltimore, MD 21228
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800-932-9047
www.phaseonline.com

Explanation of Qualifiers

Project Name: Conowingo
PSS Project No.: 20121018

Project ID: 3037.02

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/10/2020 at 04:40 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
20121018-001	A3 34.7'-36.2'	SOIL	12/08/20 16:35
20121018-002	A3 41.6'-43.4'	SOIL	12/08/20 16:47
20121018-003	A3 44.6'-47.4'	SOIL	12/08/20 17:19
20121018-004	C4 24.9'-26.4'	SOIL	12/09/20 09:05
20121018-005	C4 26.4'-28.0'	SOIL	12/09/20 09:07
20121018-006	C4 28.4'-31.9'	SOIL	12/09/20 11:10
20121018-007	C4 36.4'-38.0'	SOIL	12/09/20 11:15
20121018-008	C4 41.4'-43.0'	SOIL	12/09/20 12:43
20121018-009	C4 44.6'-48.0'	SOIL	12/09/20 12:50
20121018-010	C4 48.0'-53.0'	SOIL	12/09/20 13:05
20121018-011	C4 53.4'-55.5'	SOIL	12/09/20 13:58
20121018-012	C4 55.5'-58.0'	SOIL	12/09/20 14:02
20121018-013	C3 30.6'-35.5'	SOIL	12/09/20 15:24
20121018-014	C3 29.3'-30.5'	SOIL	12/09/20 15:45
20121018-015	C3 38.2'-40.5'	SOIL	12/09/20 16:26
20121018-016	C3 40.5'-41.8'	SOIL	12/09/20 16:38
20121018-017	C3 47.7'	SOIL	12/09/20 17:05
20121018-018	C3 46.7'-50.5'	SOIL	12/09/20 17:05
20121018-019	D3 24.4'-25.9'	SOIL	12/09/20 17:40
20121018-020	D3 26.2'-30.9'	SOIL	12/09/20 18:10
20121018-021	D3 32.0'-35.9'	SOIL	12/09/20 18:40
20121018-022	D3 36.1-40.9	SOIL	12/10/20 07:50
20121018-023	D3 40.9'-45.9'	SOIL	12/10/20 08:10
20121018-024	D3 45.9'-50.9'	SOIL	12/10/20 08:20
20121018-025	D3 50.9'-53.2'	SOIL	12/10/20 08:35
20121018-026	C5 22.1'-26.7'	SOIL	12/10/20 10:00
20121018-027	C5 29.4'-31.7'	SOIL	12/10/20 10:40
20121018-028	C5 34.0'-36.7'	SOIL	12/10/20 10:50
20121018-029	C5 36.7'-41.7'	SOIL	12/10/20 11:40
20121018-030	C5 43.5'-46.7'	SOIL	12/10/20 12:30
20121018-031	C5 49.0'-49.9'	SOIL	12/10/20 12:57
20121018-032	B5 27.0'	SOIL	12/10/20 13:50
20121018-033	B5 31.0'-35.4'	SOIL	12/10/20 14:50
20121018-034	B5 24.4'-25.4'	SOIL	12/10/20 15:23
20121018-035	B5 29.4'-30.4'	SOIL	12/10/20 15:35
20121018-036	B5 35.4'-40.4'	SOIL	12/10/20 15:55

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

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Explanation of Qualifiers

Project Name: Conowingo

PSS Project No.: 20121018

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: A3 34.7'-36.2' **Date/Time Sampled: 12/08/2020 16:35** **PSS Sample ID: 20121018-001**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 72.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.24**	mg/kg	2.3	J	1	0.21	12/14/20	12/18/20 00:29	1051
Arsenic	**3.7**	mg/kg	0.46		1	0.051	12/14/20	12/18/20 00:29	1051
Beryllium	**0.88**	mg/kg	0.46		1	0.12	12/14/20	12/18/20 00:29	1051
Cadmium	**0.23**	mg/kg	0.46	J	1	0.046	12/14/20	12/18/20 00:29	1051
Chromium	**13**	mg/kg	0.46		1	0.26	12/14/20	12/18/20 00:29	1051
Copper	**110**	mg/kg	0.46		1	0.14	12/14/20	12/18/20 00:29	1051
Lead	**16**	mg/kg	0.46		1	0.2	12/14/20	12/18/20 00:29	1051
Manganese	**460**	mg/kg	0.46		1	0.39	12/14/20	12/18/20 00:29	1051
Mercury	**0.16**	mg/kg	0.093		1	0.034	12/14/20	12/18/20 00:29	1051
Nickel	**21**	mg/kg	0.46		1	0.16	12/14/20	12/18/20 00:29	1051
Selenium	**1.4**	mg/kg	0.46		1	0.046	12/14/20	12/18/20 00:29	1051
Silver	**0.11**	mg/kg	0.46	J	1	0.051	12/14/20	12/18/20 00:29	1051
Thallium	**0.16**	mg/kg	0.46	J	1	0.12	12/14/20	12/18/20 00:29	1051
Zinc	**80**	mg/kg	9.3		1	0.51	12/14/20	12/18/20 00:29	1051

Sample ID: A3 41.6'-43.4' **Date/Time Sampled: 12/08/2020 16:47** **PSS Sample ID: 20121018-002**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 85.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.32**	mg/kg	2.1	J	1	0.19	12/14/20	12/18/20 01:20	1051
Arsenic	**2.6**	mg/kg	0.41		1	0.045	12/14/20	12/18/20 01:20	1051
Beryllium	**0.30**	mg/kg	0.41	J	1	0.1	12/14/20	12/18/20 01:20	1051
Cadmium	ND	mg/kg	0.41		1	0.041	12/14/20	12/18/20 01:20	1051
Chromium	**8.9**	mg/kg	0.41		1	0.23	12/14/20	12/18/20 01:20	1051
Copper	**5.5**	mg/kg	0.41		1	0.13	12/14/20	12/18/20 01:20	1051
Lead	**4.9**	mg/kg	0.41		1	0.17	12/14/20	12/18/20 01:20	1051
Manganese	**130**	mg/kg	0.41		1	0.34	12/14/20	12/18/20 01:20	1051
Mercury	ND	mg/kg	0.082		1	0.03	12/14/20	12/18/20 01:20	1051
Nickel	**11**	mg/kg	0.41		1	0.14	12/14/20	12/18/20 01:20	1051
Selenium	**0.089**	mg/kg	0.41	J	1	0.041	12/14/20	12/18/20 01:20	1051
Silver	ND	mg/kg	0.41		1	0.045	12/14/20	12/18/20 01:20	1051
Thallium	ND	mg/kg	0.41		1	0.11	12/14/20	12/18/20 01:20	1051
Zinc	**35**	mg/kg	8.2		1	0.45	12/14/20	12/18/20 01:20	1051

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Sample ID: A3 44.6'-47.4' **Date/Time Sampled: 12/08/2020 17:19** **PSS Sample ID: 20121018-003**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 81.8**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.2		1	0.2	12/14/20	12/18/20 01:25	1051
Arsenic	**2.7**	mg/kg	0.43		1	0.048	12/14/20	12/18/20 01:25	1051
Beryllium	**0.27**	mg/kg	0.43	J	1	0.11	12/14/20	12/18/20 01:25	1051
Cadmium	ND	mg/kg	0.43		1	0.043	12/14/20	12/18/20 01:25	1051
Chromium	**12**	mg/kg	0.43		1	0.24	12/14/20	12/18/20 01:25	1051
Copper	**5.5**	mg/kg	0.43		1	0.13	12/14/20	12/18/20 01:25	1051
Lead	**4.6**	mg/kg	0.43		1	0.18	12/14/20	12/18/20 01:25	1051
Manganese	**150**	mg/kg	0.43		1	0.36	12/14/20	12/18/20 01:25	1051
Mercury	ND	mg/kg	0.087		1	0.032	12/14/20	12/18/20 01:25	1051
Nickel	**9.9**	mg/kg	0.43		1	0.15	12/14/20	12/18/20 01:25	1051
Selenium	**0.064**	mg/kg	0.43	J	1	0.043	12/14/20	12/18/20 01:25	1051
Silver	ND	mg/kg	0.43		1	0.048	12/14/20	12/18/20 01:25	1051
Thallium	ND	mg/kg	0.43		1	0.11	12/14/20	12/18/20 01:25	1051
Zinc	**33**	mg/kg	8.7		1	0.48	12/14/20	12/18/20 01:25	1051

Sample ID: C4 24.9'-26.4' **Date/Time Sampled: 12/09/2020 09:05** **PSS Sample ID: 20121018-004**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 61.3**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.0		1	0.27	12/14/20	12/18/20 01:34	1051
Arsenic	**3.7**	mg/kg	0.59		1	0.065	12/14/20	12/18/20 01:34	1051
Beryllium	**0.37**	mg/kg	0.59	J	1	0.15	12/14/20	12/18/20 01:34	1051
Cadmium	ND	mg/kg	0.59		1	0.059	12/14/20	12/18/20 01:34	1051
Chromium	**16**	mg/kg	0.59		1	0.33	12/14/20	12/18/20 01:34	1051
Copper	**7.3**	mg/kg	0.59		1	0.18	12/14/20	12/18/20 01:34	1051
Lead	**6.1**	mg/kg	0.59		1	0.25	12/14/20	12/18/20 01:34	1051
Manganese	**200**	mg/kg	0.59		1	0.5	12/14/20	12/18/20 01:34	1051
Mercury	ND	mg/kg	0.12		1	0.043	12/14/20	12/18/20 01:34	1051
Nickel	**13**	mg/kg	0.59		1	0.21	12/14/20	12/18/20 01:34	1051
Selenium	**0.059**	mg/kg	0.59	J	1	0.059	12/14/20	12/18/20 01:34	1051
Silver	ND	mg/kg	0.59		1	0.065	12/14/20	12/18/20 01:34	1051
Thallium	ND	mg/kg	0.59		1	0.15	12/14/20	12/18/20 01:34	1051
Zinc	**44**	mg/kg	12		1	0.65	12/14/20	12/18/20 01:34	1051

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Sample ID: C4 26.4'-28.0' **Date/Time Sampled: 12/09/2020 09:07** **PSS Sample ID: 20121018-005**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 56.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.55**	mg/kg	3.2	J	1	0.29	12/14/20	12/18/20 01:39	1051
Arsenic	**14**	mg/kg	0.64		1	0.07	12/14/20	12/18/20 01:39	1051
Beryllium	**2.4**	mg/kg	0.64		1	0.16	12/14/20	12/18/20 01:39	1051
Cadmium	**2.7**	mg/kg	0.64		1	0.064	12/14/20	12/18/20 01:39	1051
Chromium	**37**	mg/kg	0.64		1	0.35	12/14/20	12/18/20 01:39	1051
Copper	**57**	mg/kg	0.64		1	0.2	12/14/20	12/18/20 01:39	1051
Lead	**55**	mg/kg	0.64		1	0.27	12/14/20	12/18/20 01:39	1051
Manganese	**1,700**	mg/kg	0.64	E	1	0.54	12/14/20	12/18/20 01:39	1051
Mercury	**0.23**	mg/kg	0.13		1	0.047	12/14/20	12/18/20 01:39	1051
Nickel	**77**	mg/kg	0.64		1	0.22	12/14/20	12/18/20 01:39	1051
Selenium	**1.4**	mg/kg	0.64		1	0.064	12/14/20	12/18/20 01:39	1051
Silver	**3.0**	mg/kg	0.64		1	0.07	12/14/20	12/18/20 01:39	1051
Thallium	**0.27**	mg/kg	0.64	J	1	0.17	12/14/20	12/18/20 01:39	1051
Zinc	**340**	mg/kg	13		1	0.7	12/14/20	12/18/20 01:39	1051

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Project Name: Conowingo
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Sample ID: C4 28.4'-31.9' **Date/Time Sampled: 12/09/2020 11:10** **PSS Sample ID: 20121018-006**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.5**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	63		1	16	12/11/20	12/11/20 17:15	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**30**	mg/kg	2.9		1	0.88	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180416 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**250**	mg/kg	74		10	37	12/15/20	12/15/20 17:00	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180542 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	13		1	4	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 28.4'-31.9' **Date/Time Sampled: 12/09/2020 11:10** **PSS Sample ID: 20121018-006**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.5**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.32**	mg/kg	2.9	J	1	0.27	12/14/20	12/18/20 01:44	1051
Arsenic	**4.8**	mg/kg	0.58		1	0.064	12/14/20	12/18/20 01:44	1051
Beryllium	**0.91**	mg/kg	0.58		1	0.14	12/14/20	12/18/20 01:44	1051
Cadmium	**0.25**	mg/kg	0.58	J	1	0.058	12/14/20	12/18/20 01:44	1051
Chromium	**7.6**	mg/kg	0.58		1	0.32	12/14/20	12/18/20 01:44	1051
Copper	**24**	mg/kg	0.58		1	0.18	12/14/20	12/18/20 01:44	1051
Lead	**15**	mg/kg	0.58		1	0.24	12/14/20	12/18/20 01:44	1051
Manganese	**370**	mg/kg	0.58		1	0.49	12/14/20	12/18/20 01:44	1051
Mercury	**0.12**	mg/kg	0.12		1	0.042	12/14/20	12/18/20 01:44	1051
Nickel	**24**	mg/kg	0.58		1	0.2	12/14/20	12/18/20 01:44	1051
Selenium	**1.7**	mg/kg	0.58		1	0.058	12/14/20	12/18/20 01:44	1051
Silver	**0.13**	mg/kg	0.58	J	1	0.064	12/14/20	12/18/20 01:44	1051
Thallium	ND	mg/kg	0.58		1	0.15	12/14/20	12/18/20 01:44	1051
Zinc	**88**	mg/kg	12		1	0.64	12/14/20	12/18/20 01:44	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180402 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.3		1	1.3	12/14/20	12/15/20 13:54	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**18**	mg/kg	4.3	DF	1	4.3	12/15/20	12/16/20 12:40	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*80*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 12:40*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 28.4'-31.9' **Date/Time Sampled: 12/09/2020 11:10** **PSS Sample ID: 20121018-006**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.5**

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C GRO — Preparation Method: SW5030

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.13		1	0.064	12/23/20	12/23/20 13:34	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*83*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 13:34*	*1045*

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
beta-BHC	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
delta-BHC	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Heptachlor	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Aldrin	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Heptachlor epoxide	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
gamma-Chlordane	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
alpha-Chlordane	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
4,4-DDE	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Endosulfan I	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Dieldrin	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Endrin	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
4,4-DDD	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Endosulfan II	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
4,4-DDT	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Endrin aldehyde	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Methoxychlor	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Endosulfan sulfate	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Endrin ketone	ND	mg/kg	0.0051		1	0.0051	12/15/20	12/16/20 12:14	1029
Toxaphene	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 12:14	1029
Chlordane	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 12:14	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*98*	*%*	*39-151*		*1*		*12/15/20*	*12/16/20 12:14*	*1029*
Tetrachloro-m-xylene	*74*	*%*	*44-152*		*1*		*12/15/20*	*12/16/20 12:14*	*1029*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 28.4'-31.9' **Date/Time Sampled: 12/09/2020 11:10** **PSS Sample ID: 20121018-006**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.5**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180425 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.064		1	0.064	12/15/20	12/16/20 14:20	1029
PCB-1221	ND	mg/kg	0.064		1	0.064	12/15/20	12/16/20 14:20	1029
PCB-1232	ND	mg/kg	0.064		1	0.064	12/15/20	12/16/20 14:20	1029
PCB-1242	ND	mg/kg	0.064		1	0.064	12/15/20	12/16/20 14:20	1029
PCB-1248	ND	mg/kg	0.064		1	0.064	12/15/20	12/16/20 14:20	1029
PCB-1254	ND	mg/kg	0.064		1	0.064	12/15/20	12/16/20 14:20	1029
PCB-1260	ND	mg/kg	0.064		1	0.064	12/15/20	12/16/20 14:20	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*88*	*%*	*34-117*	*1*	*12/15/20*	*12/16/20 14:20*	*1029*
Decachlorobiphenyl	*116*	*%*	*40-149*	*1*	*12/15/20*	*12/16/20 14:20*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Acenaphthylene	**0.016**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Acetophenone	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Anthracene	**0.035**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Atrazine	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
Benzo(a)anthracene	**0.085**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Benzo(a)pyrene	**0.068**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Benzo(b)fluoranthene	**0.042**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Benzo(g,h,i)perylene	**0.030**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Benzo(k)fluoranthene	**0.054**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Butyl benzyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Di-n-butyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Carbazole	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Caprolactam	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 28.4'-31.9' **Date/Time Sampled: 12/09/2020 11:10** **PSS Sample ID: 20121018-006**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Chloro-3-methyl phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
4-Chloroaniline	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2-Chloronaphthalene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2-Chlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Chrysene	**0.076**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Dibenz(a,h)Anthracene	**0.015**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Dibenzofuran	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2,4-Dichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Diethyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Dimethyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2,4-Dimethylphenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.22		1	0.22	12/14/20	12/15/20 17:42	1059
2,4-Dinitrophenol	ND	mg/kg	0.22		1	0.22	12/14/20	12/15/20 17:42	1059
2,4-Dinitrotoluene	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
2,6-Dinitrotoluene	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
Fluoranthene	**0.17**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Fluorene	**0.027**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Hexachlorobenzene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Hexachlorobutadiene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
Hexachloroethane	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Indeno(1,2,3-c,d)Pyrene	**0.034**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Isophorone	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
2-Methyl phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
3&4-Methylphenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Naphthalene	ND	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
2-Nitroaniline	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
3-Nitroaniline	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
4-Nitroaniline	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
Nitrobenzene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2-Nitrophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
4-Nitrophenol	ND	mg/kg	0.22		1	0.22	12/14/20	12/15/20 17:42	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 28.4'-31.9' **Date/Time Sampled: 12/09/2020 11:10** **PSS Sample ID: 20121018-006**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.5**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Di-n-octyl phthalate	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
Pentachlorophenol	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 17:42	1059
Phenanthrene	**0.15**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
Pyrene	**0.14**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 17:42	1059
Pyridine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 17:42	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*81*	*%*	*50-104*	*1*	*12/14/20*	*12/15/20 17:42*	*1059*
2-Fluorophenol	*79*	*%*	*40-109*	*1*	*12/14/20*	*12/15/20 17:42*	*1059*
Nitrobenzene-d5	*79*	*%*	*41-101*	*1*	*12/14/20*	*12/15/20 17:42*	*1059*
Phenol-d6	*74*	*%*	*44-102*	*1*	*12/14/20*	*12/15/20 17:42*	*1059*
Terphenyl-D14	*95*	*%*	*70-115*	*1*	*12/14/20*	*12/15/20 17:42*	*1059*
2,4,6-Tribromophenol	*83*	*%*	*36-123*	*1*	*12/14/20*	*12/15/20 17:42*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.070**	mg/kg	0.077	J	1	0.039	12/17/20	12/17/20 16:26	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 36.4'-38.0' **Date/Time Sampled: 12/09/2020 11:15** **PSS Sample ID: 20121018-007**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 56.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.73**	mg/kg	4.0	J	1	0.37	12/14/20	12/18/20 02:11	1051
Arsenic	**17**	mg/kg	0.79		1	0.087	12/14/20	12/18/20 02:11	1051
Beryllium	**3.2**	mg/kg	0.79		1	0.2	12/14/20	12/18/20 02:11	1051
Cadmium	**4.5**	mg/kg	0.79		1	0.079	12/14/20	12/18/20 02:11	1051
Chromium	**62**	mg/kg	0.79		1	0.44	12/14/20	12/18/20 02:11	1051
Copper	**85**	mg/kg	0.79		1	0.25	12/14/20	12/18/20 02:11	1051
Lead	**71**	mg/kg	0.79		1	0.33	12/14/20	12/18/20 02:11	1051
Manganese	**2,000**	mg/kg	0.79	E	1	0.67	12/14/20	12/18/20 02:11	1051
Mercury	**0.36**	mg/kg	0.16		1	0.058	12/14/20	12/18/20 02:11	1051
Nickel	**100**	mg/kg	0.79		1	0.28	12/14/20	12/18/20 02:11	1051
Selenium	**2.7**	mg/kg	0.79		1	0.079	12/14/20	12/18/20 02:11	1051
Silver	**5.3**	mg/kg	0.79		1	0.087	12/14/20	12/18/20 02:11	1051
Thallium	**0.31**	mg/kg	0.79	J	1	0.21	12/14/20	12/18/20 02:11	1051
Zinc	**550**	mg/kg	16		1	0.87	12/14/20	12/18/20 02:11	1051

Sample ID: C4 41.4'-43.0' **Date/Time Sampled: 12/09/2020 12:43** **PSS Sample ID: 20121018-008**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 56.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.58**	mg/kg	3.0	J	1	0.27	12/14/20	12/18/20 02:16	1051
Arsenic	**15**	mg/kg	0.60		1	0.066	12/14/20	12/18/20 02:16	1051
Beryllium	**3.3**	mg/kg	0.60		1	0.15	12/14/20	12/18/20 02:16	1051
Cadmium	**3.7**	mg/kg	0.60		1	0.06	12/14/20	12/18/20 02:16	1051
Chromium	**60**	mg/kg	0.60		1	0.33	12/14/20	12/18/20 02:16	1051
Copper	**88**	mg/kg	0.60		1	0.19	12/14/20	12/18/20 02:16	1051
Lead	**66**	mg/kg	0.60		1	0.25	12/14/20	12/18/20 02:16	1051
Manganese	**1,700**	mg/kg	0.60	E	1	0.5	12/14/20	12/18/20 02:16	1051
Mercury	**0.36**	mg/kg	0.12		1	0.044	12/14/20	12/18/20 02:16	1051
Nickel	**88**	mg/kg	0.60		1	0.21	12/14/20	12/18/20 02:16	1051
Selenium	**2.2**	mg/kg	0.60		1	0.06	12/14/20	12/18/20 02:16	1051
Silver	**3.1**	mg/kg	0.60		1	0.066	12/14/20	12/18/20 02:16	1051
Thallium	**0.29**	mg/kg	0.60	J	1	0.16	12/14/20	12/18/20 02:16	1051
Zinc	**560**	mg/kg	12		1	0.66	12/14/20	12/18/20 02:16	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 44.6'-48.0' **Date/Time Sampled: 12/09/2020 12:50** **PSS Sample ID: 20121018-009**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 55.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.69**	mg/kg	4.3	J	1	0.4	12/14/20	12/18/20 02:21	1051
Arsenic	**17**	mg/kg	0.86		1	0.095	12/14/20	12/18/20 02:21	1051
Beryllium	**4.3**	mg/kg	0.86		1	0.22	12/14/20	12/18/20 02:21	1051
Cadmium	**3.3**	mg/kg	0.86		1	0.086	12/14/20	12/18/20 02:21	1051
Chromium	**56**	mg/kg	0.86		1	0.48	12/14/20	12/18/20 02:21	1051
Copper	**110**	mg/kg	0.86		1	0.27	12/14/20	12/18/20 02:21	1051
Lead	**78**	mg/kg	0.86		1	0.36	12/14/20	12/18/20 02:21	1051
Manganese	**1,600**	mg/kg	0.86	E	1	0.73	12/14/20	12/18/20 02:21	1051
Mercury	**0.56**	mg/kg	0.17		1	0.063	12/14/20	12/18/20 02:21	1051
Nickel	**96**	mg/kg	0.86		1	0.3	12/14/20	12/18/20 02:21	1051
Selenium	**3.0**	mg/kg	0.86		1	0.086	12/14/20	12/18/20 02:21	1051
Silver	**3.3**	mg/kg	0.86		1	0.095	12/14/20	12/18/20 02:21	1051
Thallium	**0.32**	mg/kg	0.86	J	1	0.22	12/14/20	12/18/20 02:21	1051
Zinc	**660**	mg/kg	17		1	0.95	12/14/20	12/18/20 02:21	1051

Sample ID: C4 48.0'-53.0' **Date/Time Sampled: 12/09/2020 13:05** **PSS Sample ID: 20121018-010**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 62.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.58**	mg/kg	3.1	J	1	0.29	12/14/20	12/18/20 02:25	1051
Arsenic	**19**	mg/kg	0.63		1	0.069	12/14/20	12/18/20 02:25	1051
Beryllium	**3.0**	mg/kg	0.63		1	0.16	12/14/20	12/18/20 02:25	1051
Cadmium	**1.3**	mg/kg	0.63		1	0.063	12/14/20	12/18/20 02:25	1051
Chromium	**41**	mg/kg	0.63		1	0.35	12/14/20	12/18/20 02:25	1051
Copper	**87**	mg/kg	0.63		1	0.19	12/14/20	12/18/20 02:25	1051
Lead	**64**	mg/kg	0.63		1	0.26	12/14/20	12/18/20 02:25	1051
Manganese	**1,000**	mg/kg	0.63	E	1	0.53	12/14/20	12/18/20 02:25	1051
Mercury	**0.37**	mg/kg	0.13		1	0.046	12/14/20	12/18/20 02:25	1051
Nickel	**65**	mg/kg	0.63		1	0.22	12/14/20	12/18/20 02:25	1051
Selenium	**5.1**	mg/kg	0.63		1	0.063	12/14/20	12/18/20 02:25	1051
Silver	**1.3**	mg/kg	0.63		1	0.069	12/14/20	12/18/20 02:25	1051
Thallium	**0.31**	mg/kg	0.63	J	1	0.16	12/14/20	12/18/20 02:25	1051
Zinc	**380**	mg/kg	13		1	0.69	12/14/20	12/18/20 02:25	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C4 53.4'-55.5' **Date/Time Sampled: 12/09/2020 13:58** **PSS Sample ID: 20121018-011**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 64.9**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.48**	mg/kg	3.2	J	1	0.29	12/14/20	12/18/20 02:30	1051
Arsenic	**7.3**	mg/kg	0.64		1	0.07	12/14/20	12/18/20 02:30	1051
Beryllium	**1.4**	mg/kg	0.64		1	0.16	12/14/20	12/18/20 02:30	1051
Cadmium	**0.34**	mg/kg	0.64	J	1	0.064	12/14/20	12/18/20 02:30	1051
Chromium	**12**	mg/kg	0.64		1	0.35	12/14/20	12/18/20 02:30	1051
Copper	**41**	mg/kg	0.64		1	0.2	12/14/20	12/18/20 02:30	1051
Lead	**30**	mg/kg	0.64		1	0.27	12/14/20	12/18/20 02:30	1051
Manganese	**570**	mg/kg	0.64		1	0.53	12/14/20	12/18/20 02:30	1051
Mercury	**0.34**	mg/kg	0.13		1	0.046	12/14/20	12/18/20 02:30	1051
Nickel	**31**	mg/kg	0.64		1	0.22	12/14/20	12/18/20 02:30	1051
Selenium	**3.1**	mg/kg	0.64		1	0.064	12/14/20	12/18/20 02:30	1051
Silver	**0.11**	mg/kg	0.64	J	1	0.07	12/14/20	12/18/20 02:30	1051
Thallium	ND	mg/kg	0.64		1	0.17	12/14/20	12/18/20 02:30	1051
Zinc	**120**	mg/kg	13		1	0.7	12/14/20	12/18/20 02:30	1051

Sample ID: C4 55.5'-58.0' **Date/Time Sampled: 12/09/2020 14:02** **PSS Sample ID: 20121018-012**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 64.2**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.54**	mg/kg	3.0	J	1	0.28	12/14/20	12/18/20 02:35	1051
Arsenic	**13**	mg/kg	0.61		1	0.067	12/14/20	12/18/20 02:35	1051
Beryllium	**2.6**	mg/kg	0.61		1	0.15	12/14/20	12/18/20 02:35	1051
Cadmium	**0.88**	mg/kg	0.61		1	0.061	12/14/20	12/18/20 02:35	1051
Chromium	**36**	mg/kg	0.61		1	0.33	12/14/20	12/18/20 02:35	1051
Copper	**71**	mg/kg	0.61		1	0.19	12/14/20	12/18/20 02:35	1051
Lead	**58**	mg/kg	0.61		1	0.25	12/14/20	12/18/20 02:35	1051
Manganese	**1,300**	mg/kg	0.61	E	1	0.51	12/14/20	12/18/20 02:35	1051
Mercury	**0.45**	mg/kg	0.12		1	0.044	12/14/20	12/18/20 02:35	1051
Nickel	**77**	mg/kg	0.61		1	0.21	12/14/20	12/18/20 02:35	1051
Selenium	**3.4**	mg/kg	0.61		1	0.061	12/14/20	12/18/20 02:35	1051
Silver	**0.34**	mg/kg	0.61	J	1	0.067	12/14/20	12/18/20 02:35	1051
Thallium	**0.30**	mg/kg	0.61	J	1	0.16	12/14/20	12/18/20 02:35	1051
Zinc	**310**	mg/kg	12		1	0.67	12/14/20	12/18/20 02:35	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 30.6'-35.5' **Date/Time Sampled: 12/09/2020 15:24** **PSS Sample ID: 20121018-013**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.8**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	64		1	17	12/11/20	12/11/20 18:24	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**28**	mg/kg	3.3		1	0.99	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180416 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**190**	mg/kg	77		10	39	12/15/20	12/15/20 17:16	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180542 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	12		1	3.7	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 30.6'-35.5' **Date/Time Sampled: 12/09/2020 15:24** **PSS Sample ID: 20121018-013**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.8**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.27**	mg/kg	2.5	J	1	0.23	12/14/20	12/18/20 02:44	1051
Arsenic	**6.8**	mg/kg	0.51		1	0.056	12/14/20	12/18/20 02:44	1051
Beryllium	**1.2**	mg/kg	0.51		1	0.13	12/14/20	12/18/20 02:44	1051
Cadmium	**0.81**	mg/kg	0.51		1	0.051	12/14/20	12/18/20 02:44	1051
Chromium	**14**	mg/kg	0.51		1	0.28	12/14/20	12/18/20 02:44	1051
Copper	**32**	mg/kg	0.51		1	0.16	12/14/20	12/18/20 02:44	1051
Lead	**23**	mg/kg	0.51		1	0.21	12/14/20	12/18/20 02:44	1051
Manganese	**560**	mg/kg	0.51	E	1	0.43	12/14/20	12/18/20 02:44	1051
Mercury	**0.16**	mg/kg	0.10		1	0.037	12/14/20	12/18/20 02:44	1051
Nickel	**34**	mg/kg	0.51		1	0.18	12/14/20	12/18/20 02:44	1051
Selenium	**1.7**	mg/kg	0.51		1	0.051	12/14/20	12/18/20 02:44	1051
Silver	**0.71**	mg/kg	0.51		1	0.056	12/14/20	12/18/20 02:44	1051
Thallium	ND	mg/kg	0.51		1	0.13	12/14/20	12/18/20 02:44	1051
Zinc	**150**	mg/kg	10		1	0.56	12/14/20	12/18/20 02:44	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180402 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.3		1	1.3	12/14/20	12/15/20 14:06	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**30**	mg/kg	4.3	DF	1	4.3	12/15/20	12/16/20 13:05	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*105*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 13:05*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 30.6'-35.5' **Date/Time Sampled: 12/09/2020 15:24** **PSS Sample ID: 20121018-013**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.8**

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C GRO — Preparation Method: SW5030

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.13		1	0.064	12/17/20	12/17/20 20:31	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*76*	*%*	*62-125*		*1*		*12/17/20*	*12/17/20 20:31*	*1045*

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
beta-BHC	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
delta-BHC	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Heptachlor	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Aldrin	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Heptachlor epoxide	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
gamma-Chlordane	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
alpha-Chlordane	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
4,4-DDE	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Endosulfan I	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Dieldrin	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Endrin	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
4,4-DDD	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Endosulfan II	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
4,4-DDT	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Endrin aldehyde	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Methoxychlor	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Endosulfan sulfate	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Endrin ketone	ND	mg/kg	0.0050		1	0.005	12/15/20	12/16/20 12:28	1029
Toxaphene	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 12:28	1029
Chlordane	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 12:28	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*90*	*%*	*39-151*		*1*		*12/15/20*	*12/16/20 12:28*	*1029*
Tetrachloro-m-xylene	*78*	*%*	*44-152*		*1*		*12/15/20*	*12/16/20 12:28*	*1029*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 30.6'-35.5' **Date/Time Sampled: 12/09/2020 15:24** **PSS Sample ID: 20121018-013**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.8**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180425 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.063		1	0.063	12/15/20	12/16/20 14:48	1029
PCB-1221	ND	mg/kg	0.063		1	0.063	12/15/20	12/16/20 14:48	1029
PCB-1232	ND	mg/kg	0.063		1	0.063	12/15/20	12/16/20 14:48	1029
PCB-1242	ND	mg/kg	0.063		1	0.063	12/15/20	12/16/20 14:48	1029
PCB-1248	ND	mg/kg	0.063		1	0.063	12/15/20	12/16/20 14:48	1029
PCB-1254	ND	mg/kg	0.063		1	0.063	12/15/20	12/16/20 14:48	1029
PCB-1260	ND	mg/kg	0.063		1	0.063	12/15/20	12/16/20 14:48	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*92*	*%*	*34-117*	*1*	*12/15/20*	*12/16/20 14:48*	*1029*
Decachlorobiphenyl	*107*	*%*	*40-149*	*1*	*12/15/20*	*12/16/20 14:48*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	**0.015**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Acenaphthylene	ND	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Acetophenone	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Anthracene	**0.043**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Atrazine	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
Benzo(a)anthracene	**0.083**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Benzo(a)pyrene	**0.062**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Benzo(b)fluoranthene	**0.054**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Benzo(g,h,i)perylene	**0.035**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Benzo(k)fluoranthene	**0.046**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Butyl benzyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Di-n-butyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Carbazole	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Caprolactam	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 30.6'-35.5' **Date/Time Sampled: 12/09/2020 15:24** **PSS Sample ID: 20121018-013**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.8**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Chloro-3-methyl phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
4-Chloroaniline	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2-Chloronaphthalene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2-Chlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Chrysene	**0.083**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Dibenz(a,h)Anthracene	**0.018**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Dibenzofuran	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2,4-Dichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Diethyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Dimethyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2,4-Dimethylphenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.21		1	0.21	12/14/20	12/15/20 16:50	1059
2,4-Dinitrophenol	ND	mg/kg	0.21		1	0.21	12/14/20	12/15/20 16:50	1059
2,4-Dinitrotoluene	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
2,6-Dinitrotoluene	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
Fluoranthene	**0.18**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Fluorene	**0.024**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Hexachlorobenzene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Hexachlorobutadiene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
Hexachloroethane	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Indeno(1,2,3-c,d)Pyrene	**0.035**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Isophorone	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2-Methylnaphthalene	ND	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
2-Methyl phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
3&4-Methylphenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Naphthalene	**0.021**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
2-Nitroaniline	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
3-Nitroaniline	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
4-Nitroaniline	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
Nitrobenzene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2-Nitrophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
4-Nitrophenol	ND	mg/kg	0.21		1	0.21	12/14/20	12/15/20 16:50	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 30.6'-35.5' **Date/Time Sampled: 12/09/2020 15:24** **PSS Sample ID: 20121018-013**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 77.8**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Di-n-octyl phthalate	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
Pentachlorophenol	ND	mg/kg	0.086		1	0.086	12/14/20	12/15/20 16:50	1059
Phenanthrene	**0.17**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
Pyrene	**0.14**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 16:50	1059
Pyridine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 16:50	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*80*	*%*	*50-104*	*1*	*12/14/20*	*12/15/20 16:50*	*1059*
2-Fluorophenol	*79*	*%*	*40-109*	*1*	*12/14/20*	*12/15/20 16:50*	*1059*
Nitrobenzene-d5	*79*	*%*	*41-101*	*1*	*12/14/20*	*12/15/20 16:50*	*1059*
Phenol-d6	*74*	*%*	*44-102*	*1*	*12/14/20*	*12/15/20 16:50*	*1059*
Terphenyl-D14	*89*	*%*	*70-115*	*1*	*12/14/20*	*12/15/20 16:50*	*1059*
2,4,6-Tribromophenol	*83*	*%*	*36-123*	*1*	*12/14/20*	*12/15/20 16:50*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.12**	mg/kg	0.082		1	0.041	12/17/20	12/17/20 16:35	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 29.3'-30.5' **Date/Time Sampled: 12/09/2020 15:45** **PSS Sample ID: 20121018-014**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.50**	mg/kg	3.2	J	1	0.29	12/14/20	12/18/20 02:49	1051
Arsenic	**16**	mg/kg	0.64		1	0.07	12/14/20	12/18/20 02:49	1051
Beryllium	**2.5**	mg/kg	0.64		1	0.16	12/14/20	12/18/20 02:49	1051
Cadmium	**3.0**	mg/kg	0.64		1	0.064	12/14/20	12/18/20 02:49	1051
Chromium	**37**	mg/kg	0.64		1	0.35	12/14/20	12/18/20 02:49	1051
Copper	**63**	mg/kg	0.64		1	0.2	12/14/20	12/18/20 02:49	1051
Lead	**62**	mg/kg	0.64		1	0.27	12/14/20	12/18/20 02:49	1051
Manganese	**2,600**	mg/kg	0.64	E	1	0.54	12/14/20	12/18/20 02:49	1051
Mercury	**0.30**	mg/kg	0.13		1	0.047	12/14/20	12/18/20 02:49	1051
Nickel	**94**	mg/kg	0.64		1	0.22	12/14/20	12/18/20 02:49	1051
Selenium	**1.8**	mg/kg	0.64		1	0.064	12/14/20	12/18/20 02:49	1051
Silver	**2.4**	mg/kg	0.64		1	0.07	12/14/20	12/18/20 02:49	1051
Thallium	**0.28**	mg/kg	0.64	J	1	0.17	12/14/20	12/18/20 02:49	1051
Zinc	**400**	mg/kg	13		1	0.7	12/14/20	12/18/20 02:49	1051

Sample ID: C3 38.2'-40.5' **Date/Time Sampled: 12/09/2020 16:26** **PSS Sample ID: 20121018-015**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.53**	mg/kg	2.9	J	1	0.27	12/14/20	12/18/20 02:53	1051
Arsenic	**14**	mg/kg	0.59		1	0.065	12/14/20	12/18/20 02:53	1051
Beryllium	**2.8**	mg/kg	0.59		1	0.15	12/14/20	12/18/20 02:53	1051
Cadmium	**3.0**	mg/kg	0.59		1	0.059	12/14/20	12/18/20 02:53	1051
Chromium	**54**	mg/kg	0.59		1	0.32	12/14/20	12/18/20 02:53	1051
Copper	**68**	mg/kg	0.59		1	0.18	12/14/20	12/18/20 02:53	1051
Lead	**55**	mg/kg	0.59		1	0.25	12/14/20	12/18/20 02:53	1051
Manganese	**1,700**	mg/kg	0.59	E	1	0.49	12/14/20	12/18/20 02:53	1051
Mercury	**0.30**	mg/kg	0.12		1	0.043	12/14/20	12/18/20 02:53	1051
Nickel	**84**	mg/kg	0.59		1	0.21	12/14/20	12/18/20 02:53	1051
Selenium	**2.1**	mg/kg	0.59		1	0.059	12/14/20	12/18/20 02:53	1051
Silver	**3.1**	mg/kg	0.59		1	0.065	12/14/20	12/18/20 02:53	1051
Thallium	**0.23**	mg/kg	0.59	J	1	0.15	12/14/20	12/18/20 02:53	1051
Zinc	**430**	mg/kg	12		1	0.65	12/14/20	12/18/20 02:53	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 40.5'-41.8' **Date/Time Sampled: 12/09/2020 16:38** **PSS Sample ID: 20121018-016**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 71.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.31**	mg/kg	2.9	J	1	0.27	12/14/20	12/18/20 03:21	1051
Arsenic	**4.4**	mg/kg	0.59		1	0.065	12/14/20	12/18/20 03:21	1051
Beryllium	**0.79**	mg/kg	0.59		1	0.15	12/14/20	12/18/20 03:21	1051
Cadmium	**0.32**	mg/kg	0.59	J	1	0.059	12/14/20	12/18/20 03:21	1051
Chromium	**14**	mg/kg	0.59		1	0.32	12/14/20	12/18/20 03:21	1051
Copper	**31**	mg/kg	0.59		1	0.18	12/14/20	12/18/20 03:21	1051
Lead	**13**	mg/kg	0.59		1	0.25	12/14/20	12/18/20 03:21	1051
Manganese	**290**	mg/kg	0.59		1	0.49	12/14/20	12/18/20 03:21	1051
Mercury	**0.12**	mg/kg	0.12		1	0.043	12/14/20	12/18/20 03:21	1051
Nickel	**21**	mg/kg	0.59		1	0.21	12/14/20	12/18/20 03:21	1051
Selenium	**1.5**	mg/kg	0.59		1	0.059	12/14/20	12/18/20 03:21	1051
Silver	**0.33**	mg/kg	0.59	J	1	0.065	12/14/20	12/18/20 03:21	1051
Thallium	ND	mg/kg	0.59		1	0.15	12/14/20	12/18/20 03:21	1051
Zinc	**89**	mg/kg	12		1	0.65	12/14/20	12/18/20 03:21	1051

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Project Name: Conowingo
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Sample ID: C3 47.7' **Date/Time Sampled: 12/09/2020 17:05** **PSS Sample ID: 20121018-017**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 54.3**

MDE TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	mg/kg	0.040		1	0.04	12/17/20	12/17/20 18:06	1011
Benzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Bromochloromethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Bromodichloromethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Bromoform	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Bromomethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
2-Butanone (MEK)	ND	mg/kg	0.0099		1	0.0099	12/17/20	12/17/20 18:06	1011
Carbon Disulfide	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Carbon tetrachloride	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Chlorobenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Chloroethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Chloroform	ND	mg/kg	0.0099		1	0.0099	12/17/20	12/17/20 18:06	1011
Chloromethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Cyclohexane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Dibromochloromethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2-Dibromoethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2-Dichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,3-Dichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,4-Dichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Dichlorodifluoromethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,1-Dichloroethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2-Dichloroethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,1-Dichloroethene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
cis-1,2-Dichloroethene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2-Dichloropropane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
cis-1,3-Dichloropropene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
trans-1,2-Dichloroethene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
trans-1,3-Dichloropropene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Ethylbenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
2-Hexanone (MBK)	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Isopropylbenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Methyl Acetate	ND	mg/kg	0.049		1	0.049	12/17/20	12/17/20 18:06	1011
Methylcyclohexane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Methylene chloride	ND	mg/kg	0.0099		1	0.0099	12/17/20	12/17/20 18:06	1011

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 47.7' **Date/Time Sampled: 12/09/2020 17:05** **PSS Sample ID: 20121018-017**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 54.3**

MDE TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Methyl-t-Butyl Ether	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Naphthalene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Styrene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Tetrachloroethene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Toluene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2,3-Trichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2,4-Trichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,1,1-Trichloroethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,1,2-Trichloroethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Trichloroethene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Trichlorofluoromethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,2,4-Trimethylbenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
1,3,5-Trimethylbenzene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011
Vinyl chloride	ND	mg/kg	0.0099		1	0.0099	12/17/20	12/17/20 18:06	1011
m&p-Xylene	ND	mg/kg	0.0040		1	0.004	12/17/20	12/17/20 18:06	1011
o-Xylene	ND	mg/kg	0.0020		1	0.002	12/17/20	12/17/20 18:06	1011

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*99*	*%*	*92-120*	*1*	*12/17/20*	*12/17/20 18:06*	*1011*
Dibromofluoromethane	*99*	*%*	*91-107*	*1*	*12/17/20*	*12/17/20 18:06*	*1011*
Toluene-D8	*97*	*%*	*89-108*	*1*	*12/17/20*	*12/17/20 18:06*	*1011*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C3 46.7'-50.5' **Date/Time Sampled: 12/09/2020 17:05** **PSS Sample ID: 20121018-018**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 63.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.53**	mg/kg	2.9	J	1	0.26	12/14/20	12/18/20 03:26	1051
Arsenic	**16**	mg/kg	0.58		1	0.063	12/14/20	12/18/20 03:26	1051
Beryllium	**2.6**	mg/kg	0.58		1	0.14	12/14/20	12/18/20 03:26	1051
Cadmium	**1.1**	mg/kg	0.58		1	0.058	12/14/20	12/18/20 03:26	1051
Chromium	**36**	mg/kg	0.58		1	0.32	12/14/20	12/18/20 03:26	1051
Copper	**72**	mg/kg	0.58		1	0.18	12/14/20	12/18/20 03:26	1051
Lead	**55**	mg/kg	0.58		1	0.24	12/14/20	12/18/20 03:26	1051
Manganese	**1,000**	mg/kg	0.58	E	1	0.48	12/14/20	12/18/20 03:26	1051
Mercury	**0.34**	mg/kg	0.12		1	0.042	12/14/20	12/18/20 03:26	1051
Nickel	**61**	mg/kg	0.58		1	0.2	12/14/20	12/18/20 03:26	1051
Selenium	**3.7**	mg/kg	0.58		1	0.058	12/14/20	12/18/20 03:26	1051
Silver	**0.88**	mg/kg	0.58		1	0.063	12/14/20	12/18/20 03:26	1051
Thallium	**0.26**	mg/kg	0.58	J	1	0.15	12/14/20	12/18/20 03:26	1051
Zinc	**330**	mg/kg	12		1	0.63	12/14/20	12/18/20 03:26	1051

Sample ID: D3 24.4'-25.9' **Date/Time Sampled: 12/09/2020 17:40** **PSS Sample ID: 20121018-019**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 69.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.2		1	0.3	12/14/20	12/18/20 03:31	1051
Arsenic	**4.8**	mg/kg	0.65		1	0.071	12/14/20	12/18/20 03:31	1051
Beryllium	**0.93**	mg/kg	0.65		1	0.16	12/14/20	12/18/20 03:31	1051
Cadmium	**0.22**	mg/kg	0.65	J	1	0.065	12/14/20	12/18/20 03:31	1051
Chromium	**6.2**	mg/kg	0.65		1	0.36	12/14/20	12/18/20 03:31	1051
Copper	**22**	mg/kg	0.65		1	0.2	12/14/20	12/18/20 03:31	1051
Lead	**14**	mg/kg	0.65		1	0.27	12/14/20	12/18/20 03:31	1051
Manganese	**300**	mg/kg	0.65		1	0.54	12/14/20	12/18/20 03:31	1051
Mercury	**0.17**	mg/kg	0.13		1	0.047	12/14/20	12/18/20 03:31	1051
Nickel	**19**	mg/kg	0.65		1	0.23	12/14/20	12/18/20 03:31	1051
Selenium	**1.8**	mg/kg	0.65		1	0.065	12/14/20	12/18/20 03:31	1051
Silver	**0.099**	mg/kg	0.65	J	1	0.071	12/14/20	12/18/20 03:31	1051
Thallium	ND	mg/kg	0.65		1	0.17	12/14/20	12/18/20 03:31	1051
Zinc	**74**	mg/kg	13		1	0.71	12/14/20	12/18/20 03:31	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 26.2'-30.9' **Date/Time Sampled: 12/09/2020 18:10** **PSS Sample ID: 20121018-020**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 76.5**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	67		1	17	12/11/20	12/11/20 18:47	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**23**	mg/kg	2.7		1	0.82	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180416 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**210**	mg/kg	78		10	39	12/15/20	12/15/20 17:20	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180542 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	13		1	3.9	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 26.2'-30.9' **Date/Time Sampled: 12/09/2020 18:10** **PSS Sample ID: 20121018-020**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 76.5**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.30**	mg/kg	3.0	J	1	0.27	12/14/20	12/18/20 03:35	1051
Arsenic	**4.7**	mg/kg	0.59		1	0.065	12/14/20	12/18/20 03:35	1051
Beryllium	**0.99**	mg/kg	0.59		1	0.15	12/14/20	12/18/20 03:35	1051
Cadmium	**0.22**	mg/kg	0.59	J	1	0.059	12/14/20	12/18/20 03:35	1051
Chromium	**6.4**	mg/kg	0.59		1	0.33	12/14/20	12/18/20 03:35	1051
Copper	**24**	mg/kg	0.59		1	0.18	12/14/20	12/18/20 03:35	1051
Lead	**16**	mg/kg	0.59		1	0.25	12/14/20	12/18/20 03:35	1051
Manganese	**320**	mg/kg	0.59		1	0.5	12/14/20	12/18/20 03:35	1051
Mercury	**0.15**	mg/kg	0.12		1	0.043	12/14/20	12/18/20 03:35	1051
Nickel	**22**	mg/kg	0.59		1	0.21	12/14/20	12/18/20 03:35	1051
Selenium	**1.7**	mg/kg	0.59		1	0.059	12/14/20	12/18/20 03:35	1051
Silver	**0.098**	mg/kg	0.59	J	1	0.065	12/14/20	12/18/20 03:35	1051
Thallium	ND	mg/kg	0.59		1	0.15	12/14/20	12/18/20 03:35	1051
Zinc	**80**	mg/kg	12		1	0.65	12/14/20	12/18/20 03:35	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180402 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.3		1	1.3	12/14/20	12/15/20 14:10	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**22**	mg/kg	4.4	DF	1	4.4	12/15/20	12/16/20 13:05	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*89*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 13:05*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 26.2'-30.9' **Date/Time Sampled: 12/09/2020 18:10** **PSS Sample ID: 20121018-020**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 76.5**

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C GRO — Preparation Method: SW5030

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.13		1	0.064	12/23/20	12/23/20 14:04	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*72*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 14:04*	*1045*

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
beta-BHC	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
delta-BHC	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Heptachlor	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Aldrin	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Heptachlor epoxide	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
gamma-Chlordane	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
alpha-Chlordane	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
4,4-DDE	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Endosulfan I	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Dieldrin	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Endrin	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
4,4-DDD	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Endosulfan II	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
4,4-DDT	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Endrin aldehyde	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Methoxychlor	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Endosulfan sulfate	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Endrin ketone	ND	mg/kg	0.0052		1	0.0052	12/15/20	12/16/20 12:43	1029
Toxaphene	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 12:43	1029
Chlordane	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 12:43	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*88*	*%*	*39-151*		*1*		*12/15/20*	*12/16/20 12:43*	*1029*
Tetrachloro-m-xylene	*67*	*%*	*44-152*		*1*		*12/15/20*	*12/16/20 12:43*	*1029*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 26.2'-30.9' **Date/Time Sampled: 12/09/2020 18:10** **PSS Sample ID: 20121018-020**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 76.5**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180425 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.065		1	0.065	12/15/20	12/16/20 15:16	1029
PCB-1221	ND	mg/kg	0.065		1	0.065	12/15/20	12/16/20 15:16	1029
PCB-1232	ND	mg/kg	0.065		1	0.065	12/15/20	12/16/20 15:16	1029
PCB-1242	ND	mg/kg	0.065		1	0.065	12/15/20	12/16/20 15:16	1029
PCB-1248	ND	mg/kg	0.065		1	0.065	12/15/20	12/16/20 15:16	1029
PCB-1254	ND	mg/kg	0.065		1	0.065	12/15/20	12/16/20 15:16	1029
PCB-1260	ND	mg/kg	0.065		1	0.065	12/15/20	12/16/20 15:16	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*87*	*%*	*34-117*	*1*	*12/15/20*	*12/16/20 15:16*	*1029*
Decachlorobiphenyl	*111*	*%*	*40-149*	*1*	*12/15/20*	*12/16/20 15:16*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Acenaphthylene	**0.022**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Acetophenone	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Anthracene	**0.030**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Atrazine	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
Benzo(a)anthracene	**0.091**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Benzo(a)pyrene	**0.088**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Benzo(b)fluoranthene	**0.064**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Benzo(g,h,i)perylene	**0.043**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Benzo(k)fluoranthene	**0.049**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Butyl benzyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Di-n-butyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Carbazole	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Caprolactam	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 26.2'-30.9' **Date/Time Sampled: 12/09/2020 18:10** **PSS Sample ID: 20121018-020**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 76.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Chloro-3-methyl phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
4-Chloroaniline	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2-Chloronaphthalene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2-Chlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Chrysene	**0.087**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Dibenz(a,h)Anthracene	**0.016**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Dibenzofuran	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2,4-Dichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Diethyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Dimethyl phthalate	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2,4-Dimethylphenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.22		1	0.22	12/14/20	12/15/20 19:00	1059
2,4-Dinitrophenol	ND	mg/kg	0.22		1	0.22	12/14/20	12/15/20 19:00	1059
2,4-Dinitrotoluene	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
2,6-Dinitrotoluene	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
Fluoranthene	**0.14**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Fluorene	**0.012**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Hexachlorobenzene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Hexachlorobutadiene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
Hexachloroethane	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Indeno(1,2,3-c,d)Pyrene	**0.050**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Isophorone	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2-Methylnaphthalene	**0.014**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
2-Methyl phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
3&4-Methylphenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Naphthalene	**0.025**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
2-Nitroaniline	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
3-Nitroaniline	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
4-Nitroaniline	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
Nitrobenzene	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2-Nitrophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
4-Nitrophenol	ND	mg/kg	0.22		1	0.22	12/14/20	12/15/20 19:00	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 26.2'-30.9' **Date/Time Sampled: 12/09/2020 18:10** **PSS Sample ID: 20121018-020**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 76.5**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Di-n-octyl phthalate	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
Pentachlorophenol	ND	mg/kg	0.087		1	0.087	12/14/20	12/15/20 19:00	1059
Phenanthrene	**0.076**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Phenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
Pyrene	**0.17**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 19:00	1059
Pyridine	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.043		1	0.043	12/14/20	12/15/20 19:00	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*83*	*%*	*50-104*	*1*	*12/14/20*	*12/15/20 19:00*	*1059*
2-Fluorophenol	*81*	*%*	*40-109*	*1*	*12/14/20*	*12/15/20 19:00*	*1059*
Nitrobenzene-d5	*81*	*%*	*41-101*	*1*	*12/14/20*	*12/15/20 19:00*	*1059*
Phenol-d6	*76*	*%*	*44-102*	*1*	*12/14/20*	*12/15/20 19:00*	*1059*
Terphenyl-D14	*96*	*%*	*70-115*	*1*	*12/14/20*	*12/15/20 19:00*	*1059*
2,4,6-Tribromophenol	*88*	*%*	*36-123*	*1*	*12/14/20*	*12/15/20 19:00*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.14**	mg/kg	0.085		1	0.043	12/17/20	12/17/20 16:38	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 32.0'-35.9' **Date/Time Sampled: 12/09/2020 18:40** **PSS Sample ID: 20121018-021**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 55.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180495 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.92**	mg/kg	4.3	J	1	0.4	12/14/20	12/18/20 03:40	1051
Arsenic	**17**	mg/kg	0.86		1	0.095	12/14/20	12/18/20 03:40	1051
Beryllium	**3.6**	mg/kg	0.86		1	0.21	12/14/20	12/18/20 03:40	1051
Cadmium	**4.9**	mg/kg	0.86		1	0.086	12/14/20	12/18/20 03:40	1051
Chromium	**63**	mg/kg	0.86		1	0.47	12/14/20	12/18/20 03:40	1051
Copper	**95**	mg/kg	0.86		1	0.27	12/14/20	12/18/20 03:40	1051
Lead	**73**	mg/kg	0.86		1	0.36	12/14/20	12/18/20 03:40	1051
Manganese	**2,000**	mg/kg	0.86	E	1	0.72	12/14/20	12/18/20 03:40	1051
Mercury	**0.42**	mg/kg	0.17		1	0.063	12/14/20	12/18/20 03:40	1051
Nickel	**110**	mg/kg	0.86		1	0.3	12/14/20	12/18/20 03:40	1051
Selenium	**2.8**	mg/kg	0.86		1	0.086	12/14/20	12/18/20 03:40	1051
Silver	**4.9**	mg/kg	0.86		1	0.095	12/14/20	12/18/20 03:40	1051
Thallium	**0.34**	mg/kg	0.86	J	1	0.22	12/14/20	12/18/20 03:40	1051
Zinc	**600**	mg/kg	17		1	0.95	12/14/20	12/18/20 03:40	1051

Sample ID: D3 36.1-40.9 **Date/Time Sampled: 12/10/2020 07:50** **PSS Sample ID: 20121018-022**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 54.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.78**	mg/kg	4.2	J	1	0.38	12/15/20	12/17/20 21:32	1051
Arsenic	**17**	mg/kg	0.84		1	0.092	12/15/20	12/17/20 21:32	1051
Beryllium	**3.9**	mg/kg	0.84		1	0.21	12/15/20	12/17/20 21:32	1051
Cadmium	**3.7**	mg/kg	0.84		1	0.084	12/15/20	12/17/20 21:32	1051
Chromium	**66**	mg/kg	0.84		1	0.46	12/15/20	12/17/20 21:32	1051
Copper	**98**	mg/kg	0.84		1	0.26	12/15/20	12/17/20 21:32	1051
Lead	**75**	mg/kg	0.84		1	0.35	12/15/20	12/17/20 21:32	1051
Manganese	**2,000**	mg/kg	0.84	E	1	0.7	12/15/20	12/17/20 21:32	1051
Mercury	**0.44**	mg/kg	0.17		1	0.061	12/15/20	12/17/20 21:32	1051
Nickel	**100**	mg/kg	0.84		1	0.29	12/15/20	12/17/20 21:32	1051
Selenium	**3.1**	mg/kg	0.84		1	0.084	12/15/20	12/17/20 21:32	1051
Silver	**3.6**	mg/kg	0.84		1	0.092	12/15/20	12/17/20 21:32	1051
Thallium	**0.46**	mg/kg	0.84	J	1	0.22	12/15/20	12/17/20 21:32	1051
Zinc	**610**	mg/kg	17		1	0.92	12/15/20	12/17/20 21:32	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: D3 40.9'-45.9' **Date/Time Sampled: 12/10/2020 08:10** **PSS Sample ID: 20121018-023**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 58.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.96**	mg/kg	3.1	J	1	0.28	12/15/20	12/17/20 21:55	1051
Arsenic	**18**	mg/kg	0.62		1	0.068	12/15/20	12/17/20 21:55	1051
Beryllium	**3.7**	mg/kg	0.62		1	0.15	12/15/20	12/17/20 21:55	1051
Cadmium	**2.7**	mg/kg	0.62		1	0.062	12/15/20	12/17/20 21:55	1051
Chromium	**48**	mg/kg	0.62		1	0.34	12/15/20	12/17/20 21:55	1051
Copper	**100**	mg/kg	0.62		1	0.19	12/15/20	12/17/20 21:55	1051
Lead	**73**	mg/kg	0.62		1	0.26	12/15/20	12/17/20 21:55	1051
Manganese	**1,400**	mg/kg	0.62	E	1	0.52	12/15/20	12/17/20 21:55	1051
Mercury	**0.50**	mg/kg	0.12		1	0.045	12/15/20	12/17/20 21:55	1051
Nickel	**84**	mg/kg	0.62		1	0.22	12/15/20	12/17/20 21:55	1051
Selenium	**3.8**	mg/kg	0.62		1	0.062	12/15/20	12/17/20 21:55	1051
Silver	**2.4**	mg/kg	0.62		1	0.068	12/15/20	12/17/20 21:55	1051
Thallium	**0.32**	mg/kg	0.62	J	1	0.16	12/15/20	12/17/20 21:55	1051
Zinc	**540**	mg/kg	12		1	0.68	12/15/20	12/17/20 21:55	1051

Sample ID: D3 45.9'-50.9' **Date/Time Sampled: 12/10/2020 08:20** **PSS Sample ID: 20121018-024**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 60.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.78**	mg/kg	3.1	J	1	0.28	12/15/20	12/17/20 22:00	1051
Arsenic	**19**	mg/kg	0.61		1	0.067	12/15/20	12/17/20 22:00	1051
Beryllium	**3.4**	mg/kg	0.61		1	0.15	12/15/20	12/17/20 22:00	1051
Cadmium	**1.4**	mg/kg	0.61		1	0.061	12/15/20	12/17/20 22:00	1051
Chromium	**43**	mg/kg	0.61		1	0.34	12/15/20	12/17/20 22:00	1051
Copper	**92**	mg/kg	0.61		1	0.19	12/15/20	12/17/20 22:00	1051
Lead	**71**	mg/kg	0.61		1	0.26	12/15/20	12/17/20 22:00	1051
Manganese	**1,200**	mg/kg	0.61	E	1	0.51	12/15/20	12/17/20 22:00	1051
Mercury	**0.45**	mg/kg	0.12		1	0.045	12/15/20	12/17/20 22:00	1051
Nickel	**70**	mg/kg	0.61		1	0.21	12/15/20	12/17/20 22:00	1051
Selenium	**5.4**	mg/kg	0.61		1	0.061	12/15/20	12/17/20 22:00	1051
Silver	**1.3**	mg/kg	0.61		1	0.067	12/15/20	12/17/20 22:00	1051
Thallium	**0.37**	mg/kg	0.61	J	1	0.16	12/15/20	12/17/20 22:00	1051
Zinc	**390**	mg/kg	12		1	0.67	12/15/20	12/17/20 22:00	1051

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Project Name: Conowingo
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Sample ID: D3 50.9'-53.2' **Date/Time Sampled: 12/10/2020 08:35** **PSS Sample ID: 20121018-025**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 59.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.66**	mg/kg	3.1	J	1	0.28	12/15/20	12/17/20 22:05	1051
Arsenic	**15**	mg/kg	0.62		1	0.068	12/15/20	12/17/20 22:05	1051
Beryllium	**2.8**	mg/kg	0.62		1	0.15	12/15/20	12/17/20 22:05	1051
Cadmium	**0.98**	mg/kg	0.62		1	0.062	12/15/20	12/17/20 22:05	1051
Chromium	**36**	mg/kg	0.62		1	0.34	12/15/20	12/17/20 22:05	1051
Copper	**81**	mg/kg	0.62		1	0.19	12/15/20	12/17/20 22:05	1051
Lead	**62**	mg/kg	0.62		1	0.26	12/15/20	12/17/20 22:05	1051
Manganese	**1,200**	mg/kg	0.62	E	1	0.52	12/15/20	12/17/20 22:05	1051
Mercury	**0.70**	mg/kg	0.12		1	0.045	12/15/20	12/17/20 22:05	1051
Nickel	**63**	mg/kg	0.62		1	0.22	12/15/20	12/17/20 22:05	1051
Selenium	**3.5**	mg/kg	0.62		1	0.062	12/15/20	12/17/20 22:05	1051
Silver	**0.34**	mg/kg	0.62	J	1	0.068	12/15/20	12/17/20 22:05	1051
Thallium	**0.30**	mg/kg	0.62	J	1	0.16	12/15/20	12/17/20 22:05	1051
Zinc	**330**	mg/kg	12		1	0.68	12/15/20	12/17/20 22:05	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 22.1'-26.7' **Date/Time Sampled: 12/10/2020 10:00** **PSS Sample ID: 20121018-026**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 72.4**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	72		1	19	12/11/20	12/11/20 19:10	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**36**	mg/kg	3.7		1	1.1	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180416 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**210**	mg/kg	85		10	42	12/15/20	12/15/20 17:24	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180542 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	14		1	4.2	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 22.1'-26.7' **Date/Time Sampled: 12/10/2020 10:00** **PSS Sample ID: 20121018-026**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 72.4**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.52**	mg/kg	2.9	J	1	0.27	12/15/20	12/17/20 22:37	1051
Arsenic	**6.7**	mg/kg	0.59		1	0.065	12/15/20	12/17/20 22:37	1051
Beryllium	**1.6**	mg/kg	0.59		1	0.15	12/15/20	12/17/20 22:37	1051
Cadmium	**0.45**	mg/kg	0.59	J	1	0.059	12/15/20	12/17/20 22:37	1051
Chromium	**11**	mg/kg	0.59		1	0.32	12/15/20	12/17/20 22:37	1051
Copper	**35**	mg/kg	0.59		1	0.18	12/15/20	12/17/20 22:37	1051
Lead	**50**	mg/kg	0.59		1	0.25	12/15/20	12/17/20 22:37	1051
Manganese	**590**	mg/kg	0.59	E	1	0.49	12/15/20	12/17/20 22:37	1051
Mercury	**0.28**	mg/kg	0.12		1	0.043	12/15/20	12/17/20 22:37	1051
Nickel	**31**	mg/kg	0.59		1	0.21	12/15/20	12/17/20 22:37	1051
Selenium	**2.9**	mg/kg	0.59		1	0.059	12/15/20	12/17/20 22:37	1051
Silver	**0.20**	mg/kg	0.59	J	1	0.065	12/15/20	12/17/20 22:37	1051
Thallium	ND	mg/kg	0.59		1	0.15	12/15/20	12/17/20 22:37	1051
Zinc	**190**	mg/kg	12		1	0.65	12/15/20	12/17/20 22:37	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180402 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/14/20	12/15/20 14:12	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**45**	mg/kg	4.6	DF	1	4.6	12/15/20	12/16/20 13:55	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*103*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 13:55*	*1070*

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Project Name: Conowingo
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Sample ID: C5 22.1'-26.7' **Date/Time Sampled: 12/10/2020 10:00** **PSS Sample ID: 20121018-026**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 72.4**

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C GRO — Preparation Method: SW5030

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.13		1	0.067	12/17/20	12/17/20 21:32	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*84*	*%*	*62-125*		*1*		*12/17/20*	*12/17/20 21:32*	*1045*

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
beta-BHC	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
delta-BHC	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Heptachlor	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Aldrin	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Heptachlor epoxide	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
gamma-Chlordane	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
alpha-Chlordane	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
4,4-DDE	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Endosulfan I	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Dieldrin	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Endrin	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
4,4-DDD	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Endosulfan II	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
4,4-DDT	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Endrin aldehyde	**0.0059**	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Methoxychlor	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Endosulfan sulfate	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Endrin ketone	ND	mg/kg	0.0053		1	0.0053	12/15/20	12/16/20 17:17	1029
Toxaphene	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 17:17	1029
Chlordane	ND	mg/kg	0.13		1	0.13	12/15/20	12/16/20 17:17	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*107*	*%*	*39-151*		*1*		*12/15/20*	*12/16/20 17:17*	*1029*
Tetrachloro-m-xylene	*46*	*%*	*44-152*		*1*		*12/15/20*	*12/16/20 17:17*	*1029*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 22.1'-26.7' **Date/Time Sampled: 12/10/2020 10:00** **PSS Sample ID: 20121018-026**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 72.4**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180425 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.067		1	0.067	12/15/20	12/16/20 15:43	1029
PCB-1221	ND	mg/kg	0.067		1	0.067	12/15/20	12/16/20 15:43	1029
PCB-1232	ND	mg/kg	0.067		1	0.067	12/15/20	12/16/20 15:43	1029
PCB-1242	ND	mg/kg	0.067		1	0.067	12/15/20	12/16/20 15:43	1029
PCB-1248	ND	mg/kg	0.067		1	0.067	12/15/20	12/16/20 15:43	1029
PCB-1254	ND	mg/kg	0.067		1	0.067	12/15/20	12/16/20 15:43	1029
PCB-1260	ND	mg/kg	0.067		1	0.067	12/15/20	12/16/20 15:43	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*89*	*%*	*40-149*	*1*	*12/15/20*	*12/16/20 15:43*	*1029*
Tetrachloro-m-xylene	*65*	*%*	*34-117*	*1*	*12/15/20*	*12/16/20 15:43*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Acenaphthylene	**0.018**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Acetophenone	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Anthracene	**0.041**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Atrazine	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
Benzo(a)anthracene	**0.095**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Benzo(a)pyrene	**0.084**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Benzo(b)fluoranthene	**0.052**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Benzo(g,h,i)perylene	**0.038**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Benzo(k)fluoranthene	**0.061**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Butyl benzyl phthalate	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Di-n-butyl phthalate	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Carbazole	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Caprolactam	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 22.1'-26.7' **Date/Time Sampled: 12/10/2020 10:00** **PSS Sample ID: 20121018-026**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 72.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Chloro-3-methyl phenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
4-Chloroaniline	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2-Chloronaphthalene	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2-Chlorophenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Chrysene	**0.090**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Dibenz(a,h)Anthracene	**0.019**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Dibenzofuran	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2,4-Dichlorophenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Diethyl phthalate	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Dimethyl phthalate	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2,4-Dimethylphenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.23		1	0.23	12/14/20	12/15/20 18:34	1059
2,4-Dinitrophenol	ND	mg/kg	0.23		1	0.23	12/14/20	12/15/20 18:34	1059
2,4-Dinitrotoluene	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
2,6-Dinitrotoluene	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
Fluoranthene	**0.15**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Fluorene	**0.017**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Hexachlorobenzene	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Hexachlorobutadiene	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
Hexachloroethane	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Indeno(1,2,3-c,d)Pyrene	**0.044**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Isophorone	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2-Methylnaphthalene	**0.016**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
2-Methyl phenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
3&4-Methylphenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Naphthalene	**0.025**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
2-Nitroaniline	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
3-Nitroaniline	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
4-Nitroaniline	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
Nitrobenzene	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2-Nitrophenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
4-Nitrophenol	ND	mg/kg	0.23		1	0.23	12/14/20	12/15/20 18:34	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 22.1'-26.7' **Date/Time Sampled: 12/10/2020 10:00** **PSS Sample ID: 20121018-026**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 72.4**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Di-n-octyl phthalate	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
Pentachlorophenol	ND	mg/kg	0.092		1	0.092	12/14/20	12/15/20 18:34	1059
Phenanthrene	**0.10**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Phenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
Pyrene	**0.15**	mg/kg	0.011		1	0.011	12/14/20	12/15/20 18:34	1059
Pyridine	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.046		1	0.046	12/14/20	12/15/20 18:34	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*83*	*%*	*50-104*	*1*	*12/14/20*	*12/15/20 18:34*	*1059*
2-Fluorophenol	*81*	*%*	*40-109*	*1*	*12/14/20*	*12/15/20 18:34*	*1059*
Nitrobenzene-d5	*81*	*%*	*41-101*	*1*	*12/14/20*	*12/15/20 18:34*	*1059*
Phenol-d6	*74*	*%*	*44-102*	*1*	*12/14/20*	*12/15/20 18:34*	*1059*
Terphenyl-D14	*93*	*%*	*70-115*	*1*	*12/14/20*	*12/15/20 18:34*	*1059*
2,4,6-Tribromophenol	*88*	*%*	*36-123*	*1*	*12/14/20*	*12/15/20 18:34*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.16**	mg/kg	0.085		1	0.042	12/17/20	12/17/20 16:41	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 29.4'-31.7' **Date/Time Sampled: 12/10/2020 10:40** **PSS Sample ID: 20121018-027**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 56.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.74**	mg/kg	4.3	J	1	0.39	12/15/20	12/17/20 22:42	1051
Arsenic	**18**	mg/kg	0.85		1	0.094	12/15/20	12/17/20 22:42	1051
Beryllium	**3.2**	mg/kg	0.85		1	0.21	12/15/20	12/17/20 22:42	1051
Cadmium	**4.1**	mg/kg	0.85		1	0.085	12/15/20	12/17/20 22:42	1051
Chromium	**55**	mg/kg	0.85		1	0.47	12/15/20	12/17/20 22:42	1051
Copper	**85**	mg/kg	0.85		1	0.26	12/15/20	12/17/20 22:42	1051
Lead	**75**	mg/kg	0.85		1	0.36	12/15/20	12/17/20 22:42	1051
Manganese	**2,400**	mg/kg	0.85	E	1	0.71	12/15/20	12/17/20 22:42	1051
Mercury	**0.36**	mg/kg	0.17		1	0.062	12/15/20	12/17/20 22:42	1051
Nickel	**98**	mg/kg	0.85		1	0.3	12/15/20	12/17/20 22:42	1051
Selenium	**2.0**	mg/kg	0.85		1	0.085	12/15/20	12/17/20 22:42	1051
Silver	**5.9**	mg/kg	0.85		1	0.094	12/15/20	12/17/20 22:42	1051
Thallium	**0.36**	mg/kg	0.85	J	1	0.22	12/15/20	12/17/20 22:42	1051
Zinc	**550**	mg/kg	17		1	0.94	12/15/20	12/17/20 22:42	1051

Sample ID: C5 34.0'-36.7' **Date/Time Sampled: 12/10/2020 10:50** **PSS Sample ID: 20121018-028**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 58.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.71**	mg/kg	3.7	J	1	0.34	12/15/20	12/17/20 22:47	1051
Arsenic	**17**	mg/kg	0.74		1	0.081	12/15/20	12/17/20 22:47	1051
Beryllium	**3.6**	mg/kg	0.74		1	0.19	12/15/20	12/17/20 22:47	1051
Cadmium	**3.8**	mg/kg	0.74		1	0.074	12/15/20	12/17/20 22:47	1051
Chromium	**65**	mg/kg	0.74		1	0.41	12/15/20	12/17/20 22:47	1051
Copper	**86**	mg/kg	0.74		1	0.23	12/15/20	12/17/20 22:47	1051
Lead	**71**	mg/kg	0.74		1	0.31	12/15/20	12/17/20 22:47	1051
Manganese	**1,900**	mg/kg	0.74	E	1	0.62	12/15/20	12/17/20 22:47	1051
Mercury	**0.38**	mg/kg	0.15		1	0.054	12/15/20	12/17/20 22:47	1051
Nickel	**98**	mg/kg	0.74		1	0.26	12/15/20	12/17/20 22:47	1051
Selenium	**2.5**	mg/kg	0.74		1	0.074	12/15/20	12/17/20 22:47	1051
Silver	**3.6**	mg/kg	0.74		1	0.081	12/15/20	12/17/20 22:47	1051
Thallium	**0.33**	mg/kg	0.74	J	1	0.19	12/15/20	12/17/20 22:47	1051
Zinc	**580**	mg/kg	15		1	0.81	12/15/20	12/17/20 22:47	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 36.7'-41.7' **Date/Time Sampled: 12/10/2020 11:40** **PSS Sample ID: 20121018-029**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 60.5**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	81		1	21	12/11/20	12/11/20 19:33	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**51**	mg/kg	4.0		1	1.2	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180416 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**590**	mg/kg	95		10	48	12/15/20	12/15/20 17:28	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180542 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**7.8**	mg/kg	16	J	1	4.8	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 36.7'-41.7' **Date/Time Sampled: 12/10/2020 11:40** **PSS Sample ID: 20121018-029**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 60.5**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.59**	mg/kg	3.0	J	1	0.28	12/15/20	12/17/20 22:52	1051
Arsenic	**16**	mg/kg	0.60		1	0.067	12/15/20	12/17/20 22:52	1051
Beryllium	**3.2**	mg/kg	0.60		1	0.15	12/15/20	12/17/20 22:52	1051
Cadmium	**1.9**	mg/kg	0.60		1	0.06	12/15/20	12/17/20 22:52	1051
Chromium	**43**	mg/kg	0.60		1	0.33	12/15/20	12/17/20 22:52	1051
Copper	**83**	mg/kg	0.60		1	0.19	12/15/20	12/17/20 22:52	1051
Lead	**67**	mg/kg	0.60		1	0.25	12/15/20	12/17/20 22:52	1051
Manganese	**1,200**	mg/kg	0.60	E	1	0.51	12/15/20	12/17/20 22:52	1051
Mercury	**0.42**	mg/kg	0.12		1	0.044	12/15/20	12/17/20 22:52	1051
Nickel	**69**	mg/kg	0.60		1	0.21	12/15/20	12/17/20 22:52	1051
Selenium	**3.4**	mg/kg	0.60		1	0.06	12/15/20	12/17/20 22:52	1051
Silver	**1.9**	mg/kg	0.60		1	0.067	12/15/20	12/17/20 22:52	1051
Thallium	**0.30**	mg/kg	0.60	J	1	0.16	12/15/20	12/17/20 22:52	1051
Zinc	**420**	mg/kg	12		1	0.67	12/15/20	12/17/20 22:52	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180402 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.7		1	1.7	12/14/20	12/15/20 14:16	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**18**	mg/kg	5.5	DF	1	5.5	12/15/20	12/16/20 13:30	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*80*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 13:30*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 36.7'-41.7' **Date/Time Sampled: 12/10/2020 11:40** **PSS Sample ID: 20121018-029**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 60.5**

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C GRO — Preparation Method: SW5030

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.16		1	0.08	12/17/20	12/17/20 22:02	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*86*	*%*	*62-125*		*1*		*12/17/20*	*12/17/20 22:02*	*1045*

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
beta-BHC	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
delta-BHC	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Heptachlor	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Aldrin	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Heptachlor epoxide	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
gamma-Chlordane	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
alpha-Chlordane	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
4,4-DDE	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Endosulfan I	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Dieldrin	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Endrin	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
4,4-DDD	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Endosulfan II	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
4,4-DDT	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Endrin aldehyde	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Methoxychlor	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Endosulfan sulfate	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Endrin ketone	ND	mg/kg	0.0067		1	0.0067	12/15/20	12/16/20 13:12	1029
Toxaphene	ND	mg/kg	0.17		1	0.17	12/15/20	12/16/20 13:12	1029
Chlordane	ND	mg/kg	0.17		1	0.17	12/15/20	12/16/20 13:12	1029
Surrogate(s)	***Recovery***		***Limits***						
Tetrachloro-m-xylene	*71*	*%*	*44-152*		*1*		*12/15/20*	*12/16/20 13:12*	*1029*
Decachlorobiphenyl	*88*	*%*	*39-151*		*1*		*12/15/20*	*12/16/20 13:12*	*1029*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 36.7'-41.7' **Date/Time Sampled: 12/10/2020 11:40** **PSS Sample ID: 20121018-029**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 60.5**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180425 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.084		1	0.084	12/15/20	12/16/20 16:12	1029
PCB-1221	ND	mg/kg	0.084		1	0.084	12/15/20	12/16/20 16:12	1029
PCB-1232	ND	mg/kg	0.084		1	0.084	12/15/20	12/16/20 16:12	1029
PCB-1242	ND	mg/kg	0.084		1	0.084	12/15/20	12/16/20 16:12	1029
PCB-1248	ND	mg/kg	0.084		1	0.084	12/15/20	12/16/20 16:12	1029
PCB-1254	ND	mg/kg	0.084		1	0.084	12/15/20	12/16/20 16:12	1029
PCB-1260	ND	mg/kg	0.084		1	0.084	12/15/20	12/16/20 16:12	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*111*	*%*	*40-149*		*1*	*12/15/20*	*12/16/20 16:12*	*1029*
Tetrachloro-m-xylene	*86*	*%*	*34-117*		*1*	*12/15/20*	*12/16/20 16:12*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Acenaphthylene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Acetophenone	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Anthracene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Atrazine	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
Benzo(a)anthracene	**0.015**	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Benzo(a)pyrene	**0.014**	mg/kg	0.014	J	1	0.014	12/14/20	12/15/20 15:57	1059
Benzo(b)fluoranthene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Benzo(k)fluoranthene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Butyl benzyl phthalate	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Di-n-butyl phthalate	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Carbazole	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Caprolactam	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 36.7'-41.7' **Date/Time Sampled: 12/10/2020 11:40** **PSS Sample ID: 20121018-029**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 60.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Chloro-3-methyl phenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
4-Chloroaniline	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2-Chloronaphthalene	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2-Chlorophenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Chrysene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Dibenzofuran	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2,4-Dichlorophenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Diethyl phthalate	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Dimethyl phthalate	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2,4-Dimethylphenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.27		1	0.27	12/14/20	12/15/20 15:57	1059
2,4-Dinitrophenol	ND	mg/kg	0.27		1	0.27	12/14/20	12/15/20 15:57	1059
2,4-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
2,6-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
Fluoranthene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Fluorene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Hexachlorobenzene	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Hexachlorobutadiene	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
Hexachloroethane	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Isophorone	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2-Methylnaphthalene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
2-Methyl phenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
3&4-Methylphenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Naphthalene	**0.019**	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
2-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
3-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
4-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
Nitrobenzene	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2-Nitrophenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
4-Nitrophenol	ND	mg/kg	0.27		1	0.27	12/14/20	12/15/20 15:57	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 36.7'-41.7' **Date/Time Sampled: 12/10/2020 11:40** **PSS Sample ID: 20121018-029**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 60.5**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Di-n-octyl phthalate	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
Pentachlorophenol	ND	mg/kg	0.11		1	0.11	12/14/20	12/15/20 15:57	1059
Phenanthrene	ND	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Phenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
Pyrene	**0.016**	mg/kg	0.014		1	0.014	12/14/20	12/15/20 15:57	1059
Pyridine	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.055		1	0.055	12/14/20	12/15/20 15:57	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*78*	*%*	*50-104*	*1*	*12/14/20*	*12/15/20 15:57*	*1059*
2-Fluorophenol	*78*	*%*	*40-109*	*1*	*12/14/20*	*12/15/20 15:57*	*1059*
Nitrobenzene-d5	*79*	*%*	*41-101*	*1*	*12/14/20*	*12/15/20 15:57*	*1059*
Phenol-d6	*73*	*%*	*44-102*	*1*	*12/14/20*	*12/15/20 15:57*	*1059*
Terphenyl-D14	*97*	*%*	*70-115*	*1*	*12/14/20*	*12/15/20 15:57*	*1059*
2,4,6-Tribromophenol	*82*	*%*	*36-123*	*1*	*12/14/20*	*12/15/20 15:57*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.38**	mg/kg	0.094		1	0.047	12/17/20	12/17/20 16:44	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: C5 43.5'-46.7' **Date/Time Sampled: 12/10/2020 12:30** **PSS Sample ID: 20121018-030**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 63.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.59**	mg/kg	3.4	J	1	0.31	12/15/20	12/17/20 22:57	1051
Arsenic	**12**	mg/kg	0.68		1	0.075	12/15/20	12/17/20 22:57	1051
Beryllium	**2.4**	mg/kg	0.68		1	0.17	12/15/20	12/17/20 22:57	1051
Cadmium	**0.76**	mg/kg	0.68		1	0.068	12/15/20	12/17/20 22:57	1051
Chromium	**30**	mg/kg	0.68		1	0.37	12/15/20	12/17/20 22:57	1051
Copper	**69**	mg/kg	0.68		1	0.21	12/15/20	12/17/20 22:57	1051
Lead	**57**	mg/kg	0.68		1	0.29	12/15/20	12/17/20 22:57	1051
Manganese	**1,100**	mg/kg	0.68	E	1	0.57	12/15/20	12/17/20 22:57	1051
Mercury	**0.61**	mg/kg	0.14		1	0.05	12/15/20	12/17/20 22:57	1051
Nickel	**56**	mg/kg	0.68		1	0.24	12/15/20	12/17/20 22:57	1051
Selenium	**3.8**	mg/kg	0.68		1	0.068	12/15/20	12/17/20 22:57	1051
Silver	**0.27**	mg/kg	0.68	J	1	0.075	12/15/20	12/17/20 22:57	1051
Thallium	**0.25**	mg/kg	0.68	J	1	0.18	12/15/20	12/17/20 22:57	1051
Zinc	**260**	mg/kg	14		1	0.75	12/15/20	12/17/20 22:57	1051

Sample ID: C5 49.0'-49.9' **Date/Time Sampled: 12/10/2020 12:57** **PSS Sample ID: 20121018-031**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 74.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.30**	mg/kg	2.9	J	1	0.27	12/15/20	12/17/20 23:01	1051
Arsenic	**7.6**	mg/kg	0.58		1	0.063	12/15/20	12/17/20 23:01	1051
Beryllium	**1.1**	mg/kg	0.58		1	0.14	12/15/20	12/17/20 23:01	1051
Cadmium	**0.25**	mg/kg	0.58	J	1	0.058	12/15/20	12/17/20 23:01	1051
Chromium	**15**	mg/kg	0.58		1	0.32	12/15/20	12/17/20 23:01	1051
Copper	**30**	mg/kg	0.58		1	0.18	12/15/20	12/17/20 23:01	1051
Lead	**25**	mg/kg	0.58		1	0.24	12/15/20	12/17/20 23:01	1051
Manganese	**870**	mg/kg	0.58	E	1	0.48	12/15/20	12/17/20 23:01	1051
Mercury	**0.20**	mg/kg	0.12		1	0.042	12/15/20	12/17/20 23:01	1051
Nickel	**27**	mg/kg	0.58		1	0.2	12/15/20	12/17/20 23:01	1051
Selenium	**2.0**	mg/kg	0.58		1	0.058	12/15/20	12/17/20 23:01	1051
Silver	**0.079**	mg/kg	0.58	J	1	0.063	12/15/20	12/17/20 23:01	1051
Thallium	ND	mg/kg	0.58		1	0.15	12/15/20	12/17/20 23:01	1051
Zinc	**100**	mg/kg	12		1	0.63	12/15/20	12/17/20 23:01	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 27.0' **Date/Time Sampled: 12/10/2020 13:50** **PSS Sample ID: 20121018-032**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 61.4**

MDE TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.051**	mg/kg	0.032		1	0.032	12/17/20	12/17/20 18:28	1011
Benzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Bromochloromethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Bromodichloromethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Bromoform	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Bromomethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
2-Butanone (MEK)	ND	mg/kg	0.0081		1	0.0081	12/17/20	12/17/20 18:28	1011
Carbon Disulfide	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Carbon tetrachloride	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Chlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Chloroethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Chloroform	ND	mg/kg	0.0081		1	0.0081	12/17/20	12/17/20 18:28	1011
Chloromethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Cyclohexane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Dibromochloromethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2-Dibromoethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2-Dichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,3-Dichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,4-Dichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Dichlorodifluoromethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,1-Dichloroethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2-Dichloroethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,1-Dichloroethene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
cis-1,2-Dichloroethene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2-Dichloropropane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
cis-1,3-Dichloropropene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
trans-1,2-Dichloroethene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
trans-1,3-Dichloropropene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Ethylbenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
2-Hexanone (MBK)	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Isopropylbenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Methyl Acetate	ND	mg/kg	0.040		1	0.04	12/17/20	12/17/20 18:28	1011
Methylcyclohexane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Methylene chloride	ND	mg/kg	0.0081		1	0.0081	12/17/20	12/17/20 18:28	1011

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 27.0' **Date/Time Sampled: 12/10/2020 13:50** **PSS Sample ID: 20121018-032**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 61.4**

MDE TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Methyl-t-Butyl Ether	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Naphthalene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Styrene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Tetrachloroethene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Toluene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2,3-Trichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2,4-Trichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,1,1-Trichloroethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,1,2-Trichloroethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Trichloroethene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Trichlorofluoromethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,2,4-Trimethylbenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
1,3,5-Trimethylbenzene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011
Vinyl chloride	ND	mg/kg	0.0081		1	0.0081	12/17/20	12/17/20 18:28	1011
m&p-Xylene	ND	mg/kg	0.0032		1	0.0032	12/17/20	12/17/20 18:28	1011
o-Xylene	ND	mg/kg	0.0016		1	0.0016	12/17/20	12/17/20 18:28	1011

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*97*	*%*	*92-120*	*1*	*12/17/20*	*12/17/20 18:28*	*1011*
Dibromofluoromethane	*98*	*%*	*91-107*	*1*	*12/17/20*	*12/17/20 18:28*	*1011*
Toluene-D8	*96*	*%*	*89-108*	*1*	*12/17/20*	*12/17/20 18:28*	*1011*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 31.0'-35.4' **Date/Time Sampled: 12/10/2020 14:50** **PSS Sample ID: 20121018-033**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 64.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.28**	mg/kg	2.5	J	1	0.23	12/15/20	12/17/20 23:10	1051
Arsenic	**4.7**	mg/kg	0.50		1	0.055	12/15/20	12/17/20 23:10	1051
Beryllium	**0.93**	mg/kg	0.50		1	0.13	12/15/20	12/17/20 23:10	1051
Cadmium	**0.26**	mg/kg	0.50	J	1	0.05	12/15/20	12/17/20 23:10	1051
Chromium	**6.5**	mg/kg	0.50		1	0.28	12/15/20	12/17/20 23:10	1051
Copper	**23**	mg/kg	0.50		1	0.16	12/15/20	12/17/20 23:10	1051
Lead	**16**	mg/kg	0.50		1	0.21	12/15/20	12/17/20 23:10	1051
Manganese	**310**	mg/kg	0.50		1	0.42	12/15/20	12/17/20 23:10	1051
Mercury	**0.14**	mg/kg	0.10		1	0.037	12/15/20	12/17/20 23:10	1051
Nickel	**22**	mg/kg	0.50		1	0.18	12/15/20	12/17/20 23:10	1051
Selenium	**1.7**	mg/kg	0.50		1	0.05	12/15/20	12/17/20 23:10	1051
Silver	**0.11**	mg/kg	0.50	J	1	0.055	12/15/20	12/17/20 23:10	1051
Thallium	ND	mg/kg	0.50		1	0.13	12/15/20	12/17/20 23:10	1051
Zinc	**82**	mg/kg	10		1	0.55	12/15/20	12/17/20 23:10	1051

Sample ID: B5 24.4'-25.4' **Date/Time Sampled: 12/10/2020 15:23** **PSS Sample ID: 20121018-034**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 50.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.43**	mg/kg	4.6	J	1	0.42	12/15/20	12/17/20 23:15	1051
Arsenic	**11**	mg/kg	0.91		1	0.1	12/15/20	12/17/20 23:15	1051
Beryllium	**2.2**	mg/kg	0.91		1	0.23	12/15/20	12/17/20 23:15	1051
Cadmium	**1.2**	mg/kg	0.91		1	0.091	12/15/20	12/17/20 23:15	1051
Chromium	**28**	mg/kg	0.91		1	0.5	12/15/20	12/17/20 23:15	1051
Copper	**42**	mg/kg	0.91		1	0.28	12/15/20	12/17/20 23:15	1051
Lead	**39**	mg/kg	0.91		1	0.38	12/15/20	12/17/20 23:15	1051
Manganese	**2,800**	mg/kg	0.91	E	1	0.77	12/15/20	12/17/20 23:15	1051
Mercury	**0.16**	mg/kg	0.18	J	1	0.067	12/15/20	12/17/20 23:15	1051
Nickel	**78**	mg/kg	0.91		1	0.32	12/15/20	12/17/20 23:15	1051
Selenium	**1.2**	mg/kg	0.91		1	0.091	12/15/20	12/17/20 23:15	1051
Silver	**0.61**	mg/kg	0.91	J	1	0.1	12/15/20	12/17/20 23:15	1051
Thallium	**0.25**	mg/kg	0.91	J	1	0.24	12/15/20	12/17/20 23:15	1051
Zinc	**300**	mg/kg	18		1	1	12/15/20	12/17/20 23:15	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 29.4'-30.4' **Date/Time Sampled: 12/10/2020 15:35** **PSS Sample ID: 20121018-035**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 79.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.32**	mg/kg	2.7	J	1	0.25	12/15/20	12/17/20 23:20	1051
Arsenic	**5.9**	mg/kg	0.54		1	0.059	12/15/20	12/17/20 23:20	1051
Beryllium	**1.1**	mg/kg	0.54		1	0.13	12/15/20	12/17/20 23:20	1051
Cadmium	**0.32**	mg/kg	0.54	J	1	0.054	12/15/20	12/17/20 23:20	1051
Chromium	**7.9**	mg/kg	0.54		1	0.3	12/15/20	12/17/20 23:20	1051
Copper	**27**	mg/kg	0.54		1	0.17	12/15/20	12/17/20 23:20	1051
Lead	**18**	mg/kg	0.54		1	0.23	12/15/20	12/17/20 23:20	1051
Manganese	**370**	mg/kg	0.54		1	0.45	12/15/20	12/17/20 23:20	1051
Mercury	**0.12**	mg/kg	0.11		1	0.039	12/15/20	12/17/20 23:20	1051
Nickel	**30**	mg/kg	0.54		1	0.19	12/15/20	12/17/20 23:20	1051
Selenium	**2.2**	mg/kg	0.54		1	0.054	12/15/20	12/17/20 23:20	1051
Silver	**0.12**	mg/kg	0.54	J	1	0.059	12/15/20	12/17/20 23:20	1051
Thallium	ND	mg/kg	0.54		1	0.14	12/15/20	12/17/20 23:20	1051
Zinc	**110**	mg/kg	11		1	0.59	12/15/20	12/17/20 23:20	1051

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 35.4'-40.4' **Date/Time Sampled: 12/10/2020 15:55** **PSS Sample ID: 20121018-036**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.4**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	86		1	22	12/11/20	12/11/20 19:56	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**81**	mg/kg	3.9		1	1.2	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180416 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**840**	mg/kg	100		10	52	12/15/20	12/15/20 17:32	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180542 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**5.9**	mg/kg	16	J	1	5	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 35.4'-40.4' **Date/Time Sampled: 12/10/2020 15:55** **PSS Sample ID: 20121018-036**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.4**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180494 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.73**	mg/kg	3.9	J	1	0.36	12/15/20	12/17/20 23:48	1051
Arsenic	**16**	mg/kg	0.79		1	0.087	12/15/20	12/17/20 23:48	1051
Beryllium	**3.3**	mg/kg	0.79		1	0.2	12/15/20	12/17/20 23:48	1051
Cadmium	**3.4**	mg/kg	0.79		1	0.079	12/15/20	12/17/20 23:48	1051
Chromium	**55**	mg/kg	0.79		1	0.43	12/15/20	12/17/20 23:48	1051
Copper	**85**	mg/kg	0.79		1	0.24	12/15/20	12/17/20 23:48	1051
Lead	**66**	mg/kg	0.79		1	0.33	12/15/20	12/17/20 23:48	1051
Manganese	**1,800**	mg/kg	0.79	E	1	0.66	12/15/20	12/17/20 23:48	1051
Mercury	**0.36**	mg/kg	0.16		1	0.057	12/15/20	12/17/20 23:48	1051
Nickel	**91**	mg/kg	0.79		1	0.28	12/15/20	12/17/20 23:48	1051
Selenium	**2.5**	mg/kg	0.79		1	0.079	12/15/20	12/17/20 23:48	1051
Silver	**3.5**	mg/kg	0.79		1	0.087	12/15/20	12/17/20 23:48	1051
Thallium	**0.31**	mg/kg	0.79	J	1	0.2	12/15/20	12/17/20 23:48	1051
Zinc	**500**	mg/kg	16		1	0.87	12/15/20	12/17/20 23:48	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180402 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.8		1	1.8	12/14/20	12/15/20 14:20	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**15**	mg/kg	5.8	DF	1	5.8	12/15/20	12/16/20 13:30	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*71*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 13:30*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 35.4'-40.4' **Date/Time Sampled: 12/10/2020 15:55** **PSS Sample ID: 20121018-036**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.4**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C GRO Preparation Method: SW5030

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.18		1	0.089	12/17/20	12/17/20 22:33	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*87*	*%*	*62-125*		*1*		*12/17/20*	*12/17/20 22:33*	*1045*

Organochlorine Pesticides Analytical Method: SW-846 8081 B Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
beta-BHC	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
delta-BHC	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Heptachlor	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Aldrin	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Heptachlor epoxide	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
gamma-Chlordane	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
alpha-Chlordane	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
4,4-DDE	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Endosulfan I	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Dieldrin	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Endrin	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
4,4-DDD	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Endosulfan II	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
4,4-DDT	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Endrin aldehyde	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Methoxychlor	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Endosulfan sulfate	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Endrin ketone	ND	mg/kg	0.0069		1	0.0069	12/15/20	12/16/20 13:26	1029
Toxaphene	ND	mg/kg	0.17		1	0.17	12/15/20	12/16/20 13:26	1029
Chlordane	ND	mg/kg	0.17		1	0.17	12/15/20	12/16/20 13:26	1029
Surrogate(s)	***Recovery***		***Limits***						
Tetrachloro-m-xylene	*75*	*%*	*44-152*		*1*		*12/15/20*	*12/16/20 13:26*	*1029*
Decachlorobiphenyl	*91*	*%*	*39-151*		*1*		*12/15/20*	*12/16/20 13:26*	*1029*

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 35.4'-40.4' **Date/Time Sampled: 12/10/2020 15:55** **PSS Sample ID: 20121018-036**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.4**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180425 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.087		1	0.087	12/15/20	12/16/20 16:40	1029
PCB-1221	ND	mg/kg	0.087		1	0.087	12/15/20	12/16/20 16:40	1029
PCB-1232	ND	mg/kg	0.087		1	0.087	12/15/20	12/16/20 16:40	1029
PCB-1242	ND	mg/kg	0.087		1	0.087	12/15/20	12/16/20 16:40	1029
PCB-1248	ND	mg/kg	0.087		1	0.087	12/15/20	12/16/20 16:40	1029
PCB-1254	ND	mg/kg	0.087		1	0.087	12/15/20	12/16/20 16:40	1029
PCB-1260	ND	mg/kg	0.087		1	0.087	12/15/20	12/16/20 16:40	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*114*	*%*	*40-149*		*1*	*12/15/20*	*12/16/20 16:40*	*1029*
Tetrachloro-m-xylene	*91*	*%*	*34-117*		*1*	*12/15/20*	*12/16/20 16:40*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Acenaphthylene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Acetophenone	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Anthracene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Atrazine	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
Benzo(a)anthracene	**0.023**	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Benzo(a)pyrene	**0.023**	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Benzo(b)fluoranthene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Benzo(k)fluoranthene	**0.015**	mg/kg	0.015	J	1	0.015	12/14/20	12/15/20 20:56	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Butyl benzyl phthalate	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Di-n-butyl phthalate	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Carbazole	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Caprolactam	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059

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Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 35.4'-40.4' **Date/Time Sampled: 12/10/2020 15:55** **PSS Sample ID: 20121018-036**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Chloro-3-methyl phenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
4-Chloroaniline	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2-Chloronaphthalene	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2-Chlorophenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Chrysene	**0.017**	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Dibenzofuran	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2,4-Dichlorophenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Diethyl phthalate	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Dimethyl phthalate	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2,4-Dimethylphenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.29		1	0.29	12/14/20	12/15/20 20:56	1059
2,4-Dinitrophenol	ND	mg/kg	0.29		1	0.29	12/14/20	12/15/20 20:56	1059
2,4-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
2,6-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
Fluoranthene	**0.027**	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Fluorene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Hexachlorobenzene	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Hexachlorobutadiene	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
Hexachloroethane	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Isophorone	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2-Methylnaphthalene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
2-Methyl phenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
3&4-Methylphenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Naphthalene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
2-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
3-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
4-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
Nitrobenzene	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2-Nitrophenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
4-Nitrophenol	ND	mg/kg	0.29		1	0.29	12/14/20	12/15/20 20:56	1059

PHASE SEPARATION SCIENCE

6630 Baltimore National Pike
Baltimore, MD 21228
410-747-8770
800-932-9047
www.phaseonline.com

Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121018

Sample ID: B5 35.4'-40.4' **Date/Time Sampled: 12/10/2020 15:55** **PSS Sample ID: 20121018-036**
Matrix: SOIL **Date/Time Received: 12/10/2020 16:40** **% Solids SM2540G-11: 57.4**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180420 on Case Narrative. See Batch 84223 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Di-n-octyl phthalate	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
Pentachlorophenol	ND	mg/kg	0.12		1	0.12	12/14/20	12/15/20 20:56	1059
Phenanthrene	ND	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Phenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
Pyrene	**0.041**	mg/kg	0.015		1	0.015	12/14/20	12/15/20 20:56	1059
Pyridine	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.058		1	0.058	12/14/20	12/15/20 20:56	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*76*	*%*	*50-104*	*1*	*12/14/20*	*12/15/20 20:56*	*1059*
2-Fluorophenol	*76*	*%*	*40-109*	*1*	*12/14/20*	*12/15/20 20:56*	*1059*
Nitrobenzene-d5	*77*	*%*	*41-101*	*1*	*12/14/20*	*12/15/20 20:56*	*1059*
Phenol-d6	*70*	*%*	*44-102*	*1*	*12/14/20*	*12/15/20 20:56*	*1059*
Terphenyl-D14	*94*	*%*	*70-115*	*1*	*12/14/20*	*12/15/20 20:56*	*1059*
2,4,6-Tribromophenol	*83*	*%*	*36-123*	*1*	*12/14/20*	*12/15/20 20:56*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.37**	mg/kg	0.11		1	0.054	12/17/20	12/17/20 16:47	1053

ANALYTICAL REPORT

Lab Number:	L2056048
Client:	Phase Separation Science, Inc. 6630 Baltimore Nat'l Pike Suite 103 Baltimore, MD 21228
ATTN:	Simon Crisp
Phone:	(410) 747-8770
Project Name:	20121018
Project Number:	3037.02
Report Date:	12/22/20

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2056048-01	C4 28.4'-31.9' (20121018-006)	SOIL	CONOWINGO	12/09/20 11:10	12/15/20
L2056048-02	C3 30.6'-35.5' (20121018-013)	SOIL	CONOWINGO	12/09/20 15:24	12/15/20
L2056048-03	D3 26.2'-30.9' (20121018-020)	SOIL	CONOWINGO	12/09/20 18:10	12/15/20
L2056048-04	C5 22.1'-26.7' (20121018-026)	SOIL	CONOWINGO	12/10/20 10:00	12/15/20
L2056048-05	C5 36.7'-41.7' (20121018-029)	SOIL	CONOWINGO	12/10/20 11:40	12/15/20
L2056048-06	B5 35.4'-40.4' (20121018-036)	SOIL	CONOWINGO	12/10/20 15:55	12/15/20

Project Name:	20121018	**Lab Number:**	L2056048
Project Number:	3037.02	**Report Date:**	12/22/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: 20121018 **Lab Number:** L2056048
Project Number: 3037.02 **Report Date:** 12/22/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 12/22/20

INORGANICS
&
MISCELLANEOUS

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056048-01
Client ID: C4 28.4'-31.9' (20121018-006)
Sample Location: CONOWINGO

Date Collected: 12/09/20 11:10
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	66.4		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.5	0.36	1	12/20/20 18:30	12/21/20 23:32	109,9016	AT

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056048-02
Client ID: C3 30.6'-35.5' (20121018-013)
Sample Location: CONOWINGO

Date Collected: 12/09/20 15:24
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	77.3		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.3	0.31	1	12/20/20 18:30	12/21/20 23:34	109,9016	AT

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056048-03
Client ID: D3 26.2'-30.9' (20121018-020)
Sample Location: CONOWINGO

Date Collected: 12/09/20 18:10
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	75.5		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.3	0.32	1	12/20/20 18:30	12/21/20 23:35	109,9016	AT

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056048-04
Client ID: C5 22.1'-26.7' (20121018-026)
Sample Location: CONOWINGO

Date Collected: 12/10/20 10:00
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	72.0		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.4	0.33	1	12/20/20 18:30	12/21/20 23:35	109,9016	AT

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056048-05
Client ID: C5 36.7'-41.7' (20121018-029)
Sample Location: CONOWINGO

Date Collected: 12/10/20 11:40
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	58.3		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.7	0.41	1	12/20/20 18:30	12/21/20 23:36	109,9016	AT

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056048-06
Client ID: B5 35.4'-40.4' (20121018-036)
Sample Location: CONOWINGO

Date Collected: 12/10/20 15:55
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	55.1		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.8	0.43	1	12/20/20 18:30	12/21/20 23:36	109,9016	AT

Project Name: 20121018 **Lab Number:** L2056048

Project Number: 3037.02 **Report Date:** 12/22/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-06 Batch: WG1447479-1										
Cyanide, Free	ND		mg/kg	1.0	0.24	1	12/20/20 18:30	12/21/20 23:23	109,9016	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 Batch: WG1447479-2								
Cyanide, Free	86		-			-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1447479-3 WG1447479-4 QC Sample: L2056048-01 Client ID: C4 28.4'-31.9' (20121018-006)												
Cyanide, Free	ND	30.7	22	73		22	73			0		

Lab Duplicate Analysis
Batch Quality Control

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-06 QC Batch ID: WG1446584-1 QC Sample: L2056029-01 Client ID: DUP Sample						
Solids, Total	62.4	63.8	%	2		20

Project Name: 20121018
Project Number: 3037.02

Lab Number: L2056048
Report Date: 12/22/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2056048-01A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		TS(7),FCN-9016(14)
L2056048-01B	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		TS(7),FCN-9016(14)
L2056048-02A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		TS(7),FCN-9016(14)
L2056048-03A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		TS(7),FCN-9016(14)
L2056048-04A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		FCN-9016(14),TS(7)
L2056048-05A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		TS(7),FCN-9016(14)
L2056048-06A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		FCN-9016(14),TS(7)

*Values in parentheses indicate holding time in days

Project Name:	20121018	**Lab Number:**	L2056048
Project Number:	3037.02	**Report Date:**	12/22/20

GLOSSARY

Acronyms

DL - Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EMPC - Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LOD - Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

LOQ - Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

NR - No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TEF - Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.

TEQ - Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	20121018	**Lab Number:**	L2056048
Project Number:	3037.02	**Report Date:**	12/22/20

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	20121018	**Lab Number:**	L2056048
Project Number:	3037.02	**Report Date:**	12/22/20

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	20121018	**Lab Number:**	L2056048
Project Number:	3037.02	**Report Date:**	12/22/20

REFERENCES

109 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Revision 0, June 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain of Custody Form for Subcontracted Analyses

L2056048

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Alpha Analytical, Inc.
8 Walkup Drive
Westborough, MA 01581
Phone : 508-898-9220

For Questions or issues please contact: Lynn Jackson

Report Due On :12/28/20 05:00

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : UPS

Condition Upon Receipt : _____

Comments :

Free Cyanide: Free Cyanide

Samples Relinquished By : [signature] Date : 12/14/20 Time: _____ Samples Received By : [signature] ABZ 12/15/20 1138

Samples Relinquished By: _____ Date : _____ Time : _____ Samples Received By: _____

Samples Relinquished By: _____ Date: _____ Time: _____ Samples Received By: _____

SAMPLE RECEIVING
(240) 717-8770
PHASE SEPARATION SCIENCE
9030 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MD 21128

22 LBS

1 OF 1

SHIP TO:

SAMPLE RECEIVING
(508) 898-9220
ALPHA ANALYTICAL
8 WALKUP DRIVE
WESTBOROUGH MA 01581

MA 016 9-03

UPS NEXT DAY AIR

TRACKING #: 1Z 231 3E4 01 6641 7268

1

BILLING: P/P

Report Number: 20-350-0626
Account Number: 07834

Waypoint ANALYTICAL
"Every acre...Every year."™

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Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

Send To: PHASE SEPARATION SCIENCE
JOHN RICHARDSON
6630 BALTIMORE NATIONAL PIKE
BALTIMORE MD 21228

Grower: WO # 20121018
Conowingo
3037.02

SOIL ANALYSIS REPORT

Analytical Method(s):

Date Received: 12/15/2020 **Date Of Analysis:** 12/16/2020 **Date Of Report:** 12/17/2020

Sample ID / Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
20121018-006	03799														
20121018-013	03801														
20121018-020	03802														
20121018-026	03803														
20121018-029	03804														

Sample ID / Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts		
	K %	Mg %	Ca %	Na %	H %	NO_3 N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate		
20121018-006													0.1 VL		
20121018-013													0.08 VL		
20121018-020													0.09 VL		
20121018-026													0.1 VL		
20121018-029													0.17 VL		

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric Mc Groary

Pauric Mc Groary Ph.D., CPAg

Report Number: 20-350-0626
Account Number: 07834

Waypoint ANALYTICAL
7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
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JOHN RICHARDSON
6630 BALTIMORE NATIONAL PIKE
BALTIMORE MD 21228

Grower: WO # 20121018
Conowingo
3037.02

SOIL ANALYSIS REPORT

Analytical Method(s):

Date Received: 12/15/2020 **Date Of Analysis:** 12/16/2020 **Date Of Report:** 12/17/2020

Sample ID / Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
20121018-036	03805														

Sample ID / Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts		
	K %	Mg %	Ca %	Na %	H %	NO_3 N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate		
20121018-036													0.15 VL		

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric Mc Groary

Pauric Mc Groary Ph.D., CPAg

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

January 19, 2021

Lynn Jackson
Phase Separation Science, Inc.
6630 Baltimore National Pike
Catonsville, MD 21228

RE: Project: 20121018-Revised Report
Pace Project No.: 30397086

Dear Lynn Jackson:

Enclosed are the analytical results for sample(s) received by the laboratory on December 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay
- Pace Analytical Services - Greensburg

Revision 1 - This report replaces the January 15, 2021 report. This project was revised on January 19, 2021 to attach the Pace Minneapolis dioxin report. (Greensburg PA)

The samples were subcontracted to Pace Analytical Services, Inc., 1800 Elm St SE, Minneapolis, MN 55414 for Dioxin analysis. Results of the analysis are reported on the Pace Analytical MN data tables.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

David A. Pichette
david.pichette@pacelabs.com
(724)850-5617
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30397086001	20121018-001	Solid	12/08/20 16:35	12/14/20 22:15
30397086002	20121018-002	Solid	12/08/20 16:47	12/14/20 22:15
30397086003	20121018-003	Solid	12/08/20 17:19	12/14/20 22:15
30397086004	20121018-004	Solid	12/09/20 09:05	12/14/20 22:15
30397086005	20121018-005	Solid	12/09/20 09:07	12/14/20 22:15
30397086006	20121018-006	Solid	12/09/20 11:10	12/14/20 22:15
30397086007	20121018-007	Solid	12/09/20 11:15	12/14/20 22:15
30397086008	20121018-008	Solid	12/09/20 12:43	12/14/20 22:15
30397086009	20121018-009	Solid	12/09/20 12:50	12/14/20 22:15
30397086010	20121018-010	Solid	12/09/20 13:05	12/14/20 22:15
30397086011	20121018-011	Solid	12/09/20 13:58	12/14/20 22:15
30397086012	20121018-012	Solid	12/09/20 14:02	12/14/20 22:15
30397086013	20121018-013	Solid	12/09/20 15:24	12/14/20 22:15
30397086014	20121018-014	Solid	12/09/20 15:45	12/14/20 22:15
30397086015	20121018-015	Solid	12/09/20 16:26	12/14/20 22:15
30397086016	20121018-016	Solid	12/09/20 16:38	12/14/20 22:15
30397086017	20121018-018	Solid	12/09/20 17:05	12/14/20 22:15
30397086018	20121018-019	Solid	12/09/20 17:40	12/14/20 22:15
30397086019	20121018-020	Solid	12/09/20 18:10	12/14/20 22:15
30397086020	20121018-021	Solid	12/09/20 18:40	12/14/20 22:15
30397086021	20121018-022	Solid	12/10/20 07:50	12/14/20 22:15
30397086022	20121018-023	Solid	12/10/20 08:10	12/14/20 22:15
30397086023	20121018-024	Solid	12/10/20 08:20	12/14/20 22:15
30397086024	20121018-025	Solid	12/10/20 08:35	12/14/20 22:15
30397086025	20121018-026	Solid	12/10/20 10:00	12/14/20 22:15
30397086026	20121018-027	Solid	12/10/20 10:40	12/14/20 22:15
30397086027	20121018-028	Solid	12/10/20 10:50	12/14/20 22:15
30397086028	20121018-029	Solid	12/10/20 11:40	12/14/20 22:15
30397086029	20121018-030	Solid	12/10/20 12:30	12/14/20 22:15
30397086030	20121018-031	Solid	12/10/20 12:57	12/14/20 22:15
30397086031	20121018-033	Solid	12/10/20 14:50	12/14/20 22:15
30397086032	20121018-034	Solid	12/10/20 15:23	12/14/20 22:15
30397086033	20121018-035	Solid	12/10/20 15:35	12/14/20 22:15
30397086034	20121018-036	Solid	12/10/20 15:55	12/14/20 22:15

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30397086001	**20121018-001**	ASTM D2974-87	N1H	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086002	**20121018-002**	ASTM D2974-87	N1H	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086003	**20121018-003**	ASTM D2974-87	N1H	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086004	**20121018-004**	ASTM D2974-87	N1H	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086005	**20121018-005**	ASTM D2974-87	N1H	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086006	**20121018-006**	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397086007	**20121018-007**	ASTM D2974-87	N1H	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086008	**20121018-008**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086009	**20121018-009**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086010	**20121018-010**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086011	**20121018-011**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086012	**20121018-012**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086013	**20121018-013**	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397086014	**20121018-014**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086015	**20121018-015**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086016	**20121018-016**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086017	**20121018-018**	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086018	**20121018-019**	ASTM D2974-87	MMX	1	PASI-G

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
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(724)850-5600

SAMPLE ANALYTE COUNT

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 9060 Modified	TJJ	4	PASI-G
30397086019	20121018-020	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397086020	20121018-021	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086021	20121018-022	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086022	20121018-023	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086023	20121018-024	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086024	20121018-025	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086025	20121018-026	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397086026	20121018-027	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086027	20121018-028	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086028	20121018-029	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397086029	20121018-030	ASTM D2974-87	N1H	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086030	20121018-031	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086031	20121018-033	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086032	20121018-034	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086033	20121018-035	ASTM D2974-87	MMX	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397086034	20121018-036	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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SAMPLE ANALYTE COUNT

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory

PASI-G = Pace Analytical Services - Green Bay
PASI-PA = Pace Analytical Services - Greensburg

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PROJECT NARRATIVE

Project: 20121018-Revised Report
Pace Project No.: 30397086

Method: **EPA 351.2**
Description: 351.2 Total Kjeldahl Nitrogen
Client: Phase Separation Science, Inc.
Date: January 19, 2021

General Information:
6 samples were analyzed for EPA 351.2 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 351.2 with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 428414

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30397086006,30397089019

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 2070200)
  - Nitrogen, Kjeldahl, Total
- MS (Lab ID: 2070202)
  - Nitrogen, Kjeldahl, Total
- MSD (Lab ID: 2070201)
  - Nitrogen, Kjeldahl, Total
- MSD (Lab ID: 2070203)
  - Nitrogen, Kjeldahl, Total

Additional Comments:

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PROJECT NARRATIVE

Project: 20121018-Revised Report
Pace Project No.: 30397086

Method: **EPA 9060 Modified**
Description: Total Organic Carbon
Client: Phase Separation Science, Inc.
Date: January 19, 2021

General Information:
34 samples were analyzed for EPA 9060 Modified by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

C4: Sample container did not meet EPA or method requirements.
- 20121018-001 (Lab ID: 30397086001)
- 20121018-002 (Lab ID: 30397086002)
- 20121018-003 (Lab ID: 30397086003)
- 20121018-004 (Lab ID: 30397086004)
- 20121018-005 (Lab ID: 30397086005)
- 20121018-006 (Lab ID: 30397086006)
- 20121018-007 (Lab ID: 30397086007)
- 20121018-008 (Lab ID: 30397086008)
- 20121018-009 (Lab ID: 30397086009)
- 20121018-010 (Lab ID: 30397086010)
- 20121018-011 (Lab ID: 30397086011)
- 20121018-012 (Lab ID: 30397086012)
- 20121018-013 (Lab ID: 30397086013)
- 20121018-014 (Lab ID: 30397086014)
- 20121018-015 (Lab ID: 30397086015)
- 20121018-016 (Lab ID: 30397086016)
- 20121018-018 (Lab ID: 30397086017)
- 20121018-019 (Lab ID: 30397086018)
- 20121018-020 (Lab ID: 30397086019)
- 20121018-021 (Lab ID: 30397086020)
- 20121018-022 (Lab ID: 30397086021)
- 20121018-023 (Lab ID: 30397086022)
- 20121018-024 (Lab ID: 30397086023)
- 20121018-025 (Lab ID: 30397086024)
- 20121018-026 (Lab ID: 30397086025)
- 20121018-027 (Lab ID: 30397086026)
- 20121018-028 (Lab ID: 30397086027)
- 20121018-029 (Lab ID: 30397086028)
- 20121018-030 (Lab ID: 30397086029)
- 20121018-031 (Lab ID: 30397086030)
- 20121018-033 (Lab ID: 30397086031)
- 20121018-034 (Lab ID: 30397086032)
- 20121018-035 (Lab ID: 30397086033)
- 20121018-036 (Lab ID: 30397086034)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

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PROJECT NARRATIVE

Project: 20121018-Revised Report
Pace Project No.: 30397086

Method: **EPA 9060 Modified**
Description: Total Organic Carbon
Client: Phase Separation Science, Inc.
Date: January 19, 2021

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 374373

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30397086030,30397086031

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 2163741)
  - Mean Total Organic Carbon

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-001 **Lab ID: 30397086001** Collected: 12/08/20 16:35 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**25.4**	%	0.10	0.10	1		12/22/20 17:28		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**0.16**	%	0.10	0.10	1		12/21/20 17:47		
Total Organic Carbon	**623000**	mg/kg	31800	9480	1		12/21/20 17:47	7440-44-0	
Total Organic Carbon	**622000**	mg/kg	35300	10500	1		12/21/20 17:53	7440-44-0	
Mean Total Organic Carbon	**623000**	mg/kg	33500	10000	1		12/21/20 17:47	7440-44-0	C4

Sample: 20121018-002 **Lab ID: 30397086002** Collected: 12/08/20 16:47 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**15.1**	%	0.10	0.10	1		12/22/20 16:21		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**24.2**	%	0.10	0.10	1		12/21/20 17:59		
Total Organic Carbon	**2640**	mg/kg	702	209	1		12/21/20 17:59	7440-44-0	
Total Organic Carbon	**2070**	mg/kg	702	209	1		12/21/20 18:06	7440-44-0	
Mean Total Organic Carbon	**2360**	mg/kg	702	209	1		12/21/20 17:59	7440-44-0	C4

Sample: 20121018-003 **Lab ID: 30397086003** Collected: 12/08/20 17:19 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**15.2**	%	0.10	0.10	1		12/22/20 17:29		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**20.4**	%	0.10	0.10	1		12/21/20 20:46		
Total Organic Carbon	**1860**	mg/kg	711	212	1		12/21/20 20:46	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-003 **Lab ID: 30397086003** Collected: 12/08/20 17:19 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**1510**	mg/kg	713	213	1		12/21/20 20:52	7440-44-0	
Mean Total Organic Carbon	**1680**	mg/kg	712	212	1		12/21/20 20:46	7440-44-0	C4

Sample: 20121018-004 **Lab ID: 30397086004** Collected: 12/09/20 09:05 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**35.9**	%	0.10	0.10	1		12/22/20 16:22		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**16.2**	%	0.10	0.10	1		12/21/20 18:35		
Total Organic Carbon	**402000**	mg/kg	38500	11500	1		12/21/20 18:35	7440-44-0	
Total Organic Carbon	**473000**	mg/kg	34000	10100	1		12/21/20 18:41	7440-44-0	
Mean Total Organic Carbon	**438000**	mg/kg	36300	10800	1		12/21/20 18:35	7440-44-0	C4

Sample: 20121018-005 **Lab ID: 30397086005** Collected: 12/09/20 09:07 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**45.1**	%	0.10	0.10	1		12/22/20 17:29		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.4**	%	0.10	0.10	1		12/21/20 18:46		
Total Organic Carbon	**77200**	mg/kg	5810	1730	1		12/21/20 18:46	7440-44-0	
Total Organic Carbon	**73900**	mg/kg	5780	1720	1		12/21/20 18:52	7440-44-0	
Mean Total Organic Carbon	**75500**	mg/kg	5790	1730	1		12/21/20 18:46	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-006 **Lab ID: 30397086006** Collected: 12/09/20 11:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**21.1**	%	0.10	0.10	1		12/17/20 14:09		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**608**	mg/kg	65.3	46.4	2	12/23/20 11:30	12/24/20 12:21	7727-37-9	ML
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**2.1**	%	0.10	0.10	1		12/21/20 18:57		
Total Organic Carbon	**487000**	mg/kg	33000	9860	1		12/21/20 18:57	7440-44-0	
Total Organic Carbon	**498000**	mg/kg	30400	9070	1		12/21/20 19:04	7440-44-0	
Mean Total Organic Carbon	**492000**	mg/kg	31700	9470	1		12/21/20 18:57	7440-44-0	C4

Sample: 20121018-007 **Lab ID: 30397086007** Collected: 12/09/20 11:15 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.3**	%	0.10	0.10	1		12/22/20 17:29		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**14.9**	%	0.10	0.10	1		12/21/20 19:10		
Total Organic Carbon	**103000**	mg/kg	6980	2080	1		12/21/20 19:10	7440-44-0	
Total Organic Carbon	**119000**	mg/kg	6930	2070	1		12/21/20 19:16	7440-44-0	
Mean Total Organic Carbon	**111000**	mg/kg	6960	2070	1		12/21/20 19:10	7440-44-0	C4

Sample: 20121018-008 **Lab ID: 30397086008** Collected: 12/09/20 12:43 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**44.0**	%	0.10	0.10	1		12/23/20 17:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-008 **Lab ID: 30397086008** Collected: 12/09/20 12:43 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.1**	%	0.10	0.10	1		12/21/20 19:23		
Total Organic Carbon	**104000**	mg/kg	6570	1960	1		12/21/20 19:23	7440-44-0	
Total Organic Carbon	**99800**	mg/kg	6610	1970	1		12/21/20 19:28	7440-44-0	
Mean Total Organic Carbon	**102000**	mg/kg	6590	1970	1		12/21/20 19:23	7440-44-0	C4

Sample: 20121018-009 **Lab ID: 30397086009** Collected: 12/09/20 12:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**45.3**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**11.9**	%	0.10	0.10	1		12/21/20 19:33		
Total Organic Carbon	**108000**	mg/kg	6670	1990	1		12/21/20 19:33	7440-44-0	
Total Organic Carbon	**95400**	mg/kg	6760	2020	1		12/21/20 19:40	7440-44-0	
Mean Total Organic Carbon	**101000**	mg/kg	6710	2000	1		12/21/20 19:33	7440-44-0	C4

Sample: 20121018-010 **Lab ID: 30397086010** Collected: 12/09/20 13:05 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**39.1**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.4**	%	0.10	0.10	1		12/21/20 21:23		
Total Organic Carbon	**180000**	mg/kg	6560	1960	1		12/21/20 21:23	7440-44-0	
Total Organic Carbon	**178000**	mg/kg	6440	1920	1		12/21/20 21:29	7440-44-0	
Mean Total Organic Carbon	**179000**	mg/kg	6500	1940	1		12/21/20 21:23	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-011 **Lab ID: 30397086011** Collected: 12/09/20 13:58 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**35.4**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**5.1**	%	0.10	0.10	1		12/21/20 21:58		
Total Organic Carbon	**450000**	mg/kg	28000	8340	1		12/21/20 21:58	7440-44-0	
Total Organic Carbon	**473000**	mg/kg	27300	8140	1		12/21/20 22:04	7440-44-0	
Mean Total Organic Carbon	**462000**	mg/kg	27600	8240	1		12/21/20 21:58	7440-44-0	C4

Sample: 20121018-012 **Lab ID: 30397086012** Collected: 12/09/20 14:02 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**37.0**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.0**	%	0.10	0.10	1		12/23/20 15:17		
Total Organic Carbon	**234000**	mg/kg	11800	3520	1		12/23/20 15:17	7440-44-0	
Total Organic Carbon	**231000**	mg/kg	11900	3550	1		12/23/20 15:24	7440-44-0	
Mean Total Organic Carbon	**233000**	mg/kg	11800	3530	1		12/23/20 15:17	7440-44-0	C4

Sample: 20121018-013 **Lab ID: 30397086013** Collected: 12/09/20 15:24 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**23.8**	%	0.10	0.10	1		12/17/20 14:09		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**380**	mg/kg	32.2	22.9	1	12/23/20 11:30	12/24/20 11:59	7727-37-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-013 **Lab ID: 30397086013** Collected: 12/09/20 15:24 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**8.3**	%	0.10	0.10	1		12/21/20 22:59		
Total Organic Carbon	**721000**	mg/kg	30100	8970	1		12/21/20 22:59	7440-44-0	
Total Organic Carbon	**664000**	mg/kg	29000	8640	1		12/21/20 23:05	7440-44-0	
Mean Total Organic Carbon	**692000**	mg/kg	29500	8810	1		12/21/20 22:59	7440-44-0	C4

Sample: 20121018-014 **Lab ID: 30397086014** Collected: 12/09/20 15:45 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**44.5**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**5.2**	%	0.10	0.10	1		12/21/20 23:12		
Total Organic Carbon	**82800**	mg/kg	5540	1650	1		12/21/20 23:12	7440-44-0	
Total Organic Carbon	**87200**	mg/kg	5460	1630	1		12/21/20 23:18	7440-44-0	
Mean Total Organic Carbon	**85000**	mg/kg	5500	1640	1		12/21/20 23:12	7440-44-0	C4

Sample: 20121018-015 **Lab ID: 30397086015** Collected: 12/09/20 16:26 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**41.2**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.8**	%	0.10	0.10	1		12/21/20 23:23		
Total Organic Carbon	**141000**	mg/kg	5400	1610	1		12/21/20 23:23	7440-44-0	
Total Organic Carbon	**138000**	mg/kg	5440	1620	1		12/21/20 23:29	7440-44-0	
Mean Total Organic Carbon	**139000**	mg/kg	5420	1620	1		12/21/20 23:23	7440-44-0	C4

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-016 **Lab ID: 30397086016** Collected: 12/09/20 16:38 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**25.8**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**25.1**	%	0.10	0.10	1		12/21/20 23:36		
Total Organic Carbon	**692000**	mg/kg	35200	10500	1		12/21/20 23:36	7440-44-0	
Total Organic Carbon	**891000**	mg/kg	35800	10700	1		12/21/20 23:41	7440-44-0	
Mean Total Organic Carbon	**791000**	mg/kg	35500	10600	1		12/21/20 23:36	7440-44-0	C4

Sample: 20121018-018 **Lab ID: 30397086017** Collected: 12/09/20 17:05 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**39.1**	%	0.10	0.10	1		12/23/20 17:07		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**12.3**	%	0.10	0.10	1		12/21/20 23:47		
Total Organic Carbon	**199000**	mg/kg	5720	1710	1		12/21/20 23:47	7440-44-0	
Total Organic Carbon	**176000**	mg/kg	5650	1680	1		12/21/20 23:53	7440-44-0	
Mean Total Organic Carbon	**187000**	mg/kg	5680	1690	1		12/21/20 23:47	7440-44-0	C4

Sample: 20121018-019 **Lab ID: 30397086018** Collected: 12/09/20 17:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**31.2**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**3.6**	%	0.10	0.10	1		12/21/20 23:58		
Total Organic Carbon	**656000**	mg/kg	25400	7580	1		12/21/20 23:58	7440-44-0	

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-019 **Lab ID: 30397086018** Collected: 12/09/20 17:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**633000**	mg/kg	23900	7130	1		12/22/20 00:04	7440-44-0	
Mean Total Organic Carbon	**645000**	mg/kg	24700	7360	1		12/21/20 23:58	7440-44-0	C4

Sample: 20121018-020 **Lab ID: 30397086019** Collected: 12/09/20 18:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**23.9**	%	0.10	0.10	1		12/17/20 14:09		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**470**	mg/kg	32.9	23.4	1	12/23/20 11:30	12/24/20 12:00	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**8.7**	%	0.10	0.10	1		12/22/20 00:10		
Total Organic Carbon	**719000**	mg/kg	31500	9410	1		12/22/20 00:10	7440-44-0	
Total Organic Carbon	**659000**	mg/kg	36500	10900	1		12/22/20 00:16	7440-44-0	
Mean Total Organic Carbon	**689000**	mg/kg	34000	10200	1		12/22/20 00:10	7440-44-0	C4

Sample: 20121018-021 **Lab ID: 30397086020** Collected: 12/09/20 18:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.5**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**10.6**	%	0.10	0.10	1		12/22/20 00:23		
Total Organic Carbon	**230000**	mg/kg	6760	2020	1		12/22/20 00:23	7440-44-0	
Total Organic Carbon	**207000**	mg/kg	6840	2040	1		12/22/20 00:28	7440-44-0	
Mean Total Organic Carbon	**218000**	mg/kg	6800	2030	1		12/22/20 00:23	7440-44-0	C4

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-022 **Lab ID: 30397086021** Collected: 12/10/20 07:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.6**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**10.2**	%	0.10	0.10	1		12/22/20 00:34		
Total Organic Carbon	**120000**	mg/kg	6690	2000	1		12/22/20 00:34	7440-44-0	
Total Organic Carbon	**133000**	mg/kg	6720	2010	1		12/22/20 00:41	7440-44-0	
Mean Total Organic Carbon	**126000**	mg/kg	6700	2000	1		12/22/20 00:34	7440-44-0	C4

Sample: 20121018-023 **Lab ID: 30397086022** Collected: 12/10/20 08:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.0**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**16.3**	%	0.10	0.10	1		12/22/20 00:47		
Total Organic Carbon	**247000**	mg/kg	6500	1940	1		12/22/20 00:47	7440-44-0	
Total Organic Carbon	**209000**	mg/kg	6580	1960	1		12/22/20 00:52	7440-44-0	
Mean Total Organic Carbon	**228000**	mg/kg	6540	1950	1		12/22/20 00:47	7440-44-0	C4

Sample: 20121018-024 **Lab ID: 30397086023** Collected: 12/10/20 08:20 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**39.4**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**6.4**	%	0.10	0.10	1		12/22/20 01:09		
Total Organic Carbon	**172000**	mg/kg	6170	1840	1		12/22/20 01:09	7440-44-0	

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-024 **Lab ID: 30397086023** Collected: 12/10/20 08:20 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**184000**	mg/kg	5970	1780	1		12/22/20 01:15	7440-44-0	
Mean Total Organic Carbon	**178000**	mg/kg	6070	1810	1		12/22/20 01:09	7440-44-0	C4

Sample: 20121018-025 **Lab ID: 30397086024** Collected: 12/10/20 08:35 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**42.7**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**7.7**	%	0.10	0.10	1		12/22/20 01:20		
Total Organic Carbon	**158000**	mg/kg	6390	1910	1		12/22/20 01:20	7440-44-0	
Total Organic Carbon	**146000**	mg/kg	6370	1900	1		12/22/20 01:26	7440-44-0	
Mean Total Organic Carbon	**152000**	mg/kg	6380	1900	1		12/22/20 01:20	7440-44-0	C4

Sample: 20121018-026 **Lab ID: 30397086025** Collected: 12/10/20 10:00 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**27.2**	%	0.10	0.10	1		12/17/20 14:09		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**724**	mg/kg	36.5	26.0	1	12/23/20 11:30	12/24/20 12:01	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**3.2**	%	0.10	0.10	1		12/22/20 01:31		
Total Organic Carbon	**536000**	mg/kg	30300	9040	1		12/22/20 01:31	7440-44-0	
Total Organic Carbon	**519000**	mg/kg	28700	8570	1		12/22/20 01:37	7440-44-0	
Mean Total Organic Carbon	**527000**	mg/kg	29500	8810	1		12/22/20 01:31	7440-44-0	C4

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
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Sample: 20121018-027 **Lab ID: 30397086026** Collected: 12/10/20 10:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**38.7**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**11.1**	%	0.10	0.10	1		12/22/20 01:44		
Total Organic Carbon	**63000**	mg/kg	5120	1530	1		12/22/20 01:44	7440-44-0	
Total Organic Carbon	**70400**	mg/kg	5000	1490	1		12/22/20 01:50	7440-44-0	
Mean Total Organic Carbon	**66700**	mg/kg	5060	1510	1		12/22/20 01:44	7440-44-0	C4

Sample: 20121018-028 **Lab ID: 30397086027** Collected: 12/10/20 10:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**40.2**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**17.4**	%	0.10	0.10	1		12/22/20 01:55		
Total Organic Carbon	**84500**	mg/kg	5500	1640	1		12/22/20 01:55	7440-44-0	
Total Organic Carbon	**101000**	mg/kg	5410	1620	1		12/22/20 02:01	7440-44-0	
Mean Total Organic Carbon	**92500**	mg/kg	5460	1630	1		12/22/20 01:55	7440-44-0	C4

Sample: 20121018-029 **Lab ID: 30397086028** Collected: 12/10/20 11:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**39.6**	%	0.10	0.10	1		12/17/20 14:09		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1990**	mg/kg	188	134	5	12/23/20 11:30	12/24/20 12:23	7727-37-9	

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-029 **Lab ID: 30397086028** Collected: 12/10/20 11:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**0.62**	%	0.10	0.10	1		12/22/20 02:07		
Total Organic Carbon	**143000**	mg/kg	6070	1810	1		12/22/20 02:07	7440-44-0	
Total Organic Carbon	**144000**	mg/kg	5960	1780	1		12/22/20 02:12	7440-44-0	
Mean Total Organic Carbon	**143000**	mg/kg	6020	1800	1		12/22/20 02:07	7440-44-0	C4

Sample: 20121018-030 **Lab ID: 30397086029** Collected: 12/10/20 12:30 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**37.1**	%	0.10	0.10	1		12/22/20 16:22		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**12.8**	%	0.10	0.10	1		12/22/20 02:18		
Total Organic Carbon	**190000**	mg/kg	6070	1810	1		12/22/20 02:18	7440-44-0	
Total Organic Carbon	**215000**	mg/kg	5970	1780	1		12/22/20 02:23	7440-44-0	
Mean Total Organic Carbon	**202000**	mg/kg	6020	1800	1		12/22/20 02:18	7440-44-0	C4

Sample: 20121018-031 **Lab ID: 30397086030** Collected: 12/10/20 12:57 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**26.0**	%	0.10	0.10	1		12/23/20 17:08		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**13.8**	%	0.10	0.10	1		12/23/20 15:30		
Total Organic Carbon	**126000**	mg/kg	9110	2720	1		12/23/20 15:30	7440-44-0	
Total Organic Carbon	**110000**	mg/kg	9260	2760	1		12/23/20 15:36	7440-44-0	
Mean Total Organic Carbon	**118000**	mg/kg	9180	2740	1		12/23/20 15:30	7440-44-0	C4

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ANALYTICAL RESULTS

Project: 20121018-Revised Report
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Sample: 20121018-033 **Lab ID: 30397086031** Collected: 12/10/20 14:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**34.8**	%	0.10	0.10	1		12/24/20 11:10		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**17.0**	%	0.10	0.10	1		12/22/20 15:53		
Total Organic Carbon	**366000**	mg/kg	28300	8450	1		12/22/20 15:53	7440-44-0	
Total Organic Carbon	**433000**	mg/kg	27200	8130	1		12/22/20 16:04	7440-44-0	
Mean Total Organic Carbon	**400000**	mg/kg	27800	8290	1		12/22/20 15:53	7440-44-0	C4,M0

Sample: 20121018-034 **Lab ID: 30397086032** Collected: 12/10/20 15:23 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**46.1**	%	0.10	0.10	1		12/24/20 11:10		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.9**	%	0.10	0.10	1		12/22/20 16:34		
Total Organic Carbon	**49100**	mg/kg	5900	1760	1		12/22/20 16:34	7440-44-0	
Total Organic Carbon	**46800**	mg/kg	6120	1830	1		12/22/20 16:40	7440-44-0	
Mean Total Organic Carbon	**47900**	mg/kg	6010	1790	1		12/22/20 16:34	7440-44-0	C4

Sample: 20121018-035 **Lab ID: 30397086033** Collected: 12/10/20 15:35 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**21.3**	%	0.10	0.10	1		12/24/20 11:11		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**22.4**	%	0.10	0.10	1		12/22/20 16:46		
Total Organic Carbon	**384000**	mg/kg	29700	8850	1		12/22/20 16:46	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: 20121018-Revised Report
Pace Project No.: 30397086

Sample: 20121018-035 **Lab ID: 30397086033** Collected: 12/10/20 15:35 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**306000**	mg/kg	25500	7600	1		12/22/20 16:52	7440-44-0	
Mean Total Organic Carbon	**345000**	mg/kg	27600	8230	1		12/22/20 16:46	7440-44-0	C4

Sample: 20121018-036 **Lab ID: 30397086034** Collected: 12/10/20 15:55 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**42.6**	%	0.10	0.10	1		12/17/20 14:09		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**2790**	mg/kg	225	160	5	12/23/20 11:30	12/24/20 12:24	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**13.9**	%	0.10	0.10	1		12/22/20 17:11		
Total Organic Carbon	**121000**	mg/kg	5800	1730	1		12/22/20 17:11	7440-44-0	
Total Organic Carbon	**140000**	mg/kg	5710	1700	1		12/22/20 17:16	7440-44-0	
Mean Total Organic Carbon	**130000**	mg/kg	5760	1720	1		12/22/20 17:11	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 427590
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30397086006, 30397086013, 30397086019, 30397086025, 30397086028, 30397086034

SAMPLE DUPLICATE: 2066387

Parameter	Units	30397086006 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.1	20.8	1	20	

SAMPLE DUPLICATE: 2066388

Parameter	Units	30397086013 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	23.8	24.2	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 374447
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397086002, 30397086004, 30397086029

SAMPLE DUPLICATE: 2163972

Parameter	Units	30397086029 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	37.1	35.9	3	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 374476
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397086001, 30397086003, 30397086005, 30397086007

SAMPLE DUPLICATE: 2164337

Parameter	Units	40219841007 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	25.0	25.3	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 374592
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397086008, 30397086009, 30397086010, 30397086011, 30397086012, 30397086014, 30397086015, 30397086016, 30397086017, 30397086018, 30397086020, 30397086021, 30397086022, 30397086023, 30397086024, 30397086026, 30397086027, 30397086030

SAMPLE DUPLICATE: 2164981

Parameter	Units	40220248001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.7	5.5	3	10	

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 374644
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397086031, 30397086032, 30397086033

SAMPLE DUPLICATE: 2165235

Parameter	Units	40220066003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	21.0	20.8	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 428414 — Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 — Analysis Description: 351.2 TKN
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30397086006, 30397086013, 30397086019, 30397086025, 30397086028, 30397086034

METHOD BLANK: 2070198 — Matrix: Solid
Associated Lab Samples: 30397086006, 30397086013, 30397086019, 30397086025, 30397086028, 30397086034

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	25.0 U	25.0	17.8	12/24/20 11:55	

LABORATORY CONTROL SAMPLE: 2070199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	99.9	97.7	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070200 2070201

Parameter	Units	30397086006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	608	130	129	588	672	-15	50	90-110	13	20	ML

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070202 2070203

Parameter	Units	30397089019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	622	142	130	432	397	-133	-173	90-110	8	20	ML

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 374219 — Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified — Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397086001, 30397086002, 30397086003, 30397086004, 30397086005, 30397086006, 30397086007, 30397086008, 30397086009

METHOD BLANK: 2163312 — Matrix: Solid
Associated Lab Samples: 30397086001, 30397086002, 30397086003, 30397086004, 30397086005, 30397086006, 30397086007, 30397086008, 30397086009

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	600 U	600	179	12/21/20 14:19	

LABORATORY CONTROL SAMPLE: 2163313

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	120000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2163314 2163315

Parameter	Units	35597114001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	6010	37200	37300	44300	45100	103	105	50-150	2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2163316 2163317

Parameter	Units	60356998001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	2570	7470	7440	10200	10600	103	108	50-150	4	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 374362
QC Batch Method: EPA 9060 Modified
Analysis Method: EPA 9060 Modified
Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397086010, 30397086011, 30397086012, 30397086013, 30397086014, 30397086015, 30397086016, 30397086017, 30397086018, 30397086019, 30397086020, 30397086021, 30397086022, 30397086023, 30397086024, 30397086025, 30397086026, 30397086027, 30397086028, 30397086029

METHOD BLANK: 2163720 Matrix: Solid
Associated Lab Samples: 30397086010, 30397086011, 30397086012, 30397086013, 30397086014, 30397086015, 30397086016, 30397086017, 30397086018, 30397086019, 30397086020, 30397086021, 30397086022, 30397086023, 30397086024, 30397086025, 30397086026, 30397086027, 30397086028, 30397086029

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	600 U	600	179	12/21/20 20:58	

LABORATORY CONTROL SAMPLE: 2163721

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	128000	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2163722 2163723

Parameter	Units	30397086010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	179000	63600	64400	227000	243000	76	99	50-150	6	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2163724 2163725

Parameter	Units	30397086011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	462000	277000	289000	786000	800000	117	117	50-150	2	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121018-Revised Report
Pace Project No.: 30397086

QC Batch: 374373 — Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified — Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397086030, 30397086031, 30397086032, 30397086033, 30397086034

METHOD BLANK: 2163737 — Matrix: Solid
Associated Lab Samples: 30397086030, 30397086031, 30397086032, 30397086033, 30397086034

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	600 U	600	179	12/22/20 15:17	

LABORATORY CONTROL SAMPLE: 2163738

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	125000	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2163739 2163740

Parameter	Units	30397086030 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	118000	96300	95900	231000	230000	118	116	50-150	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2163741 2163742

Parameter	Units	30397086031 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	400000	293000	292000	845000	801000	152	138	50-150	5	30	M0

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALIFIERS

Project: 20121018-Revised Report
Pace Project No.: 30397086

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 30397086

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

C4 Sample container did not meet EPA or method requirements.

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

ML Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397086001	**20121018-001**	ASTM D2974-87	374476		
30397086002	**20121018-002**	ASTM D2974-87	374447		
30397086003	**20121018-003**	ASTM D2974-87	374476		
30397086004	**20121018-004**	ASTM D2974-87	374447		
30397086005	**20121018-005**	ASTM D2974-87	374476		
30397086006	**20121018-006**	ASTM D2974-87	427590		
30397086007	**20121018-007**	ASTM D2974-87	374476		
30397086008	**20121018-008**	ASTM D2974-87	374592		
30397086009	**20121018-009**	ASTM D2974-87	374592		
30397086010	**20121018-010**	ASTM D2974-87	374592		
30397086011	**20121018-011**	ASTM D2974-87	374592		
30397086012	**20121018-012**	ASTM D2974-87	374592		
30397086013	**20121018-013**	ASTM D2974-87	427590		
30397086014	**20121018-014**	ASTM D2974-87	374592		
30397086015	**20121018-015**	ASTM D2974-87	374592		
30397086016	**20121018-016**	ASTM D2974-87	374592		
30397086017	**20121018-018**	ASTM D2974-87	374592		
30397086018	**20121018-019**	ASTM D2974-87	374592		
30397086019	**20121018-020**	ASTM D2974-87	427590		
30397086020	**20121018-021**	ASTM D2974-87	374592		
30397086021	**20121018-022**	ASTM D2974-87	374592		
30397086022	**20121018-023**	ASTM D2974-87	374592		
30397086023	**20121018-024**	ASTM D2974-87	374592		
30397086024	**20121018-025**	ASTM D2974-87	374592		
30397086025	**20121018-026**	ASTM D2974-87	427590		
30397086026	**20121018-027**	ASTM D2974-87	374592		
30397086027	**20121018-028**	ASTM D2974-87	374592		
30397086028	**20121018-029**	ASTM D2974-87	427590		
30397086029	**20121018-030**	ASTM D2974-87	374447		
30397086030	**20121018-031**	ASTM D2974-87	374592		
30397086031	**20121018-033**	ASTM D2974-87	374644		
30397086032	**20121018-034**	ASTM D2974-87	374644		
30397086033	**20121018-035**	ASTM D2974-87	374644		
30397086034	**20121018-036**	ASTM D2974-87	427590		
30397086006	**20121018-006**	EPA 351.2	428414	EPA 351.2	428631
30397086013	**20121018-013**	EPA 351.2	428414	EPA 351.2	428631
30397086019	**20121018-020**	EPA 351.2	428414	EPA 351.2	428631
30397086025	**20121018-026**	EPA 351.2	428414	EPA 351.2	428631
30397086028	**20121018-029**	EPA 351.2	428414	EPA 351.2	428631

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397086034	**20121018-036**	EPA 351.2	428414	EPA 351.2	428631
30397086001	**20121018-001**	EPA 9060 Modified	374219		
30397086001	**20121018-001**	EPA 9060 Modified	374220		
30397086002	**20121018-002**	EPA 9060 Modified	374219		
30397086002	**20121018-002**	EPA 9060 Modified	374220		
30397086003	**20121018-003**	EPA 9060 Modified	374219		
30397086003	**20121018-003**	EPA 9060 Modified	374220		
30397086004	**20121018-004**	EPA 9060 Modified	374219		
30397086004	**20121018-004**	EPA 9060 Modified	374220		
30397086005	**20121018-005**	EPA 9060 Modified	374219		
30397086005	**20121018-005**	EPA 9060 Modified	374220		
30397086006	**20121018-006**	EPA 9060 Modified	374219		
30397086006	**20121018-006**	EPA 9060 Modified	374220		
30397086007	**20121018-007**	EPA 9060 Modified	374219		
30397086007	**20121018-007**	EPA 9060 Modified	374220		
30397086008	**20121018-008**	EPA 9060 Modified	374219		
30397086008	**20121018-008**	EPA 9060 Modified	374220		
30397086009	**20121018-009**	EPA 9060 Modified	374219		
30397086009	**20121018-009**	EPA 9060 Modified	374220		
30397086010	**20121018-010**	EPA 9060 Modified	374362		
30397086010	**20121018-010**	EPA 9060 Modified	374363		
30397086011	**20121018-011**	EPA 9060 Modified	374362		
30397086011	**20121018-011**	EPA 9060 Modified	374363		
30397086012	**20121018-012**	EPA 9060 Modified	374362		
30397086012	**20121018-012**	EPA 9060 Modified	374363		
30397086013	**20121018-013**	EPA 9060 Modified	374362		
30397086013	**20121018-013**	EPA 9060 Modified	374363		
30397086014	**20121018-014**	EPA 9060 Modified	374362		
30397086014	**20121018-014**	EPA 9060 Modified	374363		
30397086015	**20121018-015**	EPA 9060 Modified	374362		
30397086015	**20121018-015**	EPA 9060 Modified	374363		
30397086016	**20121018-016**	EPA 9060 Modified	374362		
30397086016	**20121018-016**	EPA 9060 Modified	374363		

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397086017	**20121018-018**	EPA 9060 Modified	374362		
30397086017	**20121018-018**	EPA 9060 Modified	374363		
30397086018	**20121018-019**	EPA 9060 Modified	374362		
30397086018	**20121018-019**	EPA 9060 Modified	374363		
30397086019	**20121018-020**	EPA 9060 Modified	374362		
30397086019	**20121018-020**	EPA 9060 Modified	374363		
30397086020	**20121018-021**	EPA 9060 Modified	374362		
30397086020	**20121018-021**	EPA 9060 Modified	374363		
30397086021	**20121018-022**	EPA 9060 Modified	374362		
30397086021	**20121018-022**	EPA 9060 Modified	374363		
30397086022	**20121018-023**	EPA 9060 Modified	374362		
30397086022	**20121018-023**	EPA 9060 Modified	374363		
30397086023	**20121018-024**	EPA 9060 Modified	374362		
30397086023	**20121018-024**	EPA 9060 Modified	374363		
30397086024	**20121018-025**	EPA 9060 Modified	374362		
30397086024	**20121018-025**	EPA 9060 Modified	374363		
30397086025	**20121018-026**	EPA 9060 Modified	374362		
30397086025	**20121018-026**	EPA 9060 Modified	374363		
30397086026	**20121018-027**	EPA 9060 Modified	374362		
30397086026	**20121018-027**	EPA 9060 Modified	374363		
30397086027	**20121018-028**	EPA 9060 Modified	374362		
30397086027	**20121018-028**	EPA 9060 Modified	374363		
30397086028	**20121018-029**	EPA 9060 Modified	374362		
30397086028	**20121018-029**	EPA 9060 Modified	374363		
30397086029	**20121018-030**	EPA 9060 Modified	374362		
30397086029	**20121018-030**	EPA 9060 Modified	374363		
30397086030	**20121018-031**	EPA 9060 Modified	374373		
30397086030	**20121018-031**	EPA 9060 Modified	374374		
30397086031	**20121018-033**	EPA 9060 Modified	374373		
30397086031	**20121018-033**	EPA 9060 Modified	374374		
30397086032	**20121018-034**	EPA 9060 Modified	374373		
30397086032	**20121018-034**	EPA 9060 Modified	374374		

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121018-Revised Report
Pace Project No.: 30397086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397086033	**20121018-035**	EPA 9060 Modified	374373		
30397086033	**20121018-035**	EPA 9060 Modified	374374		
30397086034	**20121018-036**	EPA 9060 Modified	374373		
30397086034	**20121018-036**	EPA 9060 Modified	374374		

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601
Phone : 724-850-5600

For Questions or issues please contact: Lynn Jackson

Report Due On :12/28/20 05:00

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121018-001	A3 34.7'-36.2'	12/08/20	16:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 001
20121018-002	A3 41.6'-43.4'	12/08/20	16:47	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 002
20121018-003	A3 44.6'-47.4'	12/08/20	17:19	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 003
20121018-004	C4 24.9'-26.4'	12/09/20	09:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 004
20121018-005	C4 26.4'-28.0'	12/09/20	09:07	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 005
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 006
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-007	C4 36.4'-38.0'	12/09/20	11:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 007
20121018-008	C4 41.4'-43.0'	12/09/20	12:43	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 008
20121018-009	C4 44.6'-48.0'	12/09/20	12:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 009
20121018-010	C4 48.0'-53.0'	12/09/20	13:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 010
20121018-011	C4 53.4'-55.5'	12/09/20	13:58	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 011
20121018-012	C4 55.5'-58.0'	12/09/20	14:02	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 012
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 013
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-014	C3 29.3'-30.5'	12/09/20	15:45	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 014
20121018-015	C3 38.2'-40.5'	12/09/20	16:26	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 015
20121018-016	C3 40.5'-41.8'	12/09/20	16:38	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 016
20121018-018	C3 46.7'-50.5'	12/09/20	17:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 017
20121018-019	D3 24.4'-25.9'	12/09/20	17:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 018
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 019

Chain of Custody Form for Subcontracted Analyses

30397086

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL 019
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-021	D3 32.0'-35.9'	12/09/20	18:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 020
20121018-022	D3 26.1'-40.9'	12/10/20	07:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 021
20121018-023	D3 40.9'-45.9'	12/10/20	08:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 022
20121018-024	D3 45.9'-50.9'	12/10/20	08:20	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 023
20121018-025	D3 50.9'-53.2'	12/10/20	08:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 024
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 025
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-027	C5 29.4'-31.7'	12/10/20	10:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 026
20121018-028	C5 34.0'-36.7'	12/10/20	10:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 027
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 028
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-030	C5 43.5'-46.7'	12/10/20	12:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 029
20121018-031	C5 49.0'-49.9'	12/10/20	12:57	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 030
20121018-033	B5 31.0'-35.4'	12/10/20	14:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 031
20121018-034	B5 24.4'-25.4'	12/10/20	15:23	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 032
20121018-035	B5 29.4'-30.4'	12/10/20	15:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 033
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 034
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601
Phone : 724-850-5600

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : Pace Courier

Condition Upon Receipt : _____

Comments :

Dioxins and Furans: Full List Dioxins & Furans

Samples Relinquished By: [signature] Date : 12-14-20 Time: 1355 Samples Received By: [signature] / PAC

Samples Relinquished By: [signature] / PAC Date : 12-14-20 Time : 1900 Samples Received By: RDS PACE 12-14-20 1920

Samples Relinquished By: RDS PACE Date: 12-14-20 Time: 2215 Samples Received By: [signature] 12-14-20 2215

30397086

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Phase Project # 30397086

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other ____

Label BUM
LIMS Login BUM

Tracking #: N/A

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used 9 Type of Ice: (Wet) Blue None

Cooler Temperature Observed Temp 5.1 °C Correction Factor: 0.0 °C Final Temp: 5.1 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# N/A	Date and Initials of person examining contents: ET 12-15-20
Chain of Custody Present:	✓			1.	
Chain of Custody Filled Out:	✓			2.	
Chain of Custody Relinquished:	✓			3. ET 12-15-2020	
Sampler Name & Signature on COC:		✓		4.	
Sample Labels match COC: -Includes date/time/ID Matrix: SC	✓			5.	
Samples Arrived within Hold Time:	✓			6.	
Short Hold Time Analysis (<72hr remaining):		✓		7.	
Rush Turn Around Time Requested:		✓		8.	
Sufficient Volume:	✓			9.	
Correct Containers Used: -Pace Containers Used:	✓			10.	
Containers Intact:	✓			11.	
Orthophosphate field filtered			✓	12.	
Hex Cr Aqueous sample field filtered			✓	13.	
Organic Samples checked for dechlorination:			✓	14.	
Filtered volume received for Dissolved tests			✓	15.	
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix			✓	16.	
All containers meet method preservation requirements.	✓			Initial when completed ET	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):			✓	17.	
Trip Blank Present:		✓		18.	
Trip Blank Custody Seals Present		✓			
Rad Samples Screened < 0.5 mrem/hr			✓	Initial when completed:	Date:

Client Notification/ Resolution:

Person Contacted: ____ Date/Time: ____ Contacted By: ____

Comments/ Resolution: ____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

***PM review** is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Internal Transfer Chain of Custody

40220110

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: NJ
Cert. Needed: [x] Yes ☐ No
Owner Received Date: 12/14/2020 Results Requested By: 12/28/20

Workorder: 30397086 **Workorder Name:** 20121018

Report To	Subcontract To
David A. Pichette Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3,4 Greensburg, PA 15601 Phone (724)850-5617	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: TOC SW9060	LAB USE ONLY
1	20121018-001	PS	12/8/2020 16:35	30397086001	Solid	1	X	001
2	20121018-002	PS	12/8/2020 16:47	30397086002	Solid	1	X	002
3	20121018-003	PS	12/8/2020 17:19	30397086003	Solid	1	X	003
4	20121018-004	PS	12/9/2020 09:05	30397086004	Solid	1	X	004
5	20121018-005	PS	12/9/2020 09:07	30397086005	Solid	1	X	005
6	20121018-006	PS	12/9/2020 11:10	30397086006	Solid	1	X	006
7	20121018-007	PS	12/9/2020 11:15	30397086007	Solid	1	X	007
8	20121018-008	PS	12/9/2020 12:43	30397086008	Solid	1	X	008
9	20121018-009	PS	12/9/2020 12:50	30397086009	Solid	1	X	009
10	20121018-010	PS	12/9/2020 13:05	30397086010	Solid	1	X	010
11	20121018-011	PS	12/9/2020 13:58	30397086011	Solid	1	X	011
12	20121018-012	PS	12/9/2020 14:02	30397086012	Solid	1	X	012
13	20121018-013	PS	12/9/2020 15:24	30397086013	Solid	1	X	013
14	20121018-014	PS	12/9/2020 15:45	30397086014	Solid	1	X	014
15	20121018-015	PS	12/9/2020 16:26	30397086015	Solid	1	X	015
16	20121018-016	PS	12/9/2020 16:38	30397086016	Solid	1	X	016
17	20121018-018	PS	12/9/2020 17:05	30397086017	Solid	1	X	017
18	20121018-019	PS	12/9/2020 17:40	30397086018	Solid	1	X	018
19	20121018-020	PS	12/9/2020 18:10	30397086019	Solid	1	X	019

40220110

Internal Transfer Chain of Custody

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: NJ
Cert. Needed: ☒ Yes ☐ No
Owner Received Date: 12/14/2020 **Results Requested By:** 12/28/20

Workorder: 30397086 **Workorder Name:** 20121018

Report To	Subcontract To
David A. Pichette Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3,4 Greensburg, PA 15601 Phone (724)850-5617	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: TOC SW9060	LAB USE ONLY
20	20121018-021	PS	12/9/2020 18:40	30397086020	Solid	1	X	020
21	20121018-022	PS	12/10/2020 07:50	30397086021	Solid	1	X	021
22	20121018-023	PS	12/10/2020 08:10	30397086022	Solid	1	X	022
23	20121018-024	PS	12/10/2020 08:20	30397086023	Solid	1	X	023
24	20121018-025	PS	12/10/2020 08:35	30397086024	Solid	1	X	024
25	20121018-026	PS	12/10/2020 10:00	30397086025	Solid	1	X	025
26	20121018-027	PS	12/10/2020 10:40	30397086026	Solid	1	X	026
27	20121018-028	PS	12/10/2020 10:50	30397086027	Solid	1	X	027
28	20121018-029	PS	12/10/2020 11:40	30397086028	Solid	1	X	028
29	20121018-030	PS	12/10/2020 12:30	30397086029	Solid	1	X	029
30	20121018-031	PS	12/10/2020 12:57	30397086030	Solid	1	X	030
31	20121018-033	PS	12/10/2020 14:50	30397086031	Solid	1	X	031
32	20121018-034	PS	12/10/2020 15:23	30397086032	Solid	1	X	032
33	20121018-035	PS	12/10/2020 15:35	30397086033	Solid	1	X	033
34	20121018-036	PS	12/10/2020 15:55	30397086034	Solid	1	X	034

40220110

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	[signature]	12/17/20 1700			
2	FedEx Express	12-18-20 1150	Madeline L Rohde Lee	12-18-20 1150	
3					

Cooler Temperature on Receipt 0.5/0.5°C | Custody Seal Y or (N) | Received on Ice (Y) or N | Samples Intact (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO# : 30397086

40220110

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Lynn Jackson

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Report Due On :12/28/20 05:00

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121018-001	A3 34.7'-36.2'	12/08/20	16:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 001
20121018-002	A3 41.6'-43.4'	12/08/20	16:47	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 002
20121018-003	A3 44.6'-47.4'	12/08/20	17:19	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 003
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20121018-005	C4 26.4'-28.0'	12/09/20	09:07	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 005
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 006
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
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20121018-007	C4 36.4'-38.0'	12/09/20	11:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 007
20121018-008	C4 41.4'-43.0'	12/09/20	12:43	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 008
20121018-009	C4 44.6'-48.0'	12/09/20	12:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 009
20121018-010	C4 48.0'-53.0'	12/09/20	13:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 010
20121018-011	C4 53.4'-55.5'	12/09/20	13:58	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 011
20121018-012	C4 55.5'-58.0'	12/09/20	14:02	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 012
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 013
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-014	C3 29.3'-30.5'	12/09/20	15:45	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 014
20121018-015	C3 38.2'-40.5'	12/09/20	16:26	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 015
20121018-016	C3 40.5'-41.8'	12/09/20	16:38	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 016
20121018-018	C3 46.7'-50.5'	12/09/20	17:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 017
20121018-019	D3 24.4'-25.9'	12/09/20	17:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 018
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 019 ↓

4022011O

Chain of Custody Form for Subcontracted Analyses

30397086

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : 20121018
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL 019
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-021	D3 32.0'-35.9'	12/09/20	18:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 020
20121018-022	D3 26.1'-40.9'	12/10/20	07:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 021
20121018-023	D3 40.9'-45.9'	12/10/20	08:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 022
20121018-024	D3 45.9'-50.9'	12/10/20	08:20	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 023
20121018-025	D3 50.9'-53.2'	12/10/20	08:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 024
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 025
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-027	C5 29.4'-31.7'	12/10/20	10:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 026
20121018-028	C5 34.0'-36.7'	12/10/20	10:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 027
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 028
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-030	C5 43.5'-46.7'	12/10/20	12:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 029
20121018-031	C5 49.0'-49.9'	12/10/20	12:57	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 030
20121018-033	B5 31.0'-35.4'	12/10/20	14:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 031
20121018-034	B5 24.4'-25.4'	12/10/20	15:23	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 032
20121018-035	B5 29.4'-30.4'	12/10/20	15:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 033
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 034
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

40220110

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : Pace Courier

Condition Upon Receipt : _____

Comments :

Dioxins and Furans: Full List Dioxins & Furans

Samples Relinquished By: _____ Date : 12-14-20 Time: 1355 Samples Received By: _____

Samples Relinquished By: _____ Date : 12-14-20 Time : 1900 Samples Received By: RDS PACE 12-14-20 1920

Samples Relinquished By: RDS PACE Date: 12-14-20 Time: 2215 Samples Received By: _____ 12-14-20 2215

30397086

40220170

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Phase

Project #: 30397086

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Label: BLM

LIMS Login: BLM

Tracking #: N/A

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☑ no

Thermometer Used: 9 Type of Ice: (Wet) Blue None

Cooler Temperature Observed Temp: 5.1 °C Correction Factor: 0.0 °C Final Temp: 5.1 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot#: N/A	Date and Initials of person examining contents: ET 12-15-20
Chain of Custody Present:	✓			1.	
Chain of Custody Filled Out:	✓			2.	
Chain of Custody Relinquished:	✓	✓		3. ET 12-15-2020	
Sampler Name & Signature on COC:		✓		4.	
Sample Labels match COC:	✓			5.	
-Includes date/time/ID Matrix: SL					
Samples Arrived within Hold Time:	✓			6.	
Short Hold Time Analysis (<72hr remaining):		✓		7.	
Rush Turn Around Time Requested:		✓		8.	
Sufficient Volume:	✓			9.	
Correct Containers Used:	✓			10.	
-Pace Containers Used:		✓			
Containers Intact:	✓			11.	
Orthophosphate field filtered			✓	12.	
Hex Cr Aqueous sample field filtered			✓	13.	
Organic Samples checked for dechlorination:			✓	14.	
Filtered volume received for Dissolved tests			✓	15.	
All containers have been checked for preservation.			✓	16.	
exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix					
All containers meet method preservation requirements.	✓			Initial when completed: ET	Date/time of preservation
				Lot # of added preservative	
Headspace in VOA Vials (>6mm):				17.	
Trip Blank Present:		✓		18.	
Trip Blank Custody Seals Present					
Rad Samples Screened < 0.5 mrem/hr			✓	Initial when completed:	Date:

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Sample Preservation Receipt Form

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: Pace Pittsburg Project # 40220110

All containers needing preservation have been checked and noted below: □Yes □No ~~□N/A~~

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

Pace Lab #	Glass								Plastic					Vials						Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN						
001																																2.5 / 5 / 10
002																																2.5 / 5 / 10
003																																2.5 / 5 / 10
004																																2.5 / 5 / 10
005																																2.5 / 5 / 10
006																																2.5 / 5 / 10
007																																2.5 / 5 / 10
008																																2.5 / 5 / 10
009																																2.5 / 5 / 10
010																																2.5 / 5 / 10
011																																2.5 / 5 / 10
012																																2.5 / 5 / 10
013																																2.5 / 5 / 10
014																																2.5 / 5 / 10
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016																																2.5 / 5 / 10
017																																2.5 / 5 / 10
018																																2.5 / 5 / 10
019																																2.5 / 5 / 10
020																																2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : □Yes □No ~~□N/A~~ ***If yes look in headspace column**

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	2 oz clear glass jar unpres.

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Pace Pittsburg
Project #: 40220110

Pace Lab #	Glass AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic BP1U	BP3U	BP3B	BP3N	BP3S	Vials VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars JGFU	JG9U	WGFU	WPFU	General SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
021																										-							2.5 / 5 / 10
022																										-							2.5 / 5 / 10
023																										-							2.5 / 5 / 10
024																										-							2.5 / 5 / 10
025																										-							2.5 / 5 / 10
026																										-							2.5 / 5 / 10
027																										-							2.5 / 5 / 10
028																										-							2.5 / 5 / 10
029																										-							2.5 / 5 / 10
030																										-							2.5 / 5 / 10
031																										-							2.5 / 5 / 10
032																										-							2.5 / 5 / 10
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MR 12-18-20

Page 2 of 3

Sample Condition Upon Receipt Form (SCUR)

Project #:

WO#: 40220110

40220110

Client Name: Pace Pittsburg

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☐ Client ☐ Pace Other:

Tracking #: 9242 2958 6223 (Mstr #)

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used SR - 99 **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0.5/0.5 Corr: 0.5/0.5

Person examining contents: Date: 12-18-20 Initials: MLR

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Labeled By Initials: MM

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☒N/A	4. IDNO MLR 12-18-20
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD:	☐Yes ☒No ☐N/A	8.
Correct Containers Used:	☐Yes ☒No	9. TOC requires amber glass MLR 12-18-20
-Pace Containers Used:	☐Yes ☒No ☐N/A	
-Pace IR Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☒Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logi

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

David Pichette
PACE Pittsburgh
1638 Roseytown Road
Suites 2,3 & 4
Greensburg PA 15601

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

Pace Project #: 10542692
Sample Receipt Date: 12/17/2020
Client Project #: 30397086
Client Sub PO #: N/A
State Cert #: 68-00563

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Joanne Richardson, your Pace Project Manager.

This report has been reviewed by:

Joanne Richardson

January 15, 2021

Joanne Richardson,
(612) 607-6453
(612) 607-6444 (fax)

Report Prepared Date:
January 15, 2021

Report of Laboratory Analysis

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on six samples submitted by a representative of Pace Analytical Services, LLC. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. The reporting limits were set to correspond to the lowest calibration points and a nominal 10-gram sample amount, and the sensitivity was verified by signal-to-noise measurements. The quantitation limits, adjusted for sample extraction amount, may be somewhat higher or lower than the reporting limits provided in this report. Estimated maximum possible concentration (EMPC) values were treated as positives in the toxic equivalence calculations. The samples were received above the recommended temperature range of 0-6 degrees Celsius.

Second column confirmation analyses of 2,3,7,8-TCDF values obtained from the primary (DB5-MS) column are performed only when specifically requested for a project and only when the values are above the concentration of the lowest calibration standard. Typical resolution for this isomer using the DB5-MS column ranges from 25-30%.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 26-90%. Except for seven low values, which were flagged "R" on the results table, the labeled internal standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with each sample batch as part of our routine quality control procedures. The results show the blanks to be free of PCDDs and PCDFs at the reporting limits. These results indicate that the sample processing steps did not significantly impact the results reported for the field samples.

A laboratory spike sample was also prepared with each sample batch using clean reference matrix that had been fortified with native standard materials. The recoveries of the spiked native compounds ranged from 94-128%. These results were within the target range for the method. Matrix spikes were prepared with the sample batches using sample materials from separate projects; results from these analyses will be provided upon request.

The responses obtained for the labeled OCDD in calibration standard analyses F210107B_15 and Y210105A_17 were outside the target range. As specified in our procedures for this method, the averages of the daily response factors for this compound were used in the calculations for the samples from these runshifts. The affected values were flagged "Y" on the results tables. It should be noted that the accuracy of the native congener determinations was not impacted by these deviations.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
		Mississippi	MN00064
A2LA	2926.01	Missouri	10100
Alabama	40770	Montana	CERT0092
Alaska-DW	MN00064	Nebraska	NE-OS-18-06
Alaska-UST	17-009	Nevada	MN00064
Arizona	AZ0014	New Hampshire	2081
Arkansas - WW	88-0680	New Jersey	MN002
Arkansas-DW	MN00064	New York	11647
California	2929	North Carolina-	27700
Colorado	MN00064	North Carolina-	530
Connecticut	PH-0256	North Dakota	R-036
Florida	E87605	Ohio - VAP	CL101
Georgia	959	Ohio-DW	41244
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon- rimary	MN300001
Illinois	200011	Oregon-Second	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky-DW	90062	Tennessee	TN02818
Kentucky-WW	90062	Texas	T104704192
Louisiana-DEQ	AI-84596	Utah	MN00064
Louisiana-DW	MN00064	Vermont	VT-027053137
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Michigan	9909	West Virginia-D	382
Minnesota	027-053-137	West Virginia-D	9952C
Minnesota-Ag	via MN 027-053	Wisconsin	999407970
Minnesota-Petr	1240	Wyoming-UST	via A2LA 2926.

REPORT OF LABORATORY ANALYSIS

Appendix A

Sample Management

Internal Transfer Chain of Custody

Pace Analytical® www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: NJ
Cert. Needed: ☒ Yes ☐ No
Owner Received Date: 12/14/2020 Results Requested By: 12/28/20

Workorder: 30397086 **Workorder Name:** 20121018

Report To	Subcontract To
David A. Pichette Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3,4 Greensburg, PA 15601 Phone (724)850-5617	Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

WO#: 10542692
10542692

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: 32 Full list Dioxins by 8290 17cmpds	LAB USE ONLY
1	20121018-006	PS	12/9/2020 11:10	30397086006	Solid	1	X	006
2	20121018-013	PS	12/9/2020 15:24	30397086013	Solid	1	X	013
3	20121018-020	PS	12/9/2020 18:10	30397086019	Solid	1	X	019
4	20121018-026	PS	12/10/2020 10:00	30397086025	Solid	1	X	025
5	20121018-029	PS	12/10/2020 11:40	30397086028	Solid	1	X	028
6	20121018-036	PS	12/10/2020 15:55	30397086034	Solid	1	X	034

Transfers	Released By	Date/Time	Received By	Date/Time
1	Ben Munetum	12-15-20 1600	[illegible] - Pace	12/17/20 840
2				
3				

Comments

Cooler Temperature on Receipt 6.6 °C | Custody Seal ~~Y~~ or (N) | Received on Ice (Y) or N | Samples Intact (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Co 12/17/20

WO# : 30397086

30397086

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Lynn Jackson

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Report Due On :12/28/20 05:00

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121018-001	A3 34.7'-36.2'	12/08/20	16:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 001
20121018-002	A3 41.6'-43.4'	12/08/20	16:47	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 002
20121018-003	A3 44.6'-47.4'	12/08/20	17:19	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 003
20121018-004	C4 24.9'-26.4'	12/09/20	09:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 004
20121018-005	C4 26.4'-28.0'	12/09/20	09:07	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 005
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 006
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-006	C4 28.4'-31.9'	12/09/20	11:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-007	C4 36.4'-38.0'	12/09/20	11:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 007
20121018-008	C4 41.4'-43.0'	12/09/20	12:43	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 008
20121018-009	C4 44.6'-48.0'	12/09/20	12:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 009
20121018-010	C4 48.0'-53.0'	12/09/20	13:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 010
20121018-011	C4 53.4'-55.5'	12/09/20	13:58	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 011
20121018-012	C4 55.5'-58.0'	12/09/20	14:02	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 012
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 013
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-013	C3 30.6'-35.5'	12/09/20	15:24	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-014	C3 29.3'-30.5'	12/09/20	15:45	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 014
20121018-015	C3 38.2'-40.5'	12/09/20	16:26	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 015
20121018-016	C3 40.5'-41.8'	12/09/20	16:38	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 016
20121018-018	C3 46.7'-50.5'	12/09/20	17:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 017
20121018-019	D3 24.4'-25.9'	12/09/20	17:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 018
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 019 ↓

Chain of Custody Form for Subcontracted Analyses

30397086

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : 20121018
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601
Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL 019
20121018-020	D3 26.2'-30.9'	12/09/20	18:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-021	D3 32.0'-35.9'	12/09/20	18:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 020
20121018-022	D3 26.1'-40.9'	12/10/20	07:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 021
20121018-023	D3 40.9'-45.9'	12/10/20	08:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 022
20121018-024	D3 45.9'-50.9'	12/10/20	08:20	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 023
20121018-025	D3 50.9'-53.2'	12/10/20	08:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 024
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 025
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-026	C5 22.1'-26.7'	12/10/20	10:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-027	C5 29.4'-31.7'	12/10/20	10:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 026
20121018-028	C5 34.0'-36.7'	12/10/20	10:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 027
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 028
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-029	C5 36.7'-41.7'	12/10/20	11:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121018-030	C5 43.5'-46.7'	12/10/20	12:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 029
20121018-031	C5 49.0'-49.9'	12/10/20	12:57	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 030
20121018-033	B5 31.0'-35.4'	12/10/20	14:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 031
20121018-034	B5 24.4'-25.4'	12/10/20	15:23	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 032
20121018-035	B5 29.4'-30.4'	12/10/20	15:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 033
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 034
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121018-036	B5 35.4'-40.4'	12/10/20	15:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121018**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : Pace Courier

Condition Upon Receipt : _____

Comments :

Dioxins and Furans: Full List Dioxins & Furans

Samples Relinquished By : _____ Date : 12-14-20 Time: 1335 Samples Received By : _____

Samples Relinquished By: _____ Date : 12-14-20 Time : 1900 Samples Received By: _____ 12-14-20 1920

Samples Relinquished By: _____ Date: 12-14-20 Time: 2215 Samples Received By: _____ 12-14-20 2215

30397086

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Phase

Project# 30397086

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Label BUM

LIMS Login BUM

Tracking #: N/A

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☑ no

Thermometer Used 9 Type of Ice: (Wet) Blue None

Cooler Temperature Observed Temp 5.1 °C Correction Factor: 0.0 °C Final Temp: 5.1 °C

Temp should be above freezing to 6°C

pH paper Lot# N/A

Date and Initials of person examining contents: ET 12-15-20

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓	✓		3. ET 12-15-2020
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC:	✓			5.
-Includes date/time/ID Matrix: SL				
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used:	✓			10.
-Pace Containers Used:		✓		
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix			✓	16.
All containers meet method preservation requirements.	✓			Initial when completed ET Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present		✓		
Rad Samples Screened < 0.5 mrem/hr			✓	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: Date/Time: Contacted By:

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Pace Analytical®	Document Name: Sample Condition Upon Receipt (SCUR) - MN	Document Revised: 12Aug2020 Page 1 of 1
	Document No.: ENV-FRM-MIN4-0150 Rev.01	Pace Analytical Services - Minneapolis

Sample Condition Upon Receipt

Client Name: Pace Pittsburgh

Project #:

WO#: 10542692

PM: JMR Due Date: 01/04/21

CLIENT: PASI-PITT

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: 0242 2958 5536 See Exceptions ☐ ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☒ Yes ☐ No

Thermometer: ☒ T1(0461) ☐ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☐ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☒ No ☐ N/A CA 12/17/20

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 6.8 °C

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 6.8 °C

Average Corrected Temp (no temp blank only): _____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☒ N/A, water sample/Other: SL)

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Date/Initials of Person Examining Contents: CA 12/17/20

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☒ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other_____
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used? -Pace Containers Used?	☒ Yes ☒ Yes	☐ No ☐ No		8.
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☐ Water ☐ Soil ☐ Oil ☒ Other SL	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** See Exception ☐ ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No pH Paper Lot# See Exception ☐ ENV-FRM-MIN4-0142
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	13. See Exception ☐ ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased):

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Joanne Richardson **Date:** 12-17-20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: CA

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise (EDL)

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interferencepresent

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDEInterference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = SeeDiscussion

REPORT OF LABORATORY ANALYSIS

Appendix B

Sample Analysis Summary

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121018-006		
Lab Sample ID	30397086006		
Filename	U210113A_14		
Injected By	SMT		
Total Amount Extracted	12.8 g	Matrix	Solid
% Moisture	21.1	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	12/09/2020 11:10
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210113A_01 & U210113A_18	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85178	Analyzed	01/13/2021 16:33

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	68
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	70
				1,2,3,7,8-PeCDF-13C	2.00	63
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	69
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	79
				1,2,3,4,7,8-HxCDF-13C	2.00	64
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	60
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	63
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	65
				1,2,3,4,7,8-HxCDD-13C	2.00	73
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	61
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	60
				1,2,3,4,7,8,9-HpCDF-13C	2.00	69
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	66
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	60
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	ND	-----	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	68
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	21	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.34 ng/Kg		
Total HpCDF	32	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	5.0	-----	5.0			
Total HpCDD	11	-----	5.0			
OCDF	ND	-----	10			
OCDD	85	-----	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121018-013		
Lab Sample ID	30397086013		
Filename	U210113A_15		
Injected By	SMT		
Total Amount Extracted	13.5 g	Matrix	Solid
% Moisture	23.8	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	12/09/2020 15:24
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210113A_01 & U210113A_18	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85178	Analyzed	01/13/2021 17:18

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	70
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	72
				1,2,3,7,8-PeCDF-13C	2.00	54
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	57
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	58
				1,2,3,4,7,8-HxCDF-13C	2.00	71
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	63
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	66
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	66
				1,2,3,4,7,8-HxCDD-13C	2.00	76
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	63
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	60
				1,2,3,4,7,8,9-HpCDF-13C	2.00	67
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	76
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	58
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	ND	-----	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	68
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.045 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	5.0			
Total HpCDD	ND	-----	5.0			
OCDF	ND	-----	10			
OCDD	45	-----	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121018-020		
Lab Sample ID	30397086019		
Filename	U210113A_16		
Injected By	SMT		
Total Amount Extracted	13.8 g	Matrix	Solid
% Moisture	23.9	Dilution	NA
Dry Weight Extracted	10.5 g	Collected	12/09/2020 18:10
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210113A_01 & U210113A_18	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85178	Analyzed	01/13/2021 18:03

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	64
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	67
				1,2,3,7,8-PeCDF-13C	2.00	56
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	60
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	68
				1,2,3,4,7,8-HxCDF-13C	2.00	60
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	56
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	60
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	59
				1,2,3,4,7,8-HxCDD-13C	2.00	66
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	56
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	52
				1,2,3,4,7,8,9-HpCDF-13C	2.00	57
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	51
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	50
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	ND	-----	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	69
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.23 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	8.6	-----	5.0			
Total HpCDD	22	-----	5.0			
OCDF	ND	-----	10			
OCDD	150	-----	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121018-026		
Lab Sample ID	30397086025		
Filename	F210107B_11		
Injected By	SMT		
Total Amount Extracted	13.9 g	Matrix	Solid
% Moisture	27.2	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	12/10/2020 10:00
ICAL ID	F210105	Received	12/17/2020 08:40
CCal Filename(s)	F210107A_16 & F210107B_15	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/08/2021 05:40

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	60
Total TCDF	1.1	-----	1.0	2,3,7,8-TCDD-13C	2.00	44
				1,2,3,7,8-PeCDF-13C	2.00	54
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	53
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	52
				1,2,3,4,7,8-HxCDF-13C	2.00	38 R
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	43
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	41
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	43
				1,2,3,4,7,8-HxCDD-13C	2.00	39 R
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	36 R
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	30 R
				1,2,3,4,7,8,9-HpCDF-13C	2.00	28 R
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	29 R
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	26 RY
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	ND	-----	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	50
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.30 ng/Kg		
Total HpCDF	5.9	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	11	-----	5.0			
Total HpCDD	25	-----	5.0			
OCDF	ND	-----	10			
OCDD	190	-----	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.
R = Recovery outside target range
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121018-029		
Lab Sample ID	30397086028		
Filename	F210107B_12		
Injected By	SMT		
Total Amount Extracted	16.6 g	Matrix	Solid
% Moisture	39.6	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	12/10/2020 11:40
ICAL ID	F210105	Received	12/17/2020 08:40
CCal Filename(s)	F210107A_16 & F210107B_15	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/08/2021 06:30

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	69
Total TCDF	1.3	-----	1.0	2,3,7,8-TCDD-13C	2.00	65
				1,2,3,7,8-PeCDF-13C	2.00	68
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	62
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	64
				1,2,3,4,7,8-HxCDF-13C	2.00	49
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	56
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	53
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	60
				1,2,3,4,7,8-HxCDD-13C	2.00	50
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	48
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	40
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	43
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	44 Y
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	ND	-----	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	63
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	6.5	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.48 ng/Kg		
Total HpCDF	15	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	11	-----	5.0			
Total HpCDD	29	-----	5.0			
OCDF	ND	-----	10			
OCDD	310	-----	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

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Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121018-036		
Lab Sample ID	30397086034		
Filename	F210107B_13		
Injected By	SMT		
Total Amount Extracted	17.7 g	Matrix	Solid
% Moisture	42.6	Dilution	NA
Dry Weight Extracted	10.1 g	Collected	12/10/2020 15:55
ICAL ID	F210105	Received	12/17/2020 08:40
CCal Filename(s)	F210107A_16 & F210107B_15	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/08/2021 07:20

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.9	-----	1.0	2,3,7,8-TCDF-13C	2.00	83
Total TCDF	13	-----	1.0	2,3,7,8-TCDD-13C	2.00	74
				1,2,3,7,8-PeCDF-13C	2.00	90
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	87
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	87
				1,2,3,4,7,8-HxCDF-13C	2.00	68
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	80
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	74
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	73
				1,2,3,4,7,8-HxCDD-13C	2.00	57
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	75
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	64
				1,2,3,4,7,8,9-HpCDF-13C	2.00	56
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	61
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	60 Y
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	ND	-----	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	71
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	12	-----	5.0			
1,2,3,4,6,7,8-HpCDF	9.3	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 1.1 ng/Kg		
Total HpCDF	18	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	21	-----	5.0			
Total HpCDD	55	-----	5.0			
OCDF	16	-----	10			
OCDD	590	-----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
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Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKXX		
Lab Sample ID	BLANK-85178	Matrix	Solid
Filename	Y201231C_09	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	12/23/2020 13:10
ICAL ID	Y201219	Analyzed	12/31/2020 23:39
CCal Filename(s)	Y201231C_01 & Y201231C_17	Injected By	CVS

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	78
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	82
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	82
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	84
				1,2,3,4,7,8-HxCDF-13C	2.00	81
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	77
				1,2,3,4,7,8-HxCDD-13C	2.00	79
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	72
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	77
				1,2,3,4,7,8,9-HpCDF-13C	2.00	70
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	81
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	69
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	ND	-----	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	75
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	5.0			
Total HpCDD	ND	-----	5.0			
OCDF	ND	-----	10			
OCDD	ND	-----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Minneapolis, MN 55414

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Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKYJ		
Lab Sample ID	BLANK-85213	Matrix	Solid
Filename	Y210105A_09	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	12/23/2020 13:10
ICAL ID	Y201219	Analyzed	01/05/2021 20:22
CCal Filename(s)	Y210105A_02 & Y210105A_17	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	86
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	77
				1,2,3,7,8-PeCDF-13C	2.00	102
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	98
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	98
				1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	88
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	83
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	82
				1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	85
				1,2,3,4,7,8,9-HpCDF-13C	2.00	81
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	94
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	81 Y
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	ND	-----	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	79
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	5.0			
Total HpCDD	ND	-----	5.0			
OCDF	ND	-----	10			
OCDD	ND	-----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
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Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-85179		
Filename	Y201231C_02	Matrix	Solid
Total Amount Extracted	10.2 g	Dilution	NA
ICAL ID	Y201219	Extracted	12/23/2020 13:10
CCal Filename(s)	Y201231C_01 & Y201231C_17	Analyzed	12/31/2020 18:20
Method Blank ID	BLANK-85178	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.22	109	2,3,7,8-TCDF-13C	2.0	79
Total TCDF				2,3,7,8-TCDD-13C	2.0	73
				1,2,3,7,8-PeCDF-13C	2.0	92
2,3,7,8-TCDD	0.20	0.20	102	2,3,4,7,8-PeCDF-13C	2.0	99
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	95
				1,2,3,4,7,8-HxCDF-13C	2.0	74
1,2,3,7,8-PeCDF	1.0	1.0	103	1,2,3,6,7,8-HxCDF-13C	2.0	80
2,3,4,7,8-PeCDF	1.0	0.98	98	2,3,4,6,7,8-HxCDF-13C	2.0	80
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	80
				1,2,3,4,7,8-HxCDD-13C	2.0	77
1,2,3,7,8-PeCDD	1.0	0.96	96	1,2,3,6,7,8-HxCDD-13C	2.0	70
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	80
				1,2,3,4,7,8,9-HpCDF-13C	2.0	85
1,2,3,4,7,8-HxCDF	1.0	1.1	114	1,2,3,4,6,7,8-HpCDD-13C	2.0	91
1,2,3,6,7,8-HxCDF	1.0	1.0	105	OCDD-13C	4.0	90
2,3,4,6,7,8-HxCDF	1.0	1.0	103			
1,2,3,7,8,9-HxCDF	1.0	1.0	103	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	105	2,3,7,8-TCDD-37Cl4	0.20	74
1,2,3,6,7,8-HxCDD	1.0	1.2	117			
1,2,3,7,8,9-HxCDD	1.0	1.1	111			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.0	104			
1,2,3,4,7,8,9-HpCDF	1.0	1.0	102			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.96	96			
Total HpCDD						
OCDF	2.0	2.1	107			
OCDD	2.0	2.1	105			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-85214		
Filename	Y210105A_03	Matrix	Solid
Total Amount Extracted	10.2 g	Dilution	NA
ICAL ID	Y201219	Extracted	12/23/2020 13:10
CCal Filename(s)	Y210105A_02 & Y210105A_17	Analyzed	01/05/2021 15:47
Method Blank ID	BLANK-85213	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.22	111	2,3,7,8-TCDF-13C	2.0	76
Total TCDF				2,3,7,8-TCDD-13C	2.0	72
				1,2,3,7,8-PeCDF-13C	2.0	87
2,3,7,8-TCDD	0.20	0.21	103	2,3,4,7,8-PeCDF-13C	2.0	80
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	81
				1,2,3,4,7,8-HxCDF-13C	2.0	56
1,2,3,7,8-PeCDF	1.0	0.97	97	1,2,3,6,7,8-HxCDF-13C	2.0	71
2,3,4,7,8-PeCDF	1.0	0.94	94	2,3,4,6,7,8-HxCDF-13C	2.0	65
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	77
				1,2,3,4,7,8-HxCDD-13C	2.0	50
1,2,3,7,8-PeCDD	1.0	0.95	95	1,2,3,6,7,8-HxCDD-13C	2.0	61
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	66
				1,2,3,4,7,8,9-HpCDF-13C	2.0	70
1,2,3,4,7,8-HxCDF	1.0	1.1	105	1,2,3,4,6,7,8-HpCDD-13C	2.0	76
1,2,3,6,7,8-HxCDF	1.0	1.0	101	OCDD-13C	4.0	67 Y
2,3,4,6,7,8-HxCDF	1.0	1.0	103			
1,2,3,7,8,9-HxCDF	1.0	1.0	101	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	108	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	1.0	1.1	113			
1,2,3,7,8,9-HxCDD	1.0	1.3	128			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	107			
1,2,3,4,7,8,9-HpCDF	1.0	1.00	100			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.95	95			
Total HpCDD						
OCDF	2.0	2.0	100			
OCDD	2.0	2.1	104			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

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www.phaseonline.com

Project Name: Conowingo

PSS Project No.: 20121018

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

2oz sample jar split from samples 001-005 for TOC analysis.
Per client, sample ID for 022 is D3 36.1-40.9.

Analytical:

Nitrogen, Ammonia

Batch: 180416

Matrix spike (MS) exceedance identified; see QC summary.

Analytical:

Sulfide, Methylene Blue

Batch: 180542

Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified; see QC summary.

Analytical:

PP Metals

Batch: 180495

Method exceedance: Low Level Continuing Calibration Verification (LLCCV) #10 falls outside of acceptance limits (70-130% recovery) for copper at 133% recovery. The samples are 10 times the LLCCV concentration for this analyte. All other bracketing QC passes for these analytes.
Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see QC summary.The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration :manganese

Continuing Calibration Verification (CCV) #13 + #14 fall outside of acceptance limits (90% - 110%) for antimony at 87% recovery. Sample recoveries are all below the Low Level Calibration for this analyte. Continuing Calibration Verification #14 falls outside the acceptable limit for mercury at 89%. All other QC passes for this analyte and the paired Low level continuing calibration verification (LLCCV#12) passes at 103%.

Analytical:

RCRA Metals

Sample Preparation:

TCL Semivolatile Organic Compounds

Batch: 180494
Method exceedance:
Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see QC summary.The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration : manganese

Low Level Continuing Calibration Verification (LLCCV) #10 falls outside of acceptance limits (70-130% recovery) for Copper at 133% recovery. The samples are 10 times the LLCCV concentration for this analyte. All other bracketing QC passes for these analytes.

Continuing Calibration Verification (CCV) #10 and #11 fall outside of acceptance limits (90% - 110%) for Cadmium at 113% recovery. All low-level calibration verifications (LLCCV) and batch QC pass for this analyte.

Analytical:

Chromium, Hexavalent
Batch: 180402
Matrix spike recoveries fell outside acceptance limits but results for the laboratory control sample were within limits. Additional characterization determinations to indicate the sample's reducing/oxidizing nature may be useful in the interpretation of the spike data (see section 8.5 of EPA 3060A).

Analytical:

Organochlorine Pesticides
Batch: 180524
Method exceedance: The recovery of Toxaphene in closing continuing calibration verification (CCV) is below acceptance limits due to sample matrix.

Analytical:

Polychlorinated Biphenyls
Batch: 180425
Method exceedance: Laboratory control sample duplicate (LCSD) exceedances identified; see QC summary. Exceedances meet marginal exceedance criteria.

Analytical:

TCL Semivolatile Organic Compounds
Batch: 180420
Laboratory control sample (LCS) exceedances identified; see QC summary. Exceedances meet marginal exceedance criteria.
Continuing calibration verification standard (CCV) exceedances identified; see QC summary.
Method exceedance: Benzo-b-fluoranthene and benzo-k-fluoranthene do not meet resolution criteria.

Preparation Batch: 84223

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Project Name: Conowingo

PSS Project No.: 20121018

Method exceedance: Qualtity control sample surrogate exceedances identified, see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

SW-846 5030

SM 4500-NH3-F -2011: Nitrogen, Ammonia (as N)

PHASE SEPARATION SCIENCE

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20121018

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 300.0	C4 28.4'-31.9'	Initial	20121018-006	S	84193	180423	12/11/2020 11:53	12/11/2020 17:15
	C3 30.6'-35.5'	Initial	20121018-013	S	84193	180423	12/11/2020 11:53	12/11/2020 18:24
	D3 26.2'-30.9'	Initial	20121018-020	S	84193	180423	12/11/2020 11:53	12/11/2020 18:47
	C5 22.1'-26.7'	Initial	20121018-026	S	84193	180423	12/11/2020 11:53	12/11/2020 19:10
	C5 36.7'-41.7'	Initial	20121018-029	S	84193	180423	12/11/2020 11:53	12/11/2020 19:33
	B5 35.4'-40.4'	Initial	20121018-036	S	84193	180423	12/11/2020 11:53	12/11/2020 19:56
	84193-1-BKS	BKS	84193-1-BKS	S	84193	180423	12/11/2020 11:53	12/11/2020 16:52
	84193-1-BLK	BLK	84193-1-BLK	S	84193	180423	12/11/2020 11:53	12/11/2020 16:29
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84193	180423	12/11/2020 11:53	12/11/2020 17:38
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84193	180423	12/11/2020 11:53	12/11/2020 18:01
EPA 365.3	C4 28.4'-31.9'	Initial	20121018-006	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	C3 30.6'-35.5'	Initial	20121018-013	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	D3 26.2'-30.9'	Initial	20121018-020	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	C5 22.1'-26.7'	Initial	20121018-026	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	C5 36.7'-41.7'	Initial	20121018-029	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	B5 35.4'-40.4'	Initial	20121018-036	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	84210-1-BKS	BKS	84210-1-BKS	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	84210-1-BLK	BLK	84210-1-BLK	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84210	180352	12/14/2020 13:01	12/14/2020 14:39
SM 4500-NH3-F - 2011	C4 28.4'-31.9'	Initial	20121018-006	S	84233	180416	12/15/2020 10:43	12/15/2020 17:00
	C3 30.6'-35.5'	Initial	20121018-013	S	84233	180416	12/15/2020 10:43	12/15/2020 17:16
	D3 26.2'-30.9'	Initial	20121018-020	S	84233	180416	12/15/2020 10:43	12/15/2020 17:20
	C5 22.1'-26.7'	Initial	20121018-026	S	84233	180416	12/15/2020 10:43	12/15/2020 17:24
	C5 36.7'-41.7'	Initial	20121018-029	S	84233	180416	12/15/2020 10:43	12/15/2020 17:28
	B5 35.4'-40.4'	Initial	20121018-036	S	84233	180416	12/15/2020 10:43	12/15/2020 17:32
	84233-1-BKS	BKS	84233-1-BKS	S	84233	180416	12/15/2020 10:43	12/15/2020 16:52
	84233-1-BLK	BLK	84233-1-BLK	S	84233	180416	12/15/2020 10:43	12/15/2020 16:48
	84233-1-BSD	BSD	84233-1-BSD	S	84233	180416	12/15/2020 10:43	12/15/2020 16:56
	C4 28.4'-31.9' D	MD	20121018-006 D	S	84233	180416	12/15/2020 10:43	12/15/2020 17:04
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84233	180416	12/15/2020 10:43	12/15/2020 17:12
SM 4500-S2 D 2000	C4 28.4'-31.9'	Initial	20121018-006	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	C3 30.6'-35.5'	Initial	20121018-013	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	D3 26.2'-30.9'	Initial	20121018-020	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	C5 22.1'-26.7'	Initial	20121018-026	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	C5 36.7'-41.7'	Initial	20121018-029	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	B5 35.4'-40.4'	Initial	20121018-036	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	84311-1-BKS	BKS	84311-1-BKS	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	84311-1-BLK	BLK	84311-1-BLK	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
SM2540G	A3 34.7'-36.2'	Initial	20121018-001	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	A3 41.6'-43.4'	Initial	20121018-002	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	A3 44.6'-47.4'	Initial	20121018-003	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20121018

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SM2540G	C4 24.9'-26.4'	Initial	20121018-004	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 26.4'-28.0'	Initial	20121018-005	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 28.4'-31.9'	Initial	20121018-006	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 36.4'-38.0'	Initial	20121018-007	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 41.4'-43.0'	Initial	20121018-008	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 44.6'-48.0'	Initial	20121018-009	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 48.0'-53.0'	Initial	20121018-010	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 53.4'-55.5'	Initial	20121018-011	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 55.5'-58.0'	Initial	20121018-012	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C3 30.6'-35.5'	Initial	20121018-013	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C3 29.3'-30.5'	Initial	20121018-014	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C3 38.2'-40.5'	Initial	20121018-015	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C3 40.5'-41.8'	Initial	20121018-016	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C3 47.7'	Initial	20121018-017	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C3 46.7'-50.5'	Initial	20121018-018	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	D3 24.4'-25.9'	Initial	20121018-019	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	D3 26.2'-30.9'	Initial	20121018-020	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	180302-1-BLK	BLK	180302-1-BLK	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	A3 34.7'-36.2' D	MD	20121018-001 D	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	C4 53.4'-55.5' D	MD	20121018-011 D	S	180302	180302	12/11/2020 12:39	12/11/2020 12:39
	D3 32.0'-35.9'	Initial	20121018-021	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	D3 36.1-40.9	Initial	20121018-022	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	D3 40.9'-45.9'	Initial	20121018-023	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	D3 45.9'-50.9'	Initial	20121018-024	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	D3 50.9'-53.2'	Initial	20121018-025	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	C5 22.1'-26.7'	Initial	20121018-026	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	C5 29.4'-31.7'	Initial	20121018-027	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	C5 34.0'-36.7'	Initial	20121018-028	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	C5 36.7'-41.7'	Initial	20121018-029	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	C5 43.5'-46.7'	Initial	20121018-030	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	C5 49.0'-49.9'	Initial	20121018-031	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	B5 27.0'	Initial	20121018-032	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	B5 31.0'-35.4'	Initial	20121018-033	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	B5 24.4'-25.4'	Initial	20121018-034	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	B5 29.4'-30.4'	Initial	20121018-035	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	B5 35.4'-40.4'	Initial	20121018-036	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	180303-1-BLK	BLK	180303-1-BLK	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	D3 32.0'-35.9' D	MD	20121018-021 D	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
	C5 49.0'-49.9' D	MD	20121018-031 D	S	180303	180303	12/11/2020 13:25	12/11/2020 13:25
SW-846 6020 A	D3 36.1-40.9	Initial	20121018-022	S	84245	180494	12/15/2020 16:40	12/17/2020 21:32
	D3 40.9'-45.9'	Initial	20121018-023	S	84245	180494	12/15/2020 16:40	12/17/2020 21:55
	D3 45.9'-50.9'	Initial	20121018-024	S	84245	180494	12/15/2020 16:40	12/17/2020 22:00
	D3 50.9'-53.2'	Initial	20121018-025	S	84245	180494	12/15/2020 16:40	12/17/2020 22:05
	C5 22.1'-26.7'	Initial	20121018-026	S	84245	180494	12/15/2020 16:40	12/17/2020 22:37
	C5 29.4'-31.7'	Initial	20121018-027	S	84245	180494	12/15/2020 16:40	12/17/2020 22:42

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20121018

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 6020 A	C5 34.0'-36.7'	Initial	20121018-028	S	84245	180494	12/15/2020 16:40	12/17/2020 22:47
	C5 36.7'-41.7'	Initial	20121018-029	S	84245	180494	12/15/2020 16:40	12/17/2020 22:52
	C5 43.5'-46.7'	Initial	20121018-030	S	84245	180494	12/15/2020 16:40	12/17/2020 22:57
	C5 49.0'-49.9'	Initial	20121018-031	S	84245	180494	12/15/2020 16:40	12/17/2020 23:01
	B5 31.0'-35.4'	Initial	20121018-033	S	84245	180494	12/15/2020 16:40	12/17/2020 23:10
	B5 24.4'-25.4'	Initial	20121018-034	S	84245	180494	12/15/2020 16:40	12/17/2020 23:15
	B5 29.4'-30.4'	Initial	20121018-035	S	84245	180494	12/15/2020 16:40	12/17/2020 23:20
	B5 35.4'-40.4'	Initial	20121018-036	S	84245	180494	12/15/2020 16:40	12/17/2020 23:48
	84245-1-BKS	BKS	84245-1-BKS	S	84245	180494	12/15/2020 16:40	12/17/2020 21:27
	84245-1-BLK	BLK	84245-1-BLK	S	84245	180494	12/15/2020 16:40	12/17/2020 21:22
	D3 36.1-40.9	MS	20121018-022 S	S	84245	180494	12/15/2020 16:40	12/17/2020 21:36
	D3 36.1-40.9	MSD	20121018-022 S	S	84245	180494	12/15/2020 16:40	12/17/2020 21:41
	A3 34.7'-36.2'	Initial	20121018-001	S	84226	180495	12/14/2020 17:34	12/18/2020 00:29
	A3 41.6'-43.4'	Initial	20121018-002	S	84226	180495	12/14/2020 17:34	12/18/2020 01:20
	A3 44.6'-47.4'	Initial	20121018-003	S	84226	180495	12/14/2020 17:34	12/18/2020 01:25
	C4 24.9'-26.4'	Initial	20121018-004	S	84226	180495	12/14/2020 17:34	12/18/2020 01:34
	C4 26.4'-28.0'	Initial	20121018-005	S	84226	180495	12/14/2020 17:34	12/18/2020 01:39
	C4 28.4'-31.9'	Initial	20121018-006	S	84226	180495	12/14/2020 17:34	12/18/2020 01:44
	C4 36.4'-38.0'	Initial	20121018-007	S	84226	180495	12/14/2020 17:34	12/18/2020 02:11
	C4 41.4'-43.0'	Initial	20121018-008	S	84226	180495	12/14/2020 17:34	12/18/2020 02:16
	C4 44.6'-48.0'	Initial	20121018-009	S	84226	180495	12/14/2020 17:34	12/18/2020 02:21
	C4 48.0'-53.0'	Initial	20121018-010	S	84226	180495	12/14/2020 17:34	12/18/2020 02:25
	C4 53.4'-55.5'	Initial	20121018-011	S	84226	180495	12/14/2020 17:34	12/18/2020 02:30
	C4 55.5'-58.0'	Initial	20121018-012	S	84226	180495	12/14/2020 17:34	12/18/2020 02:35
	C3 30.6'-35.5'	Initial	20121018-013	S	84226	180495	12/14/2020 17:34	12/18/2020 02:44
	C3 29.3'-30.5'	Initial	20121018-014	S	84226	180495	12/14/2020 17:34	12/18/2020 02:49
	C3 38.2'-40.5'	Initial	20121018-015	S	84226	180495	12/14/2020 17:34	12/18/2020 02:53
	C3 40.5'-41.8'	Initial	20121018-016	S	84226	180495	12/14/2020 17:34	12/18/2020 03:21
	C3 46.7'-50.5'	Initial	20121018-018	S	84226	180495	12/14/2020 17:34	12/18/2020 03:26
	D3 24.4'-25.9'	Initial	20121018-019	S	84226	180495	12/14/2020 17:34	12/18/2020 03:31
	D3 26.2'-30.9'	Initial	20121018-020	S	84226	180495	12/14/2020 17:34	12/18/2020 03:35
	D3 32.0'-35.9'	Initial	20121018-021	S	84226	180495	12/14/2020 17:34	12/18/2020 03:40
	84226-1-BKS	BKS	84226-1-BKS	S	84226	180495	12/14/2020 17:34	12/18/2020 00:24
	84226-1-BLK	BLK	84226-1-BLK	S	84226	180495	12/14/2020 17:34	12/18/2020 00:19
	A3 34.7'-36.2' S	MS	20121018-001 S	S	84226	180495	12/14/2020 17:34	12/18/2020 01:01
	A3 34.7'-36.2' SD	MSD	20121018-001 S	S	84226	180495	12/14/2020 17:34	12/18/2020 01:06
SW-846 7196 A	C4 28.4'-31.9'	Initial	20121018-006	S	84225	180402	12/14/2020 15:41	12/15/2020 13:54
	C3 30.6'-35.5'	Initial	20121018-013	S	84225	180402	12/14/2020 15:41	12/15/2020 14:06
	D3 26.2'-30.9'	Initial	20121018-020	S	84225	180402	12/14/2020 15:41	12/15/2020 14:10
	C5 22.1'-26.7'	Initial	20121018-026	S	84225	180402	12/14/2020 15:41	12/15/2020 14:12
	C5 36.7'-41.7'	Initial	20121018-029	S	84225	180402	12/14/2020 15:41	12/15/2020 14:16
	B5 35.4'-40.4'	Initial	20121018-036	S	84225	180402	12/14/2020 15:41	12/15/2020 14:20
	84225-1-BKS	BKS	84225-1-BKS	S	84225	180402	12/14/2020 15:41	12/15/2020 13:48
	84225-1-BLK	BLK	84225-1-BLK	S	84225	180402	12/14/2020 15:41	12/15/2020 13:46
	84225-1-BSD	BSD	84225-1-BSD	S	84225	180402	12/14/2020 15:41	12/15/2020 13:50

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Project Name: Conowingo
PSS Project No.: 20121018

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 7196 A	C4 28.4'-31.9' D	MD	20121018-006 D	S	84225	180402	12/14/2020 15:41	12/15/2020 13:56
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84225	180402	12/14/2020 15:41	12/15/2020 13:58
SW-846 8015C DRO	C4 28.4'-31.9'	Initial	20121018-006	S	84246	180437	12/15/2020 19:46	12/16/2020 12:40
	D3 26.2'-30.9'	Initial	20121018-020	S	84246	180437	12/15/2020 19:32	12/16/2020 13:05
	C5 22.1'-26.7'	Initial	20121018-026	S	84246	180437	12/15/2020 19:32	12/16/2020 13:55
	B5 35.4'-40.4'	Initial	20121018-036	S	84246	180437	12/15/2020 19:32	12/16/2020 13:30
	84246-1-BKS	BKS	84246-1-BKS	S	84246	180437	12/15/2020 19:32	12/16/2020 11:00
	84246-1-BLK	BLK	84246-1-BLK	S	84246	180437	12/15/2020 19:32	12/16/2020 10:35
	84246-1-BSD	BSD	84246-1-BSD	S	84246	180437	12/15/2020 19:32	12/16/2020 11:25
	C3 30.6'-35.5'	Initial	20121018-013	S	84246	180438	12/15/2020 19:46	12/16/2020 13:05
	C5 36.7'-41.7'	Initial	20121018-029	S	84246	180438	12/15/2020 19:32	12/16/2020 13:30
	B5 51.9-54.1 S	MS	20121125-009 S	S	84246	180438	12/15/2020 19:32	12/16/2020 11:25
	B5 51.9-54.1 SD	MSD	20121125-009 S	S	84246	180438	12/15/2020 19:32	12/16/2020 11:50
SW-846 8015C GRO	C3 30.6'-35.5'	Initial	20121018-013	S	84286	180493	12/17/2020 12:23	12/17/2020 20:31
	C5 22.1'-26.7'	Initial	20121018-026	S	84286	180493	12/17/2020 12:23	12/17/2020 21:32
	C5 36.7'-41.7'	Initial	20121018-029	S	84286	180493	12/17/2020 12:23	12/17/2020 22:02
	B5 35.4'-40.4'	Initial	20121018-036	S	84286	180493	12/17/2020 12:23	12/17/2020 22:33
	84286-2-BKS	BKS	84286-2-BKS	S	84286	180493	12/17/2020 12:23	12/17/2020 12:53
	84286-2-BLK	BLK	84286-2-BLK	S	84286	180493	12/17/2020 12:23	12/17/2020 14:55
	84286-2-BSD	BSD	84286-2-BSD	S	84286	180493	12/17/2020 12:23	12/17/2020 13:24
	13668-PEX-10 S	MS	20121111-001 S	S	84286	180493	12/17/2020 12:23	12/17/2020 13:54
	13668-PEX-10 SD	MSD	20121111-001 S	S	84286	180493	12/17/2020 12:23	12/17/2020 14:24
	C4 28.4'-31.9'	Initial	20121018-006	S	84380	180659	12/23/2020 10:07	12/23/2020 13:34
	D3 26.2'-30.9'	Initial	20121018-020	S	84380	180659	12/23/2020 10:07	12/23/2020 14:04
	84380-2-BKS	BKS	84380-2-BKS	S	84380	180659	12/23/2020 10:07	12/23/2020 10:37
	84380-2-BLK	BLK	84380-2-BLK	S	84380	180659	12/23/2020 10:07	12/23/2020 13:03
	84380-2-BSD	BSD	84380-2-BSD	S	84380	180659	12/23/2020 10:07	12/23/2020 11:32
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84380	180659	12/23/2020 10:07	12/23/2020 12:02
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84380	180659	12/23/2020 10:07	12/23/2020 12:33
SW-846 8081 B	84227-1-BKS	BKS	84227-1-BKS	S	84227	180453	12/15/2020 08:22	12/16/2020 10:33
	84227-1-BLK	BLK	84227-1-BLK	S	84227	180453	12/15/2020 08:22	12/16/2020 10:19
	84227-1-BSD	BSD	84227-1-BSD	S	84227	180453	12/15/2020 08:22	12/16/2020 10:47
	SS-3 S	MS	20121012-003 S	S	84227	180453	12/15/2020 08:22	12/16/2020 11:02
	SS-3 SD	MSD	20121012-003 S	S	84227	180453	12/15/2020 08:22	12/16/2020 11:16
	C4 28.4'-31.9'	Initial	20121018-006	S	84227	180524	12/15/2020 08:27	12/16/2020 12:14
	C3 30.6'-35.5'	Initial	20121018-013	S	84227	180524	12/15/2020 08:27	12/16/2020 12:28
	D3 26.2'-30.9'	Initial	20121018-020	S	84227	180524	12/15/2020 08:27	12/16/2020 12:43
	C5 22.1'-26.7'	Initial	20121018-026	S	84227	180524	12/15/2020 08:27	12/16/2020 17:17
	C5 36.7'-41.7'	Initial	20121018-029	S	84227	180524	12/15/2020 08:27	12/16/2020 13:12
	B5 35.4'-40.4'	Initial	20121018-036	S	84227	180524	12/15/2020 08:27	12/16/2020 13:26
SW-846 8082 A	C4 28.4'-31.9'	Initial	20121018-006	S	84228	180425	12/15/2020 08:26	12/16/2020 14:20
	C3 30.6'-35.5'	Initial	20121018-013	S	84228	180425	12/15/2020 08:26	12/16/2020 14:48
	D3 26.2'-30.9'	Initial	20121018-020	S	84228	180425	12/15/2020 08:26	12/16/2020 15:16
	C5 22.1'-26.7'	Initial	20121018-026	S	84228	180425	12/15/2020 08:26	12/16/2020 15:43

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Project Name: Conowingo
PSS Project No.: 20121018

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 8082 A	C5 36.7'-41.7'	Initial	20121018-029	S	84228	180425	12/15/2020 08:26	12/16/2020 16:12
	B5 35.4'-40.4'	Initial	20121018-036	S	84228	180425	12/15/2020 08:26	12/16/2020 16:40
	84228-1-BKS	BKS	84228-1-BKS	S	84228	180425	12/15/2020 08:24	12/15/2020 21:47
	84228-1-BLK	BLK	84228-1-BLK	S	84228	180425	12/15/2020 08:24	12/15/2020 21:19
	84228-1-BSD	BSD	84228-1-BSD	S	84228	180425	12/15/2020 08:24	12/15/2020 22:15
	C6 21.8-23.4 S	MS	20121125-029 S	S	84228	180425	12/15/2020 13:31	12/16/2020 12:55
	C6 21.8-23.4 SD	MSD	20121125-029 S	S	84228	180425	12/15/2020 08:24	12/16/2020 13:23
SW-846 8260 B	C3 47.7'	Initial	20121018-017	S	84275	180465	12/17/2020 10:09	12/17/2020 18:06
	B5 27.0'	Initial	20121018-032	S	84275	180465	12/17/2020 10:09	12/17/2020 18:28
	84275-1-BKS	BKS	84275-1-BKS	S	84275	180465	12/17/2020 10:09	12/17/2020 10:55
	84275-1-BLK	BLK	84275-1-BLK	S	84275	180465	12/17/2020 10:09	12/17/2020 13:15
	84275-1-BSD	BSD	84275-1-BSD	S	84275	180465	12/17/2020 10:09	12/17/2020 11:18
	GTA-UST 10A S	MS	20121604-003 S	S	84275	180465	12/17/2020 10:09	12/17/2020 11:45
	GTA-UST 10A SD	MSD	20121604-003 S	S	84275	180465	12/17/2020 10:09	12/17/2020 12:08
SW-846 8270 C	C4 28.4'-31.9'	Initial	20121018-006	S	84223	180420	12/14/2020 15:24	12/15/2020 17:42
	C3 30.6'-35.5'	Initial	20121018-013	S	84223	180420	12/14/2020 15:24	12/15/2020 16:50
	D3 26.2'-30.9'	Initial	20121018-020	S	84223	180420	12/14/2020 15:24	12/15/2020 19:00
	C5 22.1'-26.7'	Initial	20121018-026	S	84223	180420	12/14/2020 15:24	12/15/2020 18:34
	C5 36.7'-41.7'	Initial	20121018-029	S	84223	180420	12/14/2020 15:24	12/15/2020 15:57
	B5 35.4'-40.4'	Initial	20121018-036	S	84223	180420	12/14/2020 15:24	12/15/2020 20:56
	84223-1-BKS	BKS	84223-1-BKS	S	84223	180420	12/14/2020 15:24	12/15/2020 11:36
	84223-1-BLK	BLK	84223-1-BLK	S	84223	180420	12/14/2020 15:24	12/15/2020 11:10
	84223-1-BSD	BSD	84223-1-BSD	S	84223	180420	12/14/2020 15:24	12/15/2020 12:02
	13668-PEX-11 S	MS	20121004-001 S	S	84223	180420	12/14/2020 15:24	12/15/2020 12:28
	13668-PEX-11 SD	MSD	20121004-001 S	S	84223	180420	12/14/2020 15:24	12/15/2020 12:54
SW-846 9014	C4 28.4'-31.9'	Initial	20121018-006	S	84266	180506	12/17/2020 11:26	12/17/2020 16:26
	C3 30.6'-35.5'	Initial	20121018-013	S	84266	180506	12/17/2020 11:26	12/17/2020 16:35
	D3 26.2'-30.9'	Initial	20121018-020	S	84266	180506	12/17/2020 11:26	12/17/2020 16:38
	C5 22.1'-26.7'	Initial	20121018-026	S	84266	180506	12/17/2020 11:26	12/17/2020 16:41
	C5 36.7'-41.7'	Initial	20121018-029	S	84266	180506	12/17/2020 11:26	12/17/2020 16:44
	B5 35.4'-40.4'	Initial	20121018-036	S	84266	180506	12/17/2020 11:26	12/17/2020 16:47
	84266-1-BKS	BKS	84266-1-BKS	S	84266	180506	12/17/2020 11:26	12/17/2020 16:20
	84266-1-BLK	BLK	84266-1-BLK	S	84266	180506	12/17/2020 11:26	12/17/2020 16:17
	84266-1-BSD	BSD	84266-1-BSD	S	84266	180506	12/17/2020 11:26	12/17/2020 16:23
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84266	180506	12/17/2020 11:26	12/17/2020 16:29
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84266	180506	12/17/2020 11:26	12/17/2020 16:32

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Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: EPA 365.3 Prep Method: E365.3_Prep
Seq Number: 180352 Matrix: Solid Date Prep: 12/14/20
MB Sample Id: 84210-1-BLK LCS Sample Id: 84210-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	<0.1485	4.876	4.970	102	70-130	mg/kg	

Analytical Method: EPA 365.3 Prep Method: E365.3_Prep
Seq Number: 180352 Matrix: Soil Date Prep: 12/14/20
Parent Sample Id: 20121018-006 MS Sample Id: 20121018-006 S MSD Sample Id: 20121018-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Phosphorus, Total (as P)	29.91	19.56	43.03	67	48.29	83	50-150	21	30	mg/kg	

Analytical Method: SM 4500-NH3-F -2011 Prep Method: SM4500-NH3B
Seq Number: 180416 Matrix: Solid Date Prep: 12/15/20
MB Sample Id: 84233-1-BLK LCS Sample Id: 84233-1-BKS LCSD Sample Id: 84233-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	<1.442	14.42	14.93	104	16.80	103	85-115	1	20	mg/kg	

Analytical Method: SM 4500-NH3-F -2011 Prep Method: SM4500-NH3B
Seq Number: 180416 Matrix: Soil Date Prep: 12/15/20
Parent Sample Id: 20121018-006 MD Sample Id: 20121018-006 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	253.6	253.5	0	20	mg/kg	

Analytical Method: SM 4500-NH3-F -2011 Prep Method: SM4500-NH3B
Seq Number: 180416 Matrix: Soil Date Prep: 12/15/20
Parent Sample Id: 20121018-006 MS Sample Id: 20121018-006 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	253.6	74.44	307.4	72	80-120	mg/kg	X

Analytical Method: SW-846 9014 Prep Method: SW9010C
Seq Number: 180506 Matrix: Solid Date Prep: 12/17/20
MB Sample Id: 84266-1-BLK LCS Sample Id: 84266-1-BKS LCSD Sample Id: 84266-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.02941	0.5882	0.6331	108	0.5820	107	85-115	1	25	mg/kg	

Analytical Method: SW-846 9014 Prep Method: SW9010C
Seq Number: 180506 Matrix: Soil Date Prep: 12/17/20
Parent Sample Id: 20121018-006 MS Sample Id: 20121018-006 S MSD Sample Id: 20121018-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Cyanide, Total	0.07012	0.7820	0.6699	77	0.6868	76	54-120	1	25	mg/kg	

Analytical Method: EPA 300.0 Prep Method: E300.0P
Seq Number: 180423 Matrix: Solid Date Prep: 12/11/20
MB Sample Id: 84193-1-BLK LCS Sample Id: 84193-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Sulfate	<12.87	495	510.6	103	90-110	mg/kg	

Analytical Method: EPA 300.0 Prep Method: E300.0P
Seq Number: 180423 Matrix: Soil Date Prep: 12/11/20
Parent Sample Id: 20121018-006 MS Sample Id: 20121018-006 S MSD Sample Id: 20121018-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Sulfate	<16.29	626.4	643	103	662.7	102	43-156	1	20	mg/kg	

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180495 Matrix: Solid Date Prep: 12/14/20
MB Sample Id: 84226-1-BLK LCS Sample Id: 84226-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<0.2178	18.94	19.15	101	80-120	mg/kg	
Arsenic	<0.05209	18.94	17.30	91	80-120	mg/kg	
Beryllium	<0.1184	18.94	16.83	89	80-120	mg/kg	
Cadmium	<0.04736	18.94	19.24	102	80-120	mg/kg	
Chromium	<0.2605	18.94	17.55	93	80-120	mg/kg	
Copper	<0.1468	18.94	17.85	94	80-120	mg/kg	
Lead	<0.1989	18.94	17.40	92	80-120	mg/kg	
Manganese	<0.3978	18.94	17.73	94	80-120	mg/kg	
Mercury	<0.03457	0.4736	0.4314	91	80-120	mg/kg	
Nickel	<0.1658	18.94	17.36	92	80-120	mg/kg	
Selenium	<0.04736	18.94	17.41	92	80-120	mg/kg	
Silver	<0.05209	18.94	16.62	88	80-120	mg/kg	
Thallium	<0.1231	18.94	16.76	88	80-120	mg/kg	
Zinc	<0.5209	94.71	86.78	92	80-120	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A
Prep Method: SW3050B
Seq Number: 180494
Matrix: Solid
Date Prep: 12/15/20
MB Sample Id: 84245-1-BLK
LCS Sample Id: 84245-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<0.2253	19.59	20.64	105	80-120	mg/kg	
Arsenic	<0.05387	19.59	18.75	96	80-120	mg/kg	
Beryllium	<0.1224	19.59	18.58	95	80-120	mg/kg	
Cadmium	<0.04897	19.59	20.41	104	80-120	mg/kg	
Chromium	<0.2693	19.59	18.71	96	80-120	mg/kg	
Copper	<0.1518	19.59	18.96	97	80-120	mg/kg	
Lead	<0.2057	19.59	18.88	96	80-120	mg/kg	
Manganese	<0.4114	19.59	18.76	96	80-120	mg/kg	
Mercury	<0.03575	0.4897	0.4696	96	80-120	mg/kg	
Nickel	<0.1714	19.59	18.56	95	80-120	mg/kg	
Selenium	<0.04897	19.59	20.24	103	80-120	mg/kg	
Silver	<0.05387	19.59	17.95	92	80-120	mg/kg	
Thallium	<0.1273	19.59	17.51	89	80-120	mg/kg	
Zinc	<0.5387	97.94	92.76	95	80-120	mg/kg	

Analytical Method: SW-846 6020 A
Prep Method: SW3050B
Seq Number: 180495
Matrix: Soil
Date Prep: 12/14/20
Parent Sample Id: 20121018-001
MS Sample Id: 20121018-001 S
MSD Sample Id: 20121018-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	<0.3157	27.45	25.01	91	25.07	92	75-125	1	30	mg/kg	
Arsenic	3.690	27.45	28.88	92	27.59	88	75-125	4	30	mg/kg	
Beryllium	0.8831	27.45	25.54	90	25.79	92	75-125	2	30	mg/kg	
Cadmium	0.2341	27.45	28.63	103	27.51	101	75-125	2	30	mg/kg	
Chromium	13.27	27.45	39.04	94	36.64	86	75-125	9	30	mg/kg	
Copper	108.2	27.45	157.1	178	55.36	0	75-125	200	30	mg/kg	XF
Lead	15.81	27.45	44.05	103	42.31	98	75-125	5	30	mg/kg	
Manganese	457.3	27.45	476.3	69	532.4	277	75-125	120	30	mg/kg	XF
Mercury	0.1584	0.6863	0.7844	91	0.8198	98	75-125	7	30	mg/kg	
Nickel	21.09	27.45	45.73	90	44.98	88	75-125	2	30	mg/kg	
Selenium	1.372	27.45	24.66	85	24.08	84	75-125	1	30	mg/kg	
Silver	0.1068	27.45	23.68	86	23.80	87	75-125	1	30	mg/kg	
Thallium	<0.1784	27.45	22.66	83	23.01	85	75-125	2	20	mg/kg	
Zinc	79.56	137.3	205.9	92	199.4	88	75-125	4	30	mg/kg	

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180494 Matrix: Soil Date Prep: 12/15/20
Parent Sample Id: 20121018-022 MS Sample Id: 20121018-022 S MSD Sample Id: 20121018-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	0.7807	26.64	21.11	76	26.98	81	75-125	6	30	mg/kg	
Arsenic	16.82	26.64	41.31	92	47.16	93	75-125	1	30	mg/kg	
Beryllium	3.919	26.64	29.05	94	35.43	97	75-125	3	30	mg/kg	
Cadmium	3.746	26.64	31.18	103	38.99	108	75-125	5	30	mg/kg	
Chromium	65.52	26.64	92.10	100	107.3	128	75-125	25	30	mg/kg	X
Copper	98.44	26.64	115.4	64	132.6	105	75-125	49	30	mg/kg	X
Lead	75.35	26.64	96.40	79	112.5	114	75-125	36	30	mg/kg	
Manganese	1955	26.64	1740	0	1880	0	75-125	NC	30	mg/kg	X
Mercury	0.4435	0.6659	1.016	86	1.236	97	75-125	12	30	mg/kg	
Nickel	102.2	26.64	117.6	58	128.9	82	75-125	34	30	mg/kg	X
Selenium	3.068	26.64	26.99	90	31.37	87	75-125	3	30	mg/kg	
Silver	3.648	26.64	26.42	85	34.35	94	75-125	10	30	mg/kg	
Thallium	0.4569	26.64	22.97	85	28.91	87	75-125	2	20	mg/kg	
Zinc	610.6	133.2	681.8	53	791	111	75-125	71	30	mg/kg	X

Analytical Method: SM 4500-S2 D 2000 Prep Method: SM4500S2_I
Seq Number: 180542 Matrix: Solid Date Prep: 12/21/20
MB Sample Id: 84311-1-BLK LCS Sample Id: 84311-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Sulfide, total	<3.131	40.40	30.86	76	50-150	mg/kg	

Analytical Method: SM 4500-S2 D 2000 Prep Method: SM4500S2_I
Seq Number: 180542 Matrix: Soil Date Prep: 12/21/20
Parent Sample Id: 20121018-006 MS Sample Id: 20121018-006 S MSD Sample Id: 20121018-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Sulfide, total	<3.810	49.16	13.40	27	16.64	29	50-150	7	20	mg/kg	X

Analytical Method: SM2540G
Seq Number: 180302 Matrix: Soil
Parent Sample Id: 20121018-001 MD Sample Id: 20121018-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	72.6	72.6	0	10	%	

Analytical Method: SM2540G
Seq Number: 180302 Matrix: Soil
Parent Sample Id: 20121018-011 MD Sample Id: 20121018-011 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	64.9	64.6	0	10	%	

Analytical Method: SM2540G
Seq Number: 180303 Matrix: Soil
Parent Sample Id: 20121018-021 MD Sample Id: 20121018-021 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	55.2	55.6	1	10	%	

Analytical Method: SM2540G
Seq Number: 180303 Matrix: Soil
Parent Sample Id: 20121018-031 MD Sample Id: 20121018-031 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	74.7	75.0	0	10	%	

Analytical Method: SW-846 7196 A Prep Method: SW3060A
Seq Number: 180402 Matrix: Solid Date Prep: 12/14/20
MB Sample Id: 84225-1-BLK LCS Sample Id: 84225-1-BKS LCSD Sample Id: 84225-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Chromium, Hexavalent	<1.004	5.020	4.922	98	4.984	100	80-120	2	20	mg/kg	

Analytical Method: SW-846 7196 A Prep Method: SW3060A
Seq Number: 180402 Matrix: Soil Date Prep: 12/14/20
Parent Sample Id: 20121018-006 MD Sample Id: 20121018-006 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Chromium, Hexavalent	<1.278	<1.278	NC	20	mg/kg	

Analytical Method: SW-846 7196 A Prep Method: SW3060A
Seq Number: 180402 Matrix: Soil Date Prep: 12/14/20
Parent Sample Id: 20121018-006 MS Sample Id: 20121018-006 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Flag
Chromium, Hexavalent	<1.294	6.471	<1.294	0	75-125	mg/kg	X

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 180453 Matrix: Solid Date Prep: 12/15/20
MB Sample Id: 84227-1-BLK LCS Sample Id: 84227-1-BKS LCSD Sample Id: 84227-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
alpha-BHC	<0.004098	0.02049	0.01855	91	0.01784	91	49-150	4	25	mg/kg	
gamma-BHC (Lindane)	<0.004098	0.02049	0.01844	90	0.01773	91	47-145	4	25	mg/kg	
beta-BHC	<0.004098	0.02049	0.01759	86	0.01691	87	46-140	4	25	mg/kg	
delta-BHC	<0.004098	0.02049	0.01885	92	0.01812	93	47-152	4	25	mg/kg	
Heptachlor	<0.004098	0.02049	0.01878	92	0.01811	93	35-156	4	25	mg/kg	
Aldrin	<0.004098	0.02049	0.01910	93	0.01839	94	48-144	4	25	mg/kg	
Heptachlor epoxide	<0.004098	0.02049	0.01893	92	0.01815	93	52-143	4	25	mg/kg	
gamma-Chlordane	<0.004098	0.02049	0.01917	94	0.01841	94	49-132	4	25	mg/kg	
alpha-Chlordane	<0.004098	0.02049	0.01907	93	0.01830	94	48-144	4	25	mg/kg	
4,4-DDE	<0.004098	0.02049	0.01963	96	0.01890	97	46-146	4	25	mg/kg	
Endosulfan I	<0.004098	0.02049	0.01914	93	0.01838	94	47-138	4	25	mg/kg	
Dieldrin	<0.004098	0.02049	0.01968	96	0.01890	97	48-142	4	25	mg/kg	
Endrin	<0.004098	0.02049	0.01851	90	0.01766	90	34-155	5	25	mg/kg	
4,4-DDD	<0.004098	0.02049	0.02029	99	0.01943	99	46-141	4	25	mg/kg	
Endosulfan II	<0.004098	0.02049	0.01957	96	0.01879	96	43-141	4	25	mg/kg	
4,4-DDT	<0.004098	0.02049	0.02018	98	0.01927	99	22-153	5	25	mg/kg	
Endrin aldehyde	<0.004098	0.02049	0.01971	96	0.01920	98	45-140	3	25	mg/kg	
Methoxychlor	<0.004098	0.02049	0.01992	97	0.01889	97	25-146	5	25	mg/kg	
Endosulfan sulfate	<0.004098	0.02049	0.01907	93	0.01839	94	43-134	4	25	mg/kg	
Endrin ketone	<0.004098	0.02049	0.02000	98	0.01917	98	38-149	4	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	80		96		96		39-151	%
Tetrachloro-m-xylene	72		88		89		44-152	%

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 180425 Matrix: Solid Date Prep: 12/15/20
MB Sample Id: 84228-1-BLK LCS Sample Id: 84228-1-BKS LCSD Sample Id: 84228-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
PCB-1016	<0.04845	0.4845	0.4857	100	0.5172	105	67-104	5	25	mg/kg	H
PCB-1260	<0.04845	0.4845	0.4609	95	0.4889	99	57-119	4	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	88		111		114		40-149	%
Tetrachloro-m-xylene	83		100		105		34-117	%

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8015C DRO Prep Method: SW3550C
Seq Number: 180437 Matrix: Solid Date Prep: 12/15/20
MB Sample Id: 84246-1-BLK LCS Sample Id: 84246-1-BKS LCSD Sample Id: 84246-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-DRO (Diesel Range Organics)	<3.295	65.90	61.67	94	60.85	92	56-118	2	22	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
o-Terphenyl	90		103		106		35-124	%

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 180420 Matrix: Solid Date Prep: 12/14/20
MB Sample Id: 84223-1-BLK LCS Sample Id: 84223-1-BKS LCSD Sample Id: 84223-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acenaphthene	<0.008317	1.331	1.361	102	1.353	102	74-104	0	25	mg/kg	
Acenaphthylene	<0.008317	1.331	1.435	108	1.426	107	76-107	1	25	mg/kg	H
Acetophenone	<0.03327	1.331	1.305	98	1.309	98	73-113	0	25	mg/kg	
Anthracene	<0.008317	1.331	1.403	105	1.406	106	76-115	1	25	mg/kg	
Atrazine	<0.06653	1.331	1.297	97	1.352	102	34-104	5	25	mg/kg	
Benzo(a)anthracene	<0.008317	1.331	1.239	93	1.257	94	70-110	1	25	mg/kg	
Benzo(a)pyrene	<0.008317	1.331	1.230	92	1.247	94	62-125	2	25	mg/kg	
Benzo(b)fluoranthene	<0.008317	1.331	1.174	88	1.162	87	52-135	1	25	mg/kg	
Benzo(g,h,i)perylene	<0.008317	1.331	1.267	95	1.291	97	57-131	2	25	mg/kg	
Benzo(k)fluoranthene	<0.008317	1.331	1.237	93	1.293	97	58-117	4	25	mg/kg	
Biphenyl (Diphenyl)	<0.03327	1.331	1.378	104	1.344	101	66-116	3	25	mg/kg	
Butyl benzyl phthalate	<0.03327	1.331	1.363	102	1.375	103	75-118	1	25	mg/kg	
bis(2-chloroethoxy) methane	<0.03327	1.331	1.386	104	1.384	104	69-111	0	25	mg/kg	
bis(2-chloroethyl) ether	<0.03327	1.331	1.326	100	1.315	99	64-110	1	25	mg/kg	
bis(2-chloroisopropyl) ether	<0.03327	1.331	1.262	95	1.285	97	45-118	2	25	mg/kg	
bis(2-ethylhexyl) phthalate	<0.03327	1.331	1.380	104	1.410	106	75-120	2	25	mg/kg	
4-Bromophenylphenyl ether	<0.03327	1.331	1.381	104	1.376	103	75-112	1	25	mg/kg	
Di-n-butyl phthalate	<0.03327	1.331	1.357	102	1.345	101	80-113	1	25	mg/kg	
Carbazole	<0.03327	1.331	1.483	111	1.502	113	65-120	2	25	mg/kg	
Caprolactam	<0.06653	1.331	1.280	96	1.293	97	60-116	1	25	mg/kg	
4-Chloro-3-methyl phenol	<0.03327	1.331	1.335	100	1.343	101	76-114	1	25	mg/kg	
4-Chloroaniline	<0.03327	1.331	1.133	85	1.146	86	64-106	1	25	mg/kg	
2-Chloronaphthalene	<0.03327	1.331	1.387	104	1.373	103	76-106	1	25	mg/kg	
2-Chlorophenol	<0.03327	1.331	1.301	98	1.287	97	70-111	1	25	mg/kg	
4-Chlorophenyl Phenyl ether	<0.03327	1.331	1.406	106	1.383	104	73-111	2	25	mg/kg	
Chrysene	<0.008317	1.331	1.342	101	1.365	103	74-113	2	25	mg/kg	
Dibenz(a,h)Anthracene	<0.008317	1.331	1.334	100	1.354	102	52-138	2	25	mg/kg	
Dibenzofuran	<0.03327	1.331	1.385	104	1.377	103	78-111	1	25	mg/kg	
3,3-Dichlorobenzidine	<0.03327	1.331	1.303	98	1.322	99	64-130	1	25	mg/kg	
2,4-Dichlorophenol	<0.03327	1.331	1.355	102	1.349	101	70-113	1	25	mg/kg	
Diethyl phthalate	<0.03327	1.331	1.348	101	1.349	101	76-111	0	25	mg/kg	
Dimethyl phthalate	<0.03327	1.331	1.349	101	1.340	101	76-111	0	25	mg/kg	
2,4-Dimethylphenol	<0.03327	1.331	1.346	101	1.342	101	72-119	0	25	mg/kg	
4,6-Dinitro-2-methyl phenol	<0.1663	1.331	1.447	109	1.478	111	68-143	2	25	mg/kg	
2,4-Dinitrophenol	<0.1663	1.331	1.499	113	1.513	114	52-141	1	25	mg/kg	
2,4-Dinitrotoluene	<0.06653	1.331	1.382	104	1.392	105	77-116	1	25	mg/kg	
2,6-Dinitrotoluene	<0.06653	1.331	1.374	103	1.370	103	76-112	0	25	mg/kg	
Fluoranthene	<0.008317	1.331	1.386	104	1.386	104	82-112	0	25	mg/kg	
Fluorene	<0.008317	1.331	1.349	101	1.353	102	78-105	1	25	mg/kg	
Hexachlorobenzene	<0.03327	1.331	1.371	103	1.379	104	74-113	1	25	mg/kg	
Hexachlorobutadiene	<0.03327	1.331	1.333	100	1.327	100	71-106	0	25	mg/kg	
Hexachlorocyclopentadiene	<0.06653	1.331	1.542	116	1.500	113	50-131	3	25	mg/kg	
Hexachloroethane	<0.03327	1.331	1.311	98	1.322	99	62-109	1	25	mg/kg	
Indeno(1,2,3-c,d)Pyrene	<0.008317	1.331	1.326	100	1.359	102	49-142	2	25	mg/kg	
Isophorone	<0.03327	1.331	1.295	97	1.293	97	66-108	0	25	mg/kg	
2-Methylnaphthalene	<0.008317	1.331	1.262	95	1.256	94	66-112	1	25	mg/kg	
2-Methyl phenol	<0.03327	1.331	1.321	99	1.331	100	73-113	1	25	mg/kg	
3&4-Methylphenol	<0.03327	1.331	1.344	101	1.343	101	68-116	0	25	mg/kg	
Naphthalene	<0.008317	1.331	1.249	94	1.259	95	72-104	1	25	mg/kg	
2-Nitroaniline	<0.06653	1.331	1.348	101	1.355	102	63-113	1	25	mg/kg	
3-Nitroaniline	<0.06653	1.331	1.312	99	1.330	100	65-119	1	25	mg/kg	

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Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 180420 Matrix: Solid Date Prep: 12/14/20
MB Sample Id: 84223-1-BLK LCS Sample Id: 84223-1-BKS LCSD Sample Id: 84223-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
4-Nitroaniline	<0.06653	1.331	1.600	120	1.621	122	55-141	2	25	mg/kg	
Nitrobenzene	<0.03327	1.331	1.270	95	1.262	95	60-110	0	25	mg/kg	
2-Nitrophenol	<0.03327	1.331	1.280	96	1.281	96	72-117	0	25	mg/kg	
4-Nitrophenol	<0.1663	1.331	1.380	104	1.363	102	49-143	2	25	mg/kg	
N-Nitrosodi-n-propyl amine	<0.03327	1.331	1.226	92	1.233	93	47-119	1	25	mg/kg	
N-Nitrosodiphenylamine	<0.03327	1.331	1.326	100	1.332	100	69-109	0	25	mg/kg	
Di-n-octyl phthalate	<0.06653	1.331	1.222	92	1.231	92	59-126	0	25	mg/kg	
Pentachlorophenol	<0.06653	1.331	1.320	99	1.298	98	59-125	1	25	mg/kg	
Phenanthrene	<0.008317	1.331	1.344	101	1.324	99	76-109	2	25	mg/kg	
Phenol	<0.03327	1.331	1.272	96	1.269	95	57-118	1	25	mg/kg	
Pyrene	<0.008317	1.331	1.383	104	1.397	105	77-113	1	25	mg/kg	
Pyridine	<0.03327	1.331	1.472	111	1.457	109	53-109	2	25	mg/kg	H
2,4,5-Trichlorophenol	<0.03327	1.331	1.348	101	1.341	101	66-122	0	25	mg/kg	
2,4,6-Trichlorophenol	<0.03327	1.331	1.366	103	1.351	102	66-114	1	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
2-Fluorobiphenyl	101		92		91		50-104	%
2-Fluorophenol	113	*	94		94		40-109	%
Nitrobenzene-d5	103	*	93		94		41-101	%
Phenol-d6	95		89		88		44-102	%
Terphenyl-D14	95		86		88		70-115	%
2,4,6-Tribromophenol	91		91		91		36-123	%

Analytical Method: SW-846 8015C GRO Prep Method: SW5030
Seq Number: 180493 Matrix: Solid Date Prep: 12/17/20
MB Sample Id: 84286-2-BLK LCS Sample Id: 84286-2-BKS LCSD Sample Id: 84286-2-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-GRO (Gasoline Range Organics	<0.05000	5.000	4.634	93	4.510	90	84-119	3	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
a,a,a-Trifluorotoluene	88		99		99		62-125	%

Analytical Method: SW-846 8015C GRO Prep Method: SW5030
Seq Number: 180659 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84380-2-BLK LCS Sample Id: 84380-2-BKS LCSD Sample Id: 84380-2-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-GRO (Gasoline Range Organics	<0.05000	5.000	4.502	90	4.315	86	84-119	5	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
a,a,a-Trifluorotoluene	86		99		97		62-125	%

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8015C GRO

Prep Method: SW5030
Seq Number: 180659
Matrix: Soil
Date Prep: 12/23/20
Parent Sample Id: 20121018-006
MS Sample Id: 20121018-006 S
MSD Sample Id: 20121018-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-GRO (Gasoline Range Organics	<0.06624	6.624	3.459	52	3.727	56	18-114	7	30	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
a,a,a-Trifluorotoluene	93		95		62-125	%

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 180465 Matrix: Solid Date Prep: 12/17/20
MB Sample Id: 84275-1-BLK LCS Sample Id: 84275-1-BKS LCSD Sample Id: 84275-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acetone	<0.02000	0.06000	0.05478	91	0.05556	93	74-206	2	25	mg/kg	
Benzene	<0.001000	0.06000	0.06039	101	0.05989	100	87-117	1	25	mg/kg	
Bromochloromethane	<0.001000	0.06000	0.06225	104	0.06226	104	75-118	0	25	mg/kg	
Bromodichloromethane	<0.001000	0.06000	0.05967	99	0.06006	100	84-121	1	25	mg/kg	
Bromoform	<0.001000	0.06000	0.06373	106	0.06205	103	77-120	3	25	mg/kg	
Bromomethane	<0.001000	0.06000	0.06412	107	0.06205	103	86-128	4	25	mg/kg	
2-Butanone (MEK)	<0.005000	0.06000	0.05213	87	0.04997	83	74-124	5	25	mg/kg	
Carbon Disulfide	<0.001000	0.06000	0.05950	99	0.05931	99	85-124	0	25	mg/kg	
Carbon tetrachloride	<0.001000	0.06000	0.06262	104	0.06051	101	90-123	3	25	mg/kg	
Chlorobenzene	<0.001000	0.06000	0.06176	103	0.05983	100	84-114	3	25	mg/kg	
Chloroethane	<0.001000	0.06000	0.05596	93	0.05399	90	84-119	3	25	mg/kg	
Chloroform	<0.005000	0.06000	0.05983	100	0.06030	101	86-117	1	25	mg/kg	
Chloromethane	<0.001000	0.06000	0.04975	83	0.04965	83	72-155	0	25	mg/kg	
Cyclohexane	<0.001000	0.06000	0.05706	95	0.05752	96	87-127	1	25	mg/kg	
1,2-Dibromo-3-chloropropane	<0.001000	0.06000	0.05762	96	0.05790	97	69-132	1	25	mg/kg	
Dibromochloromethane	<0.001000	0.06000	0.06254	104	0.06113	102	82-119	2	25	mg/kg	
1,2-Dibromoethane	<0.001000	0.06000	0.06109	102	0.05860	98	78-116	4	25	mg/kg	
1,2-Dichlorobenzene	<0.001000	0.06000	0.06209	103	0.06362	106	75-119	3	25	mg/kg	
1,3-Dichlorobenzene	<0.001000	0.06000	0.06170	103	0.06242	104	80-116	1	25	mg/kg	
1,4-Dichlorobenzene	<0.001000	0.06000	0.06135	102	0.06203	103	79-116	1	25	mg/kg	
Dichlorodifluoromethane	<0.001000	0.06000	0.05119	85	0.05120	85	36-141	0	25	mg/kg	
1,1-Dichloroethane	<0.001000	0.06000	0.05715	95	0.05752	96	89-124	1	25	mg/kg	
1,2-Dichloroethane	<0.001000	0.06000	0.05660	94	0.05757	96	84-121	2	25	mg/kg	
1,1-Dichloroethene	<0.001000	0.06000	0.06088	101	0.06032	101	82-122	0	25	mg/kg	
1,2-Dichloropropane	<0.001000	0.06000	0.05653	94	0.05666	94	86-122	0	25	mg/kg	
cis-1,2-Dichloroethene	<0.001000	0.06000	0.06122	102	0.05983	100	85-116	2	25	mg/kg	
cis-1,3-Dichloropropene	<0.001000	0.06000	0.05869	98	0.05835	97	82-124	1	25	mg/kg	
trans-1,2-Dichloroethene	<0.001000	0.06000	0.06089	101	0.06154	103	85-118	2	25	mg/kg	
trans-1,3-Dichloropropene	<0.001000	0.06000	0.05703	95	0.05679	95	78-128	0	25	mg/kg	
Ethylbenzene	<0.001000	0.06000	0.06132	102	0.05995	100	85-116	2	25	mg/kg	
2-Hexanone (MBK)	<0.001000	0.06000	0.04864	81	0.04939	82	66-136	1	25	mg/kg	
Isopropylbenzene	<0.001000	0.06000	0.05963	99	0.06072	101	81-117	2	25	mg/kg	
Methyl Acetate	<0.02500	0.06000	0.06024	100	0.05966	99	82-122	1	25	mg/kg	
Methylcyclohexane	<0.001000	0.06000	0.06041	101	0.06059	101	85-121	0	25	mg/kg	
Methylene chloride	<0.005000	0.06000	0.06296	105	0.06304	105	86-122	0	25	mg/kg	
4-Methyl-2-Pentanone (MIBK)	<0.001000	0.06000	0.04997	83	0.04889	81	67-134	2	25	mg/kg	
Methyl-t-Butyl Ether	<0.001000	0.06000	0.04150	69	0.04183	70	61-131	1	25	mg/kg	
Naphthalene	<0.001000	0.06000	0.06096	102	0.06254	104	69-131	2	25	mg/kg	
Styrene	<0.001000	0.06000	0.06211	104	0.06041	101	83-118	3	25	mg/kg	
1,1,2,2-Tetrachloroethane	<0.001000	0.06000	0.05779	96	0.05984	100	75-122	4	25	mg/kg	
Tetrachloroethene	<0.001000	0.06000	0.06462	108	0.06377	106	77-121	2	25	mg/kg	
Toluene	<0.001000	0.06000	0.06177	103	0.06062	101	81-119	2	25	mg/kg	
1,2,3-Trichlorobenzene	<0.001000	0.06000	0.06673	111	0.06948	116	69-127	4	25	mg/kg	
1,2,4-Trichlorobenzene	<0.001000	0.06000	0.06583	110	0.06792	113	72-128	3	25	mg/kg	
1,1,1-Trichloroethane	<0.001000	0.06000	0.05985	100	0.05904	98	88-120	2	25	mg/kg	
1,1,2-Trichloroethane	<0.001000	0.06000	0.06016	100	0.05969	99	76-122	1	25	mg/kg	
Trichloroethene	<0.001000	0.06000	0.06080	101	0.05999	100	84-119	1	25	mg/kg	
Trichlorofluoromethane	<0.001000	0.06000	0.05982	100	0.05908	98	82-121	2	25	mg/kg	
1,1,2-Trichlorotrifluoroethane	<0.001000	0.06000	0.06179	103	0.06151	103	80-123	0	25	mg/kg	
1,2,4-Trimethylbenzene	<0.001000	0.06000	0.06000	100	0.06159	103	83-119	3	25	mg/kg	
1,3,5-Trimethylbenzene	<0.001000	0.06000	0.05907	98	0.06063	101	80-118	3	25	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 180465 Matrix: Solid Date Prep: 12/17/20
MB Sample Id: 84275-1-BLK LCS Sample Id: 84275-1-BKS LCSD Sample Id: 84275-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Vinyl chloride	<0.005000	0.06000	0.05783	96	0.05770	96	80-140	0	25	mg/kg	
m&p-Xylene	<0.002000	0.1200	0.1237	103	0.1186	99	83-117	4	25	mg/kg	
o-Xylene	<0.001000	0.06000	0.06198	103	0.06037	101	85-115	2	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	97		95		97		92-120	%
Dibromofluoromethane	97		103		101		91-107	%
Toluene-D8	96		100		99		89-108	%

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

Analytical Method: EPA 365.3
Seq Number: 180352 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/14/20 14:39

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	0.9120	93	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 180352 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/14/20 14:39

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	0.9150	93	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 180352 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/14/20 14:41

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	0.9160	93	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 174944 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 06/12/19 13:33

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9750	0.995	102	85-115	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 16:40

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.479	99	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/15/20 17:36

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.619	105	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/15/20 18:12

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.600	104	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/15/20 18:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.607	104	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180061 Matrix: Water
Parent Sample Id: ICV ICV Sample Id: ICV Analyzed Date: 12/03/20 15:00

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.425	97	90-110	mg/L	

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/17/20 16:11

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	104.6	105	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/17/20 16:50

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	105.3	105	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/17/20 17:17

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	106.4	106	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/17/20 17:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	107.8	108	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 179847 Matrix: Water
Parent Sample Id: ICV ICV Sample Id: ICV Analyzed Date: 11/20/20 12:17

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Cyanide, Total	100	93.70	94	85-115	ug/L	

Analytical Method: EPA 300.0
Seq Number: 180423 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/11/20 15:20

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfate	50.00	50.55	101	90-110	mg/L	

Analytical Method: EPA 300.0
Seq Number: 180423 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/11/20 20:19

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfate	50.00	49.75	100	90-110	mg/L	

Analytical Method: EPA 300.0
Seq Number: 179968 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 11/30/20 15:02

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Sulfate	50.00	50.70	101	90-110	mg/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A
Seq Number: 180494 Matrix: Water
CCV Sample Id: CCV 9 Analyzed Date: 12/17/20 20:39

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	38.04	95	90-110	ug/L	
Arsenic	40.00	38.00	95	90-110	ug/L	
Beryllium	40.00	40.59	101	90-110	ug/L	
Cadmium	40.00	42.32	106	90-110	ug/L	
Chromium	40.00	38.20	96	90-110	ug/L	
Copper	40.00	38.98	97	90-110	ug/L	
Lead	40.00	39.26	98	90-110	ug/L	
Manganese	40.00	38.85	97	90-110	ug/L	
Mercury	1.000	0.9440	94	90-110	ug/L	
Nickel	40.00	37.92	95	90-110	ug/L	
Selenium	40.00	37.77	94	90-110	ug/L	
Silver	40.00	40.42	101	90-110	ug/L	
Thallium	40.00	39.80	100	90-110	ug/L	
Zinc	200	193.2	97	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180494 Matrix: Water
CCV Sample Id: CCV 10 Analyzed Date: 12/17/20 22:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	37.50	94	90-110	ug/L	
Arsenic	40.00	39.73	99	90-110	ug/L	
Beryllium	40.00	37.58	94	90-110	ug/L	
Cadmium	40.00	44.61	112	90-110	ug/L	X
Chromium	40.00	39.87	100	90-110	ug/L	
Copper	40.00	40.90	102	90-110	ug/L	
Lead	40.00	38.56	96	90-110	ug/L	
Manganese	40.00	37.81	95	90-110	ug/L	
Mercury	1.000	0.9270	93	90-110	ug/L	
Nickel	40.00	39.59	99	90-110	ug/L	
Selenium	40.00	38.04	95	90-110	ug/L	
Silver	40.00	39.73	99	90-110	ug/L	
Thallium	40.00	39.42	99	90-110	ug/L	
Zinc	200	201.9	101	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A
Seq Number: 180494 Matrix: Water
CCV Sample Id: CCV 11 Analyzed Date: 12/17/20 23:33

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	36.93	92	90-110	ug/L	
Arsenic	40.00	40.34	101	90-110	ug/L	
Beryllium	40.00	37.88	95	90-110	ug/L	
Cadmium	40.00	45.03	113	90-110	ug/L	X
Chromium	40.00	40.00	100	90-110	ug/L	
Copper	40.00	41.14	103	90-110	ug/L	
Lead	40.00	39.02	98	90-110	ug/L	
Manganese	40.00	38.53	96	90-110	ug/L	
Mercury	1.000	0.9340	93	90-110	ug/L	
Nickel	40.00	40.20	101	90-110	ug/L	
Selenium	40.00	36.68	92	90-110	ug/L	
Silver	40.00	40.18	100	90-110	ug/L	
Thallium	40.00	39.39	98	90-110	ug/L	
Zinc	200	203.7	102	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180495 Matrix: Water
CCV Sample Id: CCV 11 Analyzed Date: 12/17/20 23:33

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	36.93	92	90-110	ug/L	
Arsenic	40.00	40.34	101	90-110	ug/L	
Beryllium	40.00	37.88	95	90-110	ug/L	
Cadmium	40.00	45.03	113	90-110	ug/L	X
Chromium	40.00	40.00	100	90-110	ug/L	
Copper	40.00	41.14	103	90-110	ug/L	
Lead	40.00	39.02	98	90-110	ug/L	
Manganese	40.00	38.53	96	90-110	ug/L	
Mercury	1.000	0.9340	93	90-110	ug/L	
Nickel	40.00	40.20	101	90-110	ug/L	
Selenium	40.00	36.68	92	90-110	ug/L	
Silver	40.00	40.18	100	90-110	ug/L	
Thallium	40.00	39.39	98	90-110	ug/L	
Zinc	200	203.7	102	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A
Seq Number: 180494 Matrix: Water
CCV Sample Id: CCV 12 Analyzed Date: 12/18/20 00:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	36.00	90	90-110	ug/L	
Arsenic	40.00	38.52	96	90-110	ug/L	
Beryllium	40.00	36.90	92	90-110	ug/L	
Cadmium	40.00	42.44	106	90-110	ug/L	
Chromium	40.00	38.23	96	90-110	ug/L	
Copper	40.00	39.26	98	90-110	ug/L	
Lead	40.00	37.79	94	90-110	ug/L	
Manganese	40.00	37.47	94	90-110	ug/L	
Mercury	1.000	0.9290	93	90-110	ug/L	
Nickel	40.00	37.89	95	90-110	ug/L	
Selenium	40.00	36.27	91	90-110	ug/L	
Silver	40.00	38.95	97	90-110	ug/L	
Thallium	40.00	38.01	95	90-110	ug/L	
Zinc	200	193.2	97	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180495 Matrix: Water
CCV Sample Id: CCV 12 Analyzed Date: 12/18/20 00:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	36.00	90	90-110	ug/L	
Arsenic	40.00	38.52	96	90-110	ug/L	
Beryllium	40.00	36.90	92	90-110	ug/L	
Cadmium	40.00	42.44	106	90-110	ug/L	
Chromium	40.00	38.23	96	90-110	ug/L	
Copper	40.00	39.26	98	90-110	ug/L	
Lead	40.00	37.79	94	90-110	ug/L	
Manganese	40.00	37.47	94	90-110	ug/L	
Mercury	1.000	0.9290	93	90-110	ug/L	
Nickel	40.00	37.89	95	90-110	ug/L	
Selenium	40.00	36.27	91	90-110	ug/L	
Silver	40.00	38.95	97	90-110	ug/L	
Thallium	40.00	38.01	95	90-110	ug/L	
Zinc	200	193.2	97	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A
Seq Number: 180495 Matrix: Water
CCV Sample Id: CCV 13 Analyzed Date: 12/18/20 01:57

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	35.23	88	90-110	ug/L	X
Arsenic	40.00	38.15	95	90-110	ug/L	
Beryllium	40.00	36.75	92	90-110	ug/L	
Cadmium	40.00	42.56	106	90-110	ug/L	
Chromium	40.00	37.82	95	90-110	ug/L	
Copper	40.00	38.72	97	90-110	ug/L	
Lead	40.00	37.02	93	90-110	ug/L	
Manganese	40.00	36.67	92	90-110	ug/L	
Mercury	1.000	0.9060	91	90-110	ug/L	
Nickel	40.00	38.00	95	90-110	ug/L	
Selenium	40.00	36.07	90	90-110	ug/L	
Silver	40.00	38.24	96	90-110	ug/L	
Thallium	40.00	37.54	94	90-110	ug/L	
Zinc	200	191.2	96	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180495 Matrix: Water
CCV Sample Id: CCV 14 Analyzed Date: 12/18/20 03:07

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	34.99	87	90-110	ug/L	X
Arsenic	40.00	38.68	97	90-110	ug/L	
Beryllium	40.00	36.22	91	90-110	ug/L	
Cadmium	40.00	42.02	105	90-110	ug/L	
Chromium	40.00	38.23	96	90-110	ug/L	
Copper	40.00	38.77	97	90-110	ug/L	
Lead	40.00	36.38	91	90-110	ug/L	
Manganese	40.00	36.99	92	90-110	ug/L	
Mercury	1.000	0.8850	89	90-110	ug/L	X
Nickel	40.00	37.92	95	90-110	ug/L	
Selenium	40.00	36.99	92	90-110	ug/L	
Silver	40.00	38.03	95	90-110	ug/L	
Thallium	40.00	37.37	93	90-110	ug/L	
Zinc	200	192.3	96	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A
Seq Number: 180495 Matrix: Water
CCV Sample Id: CCV 15 Analyzed Date: 12/18/20 03:57

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	36.19	90	90-110	ug/L	
Arsenic	40.00	38.24	96	90-110	ug/L	
Beryllium	40.00	37.80	95	90-110	ug/L	
Cadmium	40.00	41.69	104	90-110	ug/L	
Chromium	40.00	37.79	94	90-110	ug/L	
Copper	40.00	38.39	96	90-110	ug/L	
Lead	40.00	37.90	95	90-110	ug/L	
Manganese	40.00	38.05	95	90-110	ug/L	
Mercury	1.000	0.9120	91	90-110	ug/L	
Nickel	40.00	37.40	94	90-110	ug/L	
Selenium	40.00	36.96	92	90-110	ug/L	
Silver	40.00	39.20	98	90-110	ug/L	
Thallium	40.00	38.44	96	90-110	ug/L	
Zinc	200	190	95	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180494 Matrix: Water
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 12/17/20 11:50

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	40.00	38.84	97	90-110	ug/L	
Arsenic	40.00	38.92	97	90-110	ug/L	
Beryllium	40.00	40.33	101	90-110	ug/L	
Cadmium	40.00	42.46	106	90-110	ug/L	
Chromium	40.00	39.05	98	90-110	ug/L	
Copper	40.00	39.93	100	90-110	ug/L	
Lead	40.00	40.29	101	90-110	ug/L	
Manganese	40.00	40.20	101	90-110	ug/L	
Mercury	1.000	0.9940	99	90-110	ug/L	
Nickel	40.00	38.99	97	90-110	ug/L	
Selenium	40.00	40.48	101	90-110	ug/L	
Silver	40.00	41.63	104	90-110	ug/L	
Thallium	40.00	41.20	103	90-110	ug/L	
Zinc	200	198.7	99	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A

Seq Number: 180495 Matrix: Water
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 12/17/20 11:50

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	40.00	38.84	97	90-110	ug/L	
Arsenic	40.00	38.92	97	90-110	ug/L	
Beryllium	40.00	40.33	101	90-110	ug/L	
Cadmium	40.00	42.46	106	90-110	ug/L	
Chromium	40.00	39.05	98	90-110	ug/L	
Copper	40.00	39.93	100	90-110	ug/L	
Lead	40.00	40.29	101	90-110	ug/L	
Manganese	40.00	40.20	101	90-110	ug/L	
Mercury	1.000	0.9940	99	90-110	ug/L	
Nickel	40.00	38.99	97	90-110	ug/L	
Selenium	40.00	40.48	101	90-110	ug/L	
Silver	40.00	41.63	104	90-110	ug/L	
Thallium	40.00	41.20	103	90-110	ug/L	
Zinc	200	198.7	99	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180494 Matrix: Water
Parent Sample Id: LLCCV 7 LLCCV Sample Id: LLCCV 7 Analyzed Date: 12/17/20 20:48

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.100	102	70-130	ug/L	
Arsenic	1.000	1.013	101	70-130	ug/L	
Beryllium	1.000	1.045	105	70-130	ug/L	
Cadmium	1.000	1.140	114	70-130	ug/L	
Chromium	1.000	1.004	100	70-130	ug/L	
Copper	1.000	1.155	116	70-130	ug/L	
Lead	1.000	0.9750	98	70-130	ug/L	
Manganese	1.000	0.9780	98	70-130	ug/L	
Mercury	0.2000	0.2100	105	70-130	ug/L	
Nickel	1.000	0.9920	99	70-130	ug/L	
Selenium	1.000	1.055	106	70-130	ug/L	
Silver	1.000	1.004	100	70-130	ug/L	
Thallium	1.000	0.9920	99	70-130	ug/L	
Zinc	20.00	19.48	97	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180494 Matrix: Water

Parent Sample Id: LLCCV 8 LLCCV Sample Id: LLCCV 8 Analyzed Date: 12/17/20 22:28

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.372	107	70-130	ug/L	
Arsenic	1.000	0.9790	98	70-130	ug/L	
Beryllium	1.000	0.9800	98	70-130	ug/L	
Cadmium	1.000	1.134	113	70-130	ug/L	
Chromium	1.000	0.9990	100	70-130	ug/L	
Copper	1.000	0.9780	98	70-130	ug/L	
Lead	1.000	0.9610	96	70-130	ug/L	
Manganese	1.000	0.9520	95	70-130	ug/L	
Mercury	0.2000	0.2140	107	70-130	ug/L	
Nickel	1.000	0.9410	94	70-130	ug/L	
Selenium	1.000	1.044	104	70-130	ug/L	
Silver	1.000	1.002	100	70-130	ug/L	
Thallium	1.000	1.016	102	70-130	ug/L	
Zinc	20.00	19.29	96	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180494 Matrix: Water

Parent Sample Id: LLCCV 9 LLCCV Sample Id: LLCCV 9 Analyzed Date: 12/17/20 23:38

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.213	104	70-130	ug/L	
Arsenic	1.000	0.9820	98	70-130	ug/L	
Beryllium	1.000	0.9680	97	70-130	ug/L	
Cadmium	1.000	1.159	116	70-130	ug/L	
Chromium	1.000	1.019	102	70-130	ug/L	
Copper	1.000	1.036	104	70-130	ug/L	
Lead	1.000	0.9650	97	70-130	ug/L	
Manganese	1.000	0.9780	98	70-130	ug/L	
Mercury	0.2000	0.2110	106	70-130	ug/L	
Nickel	1.000	1.008	101	70-130	ug/L	
Selenium	1.000	1.077	108	70-130	ug/L	
Silver	1.000	0.9920	99	70-130	ug/L	
Thallium	1.000	0.9890	99	70-130	ug/L	
Zinc	20.00	19.13	96	70-130	ug/L	

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QC Summary

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Analytical Method: SW-846 6020 A

Seq Number: 180495 Matrix: Water
Parent Sample Id: LLCCV 9 LLCCV Sample Id: LLCCV 9 Analyzed Date: 12/17/20 23:38

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.213	104	70-130	ug/L	
Arsenic	1.000	0.9820	98	70-130	ug/L	
Beryllium	1.000	0.9680	97	70-130	ug/L	
Cadmium	1.000	1.159	116	70-130	ug/L	
Chromium	1.000	1.019	102	70-130	ug/L	
Copper	1.000	1.036	104	70-130	ug/L	
Lead	1.000	0.9650	97	70-130	ug/L	
Manganese	1.000	0.9780	98	70-130	ug/L	
Mercury	0.2000	0.2110	106	70-130	ug/L	
Nickel	1.000	1.008	101	70-130	ug/L	
Selenium	1.000	1.077	108	70-130	ug/L	
Silver	1.000	0.9920	99	70-130	ug/L	
Thallium	1.000	0.9890	99	70-130	ug/L	
Zinc	20.00	19.13	96	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180494 Matrix: Water
Parent Sample Id: LLCCV 10 LLCCV Sample Id: LLCCV 10 Analyzed Date: 12/18/20 00:52

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.830	97	70-130	ug/L	
Arsenic	1.000	0.9470	95	70-130	ug/L	
Beryllium	1.000	0.8970	90	70-130	ug/L	
Cadmium	1.000	1.109	111	70-130	ug/L	
Chromium	1.000	0.9760	98	70-130	ug/L	
Copper	1.000	1.333	133	70-130	ug/L	X
Lead	1.000	0.9330	93	70-130	ug/L	
Manganese	1.000	0.9390	94	70-130	ug/L	
Mercury	0.2000	0.2010	101	70-130	ug/L	
Nickel	1.000	0.9660	97	70-130	ug/L	
Selenium	1.000	0.9190	92	70-130	ug/L	
Silver	1.000	0.9770	98	70-130	ug/L	
Thallium	1.000	0.9500	95	70-130	ug/L	
Zinc	20.00	18.72	94	70-130	ug/L	

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Analytical Method: SW-846 6020 A

Seq Number: 180495 Matrix: Water
Parent Sample Id: LLCCV 10 LLCCV Sample Id: LLCCV 10 Analyzed Date: 12/18/20 00:52

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.830	97	70-130	ug/L	
Arsenic	1.000	0.9470	95	70-130	ug/L	
Beryllium	1.000	0.8970	90	70-130	ug/L	
Cadmium	1.000	1.109	111	70-130	ug/L	
Chromium	1.000	0.9760	98	70-130	ug/L	
Copper	1.000	1.333	133	70-130	ug/L	X
Lead	1.000	0.9330	93	70-130	ug/L	
Manganese	1.000	0.9390	94	70-130	ug/L	
Mercury	0.2000	0.2010	101	70-130	ug/L	
Nickel	1.000	0.9660	97	70-130	ug/L	
Selenium	1.000	0.9190	92	70-130	ug/L	
Silver	1.000	0.9770	98	70-130	ug/L	
Thallium	1.000	0.9500	95	70-130	ug/L	
Zinc	20.00	18.72	94	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180495 Matrix: Water
Parent Sample Id: LLCCV 11 LLCCV Sample Id: LLCCV 11 Analyzed Date: 12/18/20 02:02

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.057	101	70-130	ug/L	
Arsenic	1.000	1.036	104	70-130	ug/L	
Beryllium	1.000	0.9500	95	70-130	ug/L	
Cadmium	1.000	1.147	115	70-130	ug/L	
Chromium	1.000	0.9840	98	70-130	ug/L	
Copper	1.000	1.041	104	70-130	ug/L	
Lead	1.000	0.9120	91	70-130	ug/L	
Manganese	1.000	0.9160	92	70-130	ug/L	
Mercury	0.2000	0.1950	98	70-130	ug/L	
Nickel	1.000	0.9670	97	70-130	ug/L	
Selenium	1.000	1.108	111	70-130	ug/L	
Silver	1.000	0.9620	96	70-130	ug/L	
Thallium	1.000	0.9810	98	70-130	ug/L	
Zinc	20.00	18.90	95	70-130	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 6020 A

Seq Number: 180495 Matrix: Water
Parent Sample Id: LLCCV 12 LLCCV Sample Id: LLCCV 12 Analyzed Date: 12/18/20 03:11

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.103	102	70-130	ug/L	
Arsenic	1.000	1.023	102	70-130	ug/L	
Beryllium	1.000	0.9440	94	70-130	ug/L	
Cadmium	1.000	1.141	114	70-130	ug/L	
Chromium	1.000	1.031	103	70-130	ug/L	
Copper	1.000	0.8430	84	70-130	ug/L	
Lead	1.000	0.9090	91	70-130	ug/L	
Manganese	1.000	0.9930	99	70-130	ug/L	
Mercury	0.2000	0.2060	103	70-130	ug/L	
Nickel	1.000	1.005	101	70-130	ug/L	
Selenium	1.000	1.086	109	70-130	ug/L	
Silver	1.000	0.9570	96	70-130	ug/L	
Thallium	1.000	0.9740	97	70-130	ug/L	
Zinc	20.00	19.43	97	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180495 Matrix: Water
Parent Sample Id: LLCCV 13 LLCCV Sample Id: LLCCV 13 Analyzed Date: 12/18/20 04:02

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.004	100	70-130	ug/L	
Arsenic	1.000	0.9730	97	70-130	ug/L	
Beryllium	1.000	0.9190	92	70-130	ug/L	
Cadmium	1.000	1.110	111	70-130	ug/L	
Chromium	1.000	1.012	101	70-130	ug/L	
Copper	1.000	0.8060	81	70-130	ug/L	
Lead	1.000	0.8910	89	70-130	ug/L	
Manganese	1.000	0.9620	96	70-130	ug/L	
Mercury	0.2000	0.1930	97	70-130	ug/L	
Nickel	1.000	0.9710	97	70-130	ug/L	
Selenium	1.000	1.056	106	70-130	ug/L	
Silver	1.000	0.9340	93	70-130	ug/L	
Thallium	1.000	0.9620	96	70-130	ug/L	
Zinc	20.00	18.81	94	70-130	ug/L	

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Project Name Conowingo
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Analytical Method: SW-846 6020 A
Seq Number: 180494 Matrix: Water
Parent Sample Id: LLICV 1 LLICV Sample Id: LLICV 1 Analyzed Date: 12/17/20 12:00

Parameter	Spike Amount	LLICV Result	LLICV %Rec	Limits	Units	Flag
Antimony	5.000	5.201	104	70-130	ug/L	
Arsenic	1.000	0.9690	97	70-130	ug/L	
Beryllium	1.000	1.102	110	70-130	ug/L	
Cadmium	1.000	1.092	109	70-130	ug/L	
Chromium	1.000	0.9930	99	70-130	ug/L	
Copper	1.000	0.7840	78	70-130	ug/L	
Lead	1.000	1.033	103	70-130	ug/L	
Manganese	1.000	1.015	102	70-130	ug/L	
Mercury	0.2000	0.2190	110	70-130	ug/L	
Nickel	1.000	0.9600	96	70-130	ug/L	
Selenium	1.000	1.101	110	70-130	ug/L	
Silver	1.000	1.034	103	70-130	ug/L	
Thallium	1.000	1.045	105	70-130	ug/L	
Zinc	20.00	19.14	96	70-130	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180495 Matrix: Water
Parent Sample Id: LLICV 1 LLICV Sample Id: LLICV 1 Analyzed Date: 12/17/20 12:00

Parameter	Spike Amount	LLICV Result	LLICV %Rec	Limits	Units	Flag
Antimony	5.000	5.201	104	70-130	ug/L	
Arsenic	1.000	0.9690	97	70-130	ug/L	
Beryllium	1.000	1.102	110	70-130	ug/L	
Cadmium	1.000	1.092	109	70-130	ug/L	
Chromium	1.000	0.9930	99	70-130	ug/L	
Copper	1.000	0.7840	78	70-130	ug/L	
Lead	1.000	1.033	103	70-130	ug/L	
Manganese	1.000	1.015	102	70-130	ug/L	
Mercury	0.2000	0.2190	110	70-130	ug/L	
Nickel	1.000	0.9600	96	70-130	ug/L	
Selenium	1.000	1.101	110	70-130	ug/L	
Silver	1.000	1.034	103	70-130	ug/L	
Thallium	1.000	1.045	105	70-130	ug/L	
Zinc	20.00	19.14	96	70-130	ug/L	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180542 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/21/20 13:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3841	96	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180542 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/21/20 13:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3863	97	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180542 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/21/20 13:49

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3720	93	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180098 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 09/09/20 15:35

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.4258	106	90-110	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180402 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 14:22

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2600	104	85-115	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180402 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/15/20 15:00

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2594	104	85-115	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180402 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/15/20 15:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2556	102	85-115	mg/kg	

Analytical Method: SW-846 7196 A

Seq Number: 180401 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 12/15/20 13:42

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2544	102	85-115	mg/kg	

Analytical Method: SW-846 7196 A

Seq Number: 180402 Matrix: Solid
Parent Sample Id: MRL MRL Sample Id: MRL Analyzed Date: 12/15/20 13:52

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.05000	0.05420	108	50-150	mg/kg	

Analytical Method: SW-846 8081 B

Seq Number: 180453 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/16/20 09:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.24	91	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.07	90	80-120	ug/L	
beta-BHC	20.00	17.06	85	80-120	ug/L	
delta-BHC	20.00	18.42	92	80-120	ug/L	
Heptachlor	20.00	18.02	90	80-120	ug/L	
Aldrin	20.00	18.77	94	80-120	ug/L	
Heptachlor epoxide	20.00	18.33	92	80-120	ug/L	
gamma-Chlordane	20.00	18.56	93	80-120	ug/L	
alpha-Chlordane	20.00	18.49	92	80-120	ug/L	
4,4-DDE	20.00	19.12	96	80-120	ug/L	
Endosulfan I	20.00	18.52	93	80-120	ug/L	
Dieldrin	20.00	19.01	95	80-120	ug/L	
Endrin	20.00	17.84	89	80-120	ug/L	
4,4-DDD	20.00	17.77	89	80-120	ug/L	
Endosulfan II	20.00	18.87	94	80-120	ug/L	
4,4-DDT	20.00	19.09	95	80-120	ug/L	
Endrin aldehyde	20.00	19.71	99	80-120	ug/L	
Methoxychlor	20.00	19.53	98	80-120	ug/L	
Endosulfan sulfate	20.00	18.58	93	80-120	ug/L	
Endrin ketone	20.00	18.78	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	92	80-120	%	
Tetrachloro-m-xylene	87	80-120	%	

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Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/16/20 09:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.24	91	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.07	90	80-120	ug/L	
beta-BHC	20.00	17.06	85	80-120	ug/L	
delta-BHC	20.00	18.42	92	80-120	ug/L	
Heptachlor	20.00	18.02	90	80-120	ug/L	
Aldrin	20.00	18.77	94	80-120	ug/L	
Heptachlor epoxide	20.00	18.33	92	80-120	ug/L	
gamma-Chlordane	20.00	18.56	93	80-120	ug/L	
alpha-Chlordane	20.00	18.49	92	80-120	ug/L	
4,4-DDE	20.00	19.12	96	80-120	ug/L	
Endosulfan I	20.00	18.52	93	80-120	ug/L	
Dieldrin	20.00	19.01	95	80-120	ug/L	
Endrin	20.00	17.84	89	80-120	ug/L	
4,4-DDD	20.00	17.77	89	80-120	ug/L	
Endosulfan II	20.00	18.87	94	80-120	ug/L	
4,4-DDT	20.00	19.09	95	80-120	ug/L	
Endrin aldehyde	20.00	19.71	99	80-120	ug/L	
Methoxychlor	20.00	19.53	98	80-120	ug/L	
Endosulfan sulfate	20.00	18.58	93	80-120	ug/L	
Endrin ketone	20.00	18.78	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	92	80-120	%	
Tetrachloro-m-xylene	87	80-120	%	

Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/16/20 09:50

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	291.9	97	80-120	ug/L	
Toxaphene	300	285.8	95	80-120	ug/L	
Toxaphene	300	297.3	99	80-120	ug/L	
Toxaphene	300	311.8	104	80-120	ug/L	
Toxaphene	300	311.1	104	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/16/20 10:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	277.3	92	80-120	ug/L	
Chlordane	300	257.6	86	80-120	ug/L	
Chlordane	300	281	94	80-120	ug/L	
Chlordane	300	279.6	93	80-120	ug/L	
Chlordane	300	294.9	98	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180453 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/16/20 13:55

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.71	94	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.63	93	80-120	ug/L	
beta-BHC	20.00	17.65	88	80-120	ug/L	
delta-BHC	20.00	18.90	95	80-120	ug/L	
Heptachlor	20.00	18.57	93	80-120	ug/L	
Aldrin	20.00	19.06	95	80-120	ug/L	
Heptachlor epoxide	20.00	18.67	93	80-120	ug/L	
gamma-Chlordane	20.00	18.87	94	80-120	ug/L	
alpha-Chlordane	20.00	18.79	94	80-120	ug/L	
4,4-DDE	20.00	19.38	97	80-120	ug/L	
Endosulfan I	20.00	18.89	94	80-120	ug/L	
Dieldrin	20.00	19.44	97	80-120	ug/L	
Endrin	20.00	19.28	96	80-120	ug/L	
4,4-DDD	20.00	19.01	95	80-120	ug/L	
Endosulfan II	20.00	19.24	96	80-120	ug/L	
4,4-DDT	20.00	17.85	89	80-120	ug/L	
Endrin aldehyde	20.00	19.91	100	80-120	ug/L	
Methoxychlor	20.00	19.28	96	80-120	ug/L	
Endosulfan sulfate	20.00	19.06	95	80-120	ug/L	
Endrin ketone	20.00	19.41	97	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	93	80-120	%	
Tetrachloro-m-xylene	89	80-120	%	

Analytical Method: SW-846 8081 B

Seq Number: 180524 Matrix: Water

CCV Sample Id: CCV-02 Analyzed Date: 12/16/20 13:55

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.71	94	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.63	93	80-120	ug/L	
beta-BHC	20.00	17.65	88	80-120	ug/L	
delta-BHC	20.00	18.90	95	80-120	ug/L	
Heptachlor	20.00	18.57	93	80-120	ug/L	
Aldrin	20.00	19.06	95	80-120	ug/L	
Heptachlor epoxide	20.00	18.67	93	80-120	ug/L	
gamma-Chlordane	20.00	18.87	94	80-120	ug/L	
alpha-Chlordane	20.00	18.79	94	80-120	ug/L	
4,4-DDE	20.00	19.38	97	80-120	ug/L	
Endosulfan I	20.00	18.89	94	80-120	ug/L	
Dieldrin	20.00	19.44	97	80-120	ug/L	
Endrin	20.00	19.28	96	80-120	ug/L	
4,4-DDD	20.00	19.01	95	80-120	ug/L	
Endosulfan II	20.00	19.24	96	80-120	ug/L	
4,4-DDT	20.00	17.85	89	80-120	ug/L	
Endrin aldehyde	20.00	19.91	100	80-120	ug/L	
Methoxychlor	20.00	19.28	96	80-120	ug/L	
Endosulfan sulfate	20.00	19.06	95	80-120	ug/L	
Endrin ketone	20.00	19.41	97	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	93	80-120	%	
Tetrachloro-m-xylene	89	80-120	%	

Analytical Method: SW-846 8081 B

Seq Number: 180524 Matrix: Water

CCV Sample Id: TOX Analyzed Date: 12/16/20 14:09

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	301.2	100	80-120	ug/L	
Toxaphene	300	288.4	96	80-120	ug/L	
Toxaphene	300	274.7	92	80-120	ug/L	
Toxaphene	300	271.3	90	80-120	ug/L	
Toxaphene	300	285.6	95	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/16/20 14:24

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	284.3	95	80-120	ug/L	
Chlordane	300	262.5	88	80-120	ug/L	
Chlordane	300	285.6	95	80-120	ug/L	
Chlordane	300	283.3	94	80-120	ug/L	
Chlordane	300	301	100	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/16/20 16:34

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.97	95	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.86	94	80-120	ug/L	
beta-BHC	20.00	17.84	89	80-120	ug/L	
delta-BHC	20.00	19.14	96	80-120	ug/L	
Heptachlor	20.00	18.63	93	80-120	ug/L	
Aldrin	20.00	19.25	96	80-120	ug/L	
Heptachlor epoxide	20.00	18.81	94	80-120	ug/L	
gamma-Chlordane	20.00	19.01	95	80-120	ug/L	
alpha-Chlordane	20.00	18.88	94	80-120	ug/L	
4,4-DDE	20.00	19.50	98	80-120	ug/L	
Endosulfan I	20.00	18.98	95	80-120	ug/L	
Dieldrin	20.00	19.56	98	80-120	ug/L	
Endrin	20.00	19.55	98	80-120	ug/L	
4,4-DDD	20.00	19.18	96	80-120	ug/L	
Endosulfan II	20.00	19.33	97	80-120	ug/L	
4,4-DDT	20.00	16.90	85	80-120	ug/L	
Endrin aldehyde	20.00	19.85	99	80-120	ug/L	
Methoxychlor	20.00	18.33	92	80-120	ug/L	
Endosulfan sulfate	20.00	19.11	96	80-120	ug/L	
Endrin ketone	20.00	19.37	97	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	92	80-120	%	
Tetrachloro-m-xylene	90	80-120	%	

Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/16/20 16:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	312.6	104	80-120	ug/L	
Toxaphene	300	286.7	96	80-120	ug/L	
Toxaphene	300	259.7	87	80-120	ug/L	
Toxaphene	300	241.8	81	80-120	ug/L	
Toxaphene	300	266.4	89	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/16/20 17:02

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	273	91	80-120	ug/L	
Chlordane	300	264	88	80-120	ug/L	
Chlordane	300	287.8	96	80-120	ug/L	
Chlordane	300	285.7	95	80-120	ug/L	
Chlordane	300	295.1	98	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/16/20 18:00

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	19.05	95	80-120	ug/L	
gamma-BHC (Lindane)	20.00	19.08	95	80-120	ug/L	
beta-BHC	20.00	18.06	90	80-120	ug/L	
delta-BHC	20.00	18.93	95	80-120	ug/L	
Heptachlor	20.00	18.33	92	80-120	ug/L	
Aldrin	20.00	18.84	94	80-120	ug/L	
Heptachlor epoxide	20.00	18.59	93	80-120	ug/L	
gamma-Chlordane	20.00	18.35	92	80-120	ug/L	
alpha-Chlordane	20.00	18.28	91	80-120	ug/L	
4,4-DDE	20.00	19.11	96	80-120	ug/L	
Endosulfan I	20.00	18.67	93	80-120	ug/L	
Dieldrin	20.00	19.12	96	80-120	ug/L	
Endrin	20.00	19.21	96	80-120	ug/L	
4,4-DDD	20.00	18.23	91	80-120	ug/L	
Endosulfan II	20.00	18.60	93	80-120	ug/L	
4,4-DDT	20.00	16.34	82	80-120	ug/L	
Endrin aldehyde	20.00	19.46	97	80-120	ug/L	
Methoxychlor	20.00	18.19	91	80-120	ug/L	
Endosulfan sulfate	20.00	18.44	92	80-120	ug/L	
Endrin ketone	20.00	18.44	92	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	82	80-120	%	
Tetrachloro-m-xylene	90	80-120	%	

Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/16/20 18:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	278.4	93	80-120	ug/L	
Toxaphene	300	255.1	85	80-120	ug/L	
Toxaphene	300	193.8	65	80-120	ug/L	X
Toxaphene	300	160	53	80-120	ug/L	X
Toxaphene	300	197.7	66	80-120	ug/L	X

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180524 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/16/20 18:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	282.6	94	80-120	ug/L	
Chlordane	300	264	88	80-120	ug/L	
Chlordane	300	285.9	95	80-120	ug/L	
Chlordane	300	283.2	94	80-120	ug/L	
Chlordane	300	281.5	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 177760 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 09/11/20 14:40

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
alpha-BHC	20.00	20.81	104	80-120	ug/L	
gamma-BHC (Lindane)	20.00	20.56	103	80-120	ug/L	
beta-BHC	20.00	19.74	99	80-120	ug/L	
delta-BHC	20.00	20.89	104	80-120	ug/L	
Heptachlor	20.00	20.25	101	80-120	ug/L	
Aldrin	20.00	20.57	103	80-120	ug/L	
Heptachlor epoxide	20.00	20.11	101	80-120	ug/L	
gamma-Chlordane	20.00	20.22	101	80-120	ug/L	
alpha-Chlordane	20.00	20.15	101	80-120	ug/L	
4,4-DDE	20.00	20.63	103	80-120	ug/L	
Endosulfan I	20.00	20.13	101	80-120	ug/L	
Dieldrin	20.00	20.40	102	80-120	ug/L	
Endrin	20.00	20.05	100	80-120	ug/L	
4,4-DDD	20.00	20.51	103	80-120	ug/L	
Endosulfan II	20.00	20.18	101	80-120	ug/L	
4,4-DDT	20.00	20.23	101	80-120	ug/L	
Endrin aldehyde	20.00	20.47	102	80-120	ug/L	
Methoxychlor	20.00	19.51	98	80-120	ug/L	
Endosulfan sulfate	20.00	20.17	101	80-120	ug/L	
Endrin ketone	20.00	20.24	101	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
Decachlorobiphenyl	97	80-120	%	
Tetrachloro-m-xylene	102	80-120	%	

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Analytical Method: SW-846 8081 B

Seq Number: 177760 Matrix: Water
Parent Sample Id: ICV-02 ICV Sample Id: ICV-02 Analyzed Date: 09/11/20 16:06

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Toxaphene	300	303.8	101	80-120	ug/L	
Toxaphene	300	299.8	100	80-120	ug/L	
Toxaphene	300	303.4	101	80-120	ug/L	
Toxaphene	300	312.4	104	80-120	ug/L	
Toxaphene	300	304.4	101	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B

Seq Number: 177760 Matrix: Water
Parent Sample Id: ICV-03 ICV Sample Id: ICV-03 Analyzed Date: 09/11/20 17:32

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Chlordane	300	295.7	99	80-120	ug/L	
Chlordane	300	283.4	94	80-120	ug/L	
Chlordane	300	297.8	99	80-120	ug/L	
Chlordane	300	296.6	99	80-120	ug/L	
Chlordane	300	292.9	98	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A

Seq Number: 180425 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 10:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	104.9	105	80-120	ug/L	
PCB-1016	100	91.83	92	80-120	ug/L	
PCB-1016	100	103.9	104	80-120	ug/L	
PCB-1016	100	99.66	100	80-120	ug/L	
PCB-1016	100	101.7	102	80-120	ug/L	
PCB-1260	100	107.5	108	80-120	ug/L	
PCB-1260	100	112.9	113	80-120	ug/L	
PCB-1260	100	104.4	104	80-120	ug/L	
PCB-1260	100	108.4	108	80-120	ug/L	
PCB-1260	100	103.8	104	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	99	80-120	%	
Tetrachloro-m-xylene	93	80-120	%	

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Analytical Method: SW-846 8082 A
Seq Number: 180425 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/15/20 16:10

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	106.3	106	80-120	ug/L	
PCB-1016	100	93.70	94	80-120	ug/L	
PCB-1016	100	107.9	108	80-120	ug/L	
PCB-1016	100	103.2	103	80-120	ug/L	
PCB-1016	100	104.8	105	80-120	ug/L	
PCB-1260	100	105.5	106	80-120	ug/L	
PCB-1260	100	114.3	114	80-120	ug/L	
PCB-1260	100	108	108	80-120	ug/L	
PCB-1260	100	110.1	110	80-120	ug/L	
PCB-1260	100	106.2	106	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	100	80-120	%	
Tetrachloro-m-xylene	98	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180425 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/16/20 00:08

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	111.7	112	80-120	ug/L	
PCB-1016	100	94.83	95	80-120	ug/L	
PCB-1016	100	110.3	110	80-120	ug/L	
PCB-1016	100	104.7	105	80-120	ug/L	
PCB-1016	100	107.1	107	80-120	ug/L	
PCB-1260	100	107.9	108	80-120	ug/L	
PCB-1260	100	117.5	118	80-120	ug/L	
PCB-1260	100	110	110	80-120	ug/L	
PCB-1260	100	112.4	112	80-120	ug/L	
PCB-1260	100	108.1	108	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	101	80-120	%	
Tetrachloro-m-xylene	100	80-120	%	

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Analytical Method: SW-846 8082 A
Seq Number: 180425 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/16/20 12:27

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	92.16	92	80-120	ug/L	
PCB-1016	100	80.56	81	80-120	ug/L	
PCB-1016	100	92.11	92	80-120	ug/L	
PCB-1016	100	88.55	89	80-120	ug/L	
PCB-1016	100	92.90	93	80-120	ug/L	
PCB-1260	100	105.6	106	80-120	ug/L	
PCB-1260	100	118.3	118	80-120	ug/L	
PCB-1260	100	97.07	97	80-120	ug/L	
PCB-1260	100	99.14	99	80-120	ug/L	
PCB-1260	100	98.36	98	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	84	80-120	%	
Tetrachloro-m-xylene	83	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180425 Matrix: Water
CCV Sample Id: CCV-05 Analyzed Date: 12/16/20 17:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	95.65	96	80-120	ug/L	
PCB-1016	100	81.51	82	80-120	ug/L	
PCB-1016	100	96.45	96	80-120	ug/L	
PCB-1016	100	91.35	91	80-120	ug/L	
PCB-1016	100	95.76	96	80-120	ug/L	
PCB-1260	100	107.7	108	80-120	ug/L	
PCB-1260	100	122	122	80-120	ug/L	X
PCB-1260	100	99.75	100	80-120	ug/L	
PCB-1260	100	103.5	104	80-120	ug/L	
PCB-1260	100	100.9	101	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	89	80-120	%	
Tetrachloro-m-xylene	87	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8082 A
Seq Number: 180425 Matrix: Water
CCV Sample Id: CCV-06 Analyzed Date: 12/17/20 11:58

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	92.56	93	80-120	ug/L	
PCB-1016	100	96.35	96	80-120	ug/L	
PCB-1016	100	95.01	95	80-120	ug/L	
PCB-1016	100	94.83	95	80-120	ug/L	
PCB-1016	100	99.74	100	80-120	ug/L	
PCB-1260	100	105.8	106	80-120	ug/L	
PCB-1260	100	108.6	109	80-120	ug/L	
PCB-1260	100	102.1	102	80-120	ug/L	
PCB-1260	100	102.4	102	80-120	ug/L	
PCB-1260	100	103	103	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	96	80-120	%	
Tetrachloro-m-xylene	87	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 10/20/20 12:18

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1016	100	107.2	107	80-120	ug/L	
PCB-1016	100	108.8	109	80-120	ug/L	
PCB-1016	100	103.1	103	80-120	ug/L	
PCB-1016	100	106.6	107	80-120	ug/L	
PCB-1016	100	106.7	107	80-120	ug/L	
PCB-1260	100	112	112	80-120	ug/L	
PCB-1260	100	106.8	107	80-120	ug/L	
PCB-1260	100	106	106	80-120	ug/L	
PCB-1260	100	104	104	80-120	ug/L	
PCB-1260	100	103.9	104	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
Decachlorobiphenyl	82	80-120	%	
Tetrachloro-m-xylene	80	80-120	%	

Analytical Method: SW-846 8082 A

Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-02 ICV Sample Id: ICV-02 Analyzed Date: 10/20/20 16:36

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1221	100	104.5	105	80-120	ug/L	
PCB-1221	100	108.4	108	80-120	ug/L	
PCB-1221	100	101.2	101	80-120	ug/L	
PCB-1221	100	102.1	102	80-120	ug/L	
PCB-1221	100	102.3	102	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A

Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-03 ICV Sample Id: ICV-03 Analyzed Date: 10/20/20 19:53

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1232	100	116.5	117	80-120	ug/L	
PCB-1232	100	116.3	116	80-120	ug/L	
PCB-1232	100	112.7	113	80-120	ug/L	
PCB-1232	100	114.6	115	80-120	ug/L	
PCB-1232	100	114	114	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A

Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-04 ICV Sample Id: ICV-04 Analyzed Date: 10/20/20 23:12

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1242	100	116.2	116	80-120	ug/L	
PCB-1242	100	110.8	111	80-120	ug/L	
PCB-1242	100	113.8	114	80-120	ug/L	
PCB-1242	100	114.5	115	80-120	ug/L	
PCB-1242	100	113	113	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A

Seq Number: 178961 Matrix: Water

Parent Sample Id: ICV-05 ICV Sample Id: ICV-05 Analyzed Date: 10/21/20 02:28

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1248	100	104.6	105	80-120	ug/L	
PCB-1248	100	106.6	107	80-120	ug/L	
PCB-1248	100	106.7	107	80-120	ug/L	
PCB-1248	100	105.8	106	80-120	ug/L	
PCB-1248	100	106.1	106	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A

Seq Number: 178961 Matrix: Water

Parent Sample Id: ICV-06 ICV Sample Id: ICV-06 Analyzed Date: 10/21/20 05:44

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1254	100	106.1	106	80-120	ug/L	
PCB-1254	100	105.6	106	80-120	ug/L	
PCB-1254	100	107.8	108	80-120	ug/L	
PCB-1254	100	108.1	108	80-120	ug/L	
PCB-1254	100	104.5	105	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8015C DRO

Seq Number: 180437 Matrix: Water

CCV Sample Id: CCV-F1 Analyzed Date: 12/16/20 09:46

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2376	95	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	97	80-120	%	

Analytical Method: SW-846 8015C DRO

Seq Number: 180438 Matrix: Water

CCV Sample Id: CCV-R1 Analyzed Date: 12/16/20 09:46

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2671	107	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	112	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180437 Matrix: Water
CCV Sample Id: CCV-F2 Analyzed Date: 12/16/20 17:40

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2684	107	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	109	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180438 Matrix: Water
CCV Sample Id: CCV-R2 Analyzed Date: 12/16/20 17:40

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2730	109	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	106	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 177034 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 08/18/20 12:32

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2555	102	80-120	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
o-Terphenyl	95	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 178799 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 10/16/20 12:08

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2752	110	80-120	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
o-Terphenyl	110	80-120	%	

Analytical Method: SW-846 8270 C

Seq Number: 180420 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 10:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acenaphthene	40000	42840	107	80-120	ug/L	
Acenaphthylene	40000	44510	111	80-120	ug/L	
Acetophenone	40000	43150	108	80-120	ug/L	
Anthracene	40000	41650	104	80-120	ug/L	
Atrazine	40000	43710	109	80-120	ug/L	
Benzo(a)anthracene	40000	39320	98	80-120	ug/L	
Benzo(a)pyrene	40000	39780	99	80-120	ug/L	
Benzo(b)fluoranthene	40000	39510	99	80-120	ug/L	
Benzo(g,h,i)perylene	40000	41130	103	80-120	ug/L	
Benzo(k)fluoranthene	40000	39130	98	80-120	ug/L	
Biphenyl (Diphenyl)	40000	43530	109	80-120	ug/L	
Butyl benzyl phthalate	40000	42340	106	80-120	ug/L	
bis(2-chloroethoxy) methane	40000	43270	108	80-120	ug/L	
bis(2-chloroethyl) ether	40000	44170	110	80-120	ug/L	
bis(2-chloroisopropyl) ether	40000	38560	96	80-120	ug/L	
bis(2-ethylhexyl) phthalate	40000	42970	107	80-120	ug/L	
4-Bromophenylphenyl ether	40000	43420	109	80-120	ug/L	
Di-n-butyl phthalate	40000	41730	104	80-120	ug/L	
Carbazole	40000	47530	119	80-120	ug/L	
Caprolactam	40000	39280	98	80-120	ug/L	
4-Chloro-3-methyl phenol	40000	43930	110	80-120	ug/L	
4-Chloroaniline	40000	42780	107	80-120	ug/L	
2-Chloronaphthalene	40000	43150	108	80-120	ug/L	
2-Chlorophenol	40000	44500	111	80-120	ug/L	
4-Chlorophenyl Phenyl ether	40000	43200	108	80-120	ug/L	
Chrysene	40000	42440	106	80-120	ug/L	
Dibenz(a,h)Anthracene	40000	43110	108	80-120	ug/L	
Dibenzofuran	40000	42310	106	80-120	ug/L	
3,3-Dichlorobenzidine	40000	46460	116	80-120	ug/L	
2,4-Dichlorophenol	40000	45430	114	80-120	ug/L	
Diethyl phthalate	40000	40970	102	80-120	ug/L	
Dimethyl phthalate	40000	42930	107	80-120	ug/L	
2,4-Dimethylphenol	40000	41810	105	80-120	ug/L	
4,6-Dinitro-2-methyl phenol	40000	50750	127	80-120	ug/L	X
2,4-Dinitrophenol	40000	53530	134	80-120	ug/L	X
2,4-Dinitrotoluene	40000	44490	111	80-120	ug/L	
2,6-Dinitrotoluene	40000	43830	110	80-120	ug/L	
Fluoranthene	40000	42410	106	80-120	ug/L	
Fluorene	40000	43160	108	80-120	ug/L	
Hexachlorobenzene	40000	41650	104	80-120	ug/L	
Hexachlorobutadiene	40000	43680	109	80-120	ug/L	
Hexachlorocyclopentadiene	40000	44130	110	80-120	ug/L	
Hexachloroethane	40000	43110	108	80-120	ug/L	
Indeno(1,2,3-c,d)Pyrene	40000	42140	105	80-120	ug/L	
Isophorone	40000	42900	107	80-120	ug/L	
2-Methylnaphthalene	40000	43790	109	80-120	ug/L	
2-Methyl phenol	40000	44500	111	80-120	ug/L	
3&4-Methylphenol	40000	44730	112	80-120	ug/L	
Naphthalene	40000	42630	107	80-120	ug/L	
2-Nitroaniline	40000	42600	107	80-120	ug/L	
3-Nitroaniline	40000	44920	112	80-120	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8270 C

Seq Number: 180420 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 10:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
4-Nitroaniline	40000	47010	118	80-120	ug/L	
Nitrobenzene	40000	42330	106	80-120	ug/L	
2-Nitrophenol	40000	43270	108	80-120	ug/L	
4-Nitrophenol	40000	42910	107	80-120	ug/L	
N-Nitrosodi-n-propyl amine	40000	43960	110	80-120	ug/L	
N-Nitrosodiphenylamine	40000	44670	112	80-120	ug/L	
Di-n-octyl phthalate	40000	39410	99	80-120	ug/L	
Pentachlorophenol	40000	42710	107	80-120	ug/L	
Phenanthrene	40000	42920	107	80-120	ug/L	
Phenol	40000	45020	113	80-120	ug/L	
Pyrene	40000	41560	104	80-120	ug/L	
Pyridine	40000	50380	126	80-120	ug/L	X
2,4,5-Trichlorophenol	40000	44090	110	80-120	ug/L	
2,4,6-Trichlorophenol	40000	44940	112	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
2-Fluorobiphenyl	107	80-120	%	
2-Fluorophenol	115	80-120	%	
Nitrobenzene-d5	109	80-120	%	
Phenol-d6	110	80-120	%	
Terphenyl-D14	106	80-120	%	
2,4,6-Tribromophenol	110	80-120	%	

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Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8270 C

Seq Number: 180294 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 12/10/20 09:43

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acenaphthene	40.00	41.89	105	80-120	mg/kg	
Acenaphthylene	40.00	43.53	109	80-120	mg/kg	
Acetophenone	40.00	43.75	109	80-120	mg/kg	
Anthracene	40.00	43.45	109	80-120	mg/kg	
Atrazine	40.00	43.85	110	80-120	mg/kg	
Benzo(a)anthracene	40.00	39.63	99	80-120	mg/kg	
Benzo(a)pyrene	40.00	39.90	100	80-120	mg/kg	
Benzo(b)fluoranthene	40.00	39.49	99	80-120	mg/kg	
Benzo(g,h,i)perylene	40.00	38.82	97	80-120	mg/kg	
Benzo(k)fluoranthene	40.00	39.58	99	80-120	mg/kg	
Biphenyl (Diphenyl)	40.00	43.53	109	80-120	mg/kg	
Butyl benzyl phthalate	40.00	44.01	110	80-120	mg/kg	
bis(2-chloroethoxy) methane	40.00	43.68	109	80-120	mg/kg	
bis(2-chloroethyl) ether	40.00	42.51	106	80-120	mg/kg	
bis(2-chloroisopropyl) ether	40.00	39.01	98	80-120	mg/kg	
bis(2-ethylhexyl) phthalate	40.00	44.14	110	80-120	mg/kg	
4-Bromophenylphenyl ether	40.00	43.46	109	80-120	mg/kg	
Di-n-butyl phthalate	40.00	42.90	107	80-120	mg/kg	
Carbazole	40.00	47.69	119	80-120	mg/kg	
Caprolactam	40.00	45.28	113	80-120	mg/kg	
4-Chloro-3-methyl phenol	40.00	44.06	110	80-120	mg/kg	
4-Chloroaniline	40.00	42.56	106	80-120	mg/kg	
2-Chloronaphthalene	40.00	43.56	109	80-120	mg/kg	
2-Chlorophenol	40.00	44.00	110	80-120	mg/kg	
4-Chlorophenyl Phenyl ether	40.00	42.31	106	80-120	mg/kg	
Chrysene	40.00	42.29	106	80-120	mg/kg	
Dibenz(a,h)Anthracene	40.00	40.33	101	80-120	mg/kg	
Dibenzofuran	40.00	42.54	106	80-120	mg/kg	
3,3-Dichlorobenzidine	40.00	46.65	117	80-120	mg/kg	
2,4-Dichlorophenol	40.00	45.17	113	80-120	mg/kg	
Diethyl phthalate	40.00	42.77	107	80-120	mg/kg	
Dimethyl phthalate	40.00	42.67	107	80-120	mg/kg	
2,4-Dimethylphenol	40.00	43.15	108	80-120	mg/kg	
4,6-Dinitro-2-methyl phenol	40.00	35.86	90	80-120	mg/kg	
2,4-Dinitrophenol	40.00	35.60	89	80-120	mg/kg	
2,4-Dinitrotoluene	40.00	43.10	108	80-120	mg/kg	
2,6-Dinitrotoluene	40.00	43.75	109	80-120	mg/kg	
Fluoranthene	40.00	43.25	108	80-120	mg/kg	
Fluorene	40.00	43.23	108	80-120	mg/kg	
Hexachlorobenzene	40.00	41.76	104	80-120	mg/kg	
Hexachlorobutadiene	40.00	43.67	109	80-120	mg/kg	
Hexachlorocyclopentadiene	40.00	40.24	101	80-120	mg/kg	
Hexachloroethane	40.00	42.63	107	80-120	mg/kg	
Indeno(1,2,3-c,d)Pyrene	40.00	40.21	101	80-120	mg/kg	
Isophorone	40.00	43.78	109	80-120	mg/kg	
2-Methylnaphthalene	40.00	43.40	109	80-120	mg/kg	
2-Methyl phenol	40.00	43.93	110	80-120	mg/kg	
3&4-Methylphenol	40.00	44.33	111	80-120	mg/kg	
Naphthalene	40.00	42.59	106	80-120	mg/kg	
2-Nitroaniline	40.00	42.84	107	80-120	mg/kg	
3-Nitroaniline	40.00	44.56	111	80-120	mg/kg	

Analytical Method: SW-846 8270 C

Seq Number: 180294 Matrix: Solid

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 12/10/20 09:43

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
4-Nitroaniline	40.00	49.21	123	80-120	mg/kg	H
Nitrobenzene	40.00	42.88	107	80-120	mg/kg	
2-Nitrophenol	40.00	41.51	104	80-120	mg/kg	
4-Nitrophenol	40.00	42.36	106	80-120	mg/kg	
N-Nitrosodi-n-propyl amine	40.00	43.01	108	80-120	mg/kg	
N-Nitrosodiphenylamine	40.00	44.39	111	80-120	mg/kg	
Di-n-octyl phthalate	40.00	40.55	101	80-120	mg/kg	
Pentachlorophenol	40.00	43.54	109	80-120	mg/kg	
Phenanthrene	40.00	41.98	105	80-120	mg/kg	
Phenol	40.00	43.76	109	80-120	mg/kg	
Pyrene	40.00	43.79	109	80-120	mg/kg	
Pyridine	40.00	45.45	114	80-120	mg/kg	
2,4,5-Trichlorophenol	40.00	44.14	110	80-120	mg/kg	
2,4,6-Trichlorophenol	40.00	44.04	110	80-120	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
2-Fluorobiphenyl	108	80-120	%	
2-Fluorophenol	115	80-120	%	
Nitrobenzene-d5	110	80-120	%	
Phenol-d6	109	80-120	%	
Terphenyl-D14	108	80-120	%	
2,4,6-Tribromophenol	107	80-120	%	

Analytical Method: SW-846 8015C GRO

Seq Number: 180493 Matrix: Water

CCV Sample Id: CCV, GRO-1 Analyzed Date: 12/17/20 12:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organics	5000	4721	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	101	80-120	%	

Analytical Method: SW-846 8015C GRO

Seq Number: 180493 Matrix: Water

CCV Sample Id: CCV, GRO-2 Analyzed Date: 12/18/20 00:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organics	5000	4429	89	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	98	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8015C GRO
Seq Number: 180659 Matrix: Water
CCV Sample Id: CCV, GRO-1 Analyzed Date: 12/23/20 10:07

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organics	5000	4650	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	101	80-120	%	

Analytical Method: SW-846 8015C GRO
Seq Number: 180659 Matrix: Water
CCV Sample Id: CCV, GRO-2 Analyzed Date: 12/23/20 21:12

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organics	5000	4266	85	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	97	80-120	%	

Analytical Method: SW-846 8021B
Seq Number: 178752 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 10/13/20 19:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organics	5000	5219	104	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	122	80-120	%	*

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Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8260 B

Seq Number: 180465 Matrix: Solid

CCV Sample Id: CCV-01 Analyzed Date: 12/17/20 10:32

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	0.06000	0.05779	96	80-120	mg/kg	
Benzene	0.06000	0.05827	97	80-120	mg/kg	
Bromochloromethane	0.06000	0.06188	103	80-120	mg/kg	
Bromodichloromethane	0.06000	0.05884	98	80-120	mg/kg	
Bromoform	0.06000	0.06267	104	80-120	mg/kg	
Bromomethane	0.06000	0.06835	114	80-120	mg/kg	
2-Butanone (MEK)	0.06000	0.05017	84	80-120	mg/kg	
Carbon Disulfide	0.06000	0.05918	99	80-120	mg/kg	
Carbon tetrachloride	0.06000	0.06051	101	80-120	mg/kg	
Chlorobenzene	0.06000	0.05881	98	80-120	mg/kg	
Chloroethane	0.06000	0.05526	92	80-120	mg/kg	
Chloroform	0.06000	0.06013	100	80-120	mg/kg	
Chloromethane	0.06000	0.05002	83	80-120	mg/kg	
Cyclohexane	0.06000	0.05755	96	80-120	mg/kg	
1,2-Dibromo-3-chloropropane	0.06000	0.05739	96	80-120	mg/kg	
Dibromochloromethane	0.06000	0.06060	101	80-120	mg/kg	
1,2-Dibromoethane	0.06000	0.05910	99	80-120	mg/kg	
1,2-Dichlorobenzene	0.06000	0.06132	102	80-120	mg/kg	
1,3-Dichlorobenzene	0.06000	0.06008	100	80-120	mg/kg	
1,4-Dichlorobenzene	0.06000	0.06112	102	80-120	mg/kg	
Dichlorodifluoromethane	0.06000	0.05136	86	80-120	mg/kg	
1,1-Dichloroethane	0.06000	0.05652	94	80-120	mg/kg	
1,2-Dichloroethane	0.06000	0.05728	95	80-120	mg/kg	
1,1-Dichloroethene	0.06000	0.06040	101	80-120	mg/kg	
1,2-Dichloropropane	0.06000	0.05577	93	80-120	mg/kg	
cis-1,2-Dichloroethene	0.06000	0.06044	101	80-120	mg/kg	
cis-1,3-Dichloropropene	0.06000	0.05693	95	80-120	mg/kg	
trans-1,2-Dichloroethene	0.06000	0.06005	100	80-120	mg/kg	
trans-1,3-Dichloropropene	0.06000	0.05661	94	80-120	mg/kg	
Ethylbenzene	0.06000	0.05950	99	80-120	mg/kg	
2-Hexanone (MBK)	0.06000	0.04921	82	80-120	mg/kg	
Isopropylbenzene	0.06000	0.05946	99	80-120	mg/kg	
Methyl Acetate	0.06000	0.05848	97	80-120	mg/kg	
Methylcyclohexane	0.06000	0.05990	100	80-120	mg/kg	
Methylene chloride	0.06000	0.06212	104	80-120	mg/kg	
4-Methyl-2-Pentanone (MIBK)	0.06000	0.04943	82	80-120	mg/kg	
Methyl-t-Butyl Ether	0.06000	0.04137	69	80-120	mg/kg	X
Naphthalene	0.06000	0.05914	99	80-120	mg/kg	
Styrene	0.06000	0.06082	101	80-120	mg/kg	
1,1,2,2-Tetrachloroethane	0.06000	0.05856	98	80-120	mg/kg	
Tetrachloroethene	0.06000	0.06296	105	80-120	mg/kg	
Toluene	0.06000	0.05987	100	80-120	mg/kg	
1,2,3-Trichlorobenzene	0.06000	0.06497	108	80-120	mg/kg	
1,2,4-Trichlorobenzene	0.06000	0.06554	109	80-120	mg/kg	
1,1,1-Trichloroethane	0.06000	0.05867	98	80-120	mg/kg	
1,1,2-Trichloroethane	0.06000	0.05947	99	80-120	mg/kg	
Trichloroethene	0.06000	0.05982	100	80-120	mg/kg	
Trichlorofluoromethane	0.06000	0.05877	98	80-120	mg/kg	
1,1,2-Trichlorotrifluoroethane	0.06000	0.06057	101	80-120	mg/kg	
1,2,4-Trimethylbenzene	0.06000	0.05998	100	80-120	mg/kg	
1,3,5-Trimethylbenzene	0.06000	0.05911	99	80-120	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8260 B

Seq Number: 180465 Matrix: Solid

CCV Sample Id: CCV-01 Analyzed Date: 12/17/20 10:32

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Vinyl chloride	0.06000	0.05968	99	80-120	mg/kg	
m&p-Xylene	0.1200	0.1184	99	80-120	mg/kg	
o-Xylene	0.06000	0.06018	100	80-120	mg/kg	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	96	80-120	%	
Dibromofluoromethane	101	80-120	%	
Toluene-D8	98	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8260 B

Seq Number: 179936 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 11/25/20 09:27

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	60.00	66.07	110	75-125	ug/L	
Benzene	60.00	59.88	100	75-125	ug/L	
Bromochloromethane	60.00	59.97	100	75-125	ug/L	
Bromodichloromethane	60.00	60.80	101	75-125	ug/L	
Bromoform	60.00	63.17	105	75-125	ug/L	
Bromomethane	60.00	62.27	104	75-125	ug/L	
2-Butanone (MEK)	60.00	58.02	97	75-125	ug/L	
Carbon Disulfide	60.00	60.63	101	75-125	ug/L	
Carbon tetrachloride	60.00	60.31	101	75-125	ug/L	
Chlorobenzene	60.00	60.01	100	75-125	ug/L	
Chloroethane	60.00	58.27	97	75-125	ug/L	
Chloroform	60.00	59.85	100	75-125	ug/L	
Chloromethane	60.00	63.05	105	75-125	ug/L	
Cyclohexane	60.00	59.66	99	75-125	ug/L	
1,2-Dibromo-3-chloropropane	60.00	62.24	104	75-125	ug/L	
Dibromochloromethane	60.00	61.55	103	75-125	ug/L	
1,2-Dibromoethane	60.00	60.58	101	75-125	ug/L	
1,2-Dichlorobenzene	60.00	58.89	98	75-125	ug/L	
1,3-Dichlorobenzene	60.00	58.16	97	75-125	ug/L	
Dichlorodifluoromethane	60.00	59.89	100	75-125	ug/L	
1,4-Dichlorobenzene	60.00	59.35	99	75-125	ug/L	
1,1-Dichloroethane	60.00	60.13	100	75-125	ug/L	
1,2-Dichloroethane	60.00	58.76	98	75-125	ug/L	
cis-1,2-Dichloroethene	60.00	59.35	99	75-125	ug/L	
1,1-Dichloroethene	60.00	59.79	100	75-125	ug/L	
1,2-Dichloropropane	60.00	60.82	101	75-125	ug/L	
cis-1,3-Dichloropropene	60.00	62.85	105	75-125	ug/L	
trans-1,3-Dichloropropene	60.00	63.75	106	75-125	ug/L	
trans-1,2-Dichloroethene	60.00	59.91	100	75-125	ug/L	
Ethylbenzene	60.00	60.56	101	75-125	ug/L	
2-Hexanone (MBK)	60.00	60.55	101	75-125	ug/L	
Isopropylbenzene	60.00	56.51	94	75-125	ug/L	
Methyl Acetate	60.00	61.10	102	75-125	ug/L	
Methylcyclohexane	60.00	59.59	99	75-125	ug/L	
Methylene chloride	60.00	65.81	110	75-125	ug/L	
4-Methyl-2-Pentanone (MIBK)	60.00	60.62	101	75-125	ug/L	
Methyl-t-Butyl Ether	60.00	66.19	110	75-125	ug/L	
Naphthalene	60.00	63.99	107	75-125	ug/L	
Styrene	60.00	61.39	102	75-125	ug/L	
1,1,2,2-Tetrachloroethane	60.00	56.91	95	75-125	ug/L	
Tetrachloroethene	60.00	58.16	97	75-125	ug/L	
Toluene	60.00	59.83	100	75-125	ug/L	
1,2,3-Trichlorobenzene	60.00	68.40	114	75-125	ug/L	
1,2,4-Trichlorobenzene	60.00	67.49	112	75-125	ug/L	
1,1,1-Trichloroethane	60.00	60.81	101	75-125	ug/L	
Trichloroethene	60.00	59.34	99	75-125	ug/L	
1,1,2-Trichloroethane	60.00	59.41	99	75-125	ug/L	
Trichlorofluoromethane	60.00	58.82	98	75-125	ug/L	
1,1,2-Trichlorotrifluoroethane	60.00	59.34	99	75-125	ug/L	
1,2,4-Trimethylbenzene	60.00	58.81	98	75-125	ug/L	
1,3,5-Trimethylbenzene	60.00	57.71	96	75-125	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121018

Analytical Method: SW-846 8260 B

Seq Number: 179936 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 11/25/20 09:27

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Vinyl chloride	60.00	58.07	97	75-125	ug/L	
m&p-Xylene	120	121.8	102	75-125	ug/L	
o-Xylene	60.00	60.63	101	75-125	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	97	75-125	%	
Dibromofluoromethane	100	75-125	%	
Toluene-D8	99	75-125	%	

X = Recovery outside of QC Criteria

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20121018

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.02
Project Name: Conowingo
Samplers: Wesley Irons / S. Bedosky
Project Location: Conowingo
Field Logbook No: NA
Date: 12/9/20
Serial No: 1 of 3

	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	MS/MSD	TOC		Full Suite			HOLD	RUSH	REMARKS
1	A3 34.2'-36.2'	12/8/20	1635		1	Soil	X	X							
2	A3 41.6'-43.4'	12/8/20	1647		1	Soil	X	X							
3	A3 44.6'-47.4'	12/8/20	1719		1	Soil	X	X							
4	C4 24.9'-26.4'	12/9/20	0905		1	Soil	X	X							
5	C4 26.4'-28.0'	12/9/20	0907		1	Soil	X	X							
6	C4 28.4'-31.9'	12/9/20	1110		9	Soil	X	X	→	X					* Full suite except VOC see email Attached
7	C4 36.4'-38.0'	12/9/20	1115		2	Soil	X	X							
8	C4 41.4'-43.0'	12/9/20	1243		2	Soil	X	X							
9	C4 44.6-48.0	12/9/20	1250		2	Soil	X	X							
10	C4 48.0'-53.0	12/9/20	1305		2	Soil	X	X							
11	C4 53.4'-55.5'	12/9/20	1358		2	Soil	X	X							
12	C4 53.5'-58.0'	12/9/20	1402		2	Soil	X	X							
13	C3 30.6'-35.5'	12/9/20	1524		9	Soil	X	X	→	X					
14	C3 29.3'-30.5'	12/9/20	1545		2	Soil	X	X							
15	C3 38.2'-40.5'	12/9/20	1626		2	Soil	X	X							

# of Coolers: 3
Custody Seal: ABS
Ice Present: PRES
Shipping Carrier: CLW
Temp: 1.8-2.1°C

Relinquished by: (Signature)	Date: 12/10/20	Time: 1640	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Method of Shipment:	Date:	Time:	Lab Comments:

Received by: Date: 12/10/20 Time: 1640
Received by: Date: Time:
Received by: Date: Time:

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: Phase Separation

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20121018

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037-2 Project Location: Conowingo Date: 12/10/20

Project Name: Conowingo Field Logbook No: n/a Serial No: 2 of 3

Samplers: Wesley Irons / S. Bedosky

	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	Metals	TOC	VOC		Full suite		HOLD	RUSH	REMARKS
16	C3 40.5'-41.8'	12/9/20	1638		2	Soil	X	X							
17	C3 47.7'	12/9/20	1705		1	Soil			X						
18	C3 46.7'-50.5'	12/9/20	1705		2	Soil	X	X							
19	D3 24.4'-25.9'	12/9/20	1740		2	Soil	X	X							
20	D3 26.2'-30.9'	12/9/20	1810		9	Soil	X	X	→		X				* Full suite except VOC see email Attached
21	D3 32.5'-35.9'	12/9/20	1840		2	Soil	X	X							
~~22~~	~~D3 36.1-40.9~~	12/10/20	0750		2	Soil	X	X			# of Coolers:		3		
23	D3 40.9-45.9	12/10/20	0810		2	Soil	X	X			Custody Seal:		498		
24	D3 45.9-50.9	12/10/20	0820		2	Soil	X	X			Ice Present:		PRES		Temp: 1.8-3.5°C
25	D3 50.9-53.2	12/10/20	0835		2	Soil	X	X			Shipping Carrier:		Client		
26	C5 22.1-26.7	12/10/20	1000		9	Soil	X	X	→		X				* Full suite except VOC see Email Attached
27	C5 29.4-31.7	12/10/20	1040		2	Soil	X	X							
28	C5 34.0-36.7	12/10/20	1050		2	Soil	X	X							
29	C5 36.7-41.7	12/10/20	1140		9	Soil	X	X	→		X				* Full suite except VOC see email attached
30	C5 43.5-46.3	12/10/20	12:30		2	Soil	X	X							

D3 36.1-40.9 12/9/20 1638

Relinquished by: (Signature)	Date: 12/10/20	Time: 1640	Received by: (Signature)	Date: 12/10/20 Time: 1640
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date: Time:
Method of Shipment:	Date:	Time:	Lab Comments:	

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
Frederick, MD 21701
(850) 508-5313

Analytical Laboratory: Phase Separations

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environmental management, inc.

20121018

CHAIN OF CUSTODY / ANALYSIS REQUEST FORM

Project No: 3037.2 Project Location: Conowingo Date: 12/10/20

Project Name: Conowingo Field Logbook No: N/A Serial No: 3 of 3

Samplers: Wesley Irons / S. Bedosky

	SAMPLES						ANALYSES								REMARKS
	Sample No.	Date	Time	Lab Sample No.	No. of Containers	Sample Type	Metals	TOC	VOC		Full Suite		HOLD	RUSH	
31	CS 49.0-49.9	12/10/20	1257		2	Soil	X	X							
32	BS 27.0	12/10/20	1350		1	Soil			X						
33	BS 30.0-35.4	12/10/20	1450		2	Soil	X	X							
34	BS 24.4-25.4	12/10/20	1523		2	Soil	X	X							
35	BS 29.4-30.9	12/10/20	1535		2	Soil	X	X							
36	BS 35.4-40.4	12/10/20	1555		9	Soil					X				* Full suite except VOC see Email Attached

# of Coolers: 3
Custody Seal: Any
Ice Present: YES Temp: 1.8°-2.1°C
Shipping Carrier: Client

Relinquished by: (Signature)	Date: 12/10/20	Time: 1610	Received by: (Signature)	Date: 12/10/20	Time: 1640
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Method of Shipment:	Date:	Time:	Lab Comments:		

Sample Collector: Northgate Environmental Management, Inc.
47 East All Saints Street
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(850) 508-5313

Analytical Laboratory: Phase Separation

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Sample Receipt Checklist

Project Name: Conowingo
PSS Project No.: 20121018

Client Name	Northgate Environmental Manageme	**Received By**	Thomas Wingate
Disposal Date	01/14/2021	**Date Received**	12/10/2020 04:40:00 PM
		Delivered By	Client
		Tracking No	Not Applicable
		Logged In By	Thomas Wingate

Shipping Container(s)
No. of Coolers 3

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	2.1
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	Wesley Irons, S.Bedosky
COC agrees with sample labels?	Yes	MD DW Cert. No.	N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Holding Time

		Total No. of Samples Received	36
All Samples Received Within Holding Time(s)?	Yes	Total No. of Containers Received	118

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

2oz sample jar split from samples 001-005 for TOC analysis.
Per client, sample ID for 022 is D3 36.1-40.9.

Samples Inspected/Checklist Completed By: LYJackson
Lynn Jackson
Date: 12/11/2020

PM Review and Approval: LYJackson
Lynn Jackson
Date: 01/19/2021

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121125

March 24, 2021

Nancy Leitner
Northgate Environmental Management, Inc.
47 East All Saints St.
Frederick, MD 21701

Reference: PSS Project No: **20121125**
Project Name: Conowingo
Project Location: Conowingo
Project ID.: 3037.2

Dear Nancy Leitner:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **20121125**. This report has been revised to update sample IDs for 015 and 025; chain of custodies; and report manganese per client request. This report version includes revised sample results. This report cancels and supersedes report version 1.003 dated February 8, 2021.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 15, 2021, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Dan Prucnal
Laboratory Manager

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Explanation of Qualifiers

Project Name: Conowingo
PSS Project No.: 20121125

Project ID: 3037.2

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/11/2020 at 04:42 pm

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
20121125-001	B5 40.4-45.4	SOIL	12/10/20 17:03
20121125-002	B5 45.4-50.4	SOIL	12/10/20 17:03
20121125-003	B5 50.4-51.9	SOIL	12/10/20 17:03
20121125-004	B6 41.0-45.3	SOIL	12/10/20 18:30
20121125-005	B6 46.6-48.5	SOIL	12/10/20 19:15
20121125-006	B6 48.5-50.3	SOIL	12/10/20 19:18
20121125-007	C7 29.3-30.0	SOIL	12/11/20 08:08
20121125-008	C7 30.0-30.8	SOIL	12/11/20 08:17
20121125-009	B5 51.9-54.1	SOIL	12/10/20 17:03
20121125-010	C6 27.2-28.3	SOIL	12/11/20 15:45
20121125-011	C7 33.9-35.8	SOIL	12/11/20 08:50
20121125-012	C7 36.5-37.3	SOIL	12/11/20 09:24
20121125-013	C7 37.3-38.7	SOIL	12/11/20 09:33
20121125-014	C7 38.7-40.8	SOIL	12/11/20 09:42
20121125-015	C7 41.7-43.4	SOIL	12/11/20 09:55
20121125-016	C7 43.4-45.8	SOIL	12/11/20 10:10
20121125-017	C7 46.3-50.8	SOIL	12/11/20 10:40
20121125-018	C7 53.2-55.3	SOIL	12/11/20 11:05
20121125-019	C7 55.8-58.3	SOIL	12/11/20 11:35
20121125-020	C7 58.3-60.8	SOIL	12/11/20 11:37
20121125-021	C7 60.8-65.8	SOIL	12/11/20 11:54
20121125-022	C7 67.0	SOIL	12/11/20 12:27
20121125-023	C7 65.8-68.8	SOIL	12/11/20 11:25
20121125-024	C7 68.8-70.8	SOIL	12/11/20 11:22
20121125-025	C7 70.8-71.9	SOIL	12/11/20 13:05
20121125-026	C6 19.7-20.1	SOIL	12/11/20 14:35
20121125-027	C6 20.1-20.8	SOIL	12/11/20 14:37
20121125-028	C6 19.7	SOIL	12/11/20 14:30
20121125-029	C6 21.8-23.4	SOIL	12/11/20 15:11
20121125-030	C6 23.4-26.1	SOIL	12/11/20 15:23

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

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Explanation of Qualifiers

Project Name: Conowingo

PSS Project No.: 20121125

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 40.4-45.4 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-001**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 59.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.62**	mg/kg	3.5	J	1	0.33	12/22/20	12/23/20 17:11	1064
Arsenic	**17**	mg/kg	0.71		1	0.078	12/22/20	12/28/20 17:49	1064
Beryllium	**4.6**	mg/kg	0.71		1	0.18	12/22/20	12/28/20 17:49	1064
Cadmium	**3.7**	mg/kg	0.71		1	0.071	12/22/20	12/23/20 17:11	1064
Chromium	**67**	mg/kg	0.71		1	0.39	12/22/20	12/23/20 17:11	1064
Copper	**110**	mg/kg	0.71		1	0.22	12/22/20	12/28/20 17:49	1064
Lead	**81**	mg/kg	0.71		1	0.3	12/22/20	12/28/20 17:49	1064
Manganese	**2,100**	mg/kg	0.71	E	1	0.6	12/22/20	12/23/20 17:11	1064
Mercury	**0.50**	mg/kg	0.14		1	0.052	12/22/20	12/23/20 17:11	1064
Nickel	**110**	mg/kg	0.71		1	0.25	12/22/20	12/28/20 17:49	1064
Selenium	**2.9**	mg/kg	0.71		1	0.071	12/22/20	12/23/20 17:11	1064
Silver	**4.8**	mg/kg	0.71		1	0.078	12/22/20	12/23/20 17:11	1064
Thallium	**0.69**	mg/kg	0.71	J	1	0.18	12/22/20	12/23/20 17:11	1064
Zinc	**700**	mg/kg	14		1	0.78	12/22/20	12/28/20 17:49	1064

Sample ID: B5 45.4-50.4 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-002**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 57.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.90**	mg/kg	2.9	J	1	0.27	12/22/20	12/23/20 18:07	1064
Arsenic	**18**	mg/kg	0.58		1	0.064	12/22/20	12/28/20 17:54	1064
Beryllium	**4.5**	mg/kg	0.58		1	0.15	12/22/20	12/28/20 17:54	1064
Cadmium	**2.8**	mg/kg	0.58		1	0.058	12/22/20	12/23/20 18:07	1064
Chromium	**58**	mg/kg	0.58		1	0.32	12/22/20	12/23/20 18:07	1064
Copper	**110**	mg/kg	0.58		1	0.18	12/22/20	12/28/20 17:54	1064
Lead	**80**	mg/kg	0.58		1	0.24	12/22/20	12/28/20 17:54	1064
Manganese	**1,500**	mg/kg	0.58	E	1	0.49	12/22/20	12/23/20 18:07	1064
Mercury	**0.55**	mg/kg	0.12		1	0.042	12/22/20	12/23/20 18:07	1064
Nickel	**87**	mg/kg	0.58		1	0.2	12/22/20	12/28/20 17:54	1064
Selenium	**2.8**	mg/kg	0.58		1	0.058	12/22/20	12/23/20 18:07	1064
Silver	**4.5**	mg/kg	0.58		1	0.064	12/22/20	12/23/20 18:07	1064
Thallium	**0.36**	mg/kg	0.58	J	1	0.15	12/22/20	12/23/20 18:07	1064
Zinc	**620**	mg/kg	12		1	0.64	12/22/20	12/28/20 17:54	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 50.4-51.9 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-003**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 60.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.45**	mg/kg	3.0	J	1	0.27	12/22/20	12/23/20 18:12	1064
Arsenic	**14**	mg/kg	0.60		1	0.066	12/22/20	12/28/20 17:58	1064
Beryllium	**2.6**	mg/kg	0.60		1	0.15	12/22/20	12/28/20 17:58	1064
Cadmium	**0.83**	mg/kg	0.60		1	0.06	12/22/20	12/23/20 18:12	1064
Chromium	**38**	mg/kg	0.60		1	0.33	12/22/20	12/23/20 18:12	1064
Copper	**70**	mg/kg	0.60		1	0.18	12/22/20	12/28/20 17:58	1064
Lead	**55**	mg/kg	0.60		1	0.25	12/22/20	12/28/20 17:58	1064
Manganese	**1,300**	mg/kg	0.60	E	1	0.5	12/22/20	12/23/20 18:12	1064
Mercury	**0.43**	mg/kg	0.12		1	0.043	12/22/20	12/23/20 18:12	1064
Nickel	**57**	mg/kg	0.60		1	0.21	12/22/20	12/28/20 17:58	1064
Selenium	**3.2**	mg/kg	0.60		1	0.06	12/22/20	12/23/20 18:12	1064
Silver	**0.63**	mg/kg	0.60		1	0.066	12/22/20	12/23/20 18:12	1064
Thallium	**0.28**	mg/kg	0.60	J	1	0.15	12/22/20	12/23/20 18:12	1064
Zinc	**280**	mg/kg	12		1	0.66	12/22/20	12/28/20 17:58	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B6 41.0-45.3 **Date/Time Sampled: 12/10/2020 18:30** **PSS Sample ID: 20121125-004**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.6**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	69		1	18	12/14/20	12/14/20 16:15	1059

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**31**	mg/kg	2.7		1	0.82	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**220**	mg/kg	82		10	41	12/15/20	12/15/20 17:44	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	13		1	3.9	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B6 41.0-45.3 **Date/Time Sampled: 12/10/2020 18:30** **PSS Sample ID: 20121125-004**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.6**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.37**	mg/kg	2.4	J	1	0.22	12/22/20	12/23/20 18:17	1064
Arsenic	**5.1**	mg/kg	0.48		1	0.053	12/22/20	12/28/20 18:03	1064
Beryllium	**0.98**	mg/kg	0.48		1	0.12	12/22/20	12/28/20 18:03	1064
Cadmium	**0.30**	mg/kg	0.48	J	1	0.048	12/22/20	12/23/20 18:17	1064
Chromium	**6.9**	mg/kg	0.48		1	0.27	12/22/20	12/23/20 18:17	1064
Copper	**27**	mg/kg	0.48		1	0.15	12/22/20	12/28/20 18:03	1064
Lead	**18**	mg/kg	0.48		1	0.2	12/22/20	12/28/20 18:03	1064
Manganese	**450**	mg/kg	0.48		1	0.41	12/22/20	12/23/20 18:17	1064
Mercury	**0.14**	mg/kg	0.097		1	0.035	12/22/20	12/23/20 18:17	1064
Nickel	**24**	mg/kg	0.48		1	0.17	12/22/20	12/28/20 18:03	1064
Selenium	**2.1**	mg/kg	0.48		1	0.048	12/22/20	12/23/20 18:17	1064
Silver	**0.16**	mg/kg	0.48	J	1	0.053	12/22/20	12/23/20 18:17	1064
Thallium	ND	mg/kg	0.48		1	0.13	12/22/20	12/23/20 18:17	1064
Zinc	**93**	mg/kg	9.7		1	0.53	12/22/20	12/28/20 18:03	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.3		1	1.3	12/14/20	12/15/20 14:26	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

Qualifier(s): See Batch 180438 on Case Narrative.

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**34**	mg/kg	4.5	DF	1	4.5	12/15/20	12/16/20 13:55	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*107*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 13:55*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B6 41.0-45.3 **Date/Time Sampled: 12/10/2020 18:30** **PSS Sample ID: 20121125-004**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.6**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
beta-BHC	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
delta-BHC	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Heptachlor	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Aldrin	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Heptachlor epoxide	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
gamma-Chlordane	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
alpha-Chlordane	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
4,4-DDE	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Endosulfan I	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Dieldrin	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Endrin	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
4,4-DDD	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Endosulfan II	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
4,4-DDT	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Endrin aldehyde	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Methoxychlor	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Endosulfan sulfate	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Endrin ketone	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 14:38	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 14:38	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 14:38	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*88*	*%*	*39-151*	*1*	*12/15/20*	*12/16/20 14:38*	*1029*
Tetrachloro-m-xylene	*74*	*%*	*44-152*	*1*	*12/15/20*	*12/16/20 14:38*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 19:06	1029
PCB-1221	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 19:06	1029
PCB-1232	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 19:06	1029
PCB-1242	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 19:06	1029
PCB-1248	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 19:06	1029

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B6 41.0-45.3 **Date/Time Sampled: 12/10/2020 18:30** **PSS Sample ID: 20121125-004**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.6**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 19:06	1029
PCB-1260	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 19:06	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*108*	*%*	*40-149*		*1*		*12/15/20*	*12/17/20 19:06*	*1029*
Tetrachloro-m-xylene	*82*	*%*	*34-117*		*1*		*12/15/20*	*12/17/20 19:06*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Acenaphthylene	**0.024**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Acetophenone	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Anthracene	**0.035**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Atrazine	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
Benzo(a)anthracene	**0.084**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Benzo(a)pyrene	**0.076**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Benzo(b)fluoranthene	**0.048**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Benzo(g,h,i)perylene	**0.042**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Benzo(k)fluoranthene	**0.060**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Butyl benzyl phthalate	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Di-n-butyl phthalate	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Carbazole	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Caprolactam	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
4-Chloroaniline	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2-Chloronaphthalene	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2-Chlorophenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B6 41.0-45.3 **Date/Time Sampled: 12/10/2020 18:30** **PSS Sample ID: 20121125-004**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.086**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Dibenz(a,h)Anthracene	**0.016**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Dibenzofuran	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2,4-Dichlorophenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Diethyl phthalate	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Dimethyl phthalate	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2,4-Dimethylphenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.22		1	0.22	12/17/20	12/18/20 23:10	1059
2,4-Dinitrophenol	ND	mg/kg	0.22		1	0.22	12/17/20	12/18/20 23:10	1059
2,4-Dinitrotoluene	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
2,6-Dinitrotoluene	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
Fluoranthene	**0.15**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Fluorene	**0.018**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Hexachlorobenzene	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Hexachlorobutadiene	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
Hexachloroethane	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Indeno(1,2,3-c,d)Pyrene	**0.043**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Isophorone	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2-Methylnaphthalene	**0.034**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
2-Methyl phenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
3&4-Methylphenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Naphthalene	**0.066**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
2-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
3-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
4-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
Nitrobenzene	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2-Nitrophenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
4-Nitrophenol	ND	mg/kg	0.22		1	0.22	12/17/20	12/18/20 23:10	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Di-n-octyl phthalate	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
Pentachlorophenol	ND	mg/kg	0.090		1	0.09	12/17/20	12/18/20 23:10	1059
Phenanthrene	**0.089**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B6 41.0-45.3 **Date/Time Sampled: 12/10/2020 18:30** **PSS Sample ID: 20121125-004**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.6**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
Pyrene	**0.15**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:10	1059
Pyridine	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.045		1	0.045	12/17/20	12/18/20 23:10	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*87*	*%*	*50-104*	*1*	*12/17/20*	*12/18/20 23:10*	*1059*
2-Fluorophenol	*86*	*%*	*40-109*	*1*	*12/17/20*	*12/18/20 23:10*	*1059*
Nitrobenzene-d5	*87*	*%*	*41-101*	*1*	*12/17/20*	*12/18/20 23:10*	*1059*
Phenol-d6	*80*	*%*	*44-102*	*1*	*12/17/20*	*12/18/20 23:10*	*1059*
Terphenyl-D14	*99*	*%*	*70-115*	*1*	*12/17/20*	*12/18/20 23:10*	*1059*
2,4,6-Tribromophenol	*92*	*%*	*36-123*	*1*	*12/17/20*	*12/18/20 23:10*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.15**	mg/kg	0.085		1	0.042	12/17/20	12/17/20 16:56	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B6 46.6-48.5 **Date/Time Sampled: 12/10/2020 19:15** **PSS Sample ID: 20121125-005**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 56.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.47**	mg/kg	3.4	J	1	0.32	12/22/20	12/23/20 18:22	1064
Arsenic	**15**	mg/kg	0.69		1	0.075	12/22/20	12/28/20 18:36	1064
Beryllium	**3.4**	mg/kg	0.69		1	0.17	12/22/20	12/28/20 18:36	1064
Cadmium	**2.7**	mg/kg	0.69		1	0.069	12/22/20	12/23/20 18:22	1064
Chromium	**53**	mg/kg	0.69		1	0.38	12/22/20	12/23/20 18:22	1064
Copper	**90**	mg/kg	0.69		1	0.21	12/22/20	12/28/20 18:36	1064
Lead	**66**	mg/kg	0.69		1	0.29	12/22/20	12/28/20 18:36	1064
Manganese	**1,600**	mg/kg	0.69	E	1	0.58	12/22/20	12/23/20 18:22	1064
Mercury	**0.45**	mg/kg	0.14		1	0.05	12/22/20	12/23/20 18:22	1064
Nickel	**90**	mg/kg	0.69		1	0.24	12/22/20	12/28/20 18:36	1064
Selenium	**2.4**	mg/kg	0.69		1	0.069	12/22/20	12/23/20 18:22	1064
Silver	**3.2**	mg/kg	0.69		1	0.075	12/22/20	12/23/20 18:22	1064
Thallium	**0.31**	mg/kg	0.69	J	1	0.18	12/22/20	12/23/20 18:22	1064
Zinc	**550**	mg/kg	14		1	0.75	12/22/20	12/28/20 18:36	1064

Sample ID: B6 48.5-50.3 **Date/Time Sampled: 12/10/2020 19:18** **PSS Sample ID: 20121125-006**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 58.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.59**	mg/kg	3.4	J	1	0.31	12/22/20	12/23/20 18:26	1064
Arsenic	**20**	mg/kg	0.67		1	0.074	12/22/20	12/28/20 18:41	1064
Beryllium	**3.5**	mg/kg	0.67		1	0.17	12/22/20	12/28/20 18:41	1064
Cadmium	**1.4**	mg/kg	0.67		1	0.067	12/22/20	12/23/20 18:26	1064
Chromium	**45**	mg/kg	0.67		1	0.37	12/22/20	12/23/20 18:26	1064
Copper	**95**	mg/kg	0.67		1	0.21	12/22/20	12/28/20 18:41	1064
Lead	**73**	mg/kg	0.67		1	0.28	12/22/20	12/28/20 18:41	1064
Manganese	**1,500**	mg/kg	0.67	E	1	0.56	12/22/20	12/23/20 18:26	1064
Mercury	**0.41**	mg/kg	0.13		1	0.049	12/22/20	12/23/20 18:26	1064
Nickel	**88**	mg/kg	0.67		1	0.23	12/22/20	12/28/20 18:41	1064
Selenium	**4.5**	mg/kg	0.67		1	0.067	12/22/20	12/23/20 18:26	1064
Silver	**1.6**	mg/kg	0.67		1	0.074	12/22/20	12/23/20 18:26	1064
Thallium	**0.38**	mg/kg	0.67	J	1	0.17	12/22/20	12/23/20 18:26	1064
Zinc	**450**	mg/kg	13		1	0.74	12/22/20	12/28/20 18:41	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 29.3-30.0 **Date/Time Sampled: 12/11/2020 08:08** **PSS Sample ID: 20121125-007**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 46.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.6		1	0.33	12/22/20	12/23/20 18:31	1064
Arsenic	**12**	mg/kg	0.72		1	0.079	12/22/20	12/28/20 18:46	1064
Beryllium	**2.0**	mg/kg	0.72		1	0.18	12/22/20	12/28/20 18:46	1064
Cadmium	**0.73**	mg/kg	0.72		1	0.072	12/22/20	12/23/20 18:31	1064
Chromium	**30**	mg/kg	0.72		1	0.39	12/22/20	12/23/20 18:31	1064
Copper	**41**	mg/kg	0.72		1	0.22	12/22/20	12/28/20 18:46	1064
Lead	**36**	mg/kg	0.72		1	0.3	12/22/20	12/28/20 18:46	1064
Manganese	**2,100**	mg/kg	0.72	E	1	0.6	12/22/20	12/23/20 18:31	1064
Mercury	**0.12**	mg/kg	0.14	J	1	0.052	12/22/20	12/23/20 18:31	1064
Nickel	**62**	mg/kg	0.72		1	0.25	12/22/20	12/28/20 18:46	1064
Selenium	**0.87**	mg/kg	0.72		1	0.072	12/22/20	12/23/20 18:31	1064
Silver	**0.35**	mg/kg	0.72	J	1	0.079	12/22/20	12/23/20 18:31	1064
Thallium	**0.25**	mg/kg	0.72	J	1	0.19	12/22/20	12/23/20 18:31	1064
Zinc	**240**	mg/kg	14		1	0.79	12/22/20	12/28/20 18:46	1064

Sample ID: C7 30.0-30.8 **Date/Time Sampled: 12/11/2020 08:17** **PSS Sample ID: 20121125-008**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 75.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.0		1	0.27	12/22/20	12/23/20 18:55	1064
Arsenic	**4.7**	mg/kg	0.59		1	0.065	12/22/20	12/28/20 18:51	1064
Beryllium	**1.0**	mg/kg	0.59		1	0.15	12/22/20	12/28/20 18:51	1064
Cadmium	**0.28**	mg/kg	0.59	J	1	0.059	12/22/20	12/23/20 18:55	1064
Chromium	**7.7**	mg/kg	0.59		1	0.33	12/22/20	12/23/20 18:55	1064
Copper	**24**	mg/kg	0.59		1	0.18	12/22/20	12/28/20 18:51	1064
Lead	**16**	mg/kg	0.59		1	0.25	12/22/20	12/28/20 18:51	1064
Manganese	**550**	mg/kg	0.59		1	0.5	12/22/20	12/23/20 18:55	1064
Mercury	**0.13**	mg/kg	0.12		1	0.043	12/22/20	12/23/20 18:55	1064
Nickel	**26**	mg/kg	0.59		1	0.21	12/22/20	12/28/20 18:51	1064
Selenium	**1.4**	mg/kg	0.59		1	0.059	12/22/20	12/23/20 18:55	1064
Silver	**0.11**	mg/kg	0.59	J	1	0.065	12/22/20	12/23/20 18:55	1064
Thallium	ND	mg/kg	0.59		1	0.15	12/22/20	12/23/20 18:55	1064
Zinc	**86**	mg/kg	12		1	0.65	12/22/20	12/28/20 18:51	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 51.9-54.1 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-009**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 65.2**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	79		1	21	12/14/20	12/14/20 17:24	1059

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**95**	mg/kg	3.8		1	1.2	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**310**	mg/kg	92		10	46	12/15/20	12/15/20 17:48	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**4.5**	mg/kg	14	J	1	4.4	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 51.9-54.1 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-009**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 65.2**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.42**	mg/kg	2.5	J	1	0.23	12/22/20	12/23/20 18:59	1064
Arsenic	**13**	mg/kg	0.51		1	0.056	12/22/20	12/28/20 18:55	1064
Beryllium	**2.0**	mg/kg	0.51		1	0.13	12/22/20	12/28/20 18:55	1064
Cadmium	**0.65**	mg/kg	0.51		1	0.051	12/22/20	12/23/20 18:59	1064
Chromium	**25**	mg/kg	0.51		1	0.28	12/22/20	12/23/20 18:59	1064
Copper	**62**	mg/kg	0.51		1	0.16	12/22/20	12/28/20 18:55	1064
Lead	**50**	mg/kg	0.51		1	0.21	12/22/20	12/28/20 18:55	1064
Manganese	**1,100**	mg/kg	0.51	E	1	0.43	12/22/20	12/23/20 18:59	1064
Mercury	**0.40**	mg/kg	0.10		1	0.037	12/22/20	12/23/20 18:59	1064
Nickel	**51**	mg/kg	0.51		1	0.18	12/22/20	12/28/20 18:55	1064
Selenium	**3.7**	mg/kg	0.51		1	0.051	12/22/20	12/23/20 18:59	1064
Silver	**0.30**	mg/kg	0.51	J	1	0.056	12/22/20	12/23/20 18:59	1064
Thallium	**0.22**	mg/kg	0.51	J	1	0.13	12/22/20	12/23/20 18:59	1064
Zinc	**230**	mg/kg	10		1	0.56	12/22/20	12/28/20 18:55	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.5		1	1.5	12/14/20	12/15/20 14:28	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

Qualifier(s): See Batch 180438 on Case Narrative.

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**37**	mg/kg	5.1	DF	1	5.1	12/15/20	12/16/20 12:15	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*86*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 12:15*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 51.9-54.1 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-009**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 65.2**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
beta-BHC	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
delta-BHC	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Heptachlor	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Aldrin	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Heptachlor epoxide	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
gamma-Chlordane	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
alpha-Chlordane	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
4,4-DDE	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Endosulfan I	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Dieldrin	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Endrin	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
4,4-DDD	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Endosulfan II	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
4,4-DDT	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Endrin aldehyde	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Methoxychlor	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Endosulfan sulfate	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Endrin ketone	ND	mg/kg	0.0061		1	0.0061	12/15/20	12/16/20 14:53	1029
Toxaphene	ND	mg/kg	0.15		1	0.15	12/15/20	12/16/20 14:53	1029
Chlordane	ND	mg/kg	0.15		1	0.15	12/15/20	12/16/20 14:53	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*73*	*%*	*44-152*	*1*	*12/15/20*	*12/16/20 14:53*	*1029*
Decachlorobiphenyl	*91*	*%*	*39-151*	*1*	*12/15/20*	*12/16/20 14:53*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.076		1	0.076	12/15/20	12/17/20 19:34	1029
PCB-1221	ND	mg/kg	0.076		1	0.076	12/15/20	12/17/20 19:34	1029
PCB-1232	ND	mg/kg	0.076		1	0.076	12/15/20	12/17/20 19:34	1029
PCB-1242	ND	mg/kg	0.076		1	0.076	12/15/20	12/17/20 19:34	1029
PCB-1248	ND	mg/kg	0.076		1	0.076	12/15/20	12/17/20 19:34	1029

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 51.9-54.1 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-009**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 65.2**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.076		1	0.076	12/15/20	12/17/20 19:34	1029
PCB-1260	ND	mg/kg	0.076		1	0.076	12/15/20	12/17/20 19:34	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*83*	*%*	*34-117*	*1*	*12/15/20*	*12/17/20 19:34*	*1029*
Decachlorobiphenyl	*113*	*%*	*40-149*	*1*	*12/15/20*	*12/17/20 19:34*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180578 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Acenaphthylene	**0.025**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Acetophenone	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Anthracene	ND	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Atrazine	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
Benzo(a)anthracene	**0.029**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Benzo(a)pyrene	**0.038**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Benzo(b)fluoranthene	**0.024**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Benzo(g,h,i)perylene	**0.026**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Benzo(k)fluoranthene	**0.026**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Butyl benzyl phthalate	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Di-n-butyl phthalate	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Carbazole	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Caprolactam	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
4-Chloroaniline	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2-Chloronaphthalene	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2-Chlorophenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 51.9-54.1 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-009**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 65.2**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180578 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.027**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Dibenzofuran	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2,4-Dichlorophenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Diethyl phthalate	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Dimethyl phthalate	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2,4-Dimethylphenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.26		1	0.26	12/17/20	12/21/20 13:31	1059
2,4-Dinitrophenol	ND	mg/kg	0.26		1	0.26	12/17/20	12/21/20 13:31	1059
2,4-Dinitrotoluene	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
2,6-Dinitrotoluene	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
Fluoranthene	**0.028**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Fluorene	ND	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Hexachlorobenzene	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Hexachlorobutadiene	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
Hexachloroethane	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Indeno(1,2,3-c,d)Pyrene	**0.024**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Isophorone	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2-Methylnaphthalene	ND	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
2-Methyl phenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
3&4-Methylphenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Naphthalene	**0.021**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
2-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
3-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
4-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
Nitrobenzene	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2-Nitrophenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
4-Nitrophenol	ND	mg/kg	0.26		1	0.26	12/17/20	12/21/20 13:31	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Di-n-octyl phthalate	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
Pentachlorophenol	ND	mg/kg	0.10		1	0.1	12/17/20	12/21/20 13:31	1059
Phenanthrene	**0.032**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: B5 51.9-54.1 **Date/Time Sampled: 12/10/2020 17:03** **PSS Sample ID: 20121125-009**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 65.2**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180578 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
Pyrene	**0.036**	mg/kg	0.013		1	0.013	12/17/20	12/21/20 13:31	1059
Pyridine	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.051		1	0.051	12/17/20	12/21/20 13:31	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*87*	*%*	*50-104*	*1*	*12/17/20*	*12/21/20 13:31*	*1059*
2-Fluorophenol	*85*	*%*	*40-109*	*1*	*12/17/20*	*12/21/20 13:31*	*1059*
Nitrobenzene-d5	*83*	*%*	*41-101*	*1*	*12/17/20*	*12/21/20 13:31*	*1059*
Phenol-d6	*79*	*%*	*44-102*	*1*	*12/17/20*	*12/21/20 13:31*	*1059*
Terphenyl-D14	*100*	*%*	*70-115*	*1*	*12/17/20*	*12/21/20 13:31*	*1059*
2,4,6-Tribromophenol	*92*	*%*	*36-123*	*1*	*12/17/20*	*12/21/20 13:31*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.34**	mg/kg	0.10		1	0.05	12/17/20	12/17/20 16:59	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 27.2-28.3 **Date/Time Sampled: 12/11/2020 15:45** **PSS Sample ID: 20121125-010**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 70.0**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	**22**	mg/kg	69	J	1	18	12/14/20	12/14/20 17:47	1059

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**56**	mg/kg	3.9		1	1.2	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**210**	mg/kg	86		10	43	12/15/20	12/15/20 17:52	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**5.6**	mg/kg	14	J	1	4.3	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 27.2-28.3 **Date/Time Sampled: 12/11/2020 15:45** **PSS Sample ID: 20121125-010**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 70.0**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.8		1	0.26	12/22/20	12/23/20 19:04	1064
Arsenic	**4.1**	mg/kg	0.56		1	0.061	12/22/20	12/28/20 19:00	1064
Beryllium	**0.93**	mg/kg	0.56		1	0.14	12/22/20	12/28/20 19:00	1064
Cadmium	**0.25**	mg/kg	0.56	J	1	0.056	12/22/20	12/23/20 19:04	1064
Chromium	**10**	mg/kg	0.56		1	0.31	12/22/20	12/23/20 19:04	1064
Copper	**34**	mg/kg	0.56		1	0.17	12/22/20	12/28/20 19:00	1064
Lead	**17**	mg/kg	0.56		1	0.23	12/22/20	12/28/20 19:00	1064
Manganese	**630**	mg/kg	0.56	E	1	0.47	12/22/20	12/23/20 19:04	1064
Mercury	**0.18**	mg/kg	0.11		1	0.041	12/22/20	12/23/20 19:04	1064
Nickel	**23**	mg/kg	0.56		1	0.19	12/22/20	12/28/20 19:00	1064
Selenium	**1.5**	mg/kg	0.56		1	0.056	12/22/20	12/23/20 19:04	1064
Silver	**0.13**	mg/kg	0.56	J	1	0.061	12/22/20	12/23/20 19:04	1064
Thallium	ND	mg/kg	0.56		1	0.14	12/22/20	12/23/20 19:04	1064
Zinc	**82**	mg/kg	11		1	0.61	12/22/20	12/28/20 19:00	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/14/20	12/15/20 14:32	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

Qualifier(s): See Batch 180438 on Case Narrative.

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**170**	mg/kg	4.7	DF	1	4.7	12/15/20	12/16/20 16:25	1070

Surrogate(s)	*Recovery*		*Limits*					
o-Terphenyl	*83*	*%*	*35-124*		*1*		*12/15/20*	*12/16/20 16:25*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 27.2-28.3 **Date/Time Sampled: 12/11/2020 15:45** **PSS Sample ID: 20121125-010**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 70.0**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
beta-BHC	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
delta-BHC	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Heptachlor	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Aldrin	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Heptachlor epoxide	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
gamma-Chlordane	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
alpha-Chlordane	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
4,4-DDE	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Endosulfan I	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Dieldrin	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Endrin	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
4,4-DDD	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Endosulfan II	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
4,4-DDT	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Endrin aldehyde	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Methoxychlor	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Endosulfan sulfate	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Endrin ketone	ND	mg/kg	0.0056		1	0.0056	12/15/20	12/16/20 17:31	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 17:31	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 17:31	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*65*	*%*	*44-152*	*1*	*12/15/20*	*12/16/20 17:31*	*1029*
Decachlorobiphenyl	*69*	*%*	*39-151*	*1*	*12/15/20*	*12/16/20 17:31*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 20:02	1029
PCB-1221	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 20:02	1029
PCB-1232	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 20:02	1029
PCB-1242	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 20:02	1029
PCB-1248	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 20:02	1029

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 27.2-28.3 **Date/Time Sampled: 12/11/2020 15:45** **PSS Sample ID: 20121125-010**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 70.0**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 20:02	1029
PCB-1260	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 20:02	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*106*	*%*	*40-149*		*1*		*12/15/20*	*12/17/20 20:02*	*1029*
Tetrachloro-m-xylene	*79*	*%*	*34-117*		*1*		*12/15/20*	*12/17/20 20:02*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	**0.041**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Acenaphthylene	**0.14**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Acetophenone	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Anthracene	**0.45**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Atrazine	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
Benzo(a)anthracene	**1.1**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Benzo(a)pyrene	**1.0**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Benzo(b)fluoranthene	**0.70**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Benzo(g,h,i)perylene	**0.55**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Benzo(k)fluoranthene	**0.72**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Butyl benzyl phthalate	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
bis(2-ethylhexyl) phthalate	**0.097**	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Di-n-butyl phthalate	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Carbazole	**0.064**	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Caprolactam	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
4-Chloroaniline	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2-Chloronaphthalene	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2-Chlorophenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 27.2-28.3 **Date/Time Sampled: 12/11/2020 15:45** **PSS Sample ID: 20121125-010**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 70.0**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**1.1**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Dibenz(a,h)Anthracene	**0.14**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Dibenzofuran	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2,4-Dichlorophenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Diethyl phthalate	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Dimethyl phthalate	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2,4-Dimethylphenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:55	1059
2,4-Dinitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:55	1059
2,4-Dinitrotoluene	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
2,6-Dinitrotoluene	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
Fluoranthene	**2.0**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Fluorene	**0.090**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Hexachlorobenzene	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Hexachlorobutadiene	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
Hexachloroethane	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Indeno(1,2,3-c,d)Pyrene	**0.64**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Isophorone	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2-Methylnaphthalene	**0.052**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
2-Methyl phenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
3&4-Methylphenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Naphthalene	**0.082**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
2-Nitroaniline	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
3-Nitroaniline	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
4-Nitroaniline	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
Nitrobenzene	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2-Nitrophenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
4-Nitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:55	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Di-n-octyl phthalate	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
Pentachlorophenol	ND	mg/kg	0.094		1	0.094	12/17/20	12/19/20 00:55	1059
Phenanthrene	**0.89**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 27.2-28.3 **Date/Time Sampled: 12/11/2020 15:45** **PSS Sample ID: 20121125-010**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 70.0**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
Pyrene	**1.9**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:55	1059
Pyridine	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.047		1	0.047	12/17/20	12/19/20 00:55	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*88*	*%*	*50-104*	*1*	*12/17/20*	*12/19/20 00:55*	*1059*
2-Fluorophenol	*85*	*%*	*40-109*	*1*	*12/17/20*	*12/19/20 00:55*	*1059*
Nitrobenzene-d5	*88*	*%*	*41-101*	*1*	*12/17/20*	*12/19/20 00:55*	*1059*
Phenol-d6	*78*	*%*	*44-102*	*1*	*12/17/20*	*12/19/20 00:55*	*1059*
Terphenyl-D14	*101*	*%*	*70-115*	*1*	*12/17/20*	*12/19/20 00:55*	*1059*
2,4,6-Tribromophenol	*91*	*%*	*36-123*	*1*	*12/17/20*	*12/19/20 00:55*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.10**	mg/kg	0.080		1	0.04	12/17/20	12/17/20 17:02	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 33.9-35.8 **Date/Time Sampled: 12/11/2020 08:50** **PSS Sample ID: 20121125-011**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 54.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.42**	mg/kg	3.7	J	1	0.34	12/22/20	12/23/20 19:09	1064
Arsenic	**13**	mg/kg	0.73		1	0.081	12/22/20	12/28/20 19:05	1064
Beryllium	**2.0**	mg/kg	0.73		1	0.18	12/22/20	12/28/20 19:05	1064
Cadmium	**0.91**	mg/kg	0.73		1	0.073	12/22/20	12/23/20 19:09	1064
Chromium	**32**	mg/kg	0.73		1	0.4	12/22/20	12/23/20 19:09	1064
Copper	**43**	mg/kg	0.73		1	0.23	12/22/20	12/28/20 19:05	1064
Lead	**39**	mg/kg	0.73		1	0.31	12/22/20	12/28/20 19:05	1064
Manganese	**2,100**	mg/kg	0.73	E	1	0.62	12/22/20	12/23/20 19:09	1064
Mercury	**0.15**	mg/kg	0.15		1	0.053	12/22/20	12/23/20 19:09	1064
Nickel	**67**	mg/kg	0.73		1	0.26	12/22/20	12/28/20 19:05	1064
Selenium	**0.91**	mg/kg	0.73		1	0.073	12/22/20	12/23/20 19:09	1064
Silver	**0.63**	mg/kg	0.73	J	1	0.081	12/22/20	12/23/20 19:09	1064
Thallium	**0.24**	mg/kg	0.73	J	1	0.19	12/22/20	12/23/20 19:09	1064
Zinc	**270**	mg/kg	15		1	0.81	12/22/20	12/28/20 19:05	1064

Sample ID: C7 36.5-37.3 **Date/Time Sampled: 12/11/2020 09:24** **PSS Sample ID: 20121125-012**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 70.6**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	3.0		1	0.27	12/22/20	12/23/20 19:14	1064
Arsenic	**4.1**	mg/kg	0.60		1	0.066	12/22/20	12/28/20 19:10	1064
Beryllium	**0.96**	mg/kg	0.60		1	0.15	12/22/20	12/28/20 19:10	1064
Cadmium	**0.24**	mg/kg	0.60	J	1	0.06	12/22/20	12/23/20 19:14	1064
Chromium	**7.8**	mg/kg	0.60		1	0.33	12/22/20	12/23/20 19:14	1064
Copper	**24**	mg/kg	0.60		1	0.19	12/22/20	12/28/20 19:10	1064
Lead	**19**	mg/kg	0.60		1	0.25	12/22/20	12/28/20 19:10	1064
Manganese	**620**	mg/kg	0.60	E	1	0.5	12/22/20	12/23/20 19:14	1064
Mercury	**0.18**	mg/kg	0.12		1	0.044	12/22/20	12/23/20 19:14	1064
Nickel	**24**	mg/kg	0.60		1	0.21	12/22/20	12/28/20 19:10	1064
Selenium	**2.0**	mg/kg	0.60		1	0.06	12/22/20	12/23/20 19:14	1064
Silver	**0.14**	mg/kg	0.60	J	1	0.066	12/22/20	12/23/20 19:14	1064
Thallium	ND	mg/kg	0.60		1	0.16	12/22/20	12/23/20 19:14	1064
Zinc	**83**	mg/kg	12		1	0.66	12/22/20	12/28/20 19:10	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 37.3-38.7 **Date/Time Sampled: 12/11/2020 09:33** **PSS Sample ID: 20121125-013**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.3**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	0.27	12/22/20	12/23/20 19:18	1064
Arsenic	**3.8**	mg/kg	0.58		1	0.064	12/22/20	12/28/20 19:14	1064
Beryllium	**0.81**	mg/kg	0.58		1	0.14	12/22/20	12/28/20 19:14	1064
Cadmium	**0.25**	mg/kg	0.58	J	1	0.058	12/22/20	12/23/20 19:18	1064
Chromium	**9.9**	mg/kg	0.58		1	0.32	12/22/20	12/23/20 19:18	1064
Copper	**22**	mg/kg	0.58		1	0.18	12/22/20	12/28/20 19:14	1064
Lead	**19**	mg/kg	0.58		1	0.24	12/22/20	12/28/20 19:14	1064
Manganese	**700**	mg/kg	0.58	E	1	0.49	12/22/20	12/23/20 19:18	1064
Mercury	**0.12**	mg/kg	0.12		1	0.042	12/22/20	12/23/20 19:18	1064
Nickel	**28**	mg/kg	0.58		1	0.2	12/22/20	12/28/20 19:14	1064
Selenium	**1.6**	mg/kg	0.58		1	0.058	12/22/20	12/23/20 19:18	1064
Silver	**0.11**	mg/kg	0.58	J	1	0.064	12/22/20	12/23/20 19:18	1064
Thallium	ND	mg/kg	0.58		1	0.15	12/22/20	12/23/20 19:18	1064
Zinc	**97**	mg/kg	12		1	0.64	12/22/20	12/28/20 19:14	1064

Sample ID: C7 38.7-40.8 **Date/Time Sampled: 12/11/2020 09:42** **PSS Sample ID: 20121125-014**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 58.5**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.38**	mg/kg	3.7	J	1	0.34	12/22/20	12/23/20 19:23	1064
Arsenic	**12**	mg/kg	0.75		1	0.082	12/22/20	12/28/20 19:19	1064
Beryllium	**2.1**	mg/kg	0.75		1	0.19	12/22/20	12/28/20 19:19	1064
Cadmium	**1.3**	mg/kg	0.75		1	0.075	12/22/20	12/23/20 19:23	1064
Chromium	**32**	mg/kg	0.75		1	0.41	12/22/20	12/23/20 19:23	1064
Copper	**50**	mg/kg	0.75		1	0.23	12/22/20	12/28/20 19:19	1064
Lead	**46**	mg/kg	0.75		1	0.31	12/22/20	12/28/20 19:19	1064
Manganese	**2,700**	mg/kg	0.75	E	1	0.63	12/22/20	12/23/20 19:23	1064
Mercury	**0.18**	mg/kg	0.15		1	0.055	12/22/20	12/23/20 19:23	1064
Nickel	**83**	mg/kg	0.75		1	0.26	12/22/20	12/28/20 19:19	1064
Selenium	**1.3**	mg/kg	0.75		1	0.075	12/22/20	12/23/20 19:23	1064
Silver	**1.0**	mg/kg	0.75		1	0.082	12/22/20	12/23/20 19:23	1064
Thallium	**0.27**	mg/kg	0.75	J	1	0.19	12/22/20	12/23/20 19:23	1064
Zinc	**320**	mg/kg	15		1	0.82	12/22/20	12/28/20 19:19	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 41.7-43.4 **Date/Time Sampled: 12/11/2020 09:55** **PSS Sample ID: 20121125-015**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.7**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	68		1	18	12/14/20	12/14/20 18:10	1059

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**40**	mg/kg	3.1		1	0.93	12/14/20	12/14/20 14:39	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**180**	mg/kg	80		10	40	12/15/20	12/15/20 17:56	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	13		1	4	12/21/20	12/21/20 13:29	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 41.7-43.4 **Date/Time Sampled: 12/11/2020 09:55** **PSS Sample ID: 20121125-015**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.7**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.9		1	0.27	12/22/20	12/23/20 19:28	1064
Arsenic	**3.8**	mg/kg	0.58		1	0.064	12/22/20	12/28/20 19:43	1064
Beryllium	**0.88**	mg/kg	0.58		1	0.15	12/22/20	12/28/20 19:43	1064
Cadmium	**0.22**	mg/kg	0.58	J	1	0.058	12/22/20	12/23/20 19:28	1064
Chromium	**17**	mg/kg	0.58		1	0.32	12/22/20	12/23/20 19:28	1064
Copper	**21**	mg/kg	0.58		1	0.18	12/22/20	12/28/20 19:43	1064
Lead	**15**	mg/kg	0.58		1	0.25	12/22/20	12/28/20 19:43	1064
Manganese	**540**	mg/kg	0.58		1	0.49	12/22/20	12/23/20 19:28	1064
Mercury	**0.17**	mg/kg	0.12		1	0.043	12/22/20	12/23/20 19:28	1064
Nickel	**22**	mg/kg	0.58		1	0.2	12/22/20	12/28/20 19:43	1064
Selenium	**1.6**	mg/kg	0.58		1	0.058	12/22/20	12/23/20 19:28	1064
Silver	**0.12**	mg/kg	0.58	J	1	0.064	12/22/20	12/23/20 19:28	1064
Thallium	ND	mg/kg	0.58		1	0.15	12/22/20	12/23/20 19:28	1064
Zinc	**130**	mg/kg	12		1	0.64	12/22/20	12/28/20 19:43	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/14/20	12/15/20 14:34	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

Qualifier(s): See Batch 180438 on Case Narrative.

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**47**	mg/kg	4.5	DF	1	4.5	12/15/20	12/16/20 14:20	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*98*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 14:20*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 41.7-43.4 **Date/Time Sampled: 12/11/2020 09:55** **PSS Sample ID: 20121125-015**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.7**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
beta-BHC	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
delta-BHC	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Heptachlor	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Aldrin	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Heptachlor epoxide	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
gamma-Chlordane	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
alpha-Chlordane	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
4,4-DDE	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Endosulfan I	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Dieldrin	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Endrin	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
4,4-DDD	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Endosulfan II	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
4,4-DDT	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Endrin aldehyde	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Methoxychlor	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Endosulfan sulfate	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Endrin ketone	ND	mg/kg	0.0054		1	0.0054	12/15/20	12/16/20 15:22	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 15:22	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 15:22	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*70*	*%*	*44-152*	*1*	*12/15/20*	*12/16/20 15:22*	*1029*
Decachlorobiphenyl	*91*	*%*	*39-151*	*1*	*12/15/20*	*12/16/20 15:22*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 20:30	1029
PCB-1221	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 20:30	1029
PCB-1232	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 20:30	1029
PCB-1242	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 20:30	1029
PCB-1248	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 20:30	1029

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 41.7-43.4 **Date/Time Sampled: 12/11/2020 09:55** **PSS Sample ID: 20121125-015**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.7**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 20:30	1029
PCB-1260	ND	mg/kg	0.068		1	0.068	12/15/20	12/17/20 20:30	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*81*	*%*	*34-117*	*1*	*12/15/20*	*12/17/20 20:30*	*1029*
Decachlorobiphenyl	*110*	*%*	*40-149*	*1*	*12/15/20*	*12/17/20 20:30*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	**0.024**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Acenaphthylene	**0.086**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Acetophenone	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Anthracene	**0.18**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Atrazine	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
Benzo(a)anthracene	**0.37**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Benzo(a)pyrene	**0.31**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Benzo(b)fluoranthene	**0.25**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Benzo(g,h,i)perylene	**0.14**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Benzo(k)fluoranthene	**0.22**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Butyl benzyl phthalate	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Di-n-butyl phthalate	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Carbazole	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Caprolactam	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
4-Chloroaniline	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2-Chloronaphthalene	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2-Chlorophenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 41.7-43.4 **Date/Time Sampled: 12/11/2020 09:55** **PSS Sample ID: 20121125-015**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.7**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.36**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Dibenz(a,h)Anthracene	**0.051**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Dibenzofuran	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2,4-Dichlorophenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Diethyl phthalate	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Dimethyl phthalate	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2,4-Dimethylphenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.22		1	0.22	12/17/20	12/18/20 23:36	1059
2,4-Dinitrophenol	ND	mg/kg	0.22		1	0.22	12/17/20	12/18/20 23:36	1059
2,4-Dinitrotoluene	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
2,6-Dinitrotoluene	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
Fluoranthene	**0.75**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Fluorene	**0.069**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Hexachlorobenzene	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Hexachlorobutadiene	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
Hexachloroethane	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Indeno(1,2,3-c,d)Pyrene	**0.16**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Isophorone	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2-Methylnaphthalene	**0.036**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
2-Methyl phenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
3&4-Methylphenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Naphthalene	**0.063**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
2-Nitroaniline	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
3-Nitroaniline	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
4-Nitroaniline	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
Nitrobenzene	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2-Nitrophenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
4-Nitrophenol	ND	mg/kg	0.22		1	0.22	12/17/20	12/18/20 23:36	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Di-n-octyl phthalate	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
Pentachlorophenol	ND	mg/kg	0.089		1	0.089	12/17/20	12/18/20 23:36	1059
Phenanthrene	**0.49**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 41.7-43.4 **Date/Time Sampled: 12/11/2020 09:55** **PSS Sample ID: 20121125-015**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 74.7**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
Pyrene	**0.57**	mg/kg	0.011		1	0.011	12/17/20	12/18/20 23:36	1059
Pyridine	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.044		1	0.044	12/17/20	12/18/20 23:36	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*88*	*%*	*50-104*	*1*	*12/17/20*	*12/18/20 23:36*	*1059*
2-Fluorophenol	*82*	*%*	*40-109*	*1*	*12/17/20*	*12/18/20 23:36*	*1059*
Nitrobenzene-d5	*87*	*%*	*41-101*	*1*	*12/17/20*	*12/18/20 23:36*	*1059*
Phenol-d6	*78*	*%*	*44-102*	*1*	*12/17/20*	*12/18/20 23:36*	*1059*
Terphenyl-D14	*92*	*%*	*70-115*	*1*	*12/17/20*	*12/18/20 23:36*	*1059*
2,4,6-Tribromophenol	*94*	*%*	*36-123*	*1*	*12/17/20*	*12/18/20 23:36*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.089**	mg/kg	0.076		1	0.038	12/17/20	12/17/20 17:05	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 43.4-45.8 **Date/Time Sampled: 12/11/2020 10:10** **PSS Sample ID: 20121125-016**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 57.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.54**	mg/kg	3.2	J	1	0.29	12/22/20	12/23/20 19:32	1064
Arsenic	**16**	mg/kg	0.64		1	0.07	12/22/20	12/28/20 19:47	1064
Beryllium	**2.9**	mg/kg	0.64		1	0.16	12/22/20	12/28/20 19:47	1064
Cadmium	**2.1**	mg/kg	0.64		1	0.064	12/22/20	12/23/20 19:32	1064
Chromium	**43**	mg/kg	0.64		1	0.35	12/22/20	12/23/20 19:32	1064
Copper	**66**	mg/kg	0.64		1	0.2	12/22/20	12/28/20 19:47	1064
Lead	**66**	mg/kg	0.64		1	0.27	12/22/20	12/28/20 19:47	1064
Manganese	**2,900**	mg/kg	0.64	E	1	0.53	12/22/20	12/23/20 19:32	1064
Mercury	**0.28**	mg/kg	0.13		1	0.046	12/22/20	12/23/20 19:32	1064
Nickel	**90**	mg/kg	0.64		1	0.22	12/22/20	12/28/20 19:47	1064
Selenium	**1.6**	mg/kg	0.64		1	0.064	12/22/20	12/23/20 19:32	1064
Silver	**2.0**	mg/kg	0.64		1	0.07	12/22/20	12/23/20 19:32	1064
Thallium	**0.32**	mg/kg	0.64	J	1	0.17	12/22/20	12/23/20 19:32	1064
Zinc	**380**	mg/kg	13		1	0.7	12/22/20	12/28/20 19:47	1064

Sample ID: C7 46.3-50.8 **Date/Time Sampled: 12/11/2020 10:40** **PSS Sample ID: 20121125-017**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 61.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.46**	mg/kg	3.7	J	1	0.34	12/22/20	12/23/20 19:37	1064
Arsenic	**15**	mg/kg	0.73		1	0.081	12/22/20	12/28/20 19:52	1064
Beryllium	**2.4**	mg/kg	0.73		1	0.18	12/22/20	12/28/20 19:52	1064
Cadmium	**2.1**	mg/kg	0.73		1	0.073	12/22/20	12/23/20 19:37	1064
Chromium	**41**	mg/kg	0.73		1	0.4	12/22/20	12/23/20 19:37	1064
Copper	**62**	mg/kg	0.73		1	0.23	12/22/20	12/28/20 19:52	1064
Lead	**59**	mg/kg	0.73		1	0.31	12/22/20	12/28/20 19:52	1064
Manganese	**2,600**	mg/kg	0.73	E	1	0.62	12/22/20	12/23/20 19:37	1064
Mercury	**0.26**	mg/kg	0.15		1	0.054	12/22/20	12/23/20 19:37	1064
Nickel	**75**	mg/kg	0.73		1	0.26	12/22/20	12/28/20 19:52	1064
Selenium	**2.1**	mg/kg	0.73		1	0.073	12/22/20	12/23/20 19:37	1064
Silver	**2.1**	mg/kg	0.73		1	0.081	12/22/20	12/23/20 19:37	1064
Thallium	**0.28**	mg/kg	0.73	J	1	0.19	12/22/20	12/23/20 19:37	1064
Zinc	**340**	mg/kg	15		1	0.81	12/22/20	12/28/20 19:52	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 53.2-55.3 **Date/Time Sampled: 12/11/2020 11:05** **PSS Sample ID: 20121125-018**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.9**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	76		1	20	12/14/20	12/14/20 18:33	1059

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**74**	mg/kg	3.5		1	1.1	12/14/20	12/14/20 14:41	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**310**	mg/kg	82		10	41	12/15/20	12/15/20 18:00	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	14		1	4.4	12/21/20	12/21/20 13:49	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 53.2-55.3 **Date/Time Sampled: 12/11/2020 11:05** **PSS Sample ID: 20121125-018**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.9**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.46**	mg/kg	3.1	J	1	0.29	12/22/20	12/23/20 20:01	1064
Arsenic	**7.5**	mg/kg	0.62		1	0.069	12/22/20	12/28/20 19:57	1064
Beryllium	**1.5**	mg/kg	0.62		1	0.16	12/22/20	12/28/20 19:57	1064
Cadmium	**0.66**	mg/kg	0.62		1	0.062	12/22/20	12/23/20 20:01	1064
Chromium	**15**	mg/kg	0.62		1	0.34	12/22/20	12/23/20 20:01	1064
Copper	**42**	mg/kg	0.62		1	0.19	12/22/20	12/28/20 19:57	1064
Lead	**30**	mg/kg	0.62		1	0.26	12/22/20	12/28/20 19:57	1064
Manganese	**830**	mg/kg	0.62	E	1	0.52	12/22/20	12/23/20 20:01	1064
Mercury	**0.26**	mg/kg	0.12		1	0.046	12/22/20	12/23/20 20:01	1064
Nickel	**39**	mg/kg	0.62		1	0.22	12/22/20	12/28/20 19:57	1064
Selenium	**2.9**	mg/kg	0.62		1	0.062	12/22/20	12/23/20 20:01	1064
Silver	**0.56**	mg/kg	0.62	J	1	0.069	12/22/20	12/23/20 20:01	1064
Thallium	ND	mg/kg	0.62		1	0.16	12/22/20	12/23/20 20:01	1064
Zinc	**160**	mg/kg	12		1	0.69	12/22/20	12/28/20 19:57	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.5		1	1.5	12/14/20	12/15/20 14:38	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**56**	mg/kg	4.8	DF	1	4.8	12/15/20	12/16/20 14:20	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*75*	*%*	*35-124*		*1*	*12/15/20*	*12/16/20 14:20*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 53.2-55.3 **Date/Time Sampled: 12/11/2020 11:05** **PSS Sample ID: 20121125-018**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.9**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
beta-BHC	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
delta-BHC	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Heptachlor	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Aldrin	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Heptachlor epoxide	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
gamma-Chlordane	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
alpha-Chlordane	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
4,4-DDE	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Endosulfan I	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Dieldrin	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Endrin	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
4,4-DDD	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Endosulfan II	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
4,4-DDT	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Endrin aldehyde	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Methoxychlor	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Endosulfan sulfate	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Endrin ketone	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:36	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 15:36	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 15:36	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*87*	*%*	*39-151*	*1*	*12/15/20*	*12/16/20 15:36*	*1029*
Tetrachloro-m-xylene	*74*	*%*	*44-152*	*1*	*12/15/20*	*12/16/20 15:36*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.072		1	0.072	12/15/20	12/17/20 20:58	1029
PCB-1221	ND	mg/kg	0.072		1	0.072	12/15/20	12/17/20 20:58	1029
PCB-1232	ND	mg/kg	0.072		1	0.072	12/15/20	12/17/20 20:58	1029
PCB-1242	ND	mg/kg	0.072		1	0.072	12/15/20	12/17/20 20:58	1029
PCB-1248	ND	mg/kg	0.072		1	0.072	12/15/20	12/17/20 20:58	1029

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 53.2-55.3 **Date/Time Sampled: 12/11/2020 11:05** **PSS Sample ID: 20121125-018**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.9**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.072		1	0.072	12/15/20	12/17/20 20:58	1029
PCB-1260	ND	mg/kg	0.072		1	0.072	12/15/20	12/17/20 20:58	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*86*	*%*	*34-117*	*1*	*12/15/20*	*12/17/20 20:58*	*1029*
Decachlorobiphenyl	*109*	*%*	*40-149*	*1*	*12/15/20*	*12/17/20 20:58*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Acenaphthylene	**0.10**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Acetophenone	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Anthracene	**0.090**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Atrazine	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
Benzo(a)anthracene	**0.30**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Benzo(a)pyrene	**0.33**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Benzo(b)fluoranthene	**0.16**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Benzo(g,h,i)perylene	**0.14**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Benzo(k)fluoranthene	**0.21**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Butyl benzyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Di-n-butyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Carbazole	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Caprolactam	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
4-Chloroaniline	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2-Chloronaphthalene	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2-Chlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 53.2-55.3 **Date/Time Sampled: 12/11/2020 11:05** **PSS Sample ID: 20121125-018**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.31**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Dibenz(a,h)Anthracene	**0.043**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Dibenzofuran	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2,4-Dichlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Diethyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Dimethyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2,4-Dimethylphenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:29	1059
2,4-Dinitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:29	1059
2,4-Dinitrotoluene	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
2,6-Dinitrotoluene	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
Fluoranthene	**0.35**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Fluorene	**0.025**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Hexachlorobenzene	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Hexachlorobutadiene	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
Hexachloroethane	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Indeno(1,2,3-c,d)Pyrene	**0.15**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Isophorone	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2-Methylnaphthalene	**0.047**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
2-Methyl phenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
3&4-Methylphenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Naphthalene	**0.085**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
2-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
3-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
4-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
Nitrobenzene	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2-Nitrophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
4-Nitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:29	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Di-n-octyl phthalate	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
Pentachlorophenol	ND	mg/kg	0.097		1	0.097	12/17/20	12/19/20 00:29	1059
Phenanthrene	**0.14**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 53.2-55.3 **Date/Time Sampled: 12/11/2020 11:05** **PSS Sample ID: 20121125-018**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.9**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
Pyrene	**0.42**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:29	1059
Pyridine	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/19/20 00:29	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*89*	*%*	*50-104*	*1*	*12/17/20*	*12/19/20 00:29*	*1059*
2-Fluorophenol	*82*	*%*	*40-109*	*1*	*12/17/20*	*12/19/20 00:29*	*1059*
Nitrobenzene-d5	*85*	*%*	*41-101*	*1*	*12/17/20*	*12/19/20 00:29*	*1059*
Phenol-d6	*79*	*%*	*44-102*	*1*	*12/17/20*	*12/19/20 00:29*	*1059*
Terphenyl-D14	*93*	*%*	*70-115*	*1*	*12/17/20*	*12/19/20 00:29*	*1059*
2,4,6-Tribromophenol	*91*	*%*	*36-123*	*1*	*12/17/20*	*12/19/20 00:29*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.53**	mg/kg	0.082		1	0.041	12/17/20	12/17/20 17:08	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 55.8-58.3 **Date/Time Sampled: 12/11/2020 11:35** **PSS Sample ID: 20121125-019**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 57.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.66**	mg/kg	4.3	J	1	0.39	12/22/20	12/23/20 20:05	1064
Arsenic	**17**	mg/kg	0.85		1	0.094	12/22/20	12/28/20 20:02	1064
Beryllium	**3.0**	mg/kg	0.85		1	0.21	12/22/20	12/28/20 20:02	1064
Cadmium	**3.1**	mg/kg	0.85		1	0.085	12/22/20	12/23/20 20:05	1064
Chromium	**56**	mg/kg	0.85		1	0.47	12/22/20	12/23/20 20:05	1064
Copper	**89**	mg/kg	0.85		1	0.26	12/22/20	12/28/20 20:02	1064
Lead	**70**	mg/kg	0.85		1	0.36	12/22/20	12/28/20 20:02	1064
Manganese	**2,200**	mg/kg	0.85	E	1	0.72	12/22/20	12/23/20 20:05	1064
Mercury	**0.37**	mg/kg	0.17		1	0.062	12/22/20	12/23/20 20:05	1064
Nickel	**93**	mg/kg	0.85		1	0.3	12/22/20	12/28/20 20:02	1064
Selenium	**2.6**	mg/kg	0.85		1	0.085	12/22/20	12/23/20 20:05	1064
Silver	**4.3**	mg/kg	0.85		1	0.094	12/22/20	12/23/20 20:05	1064
Thallium	**0.32**	mg/kg	0.85	J	1	0.22	12/22/20	12/23/20 20:05	1064
Zinc	**520**	mg/kg	17		1	0.94	12/22/20	12/28/20 20:02	1064

Sample ID: C7 58.3-60.8 **Date/Time Sampled: 12/11/2020 11:37** **PSS Sample ID: 20121125-020**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 58.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180637 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.67**	mg/kg	3.1	J	1	0.29	12/22/20	12/23/20 20:10	1064
Arsenic	**17**	mg/kg	0.62		1	0.069	12/22/20	12/28/20 20:06	1064
Beryllium	**3.6**	mg/kg	0.62		1	0.16	12/22/20	12/28/20 20:06	1064
Cadmium	**2.9**	mg/kg	0.62		1	0.062	12/22/20	12/23/20 20:10	1064
Chromium	**56**	mg/kg	0.62		1	0.34	12/22/20	12/23/20 20:10	1064
Copper	**91**	mg/kg	0.62		1	0.19	12/22/20	12/28/20 20:06	1064
Lead	**69**	mg/kg	0.62		1	0.26	12/22/20	12/28/20 20:06	1064
Manganese	**2,100**	mg/kg	0.62	E	1	0.52	12/22/20	12/23/20 20:10	1064
Mercury	**0.37**	mg/kg	0.12		1	0.046	12/22/20	12/23/20 20:10	1064
Nickel	**110**	mg/kg	0.62		1	0.22	12/22/20	12/28/20 20:06	1064
Selenium	**2.8**	mg/kg	0.62		1	0.062	12/22/20	12/23/20 20:10	1064
Silver	**3.3**	mg/kg	0.62		1	0.069	12/22/20	12/23/20 20:10	1064
Thallium	**0.30**	mg/kg	0.62	J	1	0.16	12/22/20	12/23/20 20:10	1064
Zinc	**580**	mg/kg	12		1	0.69	12/22/20	12/28/20 20:06	1064

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 60.8-65.8 **Date/Time Sampled: 12/11/2020 11:54** **PSS Sample ID: 20121125-021**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 56.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.73**	mg/kg	3.8	J	1	0.35	12/22/20	12/23/20 17:09	1051
Arsenic	**17**	mg/kg	0.75		1	0.083	12/22/20	12/23/20 17:09	1051
Beryllium	**4.1**	mg/kg	0.75		1	0.19	12/22/20	12/23/20 17:09	1051
Cadmium	**2.7**	mg/kg	0.75		1	0.075	12/22/20	12/23/20 17:09	1051
Chromium	**63**	mg/kg	0.75		1	0.41	12/22/20	12/23/20 17:09	1051
Copper	**97**	mg/kg	0.75		1	0.23	12/22/20	12/23/20 17:09	1051
Lead	**71**	mg/kg	0.75		1	0.32	12/22/20	12/23/20 17:09	1051
Manganese	**1,600**	mg/kg	0.75	E	1	0.63	12/22/20	12/23/20 17:09	1051
Mercury	**0.52**	mg/kg	0.15		1	0.055	12/22/20	12/23/20 17:09	1051
Nickel	**110**	mg/kg	0.75		1	0.26	12/22/20	12/23/20 17:09	1051
Selenium	**2.6**	mg/kg	0.75		1	0.075	12/22/20	12/23/20 17:09	1051
Silver	**3.4**	mg/kg	0.75		1	0.083	12/22/20	12/23/20 17:09	1051
Thallium	**0.35**	mg/kg	0.75	J	1	0.2	12/22/20	12/23/20 17:09	1051
Zinc	**610**	mg/kg	15		1	0.83	12/22/20	12/23/20 17:09	1051

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 67.0 **Date/Time Sampled: 12/11/2020 12:27** **PSS Sample ID: 20121125-022**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 62.2**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.036**	mg/kg	0.032		1	0.032	12/23/20	12/23/20 19:48	1045
Benzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Bromochloromethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Bromodichloromethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Bromoform	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Bromomethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
2-Butanone (MEK)	ND	mg/kg	0.0081		1	0.0081	12/23/20	12/23/20 19:48	1045
Carbon Disulfide	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Carbon tetrachloride	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Chlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Chloroethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Chloroform	ND	mg/kg	0.0081		1	0.0081	12/23/20	12/23/20 19:48	1045
Chloromethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Cyclohexane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Dibromochloromethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2-Dibromoethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Dichlorodifluoromethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,1-Dichloroethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2-Dichloroethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,1-Dichloroethene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2-Dichloropropane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
trans-1,2-Dichloroethene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Ethylbenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
2-Hexanone (MBK)	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Isopropylbenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Methyl Acetate	ND	mg/kg	0.041		1	0.041	12/23/20	12/23/20 19:48	1045
Methylcyclohexane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Methylene chloride	ND	mg/kg	0.0081		1	0.0081	12/23/20	12/23/20 19:48	1045

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 67.0 **Date/Time Sampled: 12/11/2020 12:27** **PSS Sample ID: 20121125-022**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 62.2**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Naphthalene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Styrene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Tetrachloroethene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Toluene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Trichloroethene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Trichlorofluoromethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045
Vinyl chloride	ND	mg/kg	0.0081		1	0.0081	12/23/20	12/23/20 19:48	1045
m&p-Xylene	ND	mg/kg	0.0032		1	0.0032	12/23/20	12/23/20 19:48	1045
o-Xylene	ND	mg/kg	0.0016		1	0.0016	12/23/20	12/23/20 19:48	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*98*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 19:48*	*1045*
Dibromofluoromethane	*99*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 19:48*	*1045*
Toluene-D8	*97*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 19:48*	*1045*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 65.8-68.8 **Date/Time Sampled: 12/11/2020 11:25** **PSS Sample ID: 20121125-023**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 61.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.62**	mg/kg	3.4	J	1	0.32	12/22/20	12/23/20 17:32	1051
Arsenic	**19**	mg/kg	0.69		1	0.076	12/22/20	12/23/20 17:32	1051
Beryllium	**3.7**	mg/kg	0.69		1	0.17	12/22/20	12/23/20 17:32	1051
Cadmium	**1.2**	mg/kg	0.69		1	0.069	12/22/20	12/23/20 17:32	1051
Chromium	**52**	mg/kg	0.69		1	0.38	12/22/20	12/23/20 17:32	1051
Copper	**100**	mg/kg	0.69		1	0.21	12/22/20	12/23/20 17:32	1051
Lead	**68**	mg/kg	0.69		1	0.29	12/22/20	12/23/20 17:32	1051
Manganese	**1,400**	mg/kg	0.69	E	1	0.58	12/22/20	12/23/20 17:32	1051
Mercury	**0.56**	mg/kg	0.14		1	0.05	12/22/20	12/23/20 17:32	1051
Nickel	**75**	mg/kg	0.69		1	0.24	12/22/20	12/23/20 17:32	1051
Selenium	**5.1**	mg/kg	0.69		1	0.069	12/22/20	12/23/20 17:32	1051
Silver	**0.91**	mg/kg	0.69		1	0.076	12/22/20	12/23/20 17:32	1051
Thallium	**0.48**	mg/kg	0.69	J	1	0.18	12/22/20	12/23/20 17:32	1051
Zinc	**400**	mg/kg	14		1	0.76	12/22/20	12/23/20 17:32	1051

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 68.8-70.8 **Date/Time Sampled: 12/11/2020 11:22** **PSS Sample ID: 20121125-024**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.6**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	71		1	19	12/14/20	12/14/20 18:56	1059

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**72**	mg/kg	4.0		1	1.2	12/14/20	12/14/20 14:41	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**330**	mg/kg	87		10	44	12/15/20	12/15/20 18:04	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	15		1	4.6	12/21/20	12/21/20 13:49	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 68.8-70.8 **Date/Time Sampled: 12/11/2020 11:22** **PSS Sample ID: 20121125-024**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.6**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.57**	mg/kg	2.9	J	1	0.27	12/22/20	12/23/20 17:36	1051
Arsenic	**16**	mg/kg	0.59		1	0.064	12/22/20	12/23/20 17:36	1051
Beryllium	**2.8**	mg/kg	0.59		1	0.15	12/22/20	12/23/20 17:36	1051
Cadmium	**0.82**	mg/kg	0.59		1	0.059	12/22/20	12/23/20 17:36	1051
Chromium	**38**	mg/kg	0.59		1	0.32	12/22/20	12/23/20 17:36	1051
Copper	**80**	mg/kg	0.59		1	0.18	12/22/20	12/23/20 17:36	1051
Lead	**57**	mg/kg	0.59		1	0.25	12/22/20	12/23/20 17:36	1051
Manganese	**1,300**	mg/kg	0.59	E	1	0.49	12/22/20	12/23/20 17:36	1051
Mercury	**0.56**	mg/kg	0.12		1	0.043	12/22/20	12/23/20 17:36	1051
Nickel	**60**	mg/kg	0.59		1	0.21	12/22/20	12/23/20 17:36	1051
Selenium	**4.1**	mg/kg	0.59		1	0.059	12/22/20	12/23/20 17:36	1051
Silver	**0.36**	mg/kg	0.59	J	1	0.064	12/22/20	12/23/20 17:36	1051
Thallium	**0.32**	mg/kg	0.59	J	1	0.15	12/22/20	12/23/20 17:36	1051
Zinc	**300**	mg/kg	12		1	0.64	12/22/20	12/23/20 17:36	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/14/20	12/15/20 14:42	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

Qualifier(s): See Batch 180438 on Case Narrative.

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**23**	mg/kg	4.8	DF	1	4.8	12/15/20	12/16/20 12:40	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*97*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 12:40*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 68.8-70.8 **Date/Time Sampled: 12/11/2020 11:22** **PSS Sample ID: 20121125-024**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.6**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
beta-BHC	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
delta-BHC	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Heptachlor	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Aldrin	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Heptachlor epoxide	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
gamma-Chlordane	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
alpha-Chlordane	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
4,4-DDE	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Endosulfan I	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Dieldrin	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Endrin	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
4,4-DDD	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Endosulfan II	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
4,4-DDT	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Endrin aldehyde	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Methoxychlor	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Endosulfan sulfate	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Endrin ketone	ND	mg/kg	0.0058		1	0.0058	12/15/20	12/16/20 15:50	1029
Toxaphene	ND	mg/kg	0.15		1	0.15	12/15/20	12/16/20 15:50	1029
Chlordane	ND	mg/kg	0.15		1	0.15	12/15/20	12/16/20 15:50	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*68*	*%*	*44-152*	*1*	*12/15/20*	*12/16/20 15:50*	*1029*
Decachlorobiphenyl	*97*	*%*	*39-151*	*1*	*12/15/20*	*12/16/20 15:50*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.073		1	0.073	12/15/20	12/17/20 21:26	1029
PCB-1221	ND	mg/kg	0.073		1	0.073	12/15/20	12/17/20 21:26	1029
PCB-1232	ND	mg/kg	0.073		1	0.073	12/15/20	12/17/20 21:26	1029
PCB-1242	ND	mg/kg	0.073		1	0.073	12/15/20	12/17/20 21:26	1029
PCB-1248	ND	mg/kg	0.073		1	0.073	12/15/20	12/17/20 21:26	1029

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 68.8-70.8 **Date/Time Sampled: 12/11/2020 11:22** **PSS Sample ID: 20121125-024**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.6**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.073		1	0.073	12/15/20	12/17/20 21:26	1029
PCB-1260	ND	mg/kg	0.073		1	0.073	12/15/20	12/17/20 21:26	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*119*	*%*	*40-149*		*1*		*12/15/20*	*12/17/20 21:26*	*1029*
Tetrachloro-m-xylene	*79*	*%*	*34-117*		*1*		*12/15/20*	*12/17/20 21:26*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Acenaphthylene	**0.020**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Acetophenone	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Anthracene	**0.014**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Atrazine	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
Benzo(a)anthracene	**0.049**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Benzo(a)pyrene	**0.055**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Benzo(b)fluoranthene	**0.028**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Benzo(g,h,i)perylene	**0.026**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Benzo(k)fluoranthene	**0.036**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Butyl benzyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Di-n-butyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Carbazole	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Caprolactam	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
4-Chloroaniline	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2-Chloronaphthalene	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2-Chlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 68.8-70.8 **Date/Time Sampled: 12/11/2020 11:22** **PSS Sample ID: 20121125-024**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.049**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Dibenzofuran	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2,4-Dichlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Diethyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Dimethyl phthalate	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2,4-Dimethylphenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/18/20 22:17	1059
2,4-Dinitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/18/20 22:17	1059
2,4-Dinitrotoluene	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
2,6-Dinitrotoluene	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
Fluoranthene	**0.056**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Fluorene	ND	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Hexachlorobenzene	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Hexachlorobutadiene	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
Hexachloroethane	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Indeno(1,2,3-c,d)Pyrene	**0.028**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Isophorone	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2-Methylnaphthalene	**0.023**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
2-Methyl phenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
3&4-Methylphenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Naphthalene	**0.056**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
2-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
3-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
4-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
Nitrobenzene	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2-Nitrophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
4-Nitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/18/20 22:17	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Di-n-octyl phthalate	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
Pentachlorophenol	ND	mg/kg	0.097		1	0.097	12/17/20	12/18/20 22:17	1059
Phenanthrene	**0.034**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 68.8-70.8 **Date/Time Sampled: 12/11/2020 11:22** **PSS Sample ID: 20121125-024**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 68.6**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
Pyrene	**0.071**	mg/kg	0.012		1	0.012	12/17/20	12/18/20 22:17	1059
Pyridine	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.049		1	0.049	12/17/20	12/18/20 22:17	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*84*	*%*	*50-104*	*1*	*12/17/20*	*12/18/20 22:17*	*1059*
2-Fluorophenol	*83*	*%*	*40-109*	*1*	*12/17/20*	*12/18/20 22:17*	*1059*
Nitrobenzene-d5	*84*	*%*	*41-101*	*1*	*12/17/20*	*12/18/20 22:17*	*1059*
Phenol-d6	*78*	*%*	*44-102*	*1*	*12/17/20*	*12/18/20 22:17*	*1059*
Terphenyl-D14	*90*	*%*	*70-115*	*1*	*12/17/20*	*12/18/20 22:17*	*1059*
2,4,6-Tribromophenol	*86*	*%*	*36-123*	*1*	*12/17/20*	*12/18/20 22:17*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.25**	mg/kg	0.080		1	0.04	12/17/20	12/17/20 17:11	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C7 70.8-71.9 **Date/Time Sampled: 12/11/2020 13:05** **PSS Sample ID: 20121125-025**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 60.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.61**	mg/kg	3.7	J	1	0.34	12/22/20	12/23/20 17:41	1051
Arsenic	**20**	mg/kg	0.74		1	0.081	12/22/20	12/23/20 17:41	1051
Beryllium	**3.8**	mg/kg	0.74		1	0.18	12/22/20	12/23/20 17:41	1051
Cadmium	**0.91**	mg/kg	0.74		1	0.074	12/22/20	12/23/20 17:41	1051
Chromium	**46**	mg/kg	0.74		1	0.41	12/22/20	12/23/20 17:41	1051
Copper	**110**	mg/kg	0.74		1	0.23	12/22/20	12/23/20 17:41	1051
Lead	**80**	mg/kg	0.74		1	0.31	12/22/20	12/23/20 17:41	1051
Manganese	**1,700**	mg/kg	0.74	E	1	0.62	12/22/20	12/23/20 17:41	1051
Mercury	**0.81**	mg/kg	0.15		1	0.054	12/22/20	12/23/20 17:41	1051
Nickel	**100**	mg/kg	0.74		1	0.26	12/22/20	12/23/20 17:41	1051
Selenium	**4.5**	mg/kg	0.74		1	0.074	12/22/20	12/23/20 17:41	1051
Silver	**0.55**	mg/kg	0.74	J	1	0.081	12/22/20	12/23/20 17:41	1051
Thallium	**0.40**	mg/kg	0.74	J	1	0.19	12/22/20	12/23/20 17:41	1051
Zinc	**460**	mg/kg	15		1	0.81	12/22/20	12/23/20 17:41	1051

Sample ID: C6 19.7-20.1 **Date/Time Sampled: 12/11/2020 14:35** **PSS Sample ID: 20121125-026**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 56.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	4.2		1	0.39	12/22/20	12/23/20 17:46	1051
Arsenic	**9.1**	mg/kg	0.84		1	0.092	12/22/20	12/23/20 17:46	1051
Beryllium	**1.7**	mg/kg	0.84		1	0.21	12/22/20	12/23/20 17:46	1051
Cadmium	**0.74**	mg/kg	0.84	J	1	0.084	12/22/20	12/23/20 17:46	1051
Chromium	**21**	mg/kg	0.84		1	0.46	12/22/20	12/23/20 17:46	1051
Copper	**36**	mg/kg	0.84		1	0.26	12/22/20	12/23/20 17:46	1051
Lead	**28**	mg/kg	0.84		1	0.35	12/22/20	12/23/20 17:46	1051
Manganese	**1,600**	mg/kg	0.84	E	1	0.7	12/22/20	12/23/20 17:46	1051
Mercury	**0.23**	mg/kg	0.17		1	0.061	12/22/20	12/23/20 17:46	1051
Nickel	**54**	mg/kg	0.84		1	0.29	12/22/20	12/23/20 17:46	1051
Selenium	**1.5**	mg/kg	0.84		1	0.084	12/22/20	12/23/20 17:46	1051
Silver	**0.41**	mg/kg	0.84	J	1	0.092	12/22/20	12/23/20 17:46	1051
Thallium	ND	mg/kg	0.84		1	0.22	12/22/20	12/23/20 17:46	1051
Zinc	**200**	mg/kg	17		1	0.92	12/22/20	12/23/20 17:46	1051

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 20.1-20.8 **Date/Time Sampled: 12/11/2020 14:37** **PSS Sample ID: 20121125-027**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 49.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.48**	mg/kg	4.2	J	1	0.38	12/22/20	12/23/20 18:19	1051
Arsenic	**12**	mg/kg	0.83		1	0.092	12/22/20	12/23/20 18:19	1051
Beryllium	**2.4**	mg/kg	0.83		1	0.21	12/22/20	12/23/20 18:19	1051
Cadmium	**1.2**	mg/kg	0.83		1	0.083	12/22/20	12/23/20 18:19	1051
Chromium	**33**	mg/kg	0.83		1	0.46	12/22/20	12/23/20 18:19	1051
Copper	**46**	mg/kg	0.83		1	0.26	12/22/20	12/23/20 18:19	1051
Lead	**37**	mg/kg	0.83		1	0.35	12/22/20	12/23/20 18:19	1051
Manganese	**2,800**	mg/kg	0.83	E	1	0.7	12/22/20	12/23/20 18:19	1051
Mercury	**0.17**	mg/kg	0.17		1	0.061	12/22/20	12/23/20 18:19	1051
Nickel	**84**	mg/kg	0.83		1	0.29	12/22/20	12/23/20 18:19	1051
Selenium	**1.1**	mg/kg	0.83		1	0.083	12/22/20	12/23/20 18:19	1051
Silver	**0.84**	mg/kg	0.83		1	0.092	12/22/20	12/23/20 18:19	1051
Thallium	**0.27**	mg/kg	0.83	J	1	0.22	12/22/20	12/23/20 18:19	1051
Zinc	**330**	mg/kg	17		1	0.92	12/22/20	12/23/20 18:19	1051

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 19.7 **Date/Time Sampled: 12/11/2020 14:30** **PSS Sample ID: 20121125-028**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 51.4**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.051**	mg/kg	0.043		1	0.043	12/23/20	12/23/20 20:10	1045
Benzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Bromochloromethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Bromodichloromethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Bromoform	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Bromomethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
2-Butanone (MEK)	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 20:10	1045
Carbon Disulfide	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Carbon tetrachloride	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Chlorobenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Chloroethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Chloroform	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 20:10	1045
Chloromethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Cyclohexane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Dibromochloromethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2-Dibromoethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Dichlorodifluoromethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,1-Dichloroethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2-Dichloroethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,1-Dichloroethene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2-Dichloropropane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
trans-1,2-Dichloroethene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Ethylbenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
2-Hexanone (MBK)	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Isopropylbenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Methyl Acetate	ND	mg/kg	0.054		1	0.054	12/23/20	12/23/20 20:10	1045
Methylcyclohexane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Methylene chloride	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 20:10	1045

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 19.7 **Date/Time Sampled: 12/11/2020 14:30** **PSS Sample ID: 20121125-028**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 51.4**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Naphthalene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Styrene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Tetrachloroethene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Toluene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Trichloroethene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Trichlorofluoromethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045
Vinyl chloride	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 20:10	1045
m&p-Xylene	ND	mg/kg	0.0043		1	0.0043	12/23/20	12/23/20 20:10	1045
o-Xylene	ND	mg/kg	0.0021		1	0.0021	12/23/20	12/23/20 20:10	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*99*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 20:10*	*1045*
Dibromofluoromethane	*95*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 20:10*	*1045*
Toluene-D8	*98*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 20:10*	*1045*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 21.8-23.4 **Date/Time Sampled: 12/11/2020 15:11** **PSS Sample ID: 20121125-029**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 69.3**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	68		1	18	12/14/20	12/14/20 19:19	1059

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**65**	mg/kg	3.4		1	1	12/14/20	12/14/20 14:41	1059

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**280**	mg/kg	87		10	43	12/15/20	12/15/20 18:08	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	14		1	4.2	12/21/20	12/21/20 13:49	1053

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 21.8-23.4 **Date/Time Sampled: 12/11/2020 15:11** **PSS Sample ID: 20121125-029**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 69.3**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**3.5**	mg/kg	3.0		1	0.28	12/22/20	12/23/20 18:24	1051
Arsenic	**5.9**	mg/kg	0.61		1	0.067	12/22/20	12/23/20 18:24	1051
Beryllium	**1.6**	mg/kg	0.61		1	0.15	12/22/20	12/23/20 18:24	1051
Cadmium	**0.40**	mg/kg	0.61	J	1	0.061	12/22/20	12/23/20 18:24	1051
Chromium	**11**	mg/kg	0.61		1	0.33	12/22/20	12/23/20 18:24	1051
Copper	**33**	mg/kg	0.61		1	0.19	12/22/20	12/23/20 18:24	1051
Lead	**27**	mg/kg	0.61		1	0.26	12/22/20	12/23/20 18:24	1051
Manganese	**1,100**	mg/kg	0.61	E	1	0.51	12/22/20	12/23/20 18:24	1051
Mercury	**0.30**	mg/kg	0.12		1	0.044	12/22/20	12/23/20 18:24	1051
Nickel	**35**	mg/kg	0.61		1	0.21	12/22/20	12/23/20 18:24	1051
Selenium	**2.3**	mg/kg	0.61		1	0.061	12/22/20	12/23/20 18:24	1051
Silver	**0.23**	mg/kg	0.61	J	1	0.067	12/22/20	12/23/20 18:24	1051
Thallium	ND	mg/kg	0.61		1	0.16	12/22/20	12/23/20 18:24	1051
Zinc	**120**	mg/kg	12		1	0.67	12/22/20	12/23/20 18:24	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/14/20	12/15/20 14:46	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

Qualifier(s): See Batch 180438 on Case Narrative.

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**52**	mg/kg	4.8	DF	1	4.8	12/15/20	12/16/20 14:45	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*93*	*%*	*35-124*	*1*	*12/15/20*	*12/16/20 14:45*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 21.8-23.4 **Date/Time Sampled: 12/11/2020 15:11** **PSS Sample ID: 20121125-029**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 69.3**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180524 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
beta-BHC	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
delta-BHC	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Heptachlor	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Aldrin	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Heptachlor epoxide	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
gamma-Chlordane	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
alpha-Chlordane	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
4,4-DDE	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Endosulfan I	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Dieldrin	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Endrin	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
4,4-DDD	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Endosulfan II	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
4,4-DDT	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Endrin aldehyde	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Methoxychlor	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Endosulfan sulfate	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Endrin ketone	ND	mg/kg	0.0057		1	0.0057	12/15/20	12/16/20 16:04	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 16:04	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/15/20	12/16/20 16:04	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*74*	*%*	*44-152*	*1*	*12/15/20*	*12/16/20 16:04*	*1029*
Decachlorobiphenyl	*89*	*%*	*39-151*	*1*	*12/15/20*	*12/16/20 16:04*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180425 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 13:59	1029
PCB-1221	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 13:59	1029
PCB-1232	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 13:59	1029
PCB-1242	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 13:59	1029
PCB-1248	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 13:59	1029

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Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 21.8-23.4 **Date/Time Sampled: 12/11/2020 15:11** **PSS Sample ID: 20121125-029**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 69.3**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180425 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 13:59	1029
PCB-1260	ND	mg/kg	0.071		1	0.071	12/15/20	12/17/20 13:59	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*108*	*%*	*40-149*		*1*	*12/15/20*	*12/17/20 13:59*	*1029*
Tetrachloro-m-xylene	*85*	*%*	*34-117*		*1*	*12/15/20*	*12/17/20 13:59*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	**0.013**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Acenaphthylene	**0.047**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Acetophenone	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Anthracene	**0.094**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Atrazine	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
Benzo(a)anthracene	**0.25**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Benzo(a)pyrene	**0.21**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Benzo(b)fluoranthene	**0.18**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Benzo(g,h,i)perylene	**0.10**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Benzo(k)fluoranthene	**0.14**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Butyl benzyl phthalate	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
bis(2-ethylhexyl) phthalate	**0.19**	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Di-n-butyl phthalate	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Carbazole	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Caprolactam	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
4-Chloroaniline	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2-Chloronaphthalene	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2-Chlorophenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 21.8-23.4 **Date/Time Sampled: 12/11/2020 15:11** **PSS Sample ID: 20121125-029**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 69.3**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.25**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Dibenz(a,h)Anthracene	**0.037**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Dibenzofuran	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2,4-Dichlorophenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Diethyl phthalate	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Dimethyl phthalate	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2,4-Dimethylphenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:02	1059
2,4-Dinitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:02	1059
2,4-Dinitrotoluene	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
2,6-Dinitrotoluene	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
Fluoranthene	**0.46**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Fluorene	**0.036**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Hexachlorobenzene	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Hexachlorobutadiene	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
Hexachloroethane	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Indeno(1,2,3-c,d)Pyrene	**0.11**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Isophorone	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2-Methylnaphthalene	**0.034**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
2-Methyl phenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
3&4-Methylphenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Naphthalene	**0.054**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
2-Nitroaniline	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
3-Nitroaniline	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
4-Nitroaniline	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
Nitrobenzene	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2-Nitrophenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
4-Nitrophenol	ND	mg/kg	0.24		1	0.24	12/17/20	12/19/20 00:02	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Di-n-octyl phthalate	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
Pentachlorophenol	ND	mg/kg	0.096		1	0.096	12/17/20	12/19/20 00:02	1059
Phenanthrene	**0.28**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 21.8-23.4 **Date/Time Sampled: 12/11/2020 15:11** **PSS Sample ID: 20121125-029**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 69.3**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180532 on Case Narrative. See Batch 84267 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
Pyrene	**0.42**	mg/kg	0.012		1	0.012	12/17/20	12/19/20 00:02	1059
Pyridine	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.048		1	0.048	12/17/20	12/19/20 00:02	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*90*	*%*	*50-104*	*1*	*12/17/20*	*12/19/20 00:02*	*1059*
2-Fluorophenol	*85*	*%*	*40-109*	*1*	*12/17/20*	*12/19/20 00:02*	*1059*
Nitrobenzene-d5	*88*	*%*	*41-101*	*1*	*12/17/20*	*12/19/20 00:02*	*1059*
Phenol-d6	*80*	*%*	*44-102*	*1*	*12/17/20*	*12/19/20 00:02*	*1059*
Terphenyl-D14	*101*	*%*	*70-115*	*1*	*12/17/20*	*12/19/20 00:02*	*1059*
2,4,6-Tribromophenol	*92*	*%*	*36-123*	*1*	*12/17/20*	*12/19/20 00:02*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.12**	mg/kg	0.086		1	0.043	12/17/20	12/17/20 17:14	1053

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121125

Sample ID: C6 23.4-26.1 **Date/Time Sampled: 12/11/2020 15:23** **PSS Sample ID: 20121125-030**
Matrix: SOIL **Date/Time Received: 12/11/2020 16:42** **% Solids SM2540G-11: 56.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180652 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.41**	mg/kg	4.0	J	1	0.37	12/22/20	12/23/20 18:29	1051
Arsenic	**12**	mg/kg	0.80		1	0.088	12/22/20	12/23/20 18:29	1051
Beryllium	**2.2**	mg/kg	0.80		1	0.2	12/22/20	12/23/20 18:29	1051
Cadmium	**1.3**	mg/kg	0.80		1	0.08	12/22/20	12/23/20 18:29	1051
Chromium	**30**	mg/kg	0.80		1	0.44	12/22/20	12/23/20 18:29	1051
Copper	**50**	mg/kg	0.80		1	0.25	12/22/20	12/23/20 18:29	1051
Lead	**39**	mg/kg	0.80		1	0.33	12/22/20	12/23/20 18:29	1051
Manganese	**2,600**	mg/kg	0.80	E	1	0.67	12/22/20	12/23/20 18:29	1051
Mercury	**0.20**	mg/kg	0.16		1	0.058	12/22/20	12/23/20 18:29	1051
Nickel	**82**	mg/kg	0.80		1	0.28	12/22/20	12/23/20 18:29	1051
Selenium	**1.5**	mg/kg	0.80		1	0.08	12/22/20	12/23/20 18:29	1051
Silver	**0.81**	mg/kg	0.80		1	0.088	12/22/20	12/23/20 18:29	1051
Thallium	**0.24**	mg/kg	0.80	J	1	0.21	12/22/20	12/23/20 18:29	1051
Zinc	**320**	mg/kg	16		1	0.88	12/22/20	12/23/20 18:29	1051

ANALYTICAL REPORT

Lab Number:	L2056043
Client:	Phase Separation Science, Inc. 6630 Baltimore Nat'l Pike Suite 103 Baltimore, MD 21228
ATTN:	Simon Crisp
Phone:	(410) 747-8770
Project Name:	20121125
Project Number:	3037.02
Report Date:	03/08/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 20121125
Project Number: 3037.02

Lab Number: L2056043
Report Date: 03/08/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2056043-01	B6 41.0-45.3 (20121125-004)	SOIL	CONOWINGO	12/10/20 18:30	12/15/20
L2056043-02	B5 51.9-54.1 (20121125-009)	SOIL	CONOWINGO	12/10/20 17:03	12/15/20
L2056043-03	C7 41.7-43.4 (20121125-015)	SOIL	CONOWINGO	12/11/20 09:05	12/15/20
L2056043-04	C7 68.8-70.8 (20121125-024)	SOIL	CONOWINGO	12/11/20 11:22	12/15/20
L2056043-05	C6 21.8-23.4 (20121125-029)	SOIL	CONOWINGO	12/11/20 15:11	12/15/20

Project Name:	20121125	**Lab Number:**	L2056043
Project Number:	3037.02	**Report Date:**	03/08/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	20121125	**Lab Number:**	L2056043
Project Number:	3037.02	**Report Date:**	03/08/21

Case Narrative (continued)

Report Reivsion

March 8, 2021: The Client ID was amended on sample L2056043-03.

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

L2056043-04: At the client's request, this sample was not analyzed.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Elizabeth Porta

Title: Technical Director/Representative Date: 03/08/21

INORGANICS
&
MISCELLANEOUS

Project Name: 20121125
Project Number: 3037.02

Lab Number: L2056043
Report Date: 03/08/21

SAMPLE RESULTS

Lab ID: L2056043-01
Client ID: B6 41.0-45.3 (20121125-004)
Sample Location: CONOWINGO

Date Collected: 12/10/20 18:30
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	65.7		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.5	0.36	1	12/20/20 18:30	12/21/20 23:28	109,9016	AT

Project Name: 20121125
Project Number: 3037.02

Lab Number: L2056043
Report Date: 03/08/21

SAMPLE RESULTS

Lab ID: L2056043-02
Client ID: B5 51.9-54.1 (20121125-009)
Sample Location: CONOWINGO

Date Collected: 12/10/20 17:03
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	70.7		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.4	0.34	1	12/20/20 18:30	12/21/20 23:29	109,9016	AT

Project Name: 20121125
Project Number: 3037.02

Lab Number: L2056043
Report Date: 03/08/21

SAMPLE RESULTS

Lab ID: L2056043-03
Client ID: C7 41.7-43.4 (20121125-015)
Sample Location: CONOWINGO

Date Collected: 12/11/20 09:05
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	74.2		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.3	0.32	1	12/20/20 18:30	12/21/20 23:29	109,9016	AT

Project Name: 20121125
Project Number: 3037.02

Lab Number: L2056043
Report Date: 03/08/21

SAMPLE RESULTS

Lab ID: L2056043-05
Client ID: C6 21.8-23.4 (20121125-029)
Sample Location: CONOWINGO

Date Collected: 12/11/20 15:11
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	65.6		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.5	0.36	1	12/20/20 18:30	12/21/20 23:30	109,9016	AT

Project Name: 20121125 **Lab Number:** L2056043

Project Number: 3037.02 **Report Date:** 03/08/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-03,05 Batch: WG1447479-1										
Cyanide, Free	ND		mg/kg	1.0	0.24	1	12/20/20 18:30	12/21/20 23:23	109,9016	AT

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121403

March 24, 2021

Nancy Leitner
Northgate Environmental Management, Inc.
47 East All Saints St.
Frederick, MD 21701

Reference: PSS Project No: **20121403**
Project Name: Conowingo
Project Location: Conowingo
Project ID.: 3037.02

Dear Nancy Leitner:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **20121403**. This report has been revised to update sample ID for 044; chain of custodies; and report manganese per client request. This report version includes revised sample results. This report cancels and supersedes report version 1.001 dated December 30, 2020.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on January 18, 2021, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Dan Prucnal
Laboratory Manager

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Explanation of Qualifiers

Project Name: Conowingo
PSS Project No.: 20121403

Project ID: 3037.02

The following samples were received under chain of custody by Phase Separation Science (PSS) on 12/14/2020 at 09:30 am

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
20121403-001	C6 28.3-31.1	SOIL	12/11/20 16:05
20121403-002	C6 31.1-33.9	SOIL	12/11/20 16:35
20121403-003	C6 33.9-35.0	SOIL	12/11/20 16:52
20121403-004	C6 35.0-36.1	SOIL	12/11/20 16:55
20121403-005	C6 36.6-38.8	SOIL	12/11/20 18:00
20121403-006	C6 38.8-39.8	SOIL	12/11/20 18:05
20121403-007	C6 39.8-41.1	SOIL	12/11/20 18:10
20121403-008	C6 41.5-43.6	SOIL	12/11/20 18:25
20121403-009	C6 43.6-46.1	SOIL	12/11/20 18:27
20121403-010	C6 46.1-49.5	SOIL	12/12/20 07:50
20121403-011	C6 49.5-51.1	SOIL	12/12/20 07:55
20121403-012	C6 52.3-54.2	SOIL	12/12/20 08:57
20121403-013	C6 54.2-56.1	SOIL	12/12/20 08:59
20121403-014	B7 37.6-39.6	SOIL	12/12/20 09:48
20121403-015	B7 39.6-40.6	SOIL	12/12/20 09:50
20121403-016	B7 42.0	SOIL	12/12/20 10:22
20121403-017	B7 41.0-43.3	SOIL	12/12/20 10:25
20121403-018	B7 43.3-45.6	SOIL	12/12/20 10:30
20121403-019	B7 47.4-48.2	SOIL	12/12/20 11:00
20121403-020	B7 48.2-50.6	SOIL	12/12/20 11:10
20121403-021	B7 51.0-52.5	SOIL	12/12/20 11:50
20121403-022	B7 52.5-54.5	SOIL	12/12/20 11:50
20121403-023	B7 54.5-55.6	SOIL	12/12/20 11:55
20121403-024	B7 55.6-58.1	SOIL	12/12/20 12:40
20121403-025	B7 58.1-60.6	SOIL	12/12/20 12:45
20121403-026	B7 60.6-63.1	SOIL	12/12/20 13:10
20121403-027	B7 63.1-65.6	SOIL	12/12/20 13:15
20121403-028	B7 65.6-66.7	SOIL	12/12/20 13:37
20121403-029	B7 66.7-68.1	SOIL	12/12/20 13:40
20121403-030	B8 66.7	SOIL	12/12/20 14:20
20121403-031	B8 63.7-66.7	SOIL	12/12/20 14:30
20121403-032	B8 66.7-67.2	SOIL	12/12/20 14:35
20121403-033	B8 67.2-68.7	SOIL	12/12/20 14:40
20121403-034	B8 69.6-71.2	SOIL	12/12/20 15:05
20121403-035	A8 41.2-42.3	SOIL	12/13/20 08:37
20121403-036	A8 45.2-47.3	SOIL	12/13/20 08:52
20121403-037	A8 50.5-52.3	SOIL	12/13/20 09:04
20121403-038	A8 53.1-57.3	SOIL	12/13/20 09:16
20121403-039	A8 62.3	SOIL	12/13/20 09:27
20121403-040	A8 57.8-62.3	SOIL	12/13/20 09:27
20121403-041	A8 62.9-67.3	SOIL	12/13/20 09:55
20121403-042	A8 67.3-72.3	SOIL	12/13/20 10:10

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Explanation of Qualifiers

Project Name: Conowingo

PSS Project No.: 20121403

20121403-043	A8 72.3-74.8	SOIL	12/13/20 10:26
20121403-044	B8A 58.8-60.0	SOIL	12/13/20 11:27
20121403-045	B8A 68.7-70.0	SOIL	12/13/20 11:47
20121403-046	B8A 71.9-75.0	SOIL	12/13/20 12:14
20121403-047	B8A 75.3-80.0	SOIL	12/13/20 12:30
20121403-048	B8A 81.5	SOIL	12/13/20 12:48
20121403-049	B8A 81.1-82.4	SOIL	12/13/20 12:48
20121403-050	C8 48.6-49.7	SOIL	12/13/20 13:34
20121403-051	C8 61.6-65.6	SOIL	12/13/20 14:40
20121403-052	C8 65.6-70.6	SOIL	12/13/20 14:58
20121403-053	C8 72.7-75.0	SOIL	12/13/20 15:14
20121403-054	D8 47.2-49.0	SOIL	12/13/20 16:11
20121403-055	D8 48.0	SOIL	12/13/20 16:11
20121403-056	D8 55.0-59.0	SOIL	12/13/20 16:40
20121403-057	D8 60.6-64.0	SOIL	12/13/20 17:03
20121403-058	D8 64.0-69.0	SOIL	12/13/20 17:20
20121403-059	D8 69.0-74.0	SOIL	12/13/20 17:40
20121403-060	D8 75.5-79.0	SOIL	12/13/20 18:00
20121403-061	C8 76.2	SOIL	12/13/20 15:37

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

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Explanation of Qualifiers

Project Name: Conowingo

PSS Project No.: 20121403

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 28.3-31.1 **Date/Time Sampled: 12/11/2020 16:05** **PSS Sample ID: 20121403-001**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.3**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.49**	mg/kg	3.1	J	1	0.28	12/23/20	12/28/20 17:44	1051
Arsenic	**12**	mg/kg	0.62		1	0.068	12/23/20	12/28/20 17:44	1051
Beryllium	**2.8**	mg/kg	0.62		1	0.15	12/23/20	12/28/20 17:44	1051
Cadmium	**1.8**	mg/kg	0.62		1	0.062	12/23/20	12/28/20 17:44	1051
Chromium	**38**	mg/kg	0.62		1	0.34	12/23/20	12/28/20 17:44	1051
Copper	**54**	mg/kg	0.62		1	0.19	12/23/20	12/28/20 17:44	1051
Lead	**51**	mg/kg	0.62		1	0.26	12/23/20	12/28/20 17:44	1051
Manganese	**2,500**	mg/kg	0.62	E	1	0.52	12/23/20	12/28/20 17:44	1051
Mercury	**0.21**	mg/kg	0.12		1	0.045	12/23/20	12/28/20 17:44	1051
Nickel	**80**	mg/kg	0.62		1	0.22	12/23/20	12/28/20 17:44	1051
Selenium	**1.2**	mg/kg	0.62		1	0.062	12/23/20	12/28/20 17:44	1051
Silver	**1.4**	mg/kg	0.62		1	0.068	12/23/20	12/28/20 17:44	1051
Thallium	**0.45**	mg/kg	0.62	J	1	0.16	12/23/20	12/28/20 17:44	1051
Zinc	**320**	mg/kg	12		1	0.68	12/23/20	12/28/20 17:44	1051

Sample ID: C6 31.1-33.9 **Date/Time Sampled: 12/11/2020 16:35** **PSS Sample ID: 20121403-002**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.78**	mg/kg	2.9	J	1	0.27	12/23/20	12/28/20 18:08	1051
Arsenic	**17**	mg/kg	0.58		1	0.064	12/23/20	12/28/20 18:08	1051
Beryllium	**3.1**	mg/kg	0.58		1	0.15	12/23/20	12/28/20 18:08	1051
Cadmium	**2.4**	mg/kg	0.58		1	0.058	12/23/20	12/28/20 18:08	1051
Chromium	**52**	mg/kg	0.58		1	0.32	12/23/20	12/28/20 18:08	1051
Copper	**68**	mg/kg	0.58		1	0.18	12/23/20	12/28/20 18:08	1051
Lead	**66**	mg/kg	0.58		1	0.24	12/23/20	12/28/20 18:08	1051
Manganese	**2,600**	mg/kg	0.58	E	1	0.49	12/23/20	12/28/20 18:08	1051
Mercury	**0.28**	mg/kg	0.12		1	0.042	12/23/20	12/28/20 18:08	1051
Nickel	**84**	mg/kg	0.58		1	0.2	12/23/20	12/28/20 18:08	1051
Selenium	**1.6**	mg/kg	0.58		1	0.058	12/23/20	12/28/20 18:08	1051
Silver	**2.1**	mg/kg	0.58		1	0.064	12/23/20	12/28/20 18:08	1051
Thallium	**0.44**	mg/kg	0.58	J	1	0.15	12/23/20	12/28/20 18:08	1051
Zinc	**350**	mg/kg	12		1	0.64	12/23/20	12/28/20 18:08	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 33.9-35.0 **Date/Time Sampled: 12/11/2020 16:52** **PSS Sample ID: 20121403-003**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 62.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.80**	mg/kg	2.9	J	1	0.27	12/23/20	12/28/20 18:13	1051
Arsenic	**15**	mg/kg	0.58		1	0.064	12/23/20	12/28/20 18:13	1051
Beryllium	**2.8**	mg/kg	0.58		1	0.15	12/23/20	12/28/20 18:13	1051
Cadmium	**1.8**	mg/kg	0.58		1	0.058	12/23/20	12/28/20 18:13	1051
Chromium	**42**	mg/kg	0.58		1	0.32	12/23/20	12/28/20 18:13	1051
Copper	**74**	mg/kg	0.58		1	0.18	12/23/20	12/28/20 18:13	1051
Lead	**52**	mg/kg	0.58		1	0.25	12/23/20	12/28/20 18:13	1051
Manganese	**1,700**	mg/kg	0.58	E	1	0.49	12/23/20	12/28/20 18:13	1051
Mercury	**0.35**	mg/kg	0.12		1	0.043	12/23/20	12/28/20 18:13	1051
Nickel	**70**	mg/kg	0.58		1	0.2	12/23/20	12/28/20 18:13	1051
Selenium	**3.2**	mg/kg	0.58		1	0.058	12/23/20	12/28/20 18:13	1051
Silver	**1.8**	mg/kg	0.58		1	0.064	12/23/20	12/28/20 18:13	1051
Thallium	**0.29**	mg/kg	0.58	J	1	0.15	12/23/20	12/28/20 18:13	1051
Zinc	**330**	mg/kg	12		1	0.64	12/23/20	12/28/20 18:13	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 35.0-36.1 **Date/Time Sampled: 12/11/2020 16:55** **PSS Sample ID: 20121403-004**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.4**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	71		1	18	12/15/20	12/15/20 17:40	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**120**	mg/kg	36		10	36	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**280**	mg/kg	89		9	44	12/15/20	12/15/20 18:20	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	16		1	4.9	12/21/20	12/21/20 13:49	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 35.0-36.1 **Date/Time Sampled: 12/11/2020 16:55** **PSS Sample ID: 20121403-004**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.4**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.51**	mg/kg	3.1	J	1	0.29	12/23/20	12/28/20 18:17	1051
Arsenic	**7.9**	mg/kg	0.62		1	0.068	12/23/20	12/28/20 18:17	1051
Beryllium	**2.0**	mg/kg	0.62		1	0.15	12/23/20	12/28/20 18:17	1051
Cadmium	**0.80**	mg/kg	0.62		1	0.062	12/23/20	12/28/20 18:17	1051
Chromium	**18**	mg/kg	0.62		1	0.34	12/23/20	12/28/20 18:17	1051
Copper	**45**	mg/kg	0.62		1	0.19	12/23/20	12/28/20 18:17	1051
Lead	**32**	mg/kg	0.62		1	0.26	12/23/20	12/28/20 18:17	1051
Manganese	**830**	mg/kg	0.62	E	1	0.52	12/23/20	12/28/20 18:17	1051
Mercury	**0.28**	mg/kg	0.12		1	0.045	12/23/20	12/28/20 18:17	1051
Nickel	**40**	mg/kg	0.62		1	0.22	12/23/20	12/28/20 18:17	1051
Selenium	**3.3**	mg/kg	0.62		1	0.062	12/23/20	12/28/20 18:17	1051
Silver	**0.59**	mg/kg	0.62	J	1	0.068	12/23/20	12/28/20 18:17	1051
Thallium	**0.19**	mg/kg	0.62	J	1	0.16	12/23/20	12/28/20 18:17	1051
Zinc	**180**	mg/kg	12		1	0.68	12/23/20	12/28/20 18:17	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/14/20	12/15/20 14:50	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**64**	mg/kg	4.9	DF	1	4.9	12/20/20	12/21/20 17:13	1070

Surrogate(s)	***Recovery***		***Limits***					
o-Terphenyl	*79*	*%*	*35-124*		*1*		*12/20/20*	*12/21/20 17:13*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 35.0-36.1 **Date/Time Sampled: 12/11/2020 16:55** **PSS Sample ID: 20121403-004**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.4**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
beta-BHC	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
delta-BHC	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Heptachlor	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Aldrin	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Heptachlor epoxide	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
gamma-Chlordane	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
alpha-Chlordane	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
4,4-DDE	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Endosulfan I	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Dieldrin	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Endrin	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
4,4-DDD	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Endosulfan II	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
4,4-DDT	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Endrin aldehyde	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Methoxychlor	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Endosulfan sulfate	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Endrin ketone	ND	mg/kg	0.0057		1	0.0057	12/18/20	12/21/20 21:45	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/18/20	12/21/20 21:45	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/18/20	12/21/20 21:45	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*64*	*%*	*44-152*	*1*	*12/18/20*	*12/21/20 21:45*	*1029*
Decachlorobiphenyl	*108*	*%*	*39-151*	*1*	*12/18/20*	*12/21/20 21:45*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 15:43	1029
PCB-1221	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 15:43	1029
PCB-1232	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 15:43	1029
PCB-1242	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 15:43	1029
PCB-1248	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 15:43	1029

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 35.0-36.1 **Date/Time Sampled: 12/11/2020 16:55** **PSS Sample ID: 20121403-004**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.4**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 15:43	1029
PCB-1260	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 15:43	1029
Surrogate(s)	***Recovery***		***Limits***						
Decachlorobiphenyl	*151*	*%*	*40-149*	*	*1*		*12/18/20*	*12/22/20 15:43*	*1029*
Tetrachloro-m-xylene	*85*	*%*	*34-117*		*1*		*12/18/20*	*12/22/20 15:43*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Acenaphthylene	**0.055**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Acetophenone	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Anthracene	**0.047**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Atrazine	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
Benzo(a)anthracene	**0.16**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Benzo(a)pyrene	**0.18**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Benzo(b)fluoranthene	**0.081**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Benzo(g,h,i)perylene	**0.079**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Benzo(k)fluoranthene	**0.12**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Butyl benzyl phthalate	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Di-n-butyl phthalate	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Carbazole	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Caprolactam	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
4-Chloroaniline	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2-Chloronaphthalene	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2-Chlorophenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 35.0-36.1 **Date/Time Sampled: 12/11/2020 16:55** **PSS Sample ID: 20121403-004**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.4**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.17**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Dibenz(a,h)Anthracene	**0.023**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Dibenzofuran	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2,4-Dichlorophenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Diethyl phthalate	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Dimethyl phthalate	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2,4-Dimethylphenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.24		1	0.24	12/18/20	12/22/20 15:18	1059
2,4-Dinitrophenol	ND	mg/kg	0.24		1	0.24	12/18/20	12/22/20 15:18	1059
2,4-Dinitrotoluene	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
2,6-Dinitrotoluene	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
Fluoranthene	**0.21**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Fluorene	**0.021**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Hexachlorobenzene	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Hexachlorobutadiene	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
Hexachloroethane	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Indeno(1,2,3-c,d)Pyrene	**0.097**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Isophorone	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2-Methylnaphthalene	**0.027**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
2-Methyl phenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
3&4-Methylphenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Naphthalene	**0.056**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
2-Nitroaniline	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
3-Nitroaniline	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
4-Nitroaniline	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
Nitrobenzene	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2-Nitrophenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
4-Nitrophenol	ND	mg/kg	0.24		1	0.24	12/18/20	12/22/20 15:18	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Di-n-octyl phthalate	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
Pentachlorophenol	ND	mg/kg	0.098		1	0.098	12/18/20	12/22/20 15:18	1059
Phenanthrene	**0.13**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 35.0-36.1 **Date/Time Sampled: 12/11/2020 16:55** **PSS Sample ID: 20121403-004**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.4**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
Pyrene	**0.25**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:18	1059
Pyridine	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.049		1	0.049	12/18/20	12/22/20 15:18	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*86*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 15:18*	*1059*
2-Fluorophenol	*85*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 15:18*	*1059*
Nitrobenzene-d5	*87*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 15:18*	*1059*
Phenol-d6	*79*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 15:18*	*1059*
Terphenyl-D14	*96*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 15:18*	*1059*
2,4,6-Tribromophenol	*85*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 15:18*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.38**	mg/kg	0.086		1	0.043	12/17/20	12/17/20 17:23	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 36.6-38.8 **Date/Time Sampled: 12/11/2020 18:00** **PSS Sample ID: 20121403-005**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.3**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	75		1	20	12/15/20	12/15/20 18:49	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**94**	mg/kg	3.7		1	1.1	12/18/20	12/18/20 14:35	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**280**	mg/kg	92		10	46	12/15/20	12/15/20 18:24	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	15		1	4.6	12/21/20	12/21/20 13:49	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 36.6-38.8 **Date/Time Sampled: 12/11/2020 18:00** **PSS Sample ID: 20121403-005**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.3**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.55**	mg/kg	3.1	J	1	0.29	12/23/20	12/28/20 18:56	1051
Arsenic	**7.5**	mg/kg	0.62		1	0.068	12/23/20	12/28/20 18:56	1051
Beryllium	**1.8**	mg/kg	0.62		1	0.16	12/23/20	12/28/20 18:56	1051
Cadmium	**0.66**	mg/kg	0.62		1	0.062	12/23/20	12/28/20 18:56	1051
Chromium	**51**	mg/kg	0.62		1	0.34	12/23/20	12/28/20 18:56	1051
Copper	**43**	mg/kg	0.62		1	0.19	12/23/20	12/28/20 18:56	1051
Lead	**28**	mg/kg	0.62		1	0.26	12/23/20	12/28/20 18:56	1051
Manganese	**810**	mg/kg	0.62	E	1	0.52	12/23/20	12/28/20 18:56	1051
Mercury	**0.25**	mg/kg	0.12		1	0.045	12/23/20	12/28/20 18:56	1051
Nickel	**41**	mg/kg	0.62		1	0.22	12/23/20	12/28/20 18:56	1051
Selenium	**2.9**	mg/kg	0.62		1	0.062	12/23/20	12/28/20 18:56	1051
Silver	**0.53**	mg/kg	0.62	J	1	0.068	12/23/20	12/28/20 18:56	1051
Thallium	**0.18**	mg/kg	0.62	J	1	0.16	12/23/20	12/28/20 18:56	1051
Zinc	**170**	mg/kg	12		1	0.68	12/23/20	12/28/20 18:56	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.5		1	1.5	12/14/20	12/15/20 14:54	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**77**	mg/kg	4.9	DF	1	4.9	12/20/20	12/21/20 18:03	1070

Surrogate(s)	***Recovery***		***Limits***					
o-Terphenyl	*91*	*%*	*35-124*		*1*		*12/20/20*	*12/21/20 18:03*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 36.6-38.8 **Date/Time Sampled: 12/11/2020 18:00** **PSS Sample ID: 20121403-005**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.3**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
beta-BHC	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
delta-BHC	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Heptachlor	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Aldrin	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Heptachlor epoxide	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
gamma-Chlordane	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
alpha-Chlordane	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
4,4-DDE	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Endosulfan I	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Dieldrin	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Endrin	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
4,4-DDD	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Endosulfan II	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
4,4-DDT	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Endrin aldehyde	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Methoxychlor	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Endosulfan sulfate	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Endrin ketone	ND	mg/kg	0.0058		1	0.0058	12/18/20	12/21/20 22:00	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/18/20	12/21/20 22:00	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/18/20	12/21/20 22:00	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*62*	*%*	*44-152*	*1*	*12/18/20*	*12/21/20 22:00*	*1029*
Decachlorobiphenyl	*88*	*%*	*39-151*	*1*	*12/18/20*	*12/21/20 22:00*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 16:12	1029
PCB-1221	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 16:12	1029
PCB-1232	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 16:12	1029
PCB-1242	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 16:12	1029
PCB-1248	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 16:12	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 36.6-38.8 **Date/Time Sampled: 12/11/2020 18:00** **PSS Sample ID: 20121403-005**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.3**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 16:12	1029
PCB-1260	ND	mg/kg	0.072		1	0.072	12/18/20	12/22/20 16:12	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*124*	*%*	*40-149*		*1*	*12/18/20*	*12/22/20 16:12*	*1029*
Tetrachloro-m-xylene	*88*	*%*	*34-117*		*1*	*12/18/20*	*12/22/20 16:12*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Acenaphthylene	**0.038**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Acetophenone	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Anthracene	**0.060**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Atrazine	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
Benzo(a)anthracene	**0.15**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Benzo(a)pyrene	**0.15**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Benzo(b)fluoranthene	**0.099**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Benzo(g,h,i)perylene	**0.076**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Benzo(k)fluoranthene	**0.11**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Butyl benzyl phthalate	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Di-n-butyl phthalate	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Carbazole	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Caprolactam	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
4-Chloroaniline	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2-Chloronaphthalene	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2-Chlorophenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 36.6-38.8 **Date/Time Sampled: 12/11/2020 18:00** **PSS Sample ID: 20121403-005**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.3**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.16**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Dibenz(a,h)Anthracene	**0.022**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Dibenzofuran	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2,4-Dichlorophenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Diethyl phthalate	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Dimethyl phthalate	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2,4-Dimethylphenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.24		1	0.24	12/18/20	12/22/20 15:45	1059
2,4-Dinitrophenol	ND	mg/kg	0.24		1	0.24	12/18/20	12/22/20 15:45	1059
2,4-Dinitrotoluene	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
2,6-Dinitrotoluene	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
Fluoranthene	**0.29**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Fluorene	**0.027**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Hexachlorobenzene	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Hexachlorobutadiene	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
Hexachloroethane	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Indeno(1,2,3-c,d)Pyrene	**0.085**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Isophorone	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2-Methylnaphthalene	**0.023**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
2-Methyl phenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
3&4-Methylphenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Naphthalene	**0.042**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
2-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
3-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
4-Nitroaniline	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
Nitrobenzene	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2-Nitrophenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
4-Nitrophenol	ND	mg/kg	0.24		1	0.24	12/18/20	12/22/20 15:45	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Di-n-octyl phthalate	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
Pentachlorophenol	ND	mg/kg	0.097		1	0.097	12/18/20	12/22/20 15:45	1059
Phenanthrene	**0.22**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 36.6-38.8 **Date/Time Sampled: 12/11/2020 18:00** **PSS Sample ID: 20121403-005**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 68.3**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
Pyrene	**0.29**	mg/kg	0.012		1	0.012	12/18/20	12/22/20 15:45	1059
Pyridine	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.048		1	0.048	12/18/20	12/22/20 15:45	1059

Surrogate(s)	***Recovery***		***Limits***				
2-Fluorobiphenyl	*89*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 15:45*	*1059*
2-Fluorophenol	*81*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 15:45*	*1059*
Nitrobenzene-d5	*89*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 15:45*	*1059*
Phenol-d6	*80*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 15:45*	*1059*
Terphenyl-D14	*96*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 15:45*	*1059*
2,4,6-Tribromophenol	*85*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 15:45*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.28**	mg/kg	0.084		1	0.042	12/17/20	12/17/20 17:26	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 38.8-39.8 **Date/Time Sampled: 12/11/2020 18:05** **PSS Sample ID: 20121403-006**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 54.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.79**	mg/kg	3.8	J	1	0.35	12/23/20	12/28/20 19:01	1051
Arsenic	**21**	mg/kg	0.75		1	0.083	12/23/20	12/28/20 19:01	1051
Beryllium	**4.3**	mg/kg	0.75		1	0.19	12/23/20	12/28/20 19:01	1051
Cadmium	**4.8**	mg/kg	0.75		1	0.075	12/23/20	12/28/20 19:01	1051
Chromium	**74**	mg/kg	0.75		1	0.42	12/23/20	12/28/20 19:01	1051
Copper	**110**	mg/kg	0.75		1	0.23	12/23/20	12/28/20 19:01	1051
Lead	**80**	mg/kg	0.75		1	0.32	12/23/20	12/28/20 19:01	1051
Manganese	**3,200**	mg/kg	0.75	E	1	0.63	12/23/20	12/28/20 19:01	1051
Mercury	**0.41**	mg/kg	0.15		1	0.055	12/23/20	12/28/20 19:01	1051
Nickel	**120**	mg/kg	0.75		1	0.26	12/23/20	12/28/20 19:01	1051
Selenium	**2.1**	mg/kg	0.75		1	0.075	12/23/20	12/28/20 19:01	1051
Silver	**7.2**	mg/kg	0.75		1	0.083	12/23/20	12/28/20 19:01	1051
Thallium	**0.47**	mg/kg	0.75	J	1	0.2	12/23/20	12/28/20 19:01	1051
Zinc	**660**	mg/kg	15		1	0.83	12/23/20	12/28/20 19:01	1051

Sample ID: C6 39.8-41.1 **Date/Time Sampled: 12/11/2020 18:10** **PSS Sample ID: 20121403-007**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 58.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.88**	mg/kg	3.0	J	1	0.28	12/23/20	12/28/20 19:05	1051
Arsenic	**20**	mg/kg	0.60		1	0.066	12/23/20	12/28/20 19:05	1051
Beryllium	**4.4**	mg/kg	0.60		1	0.15	12/23/20	12/28/20 19:05	1051
Cadmium	**3.9**	mg/kg	0.60		1	0.06	12/23/20	12/28/20 19:05	1051
Chromium	**74**	mg/kg	0.60		1	0.33	12/23/20	12/28/20 19:05	1051
Copper	**100**	mg/kg	0.60		1	0.19	12/23/20	12/28/20 19:05	1051
Lead	**69**	mg/kg	0.60		1	0.25	12/23/20	12/28/20 19:05	1051
Manganese	**2,200**	mg/kg	0.60	E	1	0.5	12/23/20	12/28/20 19:05	1051
Mercury	**0.45**	mg/kg	0.12		1	0.044	12/23/20	12/28/20 19:05	1051
Nickel	**110**	mg/kg	0.60		1	0.21	12/23/20	12/28/20 19:05	1051
Selenium	**3.3**	mg/kg	0.60		1	0.06	12/23/20	12/28/20 19:05	1051
Silver	**4.0**	mg/kg	0.60		1	0.066	12/23/20	12/28/20 19:05	1051
Thallium	**0.41**	mg/kg	0.60	J	1	0.16	12/23/20	12/28/20 19:05	1051
Zinc	**630**	mg/kg	12		1	0.66	12/23/20	12/28/20 19:05	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 41.5-43.6 **Date/Time Sampled: 12/11/2020 18:25** **PSS Sample ID: 20121403-008**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.76**	mg/kg	3.0	J	1	0.28	12/23/20	12/28/20 19:10	1051
Arsenic	**17**	mg/kg	0.60		1	0.066	12/23/20	12/28/20 19:10	1051
Beryllium	**4.2**	mg/kg	0.60		1	0.15	12/23/20	12/28/20 19:10	1051
Cadmium	**3.3**	mg/kg	0.60		1	0.06	12/23/20	12/28/20 19:10	1051
Chromium	**76**	mg/kg	0.60		1	0.33	12/23/20	12/28/20 19:10	1051
Copper	**96**	mg/kg	0.60		1	0.19	12/23/20	12/28/20 19:10	1051
Lead	**63**	mg/kg	0.60		1	0.25	12/23/20	12/28/20 19:10	1051
Manganese	**2,100**	mg/kg	0.60	E	1	0.51	12/23/20	12/28/20 19:10	1051
Mercury	**0.42**	mg/kg	0.12		1	0.044	12/23/20	12/28/20 19:10	1051
Nickel	**99**	mg/kg	0.60		1	0.21	12/23/20	12/28/20 19:10	1051
Selenium	**3.1**	mg/kg	0.60		1	0.06	12/23/20	12/28/20 19:10	1051
Silver	**3.1**	mg/kg	0.60		1	0.066	12/23/20	12/28/20 19:10	1051
Thallium	**0.36**	mg/kg	0.60	J	1	0.16	12/23/20	12/28/20 19:10	1051
Zinc	**600**	mg/kg	12		1	0.66	12/23/20	12/28/20 19:10	1051

Sample ID: C6 43.6-46.1 **Date/Time Sampled: 12/11/2020 18:27** **PSS Sample ID: 20121403-009**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.74**	mg/kg	2.8	J	1	0.26	12/23/20	12/28/20 19:15	1051
Arsenic	**19**	mg/kg	0.56		1	0.061	12/23/20	12/28/20 19:15	1051
Beryllium	**4.7**	mg/kg	0.56		1	0.14	12/23/20	12/28/20 19:15	1051
Cadmium	**2.8**	mg/kg	0.56		1	0.056	12/23/20	12/28/20 19:15	1051
Chromium	**64**	mg/kg	0.56		1	0.31	12/23/20	12/28/20 19:15	1051
Copper	**110**	mg/kg	0.56		1	0.17	12/23/20	12/28/20 19:15	1051
Lead	**71**	mg/kg	0.56		1	0.23	12/23/20	12/28/20 19:15	1051
Manganese	**1,700**	mg/kg	0.56	E	1	0.47	12/23/20	12/28/20 19:15	1051
Mercury	**0.55**	mg/kg	0.11		1	0.041	12/23/20	12/28/20 19:15	1051
Nickel	**100**	mg/kg	0.56		1	0.2	12/23/20	12/28/20 19:15	1051
Selenium	**3.2**	mg/kg	0.56		1	0.056	12/23/20	12/28/20 19:15	1051
Silver	**3.1**	mg/kg	0.56		1	0.061	12/23/20	12/28/20 19:15	1051
Thallium	**0.40**	mg/kg	0.56	J	1	0.14	12/23/20	12/28/20 19:15	1051
Zinc	**630**	mg/kg	11		1	0.61	12/23/20	12/28/20 19:15	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 46.1-49.5 **Date/Time Sampled: 12/12/2020 07:50** **PSS Sample ID: 20121403-010**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 62.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.88**	mg/kg	3.9	J	1	0.36	12/23/20	12/28/20 19:20	1051
Arsenic	**18**	mg/kg	0.79		1	0.086	12/23/20	12/28/20 19:20	1051
Beryllium	**4.0**	mg/kg	0.79		1	0.2	12/23/20	12/28/20 19:20	1051
Cadmium	**0.93**	mg/kg	0.79		1	0.079	12/23/20	12/28/20 19:20	1051
Chromium	**51**	mg/kg	0.79		1	0.43	12/23/20	12/28/20 19:20	1051
Copper	**94**	mg/kg	0.79		1	0.24	12/23/20	12/28/20 19:20	1051
Lead	**67**	mg/kg	0.79		1	0.33	12/23/20	12/28/20 19:20	1051
Manganese	**1,300**	mg/kg	0.79	E	1	0.66	12/23/20	12/28/20 19:20	1051
Mercury	**0.68**	mg/kg	0.16		1	0.057	12/23/20	12/28/20 19:20	1051
Nickel	**90**	mg/kg	0.79		1	0.28	12/23/20	12/28/20 19:20	1051
Selenium	**4.5**	mg/kg	0.79		1	0.079	12/23/20	12/28/20 19:20	1051
Silver	**0.48**	mg/kg	0.79	J	1	0.086	12/23/20	12/28/20 19:20	1051
Thallium	**0.45**	mg/kg	0.79	J	1	0.2	12/23/20	12/28/20 19:20	1051
Zinc	**380**	mg/kg	16		1	0.86	12/23/20	12/28/20 19:20	1051

Sample ID: C6 49.5-51.1 **Date/Time Sampled: 12/12/2020 07:55** **PSS Sample ID: 20121403-011**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 82.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.2		1	0.2	12/23/20	12/28/20 19:24	1051
Arsenic	**4.2**	mg/kg	0.43		1	0.047	12/23/20	12/28/20 19:24	1051
Beryllium	**0.74**	mg/kg	0.43		1	0.11	12/23/20	12/28/20 19:24	1051
Cadmium	**0.095**	mg/kg	0.43	J	1	0.043	12/23/20	12/28/20 19:24	1051
Chromium	**17**	mg/kg	0.43		1	0.24	12/23/20	12/28/20 19:24	1051
Copper	**11**	mg/kg	0.43		1	0.13	12/23/20	12/28/20 19:24	1051
Lead	**10**	mg/kg	0.43		1	0.18	12/23/20	12/28/20 19:24	1051
Manganese	**170**	mg/kg	0.43		1	0.36	12/23/20	12/28/20 19:24	1051
Mercury	**0.043**	mg/kg	0.086	J	1	0.031	12/23/20	12/28/20 19:24	1051
Nickel	**18**	mg/kg	0.43		1	0.15	12/23/20	12/28/20 19:24	1051
Selenium	**0.35**	mg/kg	0.43	J	1	0.043	12/23/20	12/28/20 19:24	1051
Silver	ND	mg/kg	0.43		1	0.047	12/23/20	12/28/20 19:24	1051
Thallium	ND	mg/kg	0.43		1	0.11	12/23/20	12/28/20 19:24	1051
Zinc	**54**	mg/kg	8.6		1	0.47	12/23/20	12/28/20 19:24	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C6 52.3-54.2 **Date/Time Sampled: 12/12/2020 08:57** **PSS Sample ID: 20121403-012**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 83.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.8		1	0.26	12/23/20	12/28/20 19:29	1051
Arsenic	**6.9**	mg/kg	0.56		1	0.062	12/23/20	12/28/20 19:29	1051
Beryllium	**0.73**	mg/kg	0.56		1	0.14	12/23/20	12/28/20 19:29	1051
Cadmium	ND	mg/kg	0.56		1	0.056	12/23/20	12/28/20 19:29	1051
Chromium	**22**	mg/kg	0.56		1	0.31	12/23/20	12/28/20 19:29	1051
Copper	**10**	mg/kg	0.56		1	0.17	12/23/20	12/28/20 19:29	1051
Lead	**12**	mg/kg	0.56		1	0.24	12/23/20	12/28/20 19:29	1051
Manganese	**230**	mg/kg	0.56		1	0.47	12/23/20	12/28/20 19:29	1051
Mercury	ND	mg/kg	0.11		1	0.041	12/23/20	12/28/20 19:29	1051
Nickel	**18**	mg/kg	0.56		1	0.2	12/23/20	12/28/20 19:29	1051
Selenium	**0.31**	mg/kg	0.56	J	1	0.056	12/23/20	12/28/20 19:29	1051
Silver	ND	mg/kg	0.56		1	0.062	12/23/20	12/28/20 19:29	1051
Thallium	**0.18**	mg/kg	0.56	J	1	0.15	12/23/20	12/28/20 19:29	1051
Zinc	**58**	mg/kg	11		1	0.62	12/23/20	12/28/20 19:29	1051

Sample ID: C6 54.2-56.1 **Date/Time Sampled: 12/12/2020 08:59** **PSS Sample ID: 20121403-013**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 83.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.25**	mg/kg	2.2	J	1	0.2	12/23/20	12/28/20 20:03	1051
Arsenic	**19**	mg/kg	0.44		1	0.049	12/23/20	12/28/20 20:03	1051
Beryllium	**2.2**	mg/kg	0.44		1	0.11	12/23/20	12/28/20 20:03	1051
Cadmium	**0.13**	mg/kg	0.44	J	1	0.044	12/23/20	12/28/20 20:03	1051
Chromium	**39**	mg/kg	0.44		1	0.24	12/23/20	12/28/20 20:03	1051
Copper	**10**	mg/kg	0.44		1	0.14	12/23/20	12/28/20 20:03	1051
Lead	**16**	mg/kg	0.44		1	0.19	12/23/20	12/28/20 20:03	1051
Manganese	**1,200**	mg/kg	0.44	E	1	0.37	12/23/20	12/28/20 20:03	1051
Mercury	**0.034**	mg/kg	0.088	J	1	0.032	12/23/20	12/28/20 20:03	1051
Nickel	**58**	mg/kg	0.44		1	0.15	12/23/20	12/28/20 20:03	1051
Selenium	**0.36**	mg/kg	0.44	J	1	0.044	12/23/20	12/28/20 20:03	1051
Silver	ND	mg/kg	0.44		1	0.049	12/23/20	12/28/20 20:03	1051
Thallium	**0.15**	mg/kg	0.44	J	1	0.11	12/23/20	12/28/20 20:03	1051
Zinc	**76**	mg/kg	8.8		1	0.49	12/23/20	12/28/20 20:03	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 37.6-39.6 **Date/Time Sampled: 12/12/2020 09:48** **PSS Sample ID: 20121403-014**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.0**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.42**	mg/kg	3.7	J	1	0.34	12/23/20	12/28/20 20:08	1051
Arsenic	**11**	mg/kg	0.75		1	0.082	12/23/20	12/28/20 20:08	1051
Beryllium	**2.1**	mg/kg	0.75		1	0.19	12/23/20	12/28/20 20:08	1051
Cadmium	**0.90**	mg/kg	0.75		1	0.075	12/23/20	12/28/20 20:08	1051
Chromium	**31**	mg/kg	0.75		1	0.41	12/23/20	12/28/20 20:08	1051
Copper	**41**	mg/kg	0.75		1	0.23	12/23/20	12/28/20 20:08	1051
Lead	**32**	mg/kg	0.75		1	0.31	12/23/20	12/28/20 20:08	1051
Manganese	**1,900**	mg/kg	0.75	E	1	0.63	12/23/20	12/28/20 20:08	1051
Mercury	**0.14**	mg/kg	0.15	J	1	0.054	12/23/20	12/28/20 20:08	1051
Nickel	**64**	mg/kg	0.75		1	0.26	12/23/20	12/28/20 20:08	1051
Selenium	**1.1**	mg/kg	0.75		1	0.075	12/23/20	12/28/20 20:08	1051
Silver	**0.50**	mg/kg	0.75	J	1	0.082	12/23/20	12/28/20 20:08	1051
Thallium	**0.26**	mg/kg	0.75	J	1	0.19	12/23/20	12/28/20 20:08	1051
Zinc	**250**	mg/kg	15		1	0.82	12/23/20	12/28/20 20:08	1051

Sample ID: B7 39.6-40.6 **Date/Time Sampled: 12/12/2020 09:50** **PSS Sample ID: 20121403-015**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.50**	mg/kg	4.1	J	1	0.38	12/23/20	12/28/20 20:12	1051
Arsenic	**15**	mg/kg	0.83		1	0.091	12/23/20	12/28/20 20:12	1051
Beryllium	**3.0**	mg/kg	0.83		1	0.21	12/23/20	12/28/20 20:12	1051
Cadmium	**1.9**	mg/kg	0.83		1	0.083	12/23/20	12/28/20 20:12	1051
Chromium	**45**	mg/kg	0.83		1	0.45	12/23/20	12/28/20 20:12	1051
Copper	**66**	mg/kg	0.83		1	0.26	12/23/20	12/28/20 20:12	1051
Lead	**47**	mg/kg	0.83		1	0.35	12/23/20	12/28/20 20:12	1051
Manganese	**2,600**	mg/kg	0.83	E	1	0.69	12/23/20	12/28/20 20:12	1051
Mercury	**0.18**	mg/kg	0.17		1	0.06	12/23/20	12/28/20 20:12	1051
Nickel	**110**	mg/kg	0.83		1	0.29	12/23/20	12/28/20 20:12	1051
Selenium	**1.3**	mg/kg	0.83		1	0.083	12/23/20	12/28/20 20:12	1051
Silver	**1.1**	mg/kg	0.83		1	0.091	12/23/20	12/28/20 20:12	1051
Thallium	**0.37**	mg/kg	0.83	J	1	0.21	12/23/20	12/28/20 20:12	1051
Zinc	**430**	mg/kg	17		1	0.91	12/23/20	12/28/20 20:12	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 42.0 **Date/Time Sampled: 12/12/2020 10:22** **PSS Sample ID: 20121403-016**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.0**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C GRO Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.17		1	0.083	12/23/20	12/23/20 17:06	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*84*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 17:06*	*1045*

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.063**	mg/kg	0.037		1	0.037	12/23/20	12/23/20 17:34	1045
Benzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Bromochloromethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Bromodichloromethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Bromoform	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Bromomethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
2-Butanone (MEK)	ND	mg/kg	0.0094		1	0.0094	12/23/20	12/23/20 17:34	1045
Carbon Disulfide	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Carbon tetrachloride	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Chlorobenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Chloroethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Chloroform	ND	mg/kg	0.0094		1	0.0094	12/23/20	12/23/20 17:34	1045
Chloromethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Cyclohexane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Dibromochloromethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2-Dibromoethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Dichlorodifluoromethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,1-Dichloroethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2-Dichloroethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,1-Dichloroethene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2-Dichloropropane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 42.0 **Date/Time Sampled: 12/12/2020 10:22** **PSS Sample ID: 20121403-016**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.0**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Ethylbenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
2-Hexanone (MBK)	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Isopropylbenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Methyl Acetate	ND	mg/kg	0.047		1	0.047	12/23/20	12/23/20 17:34	1045
Methylcyclohexane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Methylene chloride	ND	mg/kg	0.0094		1	0.0094	12/23/20	12/23/20 17:34	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Naphthalene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Styrene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Tetrachloroethene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Toluene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Trichloroethene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Trichlorofluoromethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045
Vinyl chloride	ND	mg/kg	0.0094		1	0.0094	12/23/20	12/23/20 17:34	1045
m&p-Xylene	ND	mg/kg	0.0037		1	0.0037	12/23/20	12/23/20 17:34	1045
o-Xylene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:34	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*99*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 17:34*	*1045*
Dibromofluoromethane	*101*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 17:34*	*1045*
Toluene-D8	*99*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 17:34*	*1045*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 41.0-43.3 **Date/Time Sampled: 12/12/2020 10:25** **PSS Sample ID: 20121403-017**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 59.3**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	83		1	21	12/15/20	12/15/20 19:12	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**410**	mg/kg	43		10	43	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**550**	mg/kg	99		10	50	12/15/20	12/15/20 18:28	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**11**	mg/kg	17	J	1	5.1	12/21/20	12/21/20 13:49	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 41.0-43.3 **Date/Time Sampled: 12/12/2020 10:25** **PSS Sample ID: 20121403-017**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 59.3**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.55**	mg/kg	3.4	J	1	0.31	12/23/20	12/28/20 20:17	1051
Arsenic	**14**	mg/kg	0.68		1	0.075	12/23/20	12/28/20 20:17	1051
Beryllium	**2.7**	mg/kg	0.68		1	0.17	12/23/20	12/28/20 20:17	1051
Cadmium	**1.7**	mg/kg	0.68		1	0.068	12/23/20	12/28/20 20:17	1051
Chromium	**39**	mg/kg	0.68		1	0.37	12/23/20	12/28/20 20:17	1051
Copper	**62**	mg/kg	0.68		1	0.21	12/23/20	12/28/20 20:17	1051
Lead	**52**	mg/kg	0.68		1	0.29	12/23/20	12/28/20 20:17	1051
Manganese	**2,100**	mg/kg	0.68	E	1	0.57	12/23/20	12/28/20 20:17	1051
Mercury	**0.26**	mg/kg	0.14		1	0.05	12/23/20	12/28/20 20:17	1051
Nickel	**69**	mg/kg	0.68		1	0.24	12/23/20	12/28/20 20:17	1051
Selenium	**2.2**	mg/kg	0.68		1	0.068	12/23/20	12/28/20 20:17	1051
Silver	**1.3**	mg/kg	0.68		1	0.075	12/23/20	12/28/20 20:17	1051
Thallium	**0.30**	mg/kg	0.68	J	1	0.18	12/23/20	12/28/20 20:17	1051
Zinc	**330**	mg/kg	14		1	0.75	12/23/20	12/28/20 20:17	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.7		1	1.7	12/14/20	12/15/20 14:58	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**17**	mg/kg	5.6		1	5.6	12/20/20	12/21/20 16:49	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*70*	*%*	*35-124*		*1*		*12/20/20*	*12/21/20 16:49*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 41.0-43.3 **Date/Time Sampled: 12/12/2020 10:25** **PSS Sample ID: 20121403-017**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 59.3**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
beta-BHC	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
delta-BHC	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Heptachlor	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Aldrin	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Heptachlor epoxide	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
gamma-Chlordane	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
alpha-Chlordane	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
4,4-DDE	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Endosulfan I	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Dieldrin	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Endrin	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
4,4-DDD	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Endosulfan II	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
4,4-DDT	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Endrin aldehyde	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Methoxychlor	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Endosulfan sulfate	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Endrin ketone	ND	mg/kg	0.0066		1	0.0066	12/18/20	12/21/20 22:14	1029
Toxaphene	ND	mg/kg	0.17		1	0.17	12/18/20	12/21/20 22:14	1029
Chlordane	ND	mg/kg	0.17		1	0.17	12/18/20	12/21/20 22:14	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*86*	*%*	*39-151*	*1*	*12/18/20*	*12/21/20 22:14*	*1029*
Tetrachloro-m-xylene	*80*	*%*	*44-152*	*1*	*12/18/20*	*12/21/20 22:14*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.083		1	0.083	12/18/20	12/22/20 16:40	1029
PCB-1221	ND	mg/kg	0.083		1	0.083	12/18/20	12/22/20 16:40	1029
PCB-1232	ND	mg/kg	0.083		1	0.083	12/18/20	12/22/20 16:40	1029
PCB-1242	ND	mg/kg	0.083		1	0.083	12/18/20	12/22/20 16:40	1029
PCB-1248	ND	mg/kg	0.083		1	0.083	12/18/20	12/22/20 16:40	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 41.0-43.3 **Date/Time Sampled: 12/12/2020 10:25** **PSS Sample ID: 20121403-017**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 59.3**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.083		1	0.083	12/18/20	12/22/20 16:40	1029
PCB-1260	ND	mg/kg	0.083		1	0.083	12/18/20	12/22/20 16:40	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*79*	*%*	*34-117*	*1*	*12/18/20*	*12/22/20 16:40*	*1029*
Decachlorobiphenyl	*115*	*%*	*40-149*	*1*	*12/18/20*	*12/22/20 16:40*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Acenaphthylene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Acetophenone	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Atrazine	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
Benzo(a)anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Benzo(a)pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Benzo(b)fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Benzo(g,h,i)perylene	**0.021**	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Benzo(k)fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Butyl benzyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Di-n-butyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Carbazole	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Caprolactam	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
4-Chloroaniline	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2-Chloronaphthalene	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2-Chlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 41.0-43.3 **Date/Time Sampled: 12/12/2020 10:25** **PSS Sample ID: 20121403-017**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 59.3**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Dibenz(a,h)Anthracene	**0.014**	mg/kg	0.014	J	1	0.014	12/18/20	12/21/20 21:48	1059
Dibenzofuran	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2,4-Dichlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Diethyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Dimethyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2,4-Dimethylphenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.28		1	0.28	12/18/20	12/21/20 21:48	1059
2,4-Dinitrophenol	ND	mg/kg	0.28		1	0.28	12/18/20	12/21/20 21:48	1059
2,4-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
2,6-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
Fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Fluorene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Hexachlorobenzene	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Hexachlorobutadiene	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
Hexachloroethane	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Indeno(1,2,3-c,d)Pyrene	**0.016**	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Isophorone	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2-Methylnaphthalene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
2-Methyl phenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
3&4-Methylphenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Naphthalene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
2-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
3-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
4-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
Nitrobenzene	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2-Nitrophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
4-Nitrophenol	ND	mg/kg	0.28		1	0.28	12/18/20	12/21/20 21:48	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Di-n-octyl phthalate	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
Pentachlorophenol	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 21:48	1059
Phenanthrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 41.0-43.3 **Date/Time Sampled: 12/12/2020 10:25** **PSS Sample ID: 20121403-017**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 59.3**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
Pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/21/20 21:48	1059
Pyridine	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/21/20 21:48	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*91*	*%*	*50-104*	*1*	*12/18/20*	*12/21/20 21:48*	*1059*
2-Fluorophenol	*89*	*%*	*40-109*	*1*	*12/18/20*	*12/21/20 21:48*	*1059*
Nitrobenzene-d5	*85*	*%*	*41-101*	*1*	*12/18/20*	*12/21/20 21:48*	*1059*
Phenol-d6	*80*	*%*	*44-102*	*1*	*12/18/20*	*12/21/20 21:48*	*1059*
Terphenyl-D14	*98*	*%*	*70-115*	*1*	*12/18/20*	*12/21/20 21:48*	*1059*
2,4,6-Tribromophenol	*87*	*%*	*36-123*	*1*	*12/18/20*	*12/21/20 21:48*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.21**	mg/kg	0.099		1	0.05	12/17/20	12/17/20 17:29	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 43.3-45.6 **Date/Time Sampled: 12/12/2020 10:30** **PSS Sample ID: 20121403-018**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 62.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.88**	mg/kg	3.0	J	1	0.28	12/23/20	12/28/20 20:22	1051
Arsenic	**20**	mg/kg	0.60		1	0.066	12/23/20	12/28/20 20:22	1051
Beryllium	**3.9**	mg/kg	0.60		1	0.15	12/23/20	12/28/20 20:22	1051
Cadmium	**3.2**	mg/kg	0.60		1	0.06	12/23/20	12/28/20 20:22	1051
Chromium	**59**	mg/kg	0.60		1	0.33	12/23/20	12/28/20 20:22	1051
Copper	**85**	mg/kg	0.60		1	0.19	12/23/20	12/28/20 20:22	1051
Lead	**75**	mg/kg	0.60		1	0.25	12/23/20	12/28/20 20:22	1051
Manganese	**3,600**	mg/kg	0.60	E	1	0.51	12/23/20	12/28/20 20:22	1051
Mercury	**0.35**	mg/kg	0.12		1	0.044	12/23/20	12/28/20 20:22	1051
Nickel	**110**	mg/kg	0.60		1	0.21	12/23/20	12/28/20 20:22	1051
Selenium	**2.4**	mg/kg	0.60		1	0.06	12/23/20	12/28/20 20:22	1051
Silver	**3.1**	mg/kg	0.60		1	0.066	12/23/20	12/28/20 20:22	1051
Thallium	**0.44**	mg/kg	0.60	J	1	0.16	12/23/20	12/28/20 20:22	1051
Zinc	**470**	mg/kg	12		1	0.66	12/23/20	12/28/20 20:22	1051

Sample ID: B7 47.4-48.2 **Date/Time Sampled: 12/12/2020 11:00** **PSS Sample ID: 20121403-019**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 65.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.75**	mg/kg	3.3	J	1	0.3	12/23/20	12/28/20 20:27	1051
Arsenic	**12**	mg/kg	0.66		1	0.073	12/23/20	12/28/20 20:27	1051
Beryllium	**2.9**	mg/kg	0.66		1	0.17	12/23/20	12/28/20 20:27	1051
Cadmium	**1.1**	mg/kg	0.66		1	0.066	12/23/20	12/28/20 20:27	1051
Chromium	**28**	mg/kg	0.66		1	0.36	12/23/20	12/28/20 20:27	1051
Copper	**67**	mg/kg	0.66		1	0.21	12/23/20	12/28/20 20:27	1051
Lead	**46**	mg/kg	0.66		1	0.28	12/23/20	12/28/20 20:27	1051
Manganese	**1,300**	mg/kg	0.66	E	1	0.56	12/23/20	12/28/20 20:27	1051
Mercury	**0.39**	mg/kg	0.13		1	0.048	12/23/20	12/28/20 20:27	1051
Nickel	**58**	mg/kg	0.66		1	0.23	12/23/20	12/28/20 20:27	1051
Selenium	**4.5**	mg/kg	0.66		1	0.066	12/23/20	12/28/20 20:27	1051
Silver	**0.94**	mg/kg	0.66		1	0.073	12/23/20	12/28/20 20:27	1051
Thallium	**0.26**	mg/kg	0.66	J	1	0.17	12/23/20	12/28/20 20:27	1051
Zinc	**250**	mg/kg	13		1	0.73	12/23/20	12/28/20 20:27	1051

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 48.2-50.6 **Date/Time Sampled: 12/12/2020 11:10** **PSS Sample ID: 20121403-020**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 74.1**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	66		1	17	12/15/20	12/15/20 19:35	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**91**	mg/kg	3.2		1	0.96	12/18/20	12/18/20 14:35	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**210**	mg/kg	83		10	41	12/15/20	12/15/20 18:32	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	14		1	4.3	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 48.2-50.6 **Date/Time Sampled: 12/12/2020 11:10** **PSS Sample ID: 20121403-020**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 74.1**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.61**	mg/kg	2.7	J	1	0.25	12/23/20	12/28/20 20:31	1051
Arsenic	**8.6**	mg/kg	0.55		1	0.06	12/23/20	12/28/20 20:31	1051
Beryllium	**2.1**	mg/kg	0.55		1	0.14	12/23/20	12/28/20 20:31	1051
Cadmium	**0.59**	mg/kg	0.55		1	0.055	12/23/20	12/28/20 20:31	1051
Chromium	**15**	mg/kg	0.55		1	0.3	12/23/20	12/28/20 20:31	1051
Copper	**44**	mg/kg	0.55		1	0.17	12/23/20	12/28/20 20:31	1051
Lead	**31**	mg/kg	0.55		1	0.23	12/23/20	12/28/20 20:31	1051
Manganese	**860**	mg/kg	0.55	E	1	0.46	12/23/20	12/28/20 20:31	1051
Mercury	**0.28**	mg/kg	0.11		1	0.04	12/23/20	12/28/20 20:31	1051
Nickel	**42**	mg/kg	0.55		1	0.19	12/23/20	12/28/20 20:31	1051
Selenium	**3.7**	mg/kg	0.55		1	0.055	12/23/20	12/28/20 20:31	1051
Silver	**0.34**	mg/kg	0.55	J	1	0.06	12/23/20	12/28/20 20:31	1051
Thallium	**0.19**	mg/kg	0.55	J	1	0.14	12/23/20	12/28/20 20:31	1051
Zinc	**160**	mg/kg	11		1	0.6	12/23/20	12/28/20 20:31	1051

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/14/20	12/15/20 15:06	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**44**	mg/kg	4.4	DF	1	4.4	12/20/20	12/21/20 17:13	1070

Surrogate(s)	***Recovery***		***Limits***					
o-Terphenyl	*85*	*%*	*35-124*		*1*		*12/20/20*	*12/21/20 17:13*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 48.2-50.6 **Date/Time Sampled: 12/12/2020 11:10** **PSS Sample ID: 20121403-020**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 74.1**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
beta-BHC	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
delta-BHC	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Heptachlor	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Aldrin	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Heptachlor epoxide	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
gamma-Chlordane	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
alpha-Chlordane	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
4,4-DDE	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Endosulfan I	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Dieldrin	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Endrin	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
4,4-DDD	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Endosulfan II	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
4,4-DDT	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Endrin aldehyde	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Methoxychlor	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Endosulfan sulfate	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Endrin ketone	ND	mg/kg	0.0056		1	0.0056	12/18/20	12/21/20 22:28	1029
Toxaphene	ND	mg/kg	0.14		1	0.14	12/18/20	12/21/20 22:28	1029
Chlordane	ND	mg/kg	0.14		1	0.14	12/18/20	12/21/20 22:28	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*85*	*%*	*39-151*	*1*	*12/18/20*	*12/21/20 22:28*	*1029*
Tetrachloro-m-xylene	*67*	*%*	*44-152*	*1*	*12/18/20*	*12/21/20 22:28*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.069		1	0.069	12/18/20	12/22/20 17:08	1029
PCB-1221	ND	mg/kg	0.069		1	0.069	12/18/20	12/22/20 17:08	1029
PCB-1232	ND	mg/kg	0.069		1	0.069	12/18/20	12/22/20 17:08	1029
PCB-1242	ND	mg/kg	0.069		1	0.069	12/18/20	12/22/20 17:08	1029
PCB-1248	ND	mg/kg	0.069		1	0.069	12/18/20	12/22/20 17:08	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 48.2-50.6 **Date/Time Sampled: 12/12/2020 11:10** **PSS Sample ID: 20121403-020**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 74.1**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.069		1	0.069	12/18/20	12/22/20 17:08	1029
PCB-1260	ND	mg/kg	0.069		1	0.069	12/18/20	12/22/20 17:08	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*118*	*%*	*40-149*		*1*	*12/18/20*	*12/22/20 17:08*	*1029*
Tetrachloro-m-xylene	*84*	*%*	*34-117*		*1*	*12/18/20*	*12/22/20 17:08*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Acenaphthylene	**0.033**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Acetophenone	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Anthracene	**0.056**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Atrazine	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
Benzo(a)anthracene	**0.15**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Benzo(a)pyrene	**0.15**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Benzo(b)fluoranthene	**0.11**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Benzo(g,h,i)perylene	**0.071**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Benzo(k)fluoranthene	**0.082**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Butyl benzyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Di-n-butyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Carbazole	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Caprolactam	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
4-Chloroaniline	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2-Chloronaphthalene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2-Chlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 48.2-50.6 **Date/Time Sampled: 12/12/2020 11:10** **PSS Sample ID: 20121403-020**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 74.1**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.15**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Dibenz(a,h)Anthracene	**0.020**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Dibenzofuran	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2,4-Dichlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Diethyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Dimethyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2,4-Dimethylphenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.23		1	0.23	12/18/20	12/22/20 16:11	1059
2,4-Dinitrophenol	ND	mg/kg	0.23		1	0.23	12/18/20	12/22/20 16:11	1059
2,4-Dinitrotoluene	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
2,6-Dinitrotoluene	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
Fluoranthene	**0.26**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Fluorene	**0.026**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Hexachlorobenzene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Hexachlorobutadiene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
Hexachloroethane	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Indeno(1,2,3-c,d)Pyrene	**0.078**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Isophorone	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2-Methylnaphthalene	**0.032**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
2-Methyl phenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
3&4-Methylphenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Naphthalene	**0.055**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
2-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
3-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
4-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
Nitrobenzene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2-Nitrophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
4-Nitrophenol	ND	mg/kg	0.23		1	0.23	12/18/20	12/22/20 16:11	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Di-n-octyl phthalate	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
Pentachlorophenol	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 16:11	1059
Phenanthrene	**0.16**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 48.2-50.6 **Date/Time Sampled: 12/12/2020 11:10** **PSS Sample ID: 20121403-020**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 74.1**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
Pyrene	**0.28**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 16:11	1059
Pyridine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 16:11	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*84*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 16:11*	*1059*
2-Fluorophenol	*78*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 16:11*	*1059*
Nitrobenzene-d5	*85*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 16:11*	*1059*
Phenol-d6	*76*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 16:11*	*1059*
Terphenyl-D14	*92*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 16:11*	*1059*
2,4,6-Tribromophenol	*85*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 16:11*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.17**	mg/kg	0.076		1	0.038	12/17/20	12/17/20 17:32	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 51.0-52.5 **Date/Time Sampled: 12/12/2020 11:50** **PSS Sample ID: 20121403-021**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 67.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180697 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.73**	mg/kg	2.4	J	1	0.22	12/23/20	12/28/20 20:36	1051
Arsenic	**9.9**	mg/kg	0.48		1	0.052	12/23/20	12/28/20 20:36	1051
Beryllium	**2.4**	mg/kg	0.48		1	0.12	12/23/20	12/28/20 20:36	1051
Cadmium	**1.0**	mg/kg	0.48		1	0.048	12/23/20	12/28/20 20:36	1051
Chromium	**22**	mg/kg	0.48		1	0.26	12/23/20	12/28/20 20:36	1051
Copper	**54**	mg/kg	0.48		1	0.15	12/23/20	12/28/20 20:36	1051
Lead	**37**	mg/kg	0.48		1	0.2	12/23/20	12/28/20 20:36	1051
Manganese	**1,200**	mg/kg	0.48	E	1	0.4	12/23/20	12/28/20 20:36	1051
Mercury	**0.31**	mg/kg	0.095		1	0.035	12/23/20	12/28/20 20:36	1051
Nickel	**54**	mg/kg	0.48		1	0.17	12/23/20	12/28/20 20:36	1051
Selenium	**3.6**	mg/kg	0.48		1	0.048	12/23/20	12/28/20 20:36	1051
Silver	**0.63**	mg/kg	0.48		1	0.052	12/23/20	12/28/20 20:36	1051
Thallium	**0.21**	mg/kg	0.48	J	1	0.12	12/23/20	12/28/20 20:36	1051
Zinc	**230**	mg/kg	9.5		1	0.52	12/23/20	12/28/20 20:36	1051

Sample ID: B7 52.5-54.5 **Date/Time Sampled: 12/12/2020 11:50** **PSS Sample ID: 20121403-022**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.53**	mg/kg	3.4	J	1	0.32	12/23/20	12/28/20 20:25	1064
Arsenic	**14**	mg/kg	0.69		1	0.075	12/23/20	12/28/20 20:25	1064
Beryllium	**2.9**	mg/kg	0.69		1	0.17	12/23/20	12/28/20 20:25	1064
Cadmium	**2.8**	mg/kg	0.69		1	0.069	12/23/20	12/28/20 20:25	1064
Chromium	**55**	mg/kg	0.69		1	0.38	12/23/20	12/28/20 20:25	1064
Copper	**71**	mg/kg	0.69		1	0.21	12/23/20	12/28/20 20:25	1064
Lead	**65**	mg/kg	0.69		1	0.29	12/23/20	12/28/20 20:25	1064
Manganese	**2,200**	mg/kg	0.69	E	1	0.58	12/23/20	12/28/20 20:25	1064
Mercury	**0.23**	mg/kg	0.14		1	0.05	12/23/20	12/28/20 20:25	1064
Nickel	**77**	mg/kg	0.69		1	0.24	12/23/20	12/28/20 20:25	1064
Selenium	**1.6**	mg/kg	0.69		1	0.069	12/23/20	12/28/20 20:25	1064
Silver	**4.1**	mg/kg	0.69		1	0.075	12/23/20	12/28/20 20:25	1064
Thallium	**0.48**	mg/kg	0.69	J	1	0.18	12/23/20	12/28/20 20:25	1064
Zinc	**440**	mg/kg	14		1	0.75	12/23/20	12/28/20 20:25	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 54.5-55.6 **Date/Time Sampled: 12/12/2020 11:55** **PSS Sample ID: 20121403-023**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.77**	mg/kg	3.3	J	1	0.3	12/23/20	12/28/20 21:08	1064
Arsenic	**19**	mg/kg	0.66		1	0.072	12/23/20	12/28/20 21:08	1064
Beryllium	**3.9**	mg/kg	0.66		1	0.16	12/23/20	12/28/20 21:08	1064
Cadmium	**4.0**	mg/kg	0.66		1	0.066	12/23/20	12/28/20 21:08	1064
Chromium	**75**	mg/kg	0.66		1	0.36	12/23/20	12/28/20 21:08	1064
Copper	**98**	mg/kg	0.66		1	0.2	12/23/20	12/28/20 21:08	1064
Lead	**74**	mg/kg	0.66		1	0.28	12/23/20	12/28/20 21:08	1064
Manganese	**2,300**	mg/kg	0.66	E	1	0.55	12/23/20	12/28/20 21:08	1064
Mercury	**0.40**	mg/kg	0.13		1	0.048	12/23/20	12/28/20 21:08	1064
Nickel	**110**	mg/kg	0.66		1	0.23	12/23/20	12/28/20 21:08	1064
Selenium	**3.3**	mg/kg	0.66		1	0.066	12/23/20	12/28/20 21:08	1064
Silver	**5.2**	mg/kg	0.66		1	0.072	12/23/20	12/28/20 21:08	1064
Thallium	**0.41**	mg/kg	0.66	J	1	0.17	12/23/20	12/28/20 21:08	1064
Zinc	**630**	mg/kg	13		1	0.72	12/23/20	12/28/20 21:08	1064

Sample ID: B7 55.6-58.1 **Date/Time Sampled: 12/12/2020 12:40** **PSS Sample ID: 20121403-024**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.76**	mg/kg	3.2	J	1	0.29	12/23/20	12/28/20 21:13	1064
Arsenic	**16**	mg/kg	0.64		1	0.071	12/23/20	12/28/20 21:13	1064
Beryllium	**3.4**	mg/kg	0.64		1	0.16	12/23/20	12/28/20 21:13	1064
Cadmium	**3.2**	mg/kg	0.64		1	0.064	12/23/20	12/28/20 21:13	1064
Chromium	**76**	mg/kg	0.64		1	0.35	12/23/20	12/28/20 21:13	1064
Copper	**80**	mg/kg	0.64		1	0.2	12/23/20	12/28/20 21:13	1064
Lead	**62**	mg/kg	0.64		1	0.27	12/23/20	12/28/20 21:13	1064
Manganese	**2,000**	mg/kg	0.64	E	1	0.54	12/23/20	12/28/20 21:13	1064
Mercury	**0.33**	mg/kg	0.13		1	0.047	12/23/20	12/28/20 21:13	1064
Nickel	**96**	mg/kg	0.64		1	0.22	12/23/20	12/28/20 21:13	1064
Selenium	**2.9**	mg/kg	0.64		1	0.064	12/23/20	12/28/20 21:13	1064
Silver	**4.0**	mg/kg	0.64		1	0.071	12/23/20	12/28/20 21:13	1064
Thallium	**0.34**	mg/kg	0.64	J	1	0.17	12/23/20	12/28/20 21:13	1064
Zinc	**510**	mg/kg	13		1	0.71	12/23/20	12/28/20 21:13	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 58.1-60.6 **Date/Time Sampled: 12/12/2020 12:45** **PSS Sample ID: 20121403-025**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.3**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	83		1	22	12/15/20	12/15/20 19:58	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**270**	mg/kg	44		10	44	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**730**	mg/kg	99		10	49	12/28/20	12/28/20 15:34	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	18		1	5.6	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 58.1-60.6 **Date/Time Sampled: 12/12/2020 12:45** **PSS Sample ID: 20121403-025**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.3**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.76**	mg/kg	3.2	J	1	0.29	12/23/20	12/28/20 21:17	1064
Arsenic	**18**	mg/kg	0.64		1	0.07	12/23/20	12/28/20 21:17	1064
Beryllium	**4.6**	mg/kg	0.64		1	0.16	12/23/20	12/28/20 21:17	1064
Cadmium	**3.6**	mg/kg	0.64		1	0.064	12/23/20	12/28/20 21:17	1064
Chromium	**70**	mg/kg	0.64		1	0.35	12/23/20	12/28/20 21:17	1064
Copper	**100**	mg/kg	0.64		1	0.2	12/23/20	12/28/20 21:17	1064
Lead	**79**	mg/kg	0.64		1	0.27	12/23/20	12/28/20 21:17	1064
Manganese	**2,100**	mg/kg	0.64	E	1	0.54	12/23/20	12/28/20 21:17	1064
Mercury	**0.45**	mg/kg	0.13		1	0.047	12/23/20	12/28/20 21:17	1064
Nickel	**110**	mg/kg	0.64		1	0.22	12/23/20	12/28/20 21:17	1064
Selenium	**3.2**	mg/kg	0.64		1	0.064	12/23/20	12/28/20 21:17	1064
Silver	**4.0**	mg/kg	0.64		1	0.07	12/23/20	12/28/20 21:17	1064
Thallium	**0.40**	mg/kg	0.64	J	1	0.17	12/23/20	12/28/20 21:17	1064
Zinc	**690**	mg/kg	13		1	0.7	12/23/20	12/28/20 21:17	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.7		1	1.7	12/14/20	12/15/20 15:10	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**18**	mg/kg	5.9		1	5.9	12/20/20	12/21/20 16:24	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*99*	*%*	*35-124*		*1*		*12/20/20*	*12/21/20 16:24*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 58.1-60.6 **Date/Time Sampled: 12/12/2020 12:45** **PSS Sample ID: 20121403-025**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.3**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
beta-BHC	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
delta-BHC	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Heptachlor	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Aldrin	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Heptachlor epoxide	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
gamma-Chlordane	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
alpha-Chlordane	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
4,4-DDE	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Endosulfan I	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Dieldrin	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Endrin	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
4,4-DDD	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Endosulfan II	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
4,4-DDT	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Endrin aldehyde	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Methoxychlor	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Endosulfan sulfate	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Endrin ketone	ND	mg/kg	0.0068		1	0.0068	12/18/20	12/21/20 22:43	1029
Toxaphene	ND	mg/kg	0.17		1	0.17	12/18/20	12/21/20 22:43	1029
Chlordane	ND	mg/kg	0.17		1	0.17	12/18/20	12/21/20 22:43	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*95*	*%*	*39-151*	*1*	*12/18/20*	*12/21/20 22:43*	*1029*
Tetrachloro-m-xylene	*81*	*%*	*44-152*	*1*	*12/18/20*	*12/21/20 22:43*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.084		1	0.084	12/18/20	12/22/20 18:32	1029
PCB-1221	ND	mg/kg	0.084		1	0.084	12/18/20	12/22/20 18:32	1029
PCB-1232	ND	mg/kg	0.084		1	0.084	12/18/20	12/22/20 18:32	1029
PCB-1242	ND	mg/kg	0.084		1	0.084	12/18/20	12/22/20 18:32	1029
PCB-1248	ND	mg/kg	0.084		1	0.084	12/18/20	12/22/20 18:32	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 58.1-60.6 **Date/Time Sampled: 12/12/2020 12:45** **PSS Sample ID: 20121403-025**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.3**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.084		1	0.084	12/18/20	12/22/20 18:32	1029
PCB-1260	ND	mg/kg	0.084		1	0.084	12/18/20	12/22/20 18:32	1029

Surrogate(s)	*Recovery*		*Limits*					
Tetrachloro-m-xylene	*88*	*%*	*34-117*		*1*		*12/18/20*	*12/22/20 18:32*	*1029*
Decachlorobiphenyl	*124*	*%*	*40-149*		*1*		*12/18/20*	*12/22/20 18:32*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Acenaphthylene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Acetophenone	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Atrazine	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
Benzo(a)anthracene	**0.020**	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Benzo(a)pyrene	**0.018**	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Benzo(b)fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Benzo(k)fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Butyl benzyl phthalate	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Di-n-butyl phthalate	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Carbazole	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Caprolactam	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
4-Chloroaniline	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2-Chloronaphthalene	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2-Chlorophenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 58.1-60.6 **Date/Time Sampled: 12/12/2020 12:45** **PSS Sample ID: 20121403-025**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.3**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.016**	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Dibenzofuran	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2,4-Dichlorophenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Diethyl phthalate	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Dimethyl phthalate	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2,4-Dimethylphenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/22/20 14:26	1059
2,4-Dinitrophenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/22/20 14:26	1059
2,4-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
2,6-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
Fluoranthene	**0.020**	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Fluorene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Hexachlorobenzene	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Hexachlorobutadiene	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
Hexachloroethane	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Isophorone	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2-Methylnaphthalene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
2-Methyl phenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
3&4-Methylphenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Naphthalene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
2-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
3-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
4-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
Nitrobenzene	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2-Nitrophenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
4-Nitrophenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/22/20 14:26	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Di-n-octyl phthalate	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
Pentachlorophenol	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 14:26	1059
Phenanthrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 58.1-60.6 **Date/Time Sampled: 12/12/2020 12:45** **PSS Sample ID: 20121403-025**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.3**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
Pyrene	**0.024**	mg/kg	0.015		1	0.015	12/18/20	12/22/20 14:26	1059
Pyridine	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.058		1	0.058	12/18/20	12/22/20 14:26	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*85*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 14:26*	*1059*
2-Fluorophenol	*83*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 14:26*	*1059*
Nitrobenzene-d5	*86*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 14:26*	*1059*
Phenol-d6	*79*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 14:26*	*1059*
Terphenyl-D14	*95*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 14:26*	*1059*
2,4,6-Tribromophenol	*84*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 14:26*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.37**	mg/kg	0.11		1	0.054	12/17/20	12/17/20 17:35	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 60.6-63.1 **Date/Time Sampled: 12/12/2020 13:10** **PSS Sample ID: 20121403-026**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.63**	mg/kg	3.7	J	1	0.34	12/23/20	12/28/20 21:22	1064
Arsenic	**16**	mg/kg	0.74		1	0.081	12/23/20	12/28/20 21:22	1064
Beryllium	**4.0**	mg/kg	0.74		1	0.19	12/23/20	12/28/20 21:22	1064
Cadmium	**2.5**	mg/kg	0.74		1	0.074	12/23/20	12/28/20 21:22	1064
Chromium	**80**	mg/kg	0.74		1	0.41	12/23/20	12/28/20 21:22	1064
Copper	**89**	mg/kg	0.74		1	0.23	12/23/20	12/28/20 21:22	1064
Lead	**65**	mg/kg	0.74		1	0.31	12/23/20	12/28/20 21:22	1064
Manganese	**1,400**	mg/kg	0.74	E	1	0.62	12/23/20	12/28/20 21:22	1064
Mercury	**0.46**	mg/kg	0.15		1	0.054	12/23/20	12/28/20 21:22	1064
Nickel	**86**	mg/kg	0.74		1	0.26	12/23/20	12/28/20 21:22	1064
Selenium	**2.9**	mg/kg	0.74		1	0.074	12/23/20	12/28/20 21:22	1064
Silver	**3.2**	mg/kg	0.74		1	0.081	12/23/20	12/28/20 21:22	1064
Thallium	**0.37**	mg/kg	0.74	J	1	0.19	12/23/20	12/28/20 21:22	1064
Zinc	**590**	mg/kg	15		1	0.81	12/23/20	12/28/20 21:22	1064

Sample ID: B7 63.1-65.6 **Date/Time Sampled: 12/12/2020 13:15** **PSS Sample ID: 20121403-027**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.5**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.74**	mg/kg	3.7	J	1	0.34	12/23/20	12/28/20 21:27	1064
Arsenic	**20**	mg/kg	0.74		1	0.081	12/23/20	12/28/20 21:27	1064
Beryllium	**4.0**	mg/kg	0.74		1	0.19	12/23/20	12/28/20 21:27	1064
Cadmium	**1.6**	mg/kg	0.74		1	0.074	12/23/20	12/28/20 21:27	1064
Chromium	**50**	mg/kg	0.74		1	0.41	12/23/20	12/28/20 21:27	1064
Copper	**92**	mg/kg	0.74		1	0.23	12/23/20	12/28/20 21:27	1064
Lead	**70**	mg/kg	0.74		1	0.31	12/23/20	12/28/20 21:27	1064
Manganese	**1,400**	mg/kg	0.74	E	1	0.62	12/23/20	12/28/20 21:27	1064
Mercury	**0.44**	mg/kg	0.15		1	0.054	12/23/20	12/28/20 21:27	1064
Nickel	**83**	mg/kg	0.74		1	0.26	12/23/20	12/28/20 21:27	1064
Selenium	**4.9**	mg/kg	0.74		1	0.074	12/23/20	12/28/20 21:27	1064
Silver	**1.8**	mg/kg	0.74		1	0.081	12/23/20	12/28/20 21:27	1064
Thallium	**0.44**	mg/kg	0.74	J	1	0.19	12/23/20	12/28/20 21:27	1064
Zinc	**460**	mg/kg	15		1	0.81	12/23/20	12/28/20 21:27	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B7 65.6-66.7 **Date/Time Sampled: 12/12/2020 13:37** **PSS Sample ID: 20121403-028**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 61.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.60**	mg/kg	2.6	J	1	0.24	12/23/20	12/28/20 21:32	1064
Arsenic	**17**	mg/kg	0.52		1	0.058	12/23/20	12/28/20 21:32	1064
Beryllium	**3.3**	mg/kg	0.52		1	0.13	12/23/20	12/28/20 21:32	1064
Cadmium	**1.0**	mg/kg	0.52		1	0.052	12/23/20	12/28/20 21:32	1064
Chromium	**43**	mg/kg	0.52		1	0.29	12/23/20	12/28/20 21:32	1064
Copper	**72**	mg/kg	0.52		1	0.16	12/23/20	12/28/20 21:32	1064
Lead	**59**	mg/kg	0.52		1	0.22	12/23/20	12/28/20 21:32	1064
Manganese	**1,200**	mg/kg	0.52	E	1	0.44	12/23/20	12/28/20 21:32	1064
Mercury	**0.33**	mg/kg	0.10		1	0.038	12/23/20	12/28/20 21:32	1064
Nickel	**62**	mg/kg	0.52		1	0.18	12/23/20	12/28/20 21:32	1064
Selenium	**4.4**	mg/kg	0.52		1	0.052	12/23/20	12/28/20 21:32	1064
Silver	**0.85**	mg/kg	0.52		1	0.058	12/23/20	12/28/20 21:32	1064
Thallium	**0.40**	mg/kg	0.52	J	1	0.14	12/23/20	12/28/20 21:32	1064
Zinc	**330**	mg/kg	10		1	0.58	12/23/20	12/28/20 21:32	1064

Sample ID: B7 66.7-68.1 **Date/Time Sampled: 12/12/2020 13:40** **PSS Sample ID: 20121403-029**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.59**	mg/kg	3.0	J	1	0.28	12/23/20	12/28/20 21:55	1064
Arsenic	**16**	mg/kg	0.61		1	0.067	12/23/20	12/28/20 21:55	1064
Beryllium	**3.1**	mg/kg	0.61		1	0.15	12/23/20	12/28/20 21:55	1064
Cadmium	**0.99**	mg/kg	0.61		1	0.061	12/23/20	12/28/20 21:55	1064
Chromium	**40**	mg/kg	0.61		1	0.33	12/23/20	12/28/20 21:55	1064
Copper	**74**	mg/kg	0.61		1	0.19	12/23/20	12/28/20 21:55	1064
Lead	**58**	mg/kg	0.61		1	0.25	12/23/20	12/28/20 21:55	1064
Manganese	**1,900**	mg/kg	0.61	E	1	0.51	12/23/20	12/28/20 21:55	1064
Mercury	**0.40**	mg/kg	0.12		1	0.044	12/23/20	12/28/20 21:55	1064
Nickel	**73**	mg/kg	0.61		1	0.21	12/23/20	12/28/20 21:55	1064
Selenium	**3.8**	mg/kg	0.61		1	0.061	12/23/20	12/28/20 21:55	1064
Silver	**0.50**	mg/kg	0.61	J	1	0.067	12/23/20	12/28/20 21:55	1064
Thallium	**0.36**	mg/kg	0.61	J	1	0.16	12/23/20	12/28/20 21:55	1064
Zinc	**350**	mg/kg	12		1	0.67	12/23/20	12/28/20 21:55	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 66.7 **Date/Time Sampled: 12/12/2020 14:20** **PSS Sample ID: 20121403-030**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 83.8**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C GRO Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.11		1	0.053	12/23/20	12/23/20 17:37	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*85*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 17:37*	*1045*

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	mg/kg	0.019		1	0.019	12/23/20	12/23/20 17:56	1045
Benzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Bromochloromethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Bromodichloromethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Bromoform	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Bromomethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
2-Butanone (MEK)	ND	mg/kg	0.0047		1	0.0047	12/23/20	12/23/20 17:56	1045
Carbon Disulfide	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Carbon tetrachloride	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Chlorobenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Chloroethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Chloroform	ND	mg/kg	0.0047		1	0.0047	12/23/20	12/23/20 17:56	1045
Chloromethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Cyclohexane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Dibromochloromethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2-Dibromoethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2-Dichlorobenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,3-Dichlorobenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,4-Dichlorobenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Dichlorodifluoromethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,1-Dichloroethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2-Dichloroethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,1-Dichloroethene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2-Dichloropropane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 66.7 **Date/Time Sampled: 12/12/2020 14:20** **PSS Sample ID: 20121403-030**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 83.8**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Ethylbenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
2-Hexanone (MBK)	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Isopropylbenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Methyl Acetate	ND	mg/kg	0.024		1	0.024	12/23/20	12/23/20 17:56	1045
Methylcyclohexane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Methylene chloride	ND	mg/kg	0.0047		1	0.0047	12/23/20	12/23/20 17:56	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Naphthalene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Styrene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Tetrachloroethene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Toluene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,1,1-Trichloroethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,1,2-Trichloroethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Trichloroethene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Trichlorofluoromethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045
Vinyl chloride	ND	mg/kg	0.0047		1	0.0047	12/23/20	12/23/20 17:56	1045
m&p-Xylene	ND	mg/kg	0.0019		1	0.0019	12/23/20	12/23/20 17:56	1045
o-Xylene	ND	mg/kg	0.00094		1	0.00094	12/23/20	12/23/20 17:56	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*97*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 17:56*	*1045*
Dibromofluoromethane	*101*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 17:56*	*1045*
Toluene-D8	*101*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 17:56*	*1045*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 63.7-66.7 **Date/Time Sampled: 12/12/2020 14:30** **PSS Sample ID: 20121403-031**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 53.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.57**	mg/kg	3.3	J	1	0.3	12/23/20	12/28/20 22:00	1064
Arsenic	**15**	mg/kg	0.66		1	0.073	12/23/20	12/28/20 22:00	1064
Beryllium	**3.1**	mg/kg	0.66		1	0.16	12/23/20	12/28/20 22:00	1064
Cadmium	**1.7**	mg/kg	0.66		1	0.066	12/23/20	12/28/20 22:00	1064
Chromium	**43**	mg/kg	0.66		1	0.36	12/23/20	12/28/20 22:00	1064
Copper	**70**	mg/kg	0.66		1	0.2	12/23/20	12/28/20 22:00	1064
Lead	**60**	mg/kg	0.66		1	0.28	12/23/20	12/28/20 22:00	1064
Manganese	**1,900**	mg/kg	0.66	E	1	0.55	12/23/20	12/28/20 22:00	1064
Mercury	**0.36**	mg/kg	0.13		1	0.048	12/23/20	12/28/20 22:00	1064
Nickel	**73**	mg/kg	0.66		1	0.23	12/23/20	12/28/20 22:00	1064
Selenium	**2.9**	mg/kg	0.66		1	0.066	12/23/20	12/28/20 22:00	1064
Silver	**1.5**	mg/kg	0.66		1	0.073	12/23/20	12/28/20 22:00	1064
Thallium	**0.34**	mg/kg	0.66	J	1	0.17	12/23/20	12/28/20 22:00	1064
Zinc	**370**	mg/kg	13		1	0.73	12/23/20	12/28/20 22:00	1064

Sample ID: B8 66.7-67.2 **Date/Time Sampled: 12/12/2020 14:35** **PSS Sample ID: 20121403-032**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 83.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.4		1	0.23	12/23/20	12/28/20 22:05	1064
Arsenic	**2.2**	mg/kg	0.49		1	0.054	12/23/20	12/28/20 22:05	1064
Beryllium	**0.41**	mg/kg	0.49	J	1	0.12	12/23/20	12/28/20 22:05	1064
Cadmium	**0.082**	mg/kg	0.49	J	1	0.049	12/23/20	12/28/20 22:05	1064
Chromium	**6.8**	mg/kg	0.49		1	0.27	12/23/20	12/28/20 22:05	1064
Copper	**6.5**	mg/kg	0.49		1	0.15	12/23/20	12/28/20 22:05	1064
Lead	**5.9**	mg/kg	0.49		1	0.21	12/23/20	12/28/20 22:05	1064
Manganese	**280**	mg/kg	0.49		1	0.41	12/23/20	12/28/20 22:05	1064
Mercury	ND	mg/kg	0.098		1	0.036	12/23/20	12/28/20 22:05	1064
Nickel	**13**	mg/kg	0.49		1	0.17	12/23/20	12/28/20 22:05	1064
Selenium	**0.14**	mg/kg	0.49	J	1	0.049	12/23/20	12/28/20 22:05	1064
Silver	ND	mg/kg	0.49		1	0.054	12/23/20	12/28/20 22:05	1064
Thallium	ND	mg/kg	0.49		1	0.13	12/23/20	12/28/20 22:05	1064
Zinc	**45**	mg/kg	9.8		1	0.54	12/23/20	12/28/20 22:05	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 67.2-68.7 **Date/Time Sampled: 12/12/2020 14:40** **PSS Sample ID: 20121403-033**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 87.6**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	57		1	15	12/15/20	12/15/20 20:21	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**11**	mg/kg	2.7		1	0.8	12/18/20	12/18/20 14:35	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**11**	mg/kg	6.6		1	3.3	12/15/20	12/15/20 18:40	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	11		1	3.3	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 67.2-68.7 **Date/Time Sampled: 12/12/2020 14:40** **PSS Sample ID: 20121403-033**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 87.6**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.0		1	0.19	12/23/20	12/28/20 22:09	1064
Arsenic	**3.4**	mg/kg	0.41		1	0.045	12/23/20	12/28/20 22:09	1064
Beryllium	**0.31**	mg/kg	0.41	J	1	0.1	12/23/20	12/28/20 22:09	1064
Cadmium	ND	mg/kg	0.41		1	0.041	12/23/20	12/28/20 22:09	1064
Chromium	**11**	mg/kg	0.41		1	0.23	12/23/20	12/28/20 22:09	1064
Copper	**6.5**	mg/kg	0.41		1	0.13	12/23/20	12/28/20 22:09	1064
Lead	**5.7**	mg/kg	0.41		1	0.17	12/23/20	12/28/20 22:09	1064
Manganese	**200**	mg/kg	0.41		1	0.34	12/23/20	12/28/20 22:09	1064
Mercury	ND	mg/kg	0.082		1	0.03	12/23/20	12/28/20 22:09	1064
Nickel	**9.8**	mg/kg	0.41		1	0.14	12/23/20	12/28/20 22:09	1064
Selenium	**0.18**	mg/kg	0.41	J	1	0.041	12/23/20	12/28/20 22:09	1064
Silver	ND	mg/kg	0.41		1	0.045	12/23/20	12/28/20 22:09	1064
Thallium	ND	mg/kg	0.41		1	0.11	12/23/20	12/28/20 22:09	1064
Zinc	**29**	mg/kg	8.2		1	0.45	12/23/20	12/28/20 22:09	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.1		1	1.1	12/14/20	12/15/20 15:12	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	3.8		1	3.8	12/20/20	12/21/20 15:34	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*107*	*%*	*35-124*		*1*		*12/20/20*	*12/21/20 15:34*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 67.2-68.7 **Date/Time Sampled: 12/12/2020 14:40** **PSS Sample ID: 20121403-033**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 87.6**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
beta-BHC	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
delta-BHC	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Heptachlor	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Aldrin	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Heptachlor epoxide	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
gamma-Chlordane	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
alpha-Chlordane	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
4,4-DDE	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Endosulfan I	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Dieldrin	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Endrin	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
4,4-DDD	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Endosulfan II	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
4,4-DDT	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Endrin aldehyde	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Methoxychlor	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Endosulfan sulfate	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Endrin ketone	ND	mg/kg	0.0044		1	0.0044	12/18/20	12/21/20 22:58	1029
Toxaphene	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 22:58	1029
Chlordane	ND	mg/kg	0.11		1	0.11	12/18/20	12/21/20 22:58	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*90*	*%*	*39-151*	*1*	*12/18/20*	*12/21/20 22:58*	*1029*
Tetrachloro-m-xylene	*79*	*%*	*44-152*	*1*	*12/18/20*	*12/21/20 22:58*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.055		1	0.055	12/18/20	12/22/20 19:01	1029
PCB-1221	ND	mg/kg	0.055		1	0.055	12/18/20	12/22/20 19:01	1029
PCB-1232	ND	mg/kg	0.055		1	0.055	12/18/20	12/22/20 19:01	1029
PCB-1242	ND	mg/kg	0.055		1	0.055	12/18/20	12/22/20 19:01	1029
PCB-1248	ND	mg/kg	0.055		1	0.055	12/18/20	12/22/20 19:01	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 67.2-68.7 **Date/Time Sampled: 12/12/2020 14:40** **PSS Sample ID: 20121403-033**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 87.6**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.055		1	0.055	12/18/20	12/22/20 19:01	1029
PCB-1260	ND	mg/kg	0.055		1	0.055	12/18/20	12/22/20 19:01	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*82*	*%*	*34-117*	*1*	*12/18/20*	*12/22/20 19:01*	*1029*
Decachlorobiphenyl	*115*	*%*	*40-149*	*1*	*12/18/20*	*12/22/20 19:01*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Acenaphthylene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Acetophenone	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Anthracene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Atrazine	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
Benzo(a)anthracene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Benzo(a)pyrene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Benzo(b)fluoranthene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Benzo(k)fluoranthene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Butyl benzyl phthalate	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Di-n-butyl phthalate	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Carbazole	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Caprolactam	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
4-Chloroaniline	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2-Chloronaphthalene	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2-Chlorophenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 67.2-68.7 **Date/Time Sampled: 12/12/2020 14:40** **PSS Sample ID: 20121403-033**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 87.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Dibenzofuran	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2,4-Dichlorophenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Diethyl phthalate	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Dimethyl phthalate	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2,4-Dimethylphenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.19		1	0.19	12/18/20	12/21/20 22:15	1059
2,4-Dinitrophenol	ND	mg/kg	0.19		1	0.19	12/18/20	12/21/20 22:15	1059
2,4-Dinitrotoluene	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
2,6-Dinitrotoluene	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
Fluoranthene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Fluorene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Hexachlorobenzene	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Hexachlorobutadiene	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
Hexachloroethane	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Isophorone	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2-Methylnaphthalene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
2-Methyl phenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
3&4-Methylphenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Naphthalene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
2-Nitroaniline	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
3-Nitroaniline	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
4-Nitroaniline	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
Nitrobenzene	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2-Nitrophenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
4-Nitrophenol	ND	mg/kg	0.19		1	0.19	12/18/20	12/21/20 22:15	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Di-n-octyl phthalate	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
Pentachlorophenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/21/20 22:15	1059
Phenanthrene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 67.2-68.7 **Date/Time Sampled: 12/12/2020 14:40** **PSS Sample ID: 20121403-033**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 87.6**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
Pyrene	ND	mg/kg	0.0095		1	0.0095	12/18/20	12/21/20 22:15	1059
Pyridine	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.038		1	0.038	12/18/20	12/21/20 22:15	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*85*	*%*	*50-104*	*1*	*12/18/20*	*12/21/20 22:15*	*1059*
2-Fluorophenol	*82*	*%*	*40-109*	*1*	*12/18/20*	*12/21/20 22:15*	*1059*
Nitrobenzene-d5	*79*	*%*	*41-101*	*1*	*12/18/20*	*12/21/20 22:15*	*1059*
Phenol-d6	*75*	*%*	*44-102*	*1*	*12/18/20*	*12/21/20 22:15*	*1059*
Terphenyl-D14	*93*	*%*	*70-115*	*1*	*12/18/20*	*12/21/20 22:15*	*1059*
2,4,6-Tribromophenol	*85*	*%*	*36-123*	*1*	*12/18/20*	*12/21/20 22:15*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	ND	mg/kg	0.065		1	0.032	12/17/20	12/17/20 17:38	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8 69.6-71.2 **Date/Time Sampled: 12/12/2020 15:05** **PSS Sample ID: 20121403-034**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 85.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.4		1	0.22	12/23/20	12/28/20 22:14	1064
Arsenic	**2.9**	mg/kg	0.48		1	0.053	12/23/20	12/28/20 22:14	1064
Beryllium	**0.38**	mg/kg	0.48	J	1	0.12	12/23/20	12/28/20 22:14	1064
Cadmium	ND	mg/kg	0.48		1	0.048	12/23/20	12/28/20 22:14	1064
Chromium	**11**	mg/kg	0.48		1	0.26	12/23/20	12/28/20 22:14	1064
Copper	**6.0**	mg/kg	0.48		1	0.15	12/23/20	12/28/20 22:14	1064
Lead	**5.3**	mg/kg	0.48		1	0.2	12/23/20	12/28/20 22:14	1064
Manganese	**220**	mg/kg	0.48		1	0.4	12/23/20	12/28/20 22:14	1064
Mercury	ND	mg/kg	0.096		1	0.035	12/23/20	12/28/20 22:14	1064
Nickel	**12**	mg/kg	0.48		1	0.17	12/23/20	12/28/20 22:14	1064
Selenium	**0.080**	mg/kg	0.48	J	1	0.048	12/23/20	12/28/20 22:14	1064
Silver	ND	mg/kg	0.48		1	0.053	12/23/20	12/28/20 22:14	1064
Thallium	ND	mg/kg	0.48		1	0.12	12/23/20	12/28/20 22:14	1064
Zinc	**32**	mg/kg	9.6		1	0.53	12/23/20	12/28/20 22:14	1064

Sample ID: A8 41.2-42.3 **Date/Time Sampled: 12/13/2020 08:37** **PSS Sample ID: 20121403-035**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 47.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	5.0		1	0.46	12/23/20	12/28/20 22:19	1064
Arsenic	**12**	mg/kg	1.0		1	0.11	12/23/20	12/28/20 22:19	1064
Beryllium	**2.2**	mg/kg	1.0		1	0.25	12/23/20	12/28/20 22:19	1064
Cadmium	**0.91**	mg/kg	1.0	J	1	0.1	12/23/20	12/28/20 22:19	1064
Chromium	**35**	mg/kg	1.0		1	0.55	12/23/20	12/28/20 22:19	1064
Copper	**42**	mg/kg	1.0		1	0.31	12/23/20	12/28/20 22:19	1064
Lead	**36**	mg/kg	1.0		1	0.42	12/23/20	12/28/20 22:19	1064
Manganese	**1,800**	mg/kg	1.0	E	1	0.84	12/23/20	12/28/20 22:19	1064
Mercury	**0.15**	mg/kg	0.20	J	1	0.073	12/23/20	12/28/20 22:19	1064
Nickel	**61**	mg/kg	1.0		1	0.35	12/23/20	12/28/20 22:19	1064
Selenium	**1.2**	mg/kg	1.0		1	0.1	12/23/20	12/28/20 22:19	1064
Silver	**0.50**	mg/kg	1.0	J	1	0.11	12/23/20	12/28/20 22:19	1064
Thallium	**0.28**	mg/kg	1.0	J	1	0.26	12/23/20	12/28/20 22:19	1064
Zinc	**250**	mg/kg	20		1	1.1	12/23/20	12/28/20 22:19	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 45.2-47.3 **Date/Time Sampled: 12/13/2020 08:52** **PSS Sample ID: 20121403-036**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 46.7**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	4.3		1	0.39	12/23/20	12/28/20 22:24	1064
Arsenic	**11**	mg/kg	0.86		1	0.094	12/23/20	12/28/20 22:24	1064
Beryllium	**2.3**	mg/kg	0.86		1	0.21	12/23/20	12/28/20 22:24	1064
Cadmium	**1.0**	mg/kg	0.86		1	0.086	12/23/20	12/28/20 22:24	1064
Chromium	**33**	mg/kg	0.86		1	0.47	12/23/20	12/28/20 22:24	1064
Copper	**40**	mg/kg	0.86		1	0.27	12/23/20	12/28/20 22:24	1064
Lead	**36**	mg/kg	0.86		1	0.36	12/23/20	12/28/20 22:24	1064
Manganese	**2,100**	mg/kg	0.86	E	1	0.72	12/23/20	12/28/20 22:24	1064
Mercury	**0.14**	mg/kg	0.17	J	1	0.063	12/23/20	12/28/20 22:24	1064
Nickel	**64**	mg/kg	0.86		1	0.3	12/23/20	12/28/20 22:24	1064
Selenium	**1.1**	mg/kg	0.86		1	0.086	12/23/20	12/28/20 22:24	1064
Silver	**0.45**	mg/kg	0.86	J	1	0.094	12/23/20	12/28/20 22:24	1064
Thallium	**0.27**	mg/kg	0.86	J	1	0.22	12/23/20	12/28/20 22:24	1064
Zinc	**260**	mg/kg	17		1	0.94	12/23/20	12/28/20 22:24	1064

Sample ID: A8 50.5-52.3 **Date/Time Sampled: 12/13/2020 09:04** **PSS Sample ID: 20121403-037**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.1**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.47**	mg/kg	4.1	J	1	0.38	12/23/20	12/28/20 22:29	1064
Arsenic	**13**	mg/kg	0.82		1	0.09	12/23/20	12/28/20 22:29	1064
Beryllium	**2.7**	mg/kg	0.82		1	0.2	12/23/20	12/28/20 22:29	1064
Cadmium	**1.1**	mg/kg	0.82		1	0.082	12/23/20	12/28/20 22:29	1064
Chromium	**36**	mg/kg	0.82		1	0.45	12/23/20	12/28/20 22:29	1064
Copper	**46**	mg/kg	0.82		1	0.25	12/23/20	12/28/20 22:29	1064
Lead	**40**	mg/kg	0.82		1	0.34	12/23/20	12/28/20 22:29	1064
Manganese	**2,500**	mg/kg	0.82	E	1	0.69	12/23/20	12/28/20 22:29	1064
Mercury	**0.17**	mg/kg	0.16		1	0.06	12/23/20	12/28/20 22:29	1064
Nickel	**78**	mg/kg	0.82		1	0.29	12/23/20	12/28/20 22:29	1064
Selenium	**1.3**	mg/kg	0.82		1	0.082	12/23/20	12/28/20 22:29	1064
Silver	**0.64**	mg/kg	0.82	J	1	0.09	12/23/20	12/28/20 22:29	1064
Thallium	**0.30**	mg/kg	0.82	J	1	0.21	12/23/20	12/28/20 22:29	1064
Zinc	**320**	mg/kg	16		1	0.9	12/23/20	12/28/20 22:29	1064

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Sample ID: A8 53.1-57.3 **Date/Time Sampled: 12/13/2020 09:16** **PSS Sample ID: 20121403-038**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 50.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.51**	mg/kg	4.7	J	1	0.43	12/23/20	12/28/20 22:33	1064
Arsenic	**13**	mg/kg	0.93		1	0.1	12/23/20	12/28/20 22:33	1064
Beryllium	**3.2**	mg/kg	0.93		1	0.23	12/23/20	12/28/20 22:33	1064
Cadmium	**1.5**	mg/kg	0.93		1	0.093	12/23/20	12/28/20 22:33	1064
Chromium	**37**	mg/kg	0.93		1	0.51	12/23/20	12/28/20 22:33	1064
Copper	**53**	mg/kg	0.93		1	0.29	12/23/20	12/28/20 22:33	1064
Lead	**46**	mg/kg	0.93		1	0.39	12/23/20	12/28/20 22:33	1064
Manganese	**3,000**	mg/kg	0.93	E	1	0.78	12/23/20	12/28/20 22:33	1064
Mercury	**0.20**	mg/kg	0.19		1	0.068	12/23/20	12/28/20 22:33	1064
Nickel	**100**	mg/kg	0.93		1	0.33	12/23/20	12/28/20 22:33	1064
Selenium	**1.4**	mg/kg	0.93		1	0.093	12/23/20	12/28/20 22:33	1064
Silver	**1.0**	mg/kg	0.93		1	0.1	12/23/20	12/28/20 22:33	1064
Thallium	**0.32**	mg/kg	0.93	J	1	0.24	12/23/20	12/28/20 22:33	1064
Zinc	**400**	mg/kg	19		1	1	12/23/20	12/28/20 22:33	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-039**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.2**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C GRO Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.18		1	0.092	12/23/20	12/23/20 18:07	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*83*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 18:07*	*1045*

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.083**	mg/kg	0.037		1	0.037	12/23/20	12/23/20 18:19	1045
Benzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Bromochloromethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Bromodichloromethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Bromoform	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Bromomethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
2-Butanone (MEK)	ND	mg/kg	0.0092		1	0.0092	12/23/20	12/23/20 18:19	1045
Carbon Disulfide	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Carbon tetrachloride	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Chlorobenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Chloroethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Chloroform	ND	mg/kg	0.0092		1	0.0092	12/23/20	12/23/20 18:19	1045
Chloromethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Cyclohexane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Dibromochloromethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2-Dibromoethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Dichlorodifluoromethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,1-Dichloroethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2-Dichloroethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,1-Dichloroethene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2-Dichloropropane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-039**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.2**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Ethylbenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
2-Hexanone (MBK)	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Isopropylbenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Methyl Acetate	ND	mg/kg	0.046		1	0.046	12/23/20	12/23/20 18:19	1045
Methylcyclohexane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Methylene chloride	ND	mg/kg	0.0092		1	0.0092	12/23/20	12/23/20 18:19	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Naphthalene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Styrene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Tetrachloroethene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Toluene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Trichloroethene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Trichlorofluoromethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045
Vinyl chloride	ND	mg/kg	0.0092		1	0.0092	12/23/20	12/23/20 18:19	1045
m&p-Xylene	ND	mg/kg	0.0037		1	0.0037	12/23/20	12/23/20 18:19	1045
o-Xylene	ND	mg/kg	0.0018		1	0.0018	12/23/20	12/23/20 18:19	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*96*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 18:19*	*1045*
Dibromofluoromethane	*102*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 18:19*	*1045*
Toluene-D8	*100*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 18:19*	*1045*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 57.8-62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-040**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.6**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	100		1	26	12/15/20	12/15/20 20:44	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**500**	mg/kg	47		10	47	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**860**	mg/kg	120		10	59	12/15/20	12/15/20 18:44	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I

Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**13**	mg/kg	21	J	1	6.4	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 57.8-62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-040**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.6**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.56**	mg/kg	3.7	J	1	0.34	12/23/20	12/28/20 22:38	1064
Arsenic	**14**	mg/kg	0.74		1	0.082	12/23/20	12/28/20 22:38	1064
Beryllium	**3.0**	mg/kg	0.74		1	0.19	12/23/20	12/28/20 22:38	1064
Cadmium	**2.0**	mg/kg	0.74		1	0.074	12/23/20	12/28/20 22:38	1064
Chromium	**46**	mg/kg	0.74		1	0.41	12/23/20	12/28/20 22:38	1064
Copper	**63**	mg/kg	0.74		1	0.23	12/23/20	12/28/20 22:38	1064
Lead	**63**	mg/kg	0.74		1	0.31	12/23/20	12/28/20 22:38	1064
Manganese	**2,200**	mg/kg	0.74	E	1	0.62	12/23/20	12/28/20 22:38	1064
Mercury	**0.21**	mg/kg	0.15		1	0.054	12/23/20	12/28/20 22:38	1064
Nickel	**84**	mg/kg	0.74		1	0.26	12/23/20	12/28/20 22:38	1064
Selenium	**1.5**	mg/kg	0.74		1	0.074	12/23/20	12/28/20 22:38	1064
Silver	**1.5**	mg/kg	0.74		1	0.082	12/23/20	12/28/20 22:38	1064
Thallium	**0.38**	mg/kg	0.74	J	1	0.19	12/23/20	12/28/20 22:38	1064
Zinc	**370**	mg/kg	15		1	0.82	12/23/20	12/28/20 22:38	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	2.0		1	2	12/14/20	12/15/20 15:16	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**6.9**	mg/kg	6.7		1	6.7	12/20/20	12/21/20 16:24	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*81*	*%*	*35-124*		*1*		*12/20/20*	*12/21/20 16:24*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 57.8-62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-040**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.6**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
beta-BHC	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
delta-BHC	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Heptachlor	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Aldrin	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Heptachlor epoxide	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
gamma-Chlordane	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
alpha-Chlordane	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
4,4-DDE	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Endosulfan I	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Dieldrin	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Endrin	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
4,4-DDD	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Endosulfan II	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
4,4-DDT	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Endrin aldehyde	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Methoxychlor	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Endosulfan sulfate	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Endrin ketone	ND	mg/kg	0.0081		1	0.0081	12/18/20	12/21/20 23:12	1029
Toxaphene	ND	mg/kg	0.20		1	0.2	12/18/20	12/21/20 23:12	1029
Chlordane	ND	mg/kg	0.20		1	0.2	12/18/20	12/21/20 23:12	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*92*	*%*	*39-151*	*1*	*12/18/20*	*12/21/20 23:12*	*1029*
Tetrachloro-m-xylene	*74*	*%*	*44-152*	*1*	*12/18/20*	*12/21/20 23:12*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 19:29	1029
PCB-1221	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 19:29	1029
PCB-1232	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 19:29	1029
PCB-1242	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 19:29	1029
PCB-1248	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 19:29	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 57.8-62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-040**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.6**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 19:29	1029
PCB-1260	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 19:29	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*75*	*%*	*34-117*	*1*	*12/18/20*	*12/22/20 19:29*	*1029*
Decachlorobiphenyl	*122*	*%*	*40-149*	*1*	*12/18/20*	*12/22/20 19:29*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Acenaphthylene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Acetophenone	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Anthracene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Atrazine	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
Benzo(a)anthracene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Benzo(a)pyrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Benzo(b)fluoranthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Benzo(k)fluoranthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Butyl benzyl phthalate	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Di-n-butyl phthalate	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Carbazole	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Caprolactam	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
4-Chloroaniline	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2-Chloronaphthalene	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2-Chlorophenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 57.8-62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-040**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Dibenzofuran	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2,4-Dichlorophenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Diethyl phthalate	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Dimethyl phthalate	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2,4-Dimethylphenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.33		1	0.33	12/18/20	12/21/20 22:41	1059
2,4-Dinitrophenol	ND	mg/kg	0.33		1	0.33	12/18/20	12/21/20 22:41	1059
2,4-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
2,6-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
Fluoranthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Fluorene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Hexachlorobenzene	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Hexachlorobutadiene	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
Hexachloroethane	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Isophorone	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2-Methylnaphthalene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
2-Methyl phenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
3&4-Methylphenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Naphthalene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
2-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
3-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
4-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
Nitrobenzene	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2-Nitrophenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
4-Nitrophenol	ND	mg/kg	0.33		1	0.33	12/18/20	12/21/20 22:41	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Di-n-octyl phthalate	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
Pentachlorophenol	ND	mg/kg	0.13		1	0.13	12/18/20	12/21/20 22:41	1059
Phenanthrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 57.8-62.3 **Date/Time Sampled: 12/13/2020 09:27** **PSS Sample ID: 20121403-040**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.6**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
Pyrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/21/20 22:41	1059
Pyridine	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.067		1	0.067	12/18/20	12/21/20 22:41	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*87*	*%*	*50-104*	*1*	*12/18/20*	*12/21/20 22:41*	*1059*
2-Fluorophenol	*85*	*%*	*40-109*	*1*	*12/18/20*	*12/21/20 22:41*	*1059*
Nitrobenzene-d5	*83*	*%*	*41-101*	*1*	*12/18/20*	*12/21/20 22:41*	*1059*
Phenol-d6	*77*	*%*	*44-102*	*1*	*12/18/20*	*12/21/20 22:41*	*1059*
Terphenyl-D14	*94*	*%*	*70-115*	*1*	*12/18/20*	*12/21/20 22:41*	*1059*
2,4,6-Tribromophenol	*83*	*%*	*36-123*	*1*	*12/18/20*	*12/21/20 22:41*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.24**	mg/kg	0.12		1	0.058	12/23/20	12/23/20 16:02	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 62.9-67.3 **Date/Time Sampled: 12/13/2020 09:55** **PSS Sample ID: 20121403-041**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.81**	mg/kg	3.9	J	1	0.36	12/23/20	12/28/20 23:02	1064
Arsenic	**16**	mg/kg	0.78		1	0.086	12/23/20	12/28/20 23:02	1064
Beryllium	**3.6**	mg/kg	0.78		1	0.2	12/23/20	12/28/20 23:02	1064
Cadmium	**2.9**	mg/kg	0.78		1	0.078	12/23/20	12/28/20 23:02	1064
Chromium	**59**	mg/kg	0.78		1	0.43	12/23/20	12/28/20 23:02	1064
Copper	**78**	mg/kg	0.78		1	0.24	12/23/20	12/28/20 23:02	1064
Lead	**63**	mg/kg	0.78		1	0.33	12/23/20	12/28/20 23:02	1064
Manganese	**2,000**	mg/kg	0.78	E	1	0.66	12/23/20	12/28/20 23:02	1064
Mercury	**0.33**	mg/kg	0.16		1	0.057	12/23/20	12/28/20 23:02	1064
Nickel	**91**	mg/kg	0.78		1	0.27	12/23/20	12/28/20 23:02	1064
Selenium	**2.7**	mg/kg	0.78		1	0.078	12/23/20	12/28/20 23:02	1064
Silver	**3.3**	mg/kg	0.78		1	0.086	12/23/20	12/28/20 23:02	1064
Thallium	**0.35**	mg/kg	0.78	J	1	0.2	12/23/20	12/28/20 23:02	1064
Zinc	**500**	mg/kg	16		1	0.86	12/23/20	12/28/20 23:02	1064

Sample ID: A8 67.3-72.3 **Date/Time Sampled: 12/13/2020 10:10** **PSS Sample ID: 20121403-042**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 58.4**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.75**	mg/kg	4.1	J	1	0.38	12/23/20	12/28/20 23:07	1064
Arsenic	**19**	mg/kg	0.83		1	0.091	12/23/20	12/28/20 23:07	1064
Beryllium	**3.6**	mg/kg	0.83		1	0.21	12/23/20	12/28/20 23:07	1064
Cadmium	**1.3**	mg/kg	0.83		1	0.083	12/23/20	12/28/20 23:07	1064
Chromium	**51**	mg/kg	0.83		1	0.46	12/23/20	12/28/20 23:07	1064
Copper	**84**	mg/kg	0.83		1	0.26	12/23/20	12/28/20 23:07	1064
Lead	**65**	mg/kg	0.83		1	0.35	12/23/20	12/28/20 23:07	1064
Manganese	**1,200**	mg/kg	0.83	E	1	0.7	12/23/20	12/28/20 23:07	1064
Mercury	**0.37**	mg/kg	0.17		1	0.06	12/23/20	12/28/20 23:07	1064
Nickel	**81**	mg/kg	0.83		1	0.29	12/23/20	12/28/20 23:07	1064
Selenium	**4.1**	mg/kg	0.83		1	0.083	12/23/20	12/28/20 23:07	1064
Silver	**0.99**	mg/kg	0.83		1	0.091	12/23/20	12/28/20 23:07	1064
Thallium	**0.39**	mg/kg	0.83	J	1	0.22	12/23/20	12/28/20 23:07	1064
Zinc	**420**	mg/kg	17		1	0.91	12/23/20	12/28/20 23:07	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: A8 72.3-74.8 **Date/Time Sampled: 12/13/2020 10:26** **PSS Sample ID: 20121403-043**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 59.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180694 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.82**	mg/kg	2.9	J	1	0.27	12/23/20	12/28/20 23:11	1064
Arsenic	**19**	mg/kg	0.59		1	0.065	12/23/20	12/28/20 23:11	1064
Beryllium	**3.8**	mg/kg	0.59		1	0.15	12/23/20	12/28/20 23:11	1064
Cadmium	**1.1**	mg/kg	0.59		1	0.059	12/23/20	12/28/20 23:11	1064
Chromium	**62**	mg/kg	0.59		1	0.32	12/23/20	12/28/20 23:11	1064
Copper	**90**	mg/kg	0.59		1	0.18	12/23/20	12/28/20 23:11	1064
Lead	**72**	mg/kg	0.59		1	0.25	12/23/20	12/28/20 23:11	1064
Manganese	**1,700**	mg/kg	0.59	E	1	0.49	12/23/20	12/28/20 23:11	1064
Mercury	**0.51**	mg/kg	0.12		1	0.043	12/23/20	12/28/20 23:11	1064
Nickel	**83**	mg/kg	0.59		1	0.21	12/23/20	12/28/20 23:11	1064
Selenium	**3.9**	mg/kg	0.59		1	0.059	12/23/20	12/28/20 23:11	1064
Silver	**0.56**	mg/kg	0.59	J	1	0.065	12/23/20	12/28/20 23:11	1064
Thallium	**0.43**	mg/kg	0.59	J	1	0.15	12/23/20	12/28/20 23:11	1064
Zinc	**400**	mg/kg	12		1	0.65	12/23/20	12/28/20 23:11	1064

Sample ID: B8A 58.8-60.0 **Date/Time Sampled: 12/13/2020 11:27** **PSS Sample ID: 20121403-044**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 44.9**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	4.6		1	0.43	12/23/20	12/28/20 23:30	1064
Arsenic	**13**	mg/kg	0.93		1	0.1	12/23/20	12/28/20 23:30	1064
Beryllium	**2.8**	mg/kg	0.93		1	0.23	12/23/20	12/28/20 23:30	1064
Cadmium	**1.2**	mg/kg	0.93		1	0.093	12/23/20	12/28/20 23:30	1064
Chromium	**38**	mg/kg	0.93		1	0.51	12/23/20	12/28/20 23:30	1064
Copper	**49**	mg/kg	0.93		1	0.29	12/23/20	12/28/20 23:30	1064
Lead	**42**	mg/kg	0.93		1	0.39	12/23/20	12/28/20 23:30	1064
Manganese	**2,500**	mg/kg	0.93	E	1	0.78	12/23/20	12/28/20 23:30	1064
Mercury	**0.17**	mg/kg	0.19	J	1	0.068	12/23/20	12/28/20 23:30	1064
Nickel	**81**	mg/kg	0.93		1	0.32	12/23/20	12/28/20 23:30	1064
Selenium	**1.2**	mg/kg	0.93		1	0.093	12/23/20	12/28/20 23:30	1064
Silver	**0.81**	mg/kg	0.93	J	1	0.1	12/23/20	12/28/20 23:30	1064
Thallium	**0.44**	mg/kg	0.93	J	1	0.24	12/23/20	12/28/20 23:30	1064
Zinc	**330**	mg/kg	19		1	1	12/23/20	12/28/20 23:30	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 68.7-70.0 **Date/Time Sampled: 12/13/2020 11:47** **PSS Sample ID: 20121403-045**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 73.9**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	67		1	17	12/15/20	12/15/20 21:07	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**80**	mg/kg	3.3		1	0.99	12/18/20	12/18/20 14:35	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**270**	mg/kg	80		10	40	12/28/20	12/28/20 15:51	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	14		1	4.2	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 68.7-70.0 **Date/Time Sampled: 12/13/2020 11:47** **PSS Sample ID: 20121403-045**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 73.9**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.48**	mg/kg	2.5	J	1	0.23	12/23/20	12/29/20 00:18	1064
Arsenic	**6.5**	mg/kg	0.50		1	0.055	12/23/20	12/29/20 00:18	1064
Beryllium	**1.8**	mg/kg	0.50		1	0.12	12/23/20	12/29/20 00:18	1064
Cadmium	**0.53**	mg/kg	0.50		1	0.05	12/23/20	12/29/20 00:18	1064
Chromium	**15**	mg/kg	0.50		1	0.27	12/23/20	12/29/20 00:18	1064
Copper	**37**	mg/kg	0.50		1	0.15	12/23/20	12/29/20 00:18	1064
Lead	**27**	mg/kg	0.50		1	0.21	12/23/20	12/29/20 00:18	1064
Manganese	**810**	mg/kg	0.50	E	1	0.42	12/23/20	12/29/20 00:18	1064
Mercury	**0.23**	mg/kg	0.099		1	0.036	12/23/20	12/29/20 00:18	1064
Nickel	**35**	mg/kg	0.50		1	0.17	12/23/20	12/29/20 00:18	1064
Selenium	**2.5**	mg/kg	0.50		1	0.05	12/23/20	12/29/20 00:18	1064
Silver	**0.48**	mg/kg	0.50	J	1	0.055	12/23/20	12/29/20 00:18	1064
Thallium	**0.17**	mg/kg	0.50	J	1	0.13	12/23/20	12/29/20 00:18	1064
Zinc	**150**	mg/kg	9.9		1	0.55	12/23/20	12/29/20 00:18	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.4		1	1.4	12/22/20	12/23/20 13:20	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**53**	mg/kg	4.5	DF	1	4.5	12/20/20	12/21/20 18:53	1070

Surrogate(s)	***Recovery***		***Limits***				
o-Terphenyl	*90*	*%*	*35-124*		*1*	*12/20/20*	*12/21/20 18:53*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 68.7-70.0 **Date/Time Sampled: 12/13/2020 11:47** **PSS Sample ID: 20121403-045**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 73.9**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
beta-BHC	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
delta-BHC	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Heptachlor	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Aldrin	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Heptachlor epoxide	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
gamma-Chlordane	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
alpha-Chlordane	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
4,4-DDE	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Endosulfan I	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Dieldrin	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Endrin	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
4,4-DDD	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Endosulfan II	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
4,4-DDT	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Endrin aldehyde	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Methoxychlor	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Endosulfan sulfate	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Endrin ketone	ND	mg/kg	0.0053		1	0.0053	12/18/20	12/22/20 19:07	1029
Toxaphene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 19:07	1029
Chlordane	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 19:07	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*85*	*%*	*39-151*	*1*	*12/18/20*	*12/22/20 19:07*	*1029*
Tetrachloro-m-xylene	*75*	*%*	*44-152*	*1*	*12/18/20*	*12/22/20 19:07*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

Qualifier(s): See Batch 180686 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.067		1	0.067	12/18/20	12/22/20 19:57	1029
PCB-1221	ND	mg/kg	0.067		1	0.067	12/18/20	12/22/20 19:57	1029
PCB-1232	ND	mg/kg	0.067		1	0.067	12/18/20	12/22/20 19:57	1029
PCB-1242	ND	mg/kg	0.067		1	0.067	12/18/20	12/22/20 19:57	1029
PCB-1248	ND	mg/kg	0.067		1	0.067	12/18/20	12/22/20 19:57	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 68.7-70.0 **Date/Time Sampled: 12/13/2020 11:47** **PSS Sample ID: 20121403-045**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 73.9**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180686 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.067		1	0.067	12/18/20	12/22/20 19:57	1029
PCB-1260	ND	mg/kg	0.067		1	0.067	12/18/20	12/22/20 19:57	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*75*	*%*	*34-117*	*1*	*12/18/20*	*12/22/20 19:57*	*1029*
Decachlorobiphenyl	*131*	*%*	*40-149*	*1*	*12/18/20*	*12/22/20 19:57*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Acenaphthylene	**0.090**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Acetophenone	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Anthracene	**0.11**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Atrazine	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
Benzo(a)anthracene	**1.2**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Benzo(a)pyrene	**0.40**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Benzo(b)fluoranthene	**0.32**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Benzo(g,h,i)perylene	**0.19**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Benzo(k)fluoranthene	**0.31**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Butyl benzyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Di-n-butyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Carbazole	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Caprolactam	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
4-Chloroaniline	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2-Chloronaphthalene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2-Chlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 68.7-70.0 **Date/Time Sampled: 12/13/2020 11:47** **PSS Sample ID: 20121403-045**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 73.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**1.1**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Dibenz(a,h)Anthracene	**0.050**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Dibenzofuran	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2,4-Dichlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Diethyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Dimethyl phthalate	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2,4-Dimethylphenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.22		1	0.22	12/18/20	12/22/20 17:03	1059
2,4-Dinitrophenol	ND	mg/kg	0.22		1	0.22	12/18/20	12/22/20 17:03	1059
2,4-Dinitrotoluene	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
2,6-Dinitrotoluene	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
Fluoranthene	**0.52**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Fluorene	**0.026**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Hexachlorobenzene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Hexachlorobutadiene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
Hexachloroethane	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Indeno(1,2,3-c,d)Pyrene	**0.23**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Isophorone	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2-Methylnaphthalene	**0.028**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
2-Methyl phenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
3&4-Methylphenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Naphthalene	**0.048**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
2-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
3-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
4-Nitroaniline	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
Nitrobenzene	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2-Nitrophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
4-Nitrophenol	ND	mg/kg	0.22		1	0.22	12/18/20	12/22/20 17:03	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Di-n-octyl phthalate	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
Pentachlorophenol	ND	mg/kg	0.090		1	0.09	12/18/20	12/22/20 17:03	1059
Phenanthrene	**0.20**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 68.7-70.0 **Date/Time Sampled: 12/13/2020 11:47** **PSS Sample ID: 20121403-045**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 73.9**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
Pyrene	**0.54**	mg/kg	0.011		1	0.011	12/18/20	12/22/20 17:03	1059
Pyridine	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.045		1	0.045	12/18/20	12/22/20 17:03	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*86*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 17:03*	*1059*
2-Fluorophenol	*79*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 17:03*	*1059*
Nitrobenzene-d5	*84*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 17:03*	*1059*
Phenol-d6	*77*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 17:03*	*1059*
Terphenyl-D14	*93*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 17:03*	*1059*
2,4,6-Tribromophenol	*88*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 17:03*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.21**	mg/kg	0.086		1	0.043	12/23/20	12/23/20 16:20	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 71.9-75.0 **Date/Time Sampled: 12/13/2020 12:14** **PSS Sample ID: 20121403-046**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 54.5**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	90		1	23	12/15/20	12/15/20 22:39	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**440**	mg/kg	42		10	42	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**840**	mg/kg	110		10	57	12/28/20	12/28/20 15:55	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**8.2**	mg/kg	19	J	1	5.9	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 71.9-75.0 **Date/Time Sampled: 12/13/2020 12:14** **PSS Sample ID: 20121403-046**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 54.5**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.60**	mg/kg	3.5	J	1	0.32	12/23/20	12/29/20 00:22	1064
Arsenic	**16**	mg/kg	0.69		1	0.076	12/23/20	12/29/20 00:22	1064
Beryllium	**4.0**	mg/kg	0.69		1	0.17	12/23/20	12/29/20 00:22	1064
Cadmium	**3.0**	mg/kg	0.69		1	0.069	12/23/20	12/29/20 00:22	1064
Chromium	**62**	mg/kg	0.69		1	0.38	12/23/20	12/29/20 00:22	1064
Copper	**83**	mg/kg	0.69		1	0.21	12/23/20	12/29/20 00:22	1064
Lead	**64**	mg/kg	0.69		1	0.29	12/23/20	12/29/20 00:22	1064
Manganese	**1,900**	mg/kg	0.69	E	1	0.58	12/23/20	12/29/20 00:22	1064
Mercury	**0.34**	mg/kg	0.14		1	0.051	12/23/20	12/29/20 00:22	1064
Nickel	**93**	mg/kg	0.69		1	0.24	12/23/20	12/29/20 00:22	1064
Selenium	**2.6**	mg/kg	0.69		1	0.069	12/23/20	12/29/20 00:22	1064
Silver	**3.9**	mg/kg	0.69		1	0.076	12/23/20	12/29/20 00:22	1064
Thallium	**0.33**	mg/kg	0.69	J	1	0.18	12/23/20	12/29/20 00:22	1064
Zinc	**550**	mg/kg	14		1	0.76	12/23/20	12/29/20 00:22	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.9		1	1.9	12/22/20	12/23/20 13:38	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**11**	mg/kg	6.1		1	6.1	12/22/20	12/23/20 16:48	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*94*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 16:48*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 71.9-75.0 **Date/Time Sampled: 12/13/2020 12:14** **PSS Sample ID: 20121403-046**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 54.5**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180644 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
beta-BHC	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
delta-BHC	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Heptachlor	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Aldrin	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Heptachlor epoxide	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
gamma-Chlordane	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
alpha-Chlordane	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
4,4-DDE	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Endosulfan I	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Dieldrin	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Endrin	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
4,4-DDD	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Endosulfan II	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
4,4-DDT	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Endrin aldehyde	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Methoxychlor	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Endosulfan sulfate	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Endrin ketone	ND	mg/kg	0.0071		1	0.0071	12/18/20	12/22/20 19:21	1029
Toxaphene	ND	mg/kg	0.18		1	0.18	12/18/20	12/22/20 19:21	1029
Chlordane	ND	mg/kg	0.18		1	0.18	12/18/20	12/22/20 19:21	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*63*	*%*	*44-152*	*1*	*12/18/20*	*12/22/20 19:21*	*1029*
Decachlorobiphenyl	*88*	*%*	*39-151*	*1*	*12/18/20*	*12/22/20 19:21*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180580 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.089		1	0.089	12/18/20	12/21/20 22:44	1029
PCB-1221	ND	mg/kg	0.089		1	0.089	12/18/20	12/21/20 22:44	1029
PCB-1232	ND	mg/kg	0.089		1	0.089	12/18/20	12/21/20 22:44	1029
PCB-1242	ND	mg/kg	0.089		1	0.089	12/18/20	12/21/20 22:44	1029
PCB-1248	ND	mg/kg	0.089		1	0.089	12/18/20	12/21/20 22:44	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 71.9-75.0 **Date/Time Sampled: 12/13/2020 12:14** **PSS Sample ID: 20121403-046**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 54.5**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180580 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.089		1	0.089	12/18/20	12/21/20 22:44	1029
PCB-1260	ND	mg/kg	0.089		1	0.089	12/18/20	12/21/20 22:44	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*87*	*%*	*34-117*		*1*	*12/18/20*	*12/21/20 22:44*	*1029*
Decachlorobiphenyl	*111*	*%*	*40-149*		*1*	*12/18/20*	*12/21/20 22:44*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Acenaphthylene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Acetophenone	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Atrazine	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
Benzo(a)anthracene	**0.024**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Benzo(a)pyrene	**0.030**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Benzo(b)fluoranthene	**0.022**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Benzo(g,h,i)perylene	**0.036**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Benzo(k)fluoranthene	**0.028**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Butyl benzyl phthalate	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Di-n-butyl phthalate	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Carbazole	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Caprolactam	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
4-Chloroaniline	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2-Chloronaphthalene	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2-Chlorophenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 71.9-75.0 **Date/Time Sampled: 12/13/2020 12:14** **PSS Sample ID: 20121403-046**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 54.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.020**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Dibenz(a,h)Anthracene	**0.025**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Dibenzofuran	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2,4-Dichlorophenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Diethyl phthalate	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Dimethyl phthalate	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2,4-Dimethylphenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.30		1	0.3	12/18/20	12/21/20 21:22	1059
2,4-Dinitrophenol	ND	mg/kg	0.30		1	0.3	12/18/20	12/21/20 21:22	1059
2,4-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
2,6-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
Fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Fluorene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Hexachlorobenzene	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Hexachlorobutadiene	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
Hexachloroethane	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Indeno(1,2,3-c,d)Pyrene	**0.030**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Isophorone	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2-Methylnaphthalene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
2-Methyl phenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
3&4-Methylphenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Naphthalene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
2-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
3-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
4-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
Nitrobenzene	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2-Nitrophenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
4-Nitrophenol	ND	mg/kg	0.30		1	0.3	12/18/20	12/21/20 21:22	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Di-n-octyl phthalate	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
Pentachlorophenol	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 21:22	1059
Phenanthrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 71.9-75.0 **Date/Time Sampled: 12/13/2020 12:14** **PSS Sample ID: 20121403-046**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 54.5**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
Pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 21:22	1059
Pyridine	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.061		1	0.061	12/18/20	12/21/20 21:22	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*93*	*%*	*50-104*	*1*	*12/18/20*	*12/21/20 21:22*	*1059*
2-Fluorophenol	*88*	*%*	*40-109*	*1*	*12/18/20*	*12/21/20 21:22*	*1059*
Nitrobenzene-d5	*86*	*%*	*41-101*	*1*	*12/18/20*	*12/21/20 21:22*	*1059*
Phenol-d6	*81*	*%*	*44-102*	*1*	*12/18/20*	*12/21/20 21:22*	*1059*
Terphenyl-D14	*102*	*%*	*70-115*	*1*	*12/18/20*	*12/21/20 21:22*	*1059*
2,4,6-Tribromophenol	*95*	*%*	*36-123*	*1*	*12/18/20*	*12/21/20 21:22*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.36**	mg/kg	0.11		1	0.056	12/23/20	12/23/20 16:23	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 75.3-80.0 **Date/Time Sampled: 12/13/2020 12:30** **PSS Sample ID: 20121403-047**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.9**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	84		1	22	12/15/20	12/15/20 23:25	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**320**	mg/kg	46		10	46	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**620**	mg/kg	98		10	49	12/28/20	12/28/20 15:59	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**13**	mg/kg	17	J	1	5.3	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 75.3-80.0 **Date/Time Sampled: 12/13/2020 12:30** **PSS Sample ID: 20121403-047**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.9**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.66**	mg/kg	3.4	J	1	0.31	12/23/20	12/29/20 00:27	1064
Arsenic	**19**	mg/kg	0.67		1	0.074	12/23/20	12/29/20 00:27	1064
Beryllium	**4.4**	mg/kg	0.67		1	0.17	12/23/20	12/29/20 00:27	1064
Cadmium	**1.7**	mg/kg	0.67		1	0.067	12/23/20	12/29/20 00:27	1064
Chromium	**60**	mg/kg	0.67		1	0.37	12/23/20	12/29/20 00:27	1064
Copper	**94**	mg/kg	0.67		1	0.21	12/23/20	12/29/20 00:27	1064
Lead	**71**	mg/kg	0.67		1	0.28	12/23/20	12/29/20 00:27	1064
Manganese	**1,400**	mg/kg	0.67	E	1	0.56	12/23/20	12/29/20 00:27	1064
Mercury	**0.45**	mg/kg	0.13		1	0.049	12/23/20	12/29/20 00:27	1064
Nickel	**79**	mg/kg	0.67		1	0.24	12/23/20	12/29/20 00:27	1064
Selenium	**4.3**	mg/kg	0.67		1	0.067	12/23/20	12/29/20 00:27	1064
Silver	**1.7**	mg/kg	0.67		1	0.074	12/23/20	12/29/20 00:27	1064
Thallium	**0.40**	mg/kg	0.67	J	1	0.17	12/23/20	12/29/20 00:27	1064
Zinc	**470**	mg/kg	13		1	0.74	12/23/20	12/29/20 00:27	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.7		1	1.7	12/22/20	12/23/20 13:42	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**7.4**	mg/kg	5.9		1	5.9	12/22/20	12/23/20 15:34	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*85*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 15:34*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 75.3-80.0 **Date/Time Sampled: 12/13/2020 12:30** **PSS Sample ID: 20121403-047**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.9**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
beta-BHC	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
delta-BHC	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Heptachlor	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Aldrin	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Heptachlor epoxide	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
gamma-Chlordane	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
alpha-Chlordane	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
4,4-DDE	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Endosulfan I	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Dieldrin	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Endrin	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
4,4-DDD	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Endosulfan II	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
4,4-DDT	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Endrin aldehyde	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Methoxychlor	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Endosulfan sulfate	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Endrin ketone	ND	mg/kg	0.0070		1	0.007	12/19/20	12/21/20 12:19	1029
Toxaphene	ND	mg/kg	0.18		1	0.18	12/19/20	12/21/20 12:19	1029
Chlordane	ND	mg/kg	0.18		1	0.18	12/19/20	12/21/20 12:19	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*79*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 12:19*	*1029*
Decachlorobiphenyl	*111*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 12:19*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.088		1	0.088	12/21/20	12/22/20 20:25	1029
PCB-1221	ND	mg/kg	0.088		1	0.088	12/21/20	12/22/20 20:25	1029
PCB-1232	ND	mg/kg	0.088		1	0.088	12/21/20	12/22/20 20:25	1029
PCB-1242	ND	mg/kg	0.088		1	0.088	12/21/20	12/22/20 20:25	1029
PCB-1248	ND	mg/kg	0.088		1	0.088	12/21/20	12/22/20 20:25	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 75.3-80.0 **Date/Time Sampled: 12/13/2020 12:30** **PSS Sample ID: 20121403-047**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.9**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.088		1	0.088	12/21/20	12/22/20 20:25	1029
PCB-1260	ND	mg/kg	0.088		1	0.088	12/21/20	12/22/20 20:25	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*83*	*%*	*34-117*		*1*	*12/21/20*	*12/22/20 20:25*	*1029*
Decachlorobiphenyl	*131*	*%*	*40-149*		*1*	*12/21/20*	*12/22/20 20:25*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Acenaphthylene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Acetophenone	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Atrazine	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
Benzo(a)anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Benzo(a)pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Benzo(b)fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Benzo(k)fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Butyl benzyl phthalate	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Di-n-butyl phthalate	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Carbazole	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Caprolactam	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
4-Chloroaniline	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2-Chloronaphthalene	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2-Chlorophenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 75.3-80.0 **Date/Time Sampled: 12/13/2020 12:30** **PSS Sample ID: 20121403-047**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Dibenzofuran	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2,4-Dichlorophenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Diethyl phthalate	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Dimethyl phthalate	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2,4-Dimethylphenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/21/20 23:07	1059
2,4-Dinitrophenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/21/20 23:07	1059
2,4-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
2,6-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
Fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Fluorene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Hexachlorobenzene	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Hexachlorobutadiene	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
Hexachloroethane	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Isophorone	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2-Methylnaphthalene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
2-Methyl phenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
3&4-Methylphenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Naphthalene	**0.021**	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
2-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
3-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
4-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
Nitrobenzene	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2-Nitrophenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
4-Nitrophenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/21/20 23:07	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Di-n-octyl phthalate	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
Pentachlorophenol	ND	mg/kg	0.12		1	0.12	12/18/20	12/21/20 23:07	1059
Phenanthrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 75.3-80.0 **Date/Time Sampled: 12/13/2020 12:30** **PSS Sample ID: 20121403-047**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.9**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180586 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
Pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/21/20 23:07	1059
Pyridine	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.059		1	0.059	12/18/20	12/21/20 23:07	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*94*	*%*	*50-104*	*1*	*12/18/20*	*12/21/20 23:07*	*1059*
2-Fluorophenol	*95*	*%*	*40-109*	*1*	*12/18/20*	*12/21/20 23:07*	*1059*
Nitrobenzene-d5	*89*	*%*	*41-101*	*1*	*12/18/20*	*12/21/20 23:07*	*1059*
Phenol-d6	*84*	*%*	*44-102*	*1*	*12/18/20*	*12/21/20 23:07*	*1059*
Terphenyl-D14	*111*	*%*	*70-115*	*1*	*12/18/20*	*12/21/20 23:07*	*1059*
2,4,6-Tribromophenol	*94*	*%*	*36-123*	*1*	*12/18/20*	*12/21/20 23:07*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.43**	mg/kg	0.11		1	0.053	12/23/20	12/23/20 16:26	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.5 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-048**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.0**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C GRO Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.20		1	0.098	12/23/20	12/23/20 18:38	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*79*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 18:38*	*1045*

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	ND	mg/kg	0.039		1	0.039	12/23/20	12/23/20 18:41	1045
Benzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Bromochloromethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Bromodichloromethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Bromoform	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Bromomethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
2-Butanone (MEK)	ND	mg/kg	0.0098		1	0.0098	12/23/20	12/23/20 18:41	1045
Carbon Disulfide	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Carbon tetrachloride	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Chlorobenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Chloroethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Chloroform	ND	mg/kg	0.0098		1	0.0098	12/23/20	12/23/20 18:41	1045
Chloromethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Cyclohexane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Dibromochloromethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2-Dibromoethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Dichlorodifluoromethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,1-Dichloroethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2-Dichloroethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,1-Dichloroethene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2-Dichloropropane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.5 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-048**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.0**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Ethylbenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
2-Hexanone (MBK)	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Isopropylbenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Methyl Acetate	ND	mg/kg	0.049		1	0.049	12/23/20	12/23/20 18:41	1045
Methylcyclohexane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Methylene chloride	ND	mg/kg	0.0098		1	0.0098	12/23/20	12/23/20 18:41	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Naphthalene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Styrene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Tetrachloroethene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Toluene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Trichloroethene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Trichlorofluoromethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045
Vinyl chloride	ND	mg/kg	0.0098		1	0.0098	12/23/20	12/23/20 18:41	1045
m&p-Xylene	ND	mg/kg	0.0039		1	0.0039	12/23/20	12/23/20 18:41	1045
o-Xylene	ND	mg/kg	0.0020		1	0.002	12/23/20	12/23/20 18:41	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*101*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 18:41*	*1045*
Dibromofluoromethane	*101*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 18:41*	*1045*
Toluene-D8	*99*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 18:41*	*1045*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.1-82.4 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-049**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.3**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	75		1	19	12/15/20	12/15/20 23:48	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**99**	mg/kg	4.0		1	1.2	12/18/20	12/18/20 14:36	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**290**	mg/kg	95		10	48	12/28/20	12/28/20 16:03	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	14		1	4.5	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.1-82.4 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-049**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.3**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.64**	mg/kg	2.6	J	1	0.24	12/23/20	12/29/20 00:32	1064
Arsenic	**11**	mg/kg	0.52		1	0.057	12/23/20	12/29/20 00:32	1064
Beryllium	**2.3**	mg/kg	0.52		1	0.13	12/23/20	12/29/20 00:32	1064
Cadmium	**0.73**	mg/kg	0.52		1	0.052	12/23/20	12/29/20 00:32	1064
Chromium	**23**	mg/kg	0.52		1	0.29	12/23/20	12/29/20 00:32	1064
Copper	**55**	mg/kg	0.52		1	0.16	12/23/20	12/29/20 00:32	1064
Lead	**41**	mg/kg	0.52		1	0.22	12/23/20	12/29/20 00:32	1064
Manganese	**800**	mg/kg	0.52	E	1	0.44	12/23/20	12/29/20 00:32	1064
Mercury	**0.42**	mg/kg	0.10		1	0.038	12/23/20	12/29/20 00:32	1064
Nickel	**48**	mg/kg	0.52		1	0.18	12/23/20	12/29/20 00:32	1064
Selenium	**4.6**	mg/kg	0.52		1	0.052	12/23/20	12/29/20 00:32	1064
Silver	**0.20**	mg/kg	0.52	J	1	0.057	12/23/20	12/29/20 00:32	1064
Thallium	**0.23**	mg/kg	0.52	J	1	0.14	12/23/20	12/29/20 00:32	1064
Zinc	**210**	mg/kg	10		1	0.57	12/23/20	12/29/20 00:32	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.5		1	1.5	12/22/20	12/23/20 13:46	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**58**	mg/kg	5.1	DF	1	5.1	12/22/20	12/23/20 17:38	1070

Surrogate(s)	***Recovery***		***Limits***					
o-Terphenyl	*94*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 17:38*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.1-82.4 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-049**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.3**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
beta-BHC	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
delta-BHC	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Heptachlor	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Aldrin	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Heptachlor epoxide	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
gamma-Chlordane	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
alpha-Chlordane	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
4,4-DDE	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Endosulfan I	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Dieldrin	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Endrin	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
4,4-DDD	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Endosulfan II	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
4,4-DDT	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Endrin aldehyde	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Methoxychlor	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Endosulfan sulfate	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Endrin ketone	ND	mg/kg	0.0062		1	0.0062	12/19/20	12/21/20 12:33	1029
Toxaphene	ND	mg/kg	0.16		1	0.16	12/19/20	12/21/20 12:33	1029
Chlordane	ND	mg/kg	0.16		1	0.16	12/19/20	12/21/20 12:33	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*88*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 12:33*	*1029*
Tetrachloro-m-xylene	*80*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 12:33*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.078		1	0.078	12/21/20	12/22/20 20:53	1029
PCB-1221	ND	mg/kg	0.078		1	0.078	12/21/20	12/22/20 20:53	1029
PCB-1232	ND	mg/kg	0.078		1	0.078	12/21/20	12/22/20 20:53	1029
PCB-1242	ND	mg/kg	0.078		1	0.078	12/21/20	12/22/20 20:53	1029
PCB-1248	ND	mg/kg	0.078		1	0.078	12/21/20	12/22/20 20:53	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.1-82.4 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-049**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.3**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.078		1	0.078	12/21/20	12/22/20 20:53	1029
PCB-1260	ND	mg/kg	0.078		1	0.078	12/21/20	12/22/20 20:53	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*79*	*%*	*34-117*	*1*	*12/21/20*	*12/22/20 20:53*	*1029*
Decachlorobiphenyl	*112*	*%*	*40-149*	*1*	*12/21/20*	*12/22/20 20:53*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Acenaphthylene	**0.084**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Acetophenone	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Anthracene	**0.090**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Atrazine	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
Benzo(a)anthracene	**0.29**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Benzo(a)pyrene	**0.31**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Benzo(b)fluoranthene	**0.20**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Benzo(g,h,i)perylene	**0.16**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Benzo(k)fluoranthene	**0.20**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Butyl benzyl phthalate	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Di-n-butyl phthalate	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Carbazole	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Caprolactam	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
4-Chloroaniline	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2-Chloronaphthalene	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2-Chlorophenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.1-82.4 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-049**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.3**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.31**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Dibenz(a,h)Anthracene	**0.055**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Dibenzofuran	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2,4-Dichlorophenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Diethyl phthalate	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Dimethyl phthalate	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2,4-Dimethylphenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.26		1	0.26	12/18/20	12/22/20 16:37	1059
2,4-Dinitrophenol	ND	mg/kg	0.26		1	0.26	12/18/20	12/22/20 16:37	1059
2,4-Dinitrotoluene	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
2,6-Dinitrotoluene	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
Fluoranthene	**0.37**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Fluorene	**0.026**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Hexachlorobenzene	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Hexachlorobutadiene	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
Hexachloroethane	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Indeno(1,2,3-c,d)Pyrene	**0.18**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Isophorone	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2-Methylnaphthalene	**0.021**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
2-Methyl phenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
3&4-Methylphenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Naphthalene	**0.042**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
2-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
3-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
4-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
Nitrobenzene	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2-Nitrophenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
4-Nitrophenol	ND	mg/kg	0.26		1	0.26	12/18/20	12/22/20 16:37	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Di-n-octyl phthalate	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
Pentachlorophenol	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 16:37	1059
Phenanthrene	**0.20**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: B8A 81.1-82.4 **Date/Time Sampled: 12/13/2020 12:48** **PSS Sample ID: 20121403-049**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.3**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
Pyrene	**0.38**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 16:37	1059
Pyridine	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.051		1	0.051	12/18/20	12/22/20 16:37	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*90*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 16:37*	*1059*
2-Fluorophenol	*81*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 16:37*	*1059*
Nitrobenzene-d5	*87*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 16:37*	*1059*
Phenol-d6	*80*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 16:37*	*1059*
Terphenyl-D14	*98*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 16:37*	*1059*
2,4,6-Tribromophenol	*85*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 16:37*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.24**	mg/kg	0.095		1	0.048	12/23/20	12/23/20 16:35	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 48.6-49.7 **Date/Time Sampled: 12/13/2020 13:34** **PSS Sample ID: 20121403-050**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 43.6**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	120		1	31	12/15/20	12/16/20 00:11	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**330**	mg/kg	57		10	57	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**400**	mg/kg	130		10	65	12/28/20	12/28/20 16:15	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**11**	mg/kg	21	J	1	6.5	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 48.6-49.7 **Date/Time Sampled: 12/13/2020 13:34** **PSS Sample ID: 20121403-050**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 43.6**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	4.3		1	0.39	12/23/20	12/29/20 00:37	1064
Arsenic	**14**	mg/kg	0.85		1	0.094	12/23/20	12/29/20 00:37	1064
Beryllium	**2.3**	mg/kg	0.85		1	0.21	12/23/20	12/29/20 00:37	1064
Cadmium	**0.66**	mg/kg	0.85	J	1	0.085	12/23/20	12/29/20 00:37	1064
Chromium	**38**	mg/kg	0.85		1	0.47	12/23/20	12/29/20 00:37	1064
Copper	**40**	mg/kg	0.85		1	0.26	12/23/20	12/29/20 00:37	1064
Lead	**33**	mg/kg	0.85		1	0.36	12/23/20	12/29/20 00:37	1064
Manganese	**2,100**	mg/kg	0.85	E	1	0.71	12/23/20	12/29/20 00:37	1064
Mercury	**0.11**	mg/kg	0.17	J	1	0.062	12/23/20	12/29/20 00:37	1064
Nickel	**62**	mg/kg	0.85		1	0.3	12/23/20	12/29/20 00:37	1064
Selenium	**0.96**	mg/kg	0.85		1	0.085	12/23/20	12/29/20 00:37	1064
Silver	**0.26**	mg/kg	0.85	J	1	0.094	12/23/20	12/29/20 00:37	1064
Thallium	**0.26**	mg/kg	0.85	J	1	0.22	12/23/20	12/29/20 00:37	1064
Zinc	**230**	mg/kg	17		1	0.94	12/23/20	12/29/20 00:37	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	2.3		1	2.3	12/22/20	12/23/20 13:50	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	7.6		1	7.6	12/22/20	12/23/20 15:58	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*104*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 15:58*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 48.6-49.7 **Date/Time Sampled: 12/13/2020 13:34** **PSS Sample ID: 20121403-050**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 43.6**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
beta-BHC	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
delta-BHC	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Heptachlor	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Aldrin	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Heptachlor epoxide	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
gamma-Chlordane	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
alpha-Chlordane	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
4,4-DDE	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Endosulfan I	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Dieldrin	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Endrin	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
4,4-DDD	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Endosulfan II	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
4,4-DDT	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Endrin aldehyde	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Methoxychlor	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Endosulfan sulfate	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Endrin ketone	ND	mg/kg	0.0092		1	0.0092	12/19/20	12/21/20 12:47	1029
Toxaphene	ND	mg/kg	0.23		1	0.23	12/19/20	12/21/20 12:47	1029
Chlordane	ND	mg/kg	0.23		1	0.23	12/19/20	12/21/20 12:47	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*76*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 12:47*	*1029*
Decachlorobiphenyl	*92*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 12:47*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.12		1	0.12	12/21/20	12/22/20 21:21	1029
PCB-1221	ND	mg/kg	0.12		1	0.12	12/21/20	12/22/20 21:21	1029
PCB-1232	ND	mg/kg	0.12		1	0.12	12/21/20	12/22/20 21:21	1029
PCB-1242	ND	mg/kg	0.12		1	0.12	12/21/20	12/22/20 21:21	1029
PCB-1248	ND	mg/kg	0.12		1	0.12	12/21/20	12/22/20 21:21	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 48.6-49.7 **Date/Time Sampled: 12/13/2020 13:34** **PSS Sample ID: 20121403-050**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 43.6**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.12		1	0.12	12/21/20	12/22/20 21:21	1029
PCB-1260	ND	mg/kg	0.12		1	0.12	12/21/20	12/22/20 21:21	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*74*	*%*	*34-117*	*1*	*12/21/20*	*12/22/20 21:21*	*1029*
Decachlorobiphenyl	*110*	*%*	*40-149*	*1*	*12/21/20*	*12/22/20 21:21*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Acenaphthylene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Acetophenone	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Anthracene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Atrazine	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
Benzo(a)anthracene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Benzo(a)pyrene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Benzo(b)fluoranthene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Benzo(k)fluoranthene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Butyl benzyl phthalate	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Di-n-butyl phthalate	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Carbazole	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Caprolactam	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
4-Chloroaniline	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2-Chloronaphthalene	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2-Chlorophenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 48.6-49.7 **Date/Time Sampled: 12/13/2020 13:34** **PSS Sample ID: 20121403-050**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 43.6**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Dibenzofuran	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2,4-Dichlorophenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Diethyl phthalate	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Dimethyl phthalate	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2,4-Dimethylphenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.38		1	0.38	12/18/20	12/22/20 11:23	1059
2,4-Dinitrophenol	ND	mg/kg	0.38		1	0.38	12/18/20	12/22/20 11:23	1059
2,4-Dinitrotoluene	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
2,6-Dinitrotoluene	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
Fluoranthene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Fluorene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Hexachlorobenzene	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Hexachlorobutadiene	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
Hexachloroethane	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Isophorone	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2-Methylnaphthalene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
2-Methyl phenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
3&4-Methylphenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Naphthalene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
2-Nitroaniline	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
3-Nitroaniline	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
4-Nitroaniline	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
Nitrobenzene	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2-Nitrophenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
4-Nitrophenol	ND	mg/kg	0.38		1	0.38	12/18/20	12/22/20 11:23	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Di-n-octyl phthalate	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
Pentachlorophenol	ND	mg/kg	0.15		1	0.15	12/18/20	12/22/20 11:23	1059
Phenanthrene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 48.6-49.7 **Date/Time Sampled: 12/13/2020 13:34** **PSS Sample ID: 20121403-050**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 43.6**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
Pyrene	ND	mg/kg	0.019		1	0.019	12/18/20	12/22/20 11:23	1059
Pyridine	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.076		1	0.076	12/18/20	12/22/20 11:23	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*98*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 11:23*	*1059*
2-Fluorophenol	*92*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 11:23*	*1059*
Nitrobenzene-d5	*95*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 11:23*	*1059*
Phenol-d6	*89*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 11:23*	*1059*
Terphenyl-D14	*101*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 11:23*	*1059*
2,4,6-Tribromophenol	*98*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 11:23*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.21**	mg/kg	0.14		1	0.07	12/23/20	12/23/20 16:38	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 61.6-65.6 **Date/Time Sampled: 12/13/2020 14:40** **PSS Sample ID: 20121403-051**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 53.9**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	89		1	23	12/15/20	12/16/20 00:34	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**290**	mg/kg	45		10	45	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**840**	mg/kg	110		10	53	12/28/20	12/28/20 16:19	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**8.3**	mg/kg	18	J	1	5.4	12/22/20	12/22/20 14:07	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 61.6-65.6 **Date/Time Sampled: 12/13/2020 14:40** **PSS Sample ID: 20121403-051**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 53.9**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.37**	mg/kg	3.4	J	1	0.31	12/23/20	12/29/20 00:41	1064
Arsenic	**14**	mg/kg	0.67		1	0.074	12/23/20	12/29/20 00:41	1064
Beryllium	**2.9**	mg/kg	0.67		1	0.17	12/23/20	12/29/20 00:41	1064
Cadmium	**1.5**	mg/kg	0.67		1	0.067	12/23/20	12/29/20 00:41	1064
Chromium	**38**	mg/kg	0.67		1	0.37	12/23/20	12/29/20 00:41	1064
Copper	**53**	mg/kg	0.67		1	0.21	12/23/20	12/29/20 00:41	1064
Lead	**45**	mg/kg	0.67		1	0.28	12/23/20	12/29/20 00:41	1064
Manganese	**2,500**	mg/kg	0.67	E	1	0.56	12/23/20	12/29/20 00:41	1064
Mercury	**0.19**	mg/kg	0.13		1	0.049	12/23/20	12/29/20 00:41	1064
Nickel	**89**	mg/kg	0.67		1	0.23	12/23/20	12/29/20 00:41	1064
Selenium	**1.4**	mg/kg	0.67		1	0.067	12/23/20	12/29/20 00:41	1064
Silver	**1.1**	mg/kg	0.67		1	0.074	12/23/20	12/29/20 00:41	1064
Thallium	**0.28**	mg/kg	0.67	J	1	0.17	12/23/20	12/29/20 00:41	1064
Zinc	**360**	mg/kg	13		1	0.74	12/23/20	12/29/20 00:41	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.8		1	1.8	12/22/20	12/23/20 13:58	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	6.2		1	6.2	12/22/20	12/23/20 15:58	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*83*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 15:58*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 61.6-65.6 **Date/Time Sampled: 12/13/2020 14:40** **PSS Sample ID: 20121403-051**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 53.9**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
beta-BHC	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
delta-BHC	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Heptachlor	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Aldrin	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Heptachlor epoxide	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
gamma-Chlordane	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
alpha-Chlordane	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
4,4-DDE	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Endosulfan I	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Dieldrin	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Endrin	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
4,4-DDD	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Endosulfan II	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
4,4-DDT	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Endrin aldehyde	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Methoxychlor	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Endosulfan sulfate	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Endrin ketone	ND	mg/kg	0.0075		1	0.0075	12/19/20	12/21/20 13:02	1029
Toxaphene	ND	mg/kg	0.19		1	0.19	12/19/20	12/21/20 13:02	1029
Chlordane	ND	mg/kg	0.19		1	0.19	12/19/20	12/21/20 13:02	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*78*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 13:02*	*1029*
Decachlorobiphenyl	*92*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 13:02*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.094		1	0.094	12/21/20	12/22/20 21:49	1029
PCB-1221	ND	mg/kg	0.094		1	0.094	12/21/20	12/22/20 21:49	1029
PCB-1232	ND	mg/kg	0.094		1	0.094	12/21/20	12/22/20 21:49	1029
PCB-1242	ND	mg/kg	0.094		1	0.094	12/21/20	12/22/20 21:49	1029
PCB-1248	ND	mg/kg	0.094		1	0.094	12/21/20	12/22/20 21:49	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 61.6-65.6 **Date/Time Sampled: 12/13/2020 14:40** **PSS Sample ID: 20121403-051**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 53.9**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.094		1	0.094	12/21/20	12/22/20 21:49	1029
PCB-1260	ND	mg/kg	0.094		1	0.094	12/21/20	12/22/20 21:49	1029

Surrogate(s)	*Recovery*		*Limits*					
Tetrachloro-m-xylene	*77*	*%*	*34-117*		*1*		*12/21/20*	*12/22/20 21:49*	*1029*
Decachlorobiphenyl	*111*	*%*	*40-149*		*1*		*12/21/20*	*12/22/20 21:49*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Acenaphthylene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Acetophenone	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Atrazine	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
Benzo(a)anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Benzo(a)pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Benzo(b)fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Benzo(k)fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Butyl benzyl phthalate	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Di-n-butyl phthalate	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Carbazole	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Caprolactam	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
4-Chloroaniline	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2-Chloronaphthalene	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2-Chlorophenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 61.6-65.6 **Date/Time Sampled: 12/13/2020 14:40** **PSS Sample ID: 20121403-051**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 53.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Dibenzofuran	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2,4-Dichlorophenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Diethyl phthalate	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Dimethyl phthalate	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2,4-Dimethylphenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.31		1	0.31	12/18/20	12/22/20 11:50	1059
2,4-Dinitrophenol	ND	mg/kg	0.31		1	0.31	12/18/20	12/22/20 11:50	1059
2,4-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
2,6-Dinitrotoluene	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
Fluoranthene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Fluorene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Hexachlorobenzene	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Hexachlorobutadiene	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
Hexachloroethane	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Isophorone	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2-Methylnaphthalene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
2-Methyl phenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
3&4-Methylphenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Naphthalene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
2-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
3-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
4-Nitroaniline	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
Nitrobenzene	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2-Nitrophenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
4-Nitrophenol	ND	mg/kg	0.31		1	0.31	12/18/20	12/22/20 11:50	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Di-n-octyl phthalate	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
Pentachlorophenol	ND	mg/kg	0.12		1	0.12	12/18/20	12/22/20 11:50	1059
Phenanthrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 61.6-65.6 **Date/Time Sampled: 12/13/2020 14:40** **PSS Sample ID: 20121403-051**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 53.9**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
Pyrene	ND	mg/kg	0.015		1	0.015	12/18/20	12/22/20 11:50	1059
Pyridine	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.062		1	0.062	12/18/20	12/22/20 11:50	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*89*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 11:50*	*1059*
2-Fluorophenol	*85*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 11:50*	*1059*
Nitrobenzene-d5	*86*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 11:50*	*1059*
Phenol-d6	*79*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 11:50*	*1059*
Terphenyl-D14	*97*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 11:50*	*1059*
2,4,6-Tribromophenol	*88*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 11:50*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.18**	mg/kg	0.11		1	0.055	12/23/20	12/23/20 16:41	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 65.6-70.6 **Date/Time Sampled: 12/13/2020 14:58** **PSS Sample ID: 20121403-052**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.8**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	91		1	24	12/15/20	12/16/20 00:57	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**410**	mg/kg	46		10	46	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**730**	mg/kg	100		10	50	12/28/20	12/28/20 16:23	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**19**	mg/kg	16		1	5	12/22/20	12/22/20 14:17	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 65.6-70.6 **Date/Time Sampled: 12/13/2020 14:58** **PSS Sample ID: 20121403-052**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.8**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.47**	mg/kg	3.0	J	1	0.28	12/23/20	12/29/20 00:46	1064
Arsenic	**13**	mg/kg	0.61		1	0.067	12/23/20	12/29/20 00:46	1064
Beryllium	**2.8**	mg/kg	0.61		1	0.15	12/23/20	12/29/20 00:46	1064
Cadmium	**1.6**	mg/kg	0.61		1	0.061	12/23/20	12/29/20 00:46	1064
Chromium	**44**	mg/kg	0.61		1	0.33	12/23/20	12/29/20 00:46	1064
Copper	**60**	mg/kg	0.61		1	0.19	12/23/20	12/29/20 00:46	1064
Lead	**56**	mg/kg	0.61		1	0.26	12/23/20	12/29/20 00:46	1064
Manganese	**1,800**	mg/kg	0.61	E	1	0.51	12/23/20	12/29/20 00:46	1064
Mercury	**0.20**	mg/kg	0.12		1	0.044	12/23/20	12/29/20 00:46	1064
Nickel	**78**	mg/kg	0.61		1	0.21	12/23/20	12/29/20 00:46	1064
Selenium	**1.5**	mg/kg	0.61		1	0.061	12/23/20	12/29/20 00:46	1064
Silver	**1.4**	mg/kg	0.61		1	0.067	12/23/20	12/29/20 00:46	1064
Thallium	**0.33**	mg/kg	0.61	J	1	0.16	12/23/20	12/29/20 00:46	1064
Zinc	**320**	mg/kg	12		1	0.67	12/23/20	12/29/20 00:46	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.7		1	1.7	12/22/20	12/23/20 14:02	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**5.9**	mg/kg	5.7		1	5.7	12/22/20	12/23/20 16:23	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*94*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 16:23*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 65.6-70.6 **Date/Time Sampled: 12/13/2020 14:58** **PSS Sample ID: 20121403-052**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.8**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
beta-BHC	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
delta-BHC	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Heptachlor	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Aldrin	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Heptachlor epoxide	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
gamma-Chlordane	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
alpha-Chlordane	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
4,4-DDE	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Endosulfan I	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Dieldrin	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Endrin	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
4,4-DDD	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Endosulfan II	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
4,4-DDT	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Endrin aldehyde	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Methoxychlor	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Endosulfan sulfate	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Endrin ketone	ND	mg/kg	0.0067		1	0.0067	12/19/20	12/21/20 13:16	1029
Toxaphene	ND	mg/kg	0.17		1	0.17	12/19/20	12/21/20 13:16	1029
Chlordane	ND	mg/kg	0.17		1	0.17	12/19/20	12/21/20 13:16	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*97*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 13:16*	*1029*
Tetrachloro-m-xylene	*72*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 13:16*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.084		1	0.084	12/21/20	12/22/20 22:17	1029
PCB-1221	ND	mg/kg	0.084		1	0.084	12/21/20	12/22/20 22:17	1029
PCB-1232	ND	mg/kg	0.084		1	0.084	12/21/20	12/22/20 22:17	1029
PCB-1242	ND	mg/kg	0.084		1	0.084	12/21/20	12/22/20 22:17	1029
PCB-1248	ND	mg/kg	0.084		1	0.084	12/21/20	12/22/20 22:17	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 65.6-70.6 **Date/Time Sampled: 12/13/2020 14:58** **PSS Sample ID: 20121403-052**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.8**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.084		1	0.084	12/21/20	12/22/20 22:17	1029
PCB-1260	ND	mg/kg	0.084		1	0.084	12/21/20	12/22/20 22:17	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*108*	*%*	*40-149*		*1*	*12/21/20*	*12/22/20 22:17*	*1029*
Tetrachloro-m-xylene	*77*	*%*	*34-117*		*1*	*12/21/20*	*12/22/20 22:17*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Acenaphthylene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Acetophenone	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Atrazine	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
Benzo(a)anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Benzo(a)pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Benzo(b)fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Benzo(k)fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Butyl benzyl phthalate	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Di-n-butyl phthalate	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Carbazole	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Caprolactam	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
4-Chloroaniline	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2-Chloronaphthalene	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2-Chlorophenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 65.6-70.6 **Date/Time Sampled: 12/13/2020 14:58** **PSS Sample ID: 20121403-052**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.8**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Dibenzofuran	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2,4-Dichlorophenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Diethyl phthalate	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Dimethyl phthalate	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2,4-Dimethylphenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/22/20 12:42	1059
2,4-Dinitrophenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/22/20 12:42	1059
2,4-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
2,6-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
Fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Fluorene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Hexachlorobenzene	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Hexachlorobutadiene	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
Hexachloroethane	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Isophorone	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2-Methylnaphthalene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
2-Methyl phenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
3&4-Methylphenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Naphthalene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
2-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
3-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
4-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
Nitrobenzene	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2-Nitrophenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
4-Nitrophenol	ND	mg/kg	0.29		1	0.29	12/18/20	12/22/20 12:42	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Di-n-octyl phthalate	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
Pentachlorophenol	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 12:42	1059
Phenanthrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 65.6-70.6 **Date/Time Sampled: 12/13/2020 14:58** **PSS Sample ID: 20121403-052**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 57.8**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
Pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 12:42	1059
Pyridine	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.057		1	0.057	12/18/20	12/22/20 12:42	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*97*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 12:42*	*1059*
2-Fluorophenol	*95*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 12:42*	*1059*
Nitrobenzene-d5	*97*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 12:42*	*1059*
Phenol-d6	*88*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 12:42*	*1059*
Terphenyl-D14	*101*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 12:42*	*1059*
2,4,6-Tribromophenol	*95*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 12:42*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.25**	mg/kg	0.10		1	0.05	12/23/20	12/23/20 16:44	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 72.7-75.0 **Date/Time Sampled: 12/13/2020 15:14** **PSS Sample ID: 20121403-053**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.5**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	74		1	19	12/15/20	12/16/20 01:19	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**140**	mg/kg	40		10	40	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**430**	mg/kg	88		10	44	12/28/20	12/28/20 16:27	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**6.9**	mg/kg	16	J	1	4.9	12/22/20	12/22/20 14:17	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 72.7-75.0 **Date/Time Sampled: 12/13/2020 15:14** **PSS Sample ID: 20121403-053**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.5**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.77**	mg/kg	3.4	J	1	0.31	12/23/20	12/29/20 00:51	1064
Arsenic	**12**	mg/kg	0.68		1	0.074	12/23/20	12/29/20 00:51	1064
Beryllium	**3.0**	mg/kg	0.68		1	0.17	12/23/20	12/29/20 00:51	1064
Cadmium	**1.5**	mg/kg	0.68		1	0.068	12/23/20	12/29/20 00:51	1064
Chromium	**31**	mg/kg	0.68		1	0.37	12/23/20	12/29/20 00:51	1064
Copper	**60**	mg/kg	0.68		1	0.21	12/23/20	12/29/20 00:51	1064
Lead	**55**	mg/kg	0.68		1	0.28	12/23/20	12/29/20 00:51	1064
Manganese	**1,300**	mg/kg	0.68	E	1	0.57	12/23/20	12/29/20 00:51	1064
Mercury	**0.34**	mg/kg	0.14		1	0.049	12/23/20	12/29/20 00:51	1064
Nickel	**59**	mg/kg	0.68		1	0.24	12/23/20	12/29/20 00:51	1064
Selenium	**3.4**	mg/kg	0.68		1	0.068	12/23/20	12/29/20 00:51	1064
Silver	**1.6**	mg/kg	0.68		1	0.074	12/23/20	12/29/20 00:51	1064
Thallium	**0.26**	mg/kg	0.68	J	1	0.18	12/23/20	12/29/20 00:51	1064
Zinc	**300**	mg/kg	14		1	0.74	12/23/20	12/29/20 00:51	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.6		1	1.6	12/22/20	12/23/20 14:06	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

DF/HF- Diesel fuel and heavier fuel oil patterns observed in samples.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**62**	mg/kg	5.1	DF	1	5.1	12/22/20	12/23/20 17:38	1070

Surrogate(s)	*Recovery*		*Limits*				
o-Terphenyl	*109*	*%*	*35-124*	*1*	*12/22/20*	*12/23/20 17:38*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 72.7-75.0 **Date/Time Sampled: 12/13/2020 15:14** **PSS Sample ID: 20121403-053**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.5**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
beta-BHC	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
delta-BHC	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Heptachlor	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Aldrin	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Heptachlor epoxide	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
gamma-Chlordane	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
alpha-Chlordane	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
4,4-DDE	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Endosulfan I	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Dieldrin	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Endrin	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
4,4-DDD	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Endosulfan II	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
4,4-DDT	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Endrin aldehyde	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Methoxychlor	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Endosulfan sulfate	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Endrin ketone	ND	mg/kg	0.0061		1	0.0061	12/19/20	12/21/20 13:31	1029
Toxaphene	ND	mg/kg	0.15		1	0.15	12/19/20	12/21/20 13:31	1029
Chlordane	ND	mg/kg	0.15		1	0.15	12/19/20	12/21/20 13:31	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*67*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 13:31*	*1029*
Decachlorobiphenyl	*77*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 13:31*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.077		1	0.077	12/21/20	12/22/20 22:46	1029
PCB-1221	ND	mg/kg	0.077		1	0.077	12/21/20	12/22/20 22:46	1029
PCB-1232	ND	mg/kg	0.077		1	0.077	12/21/20	12/22/20 22:46	1029
PCB-1242	ND	mg/kg	0.077		1	0.077	12/21/20	12/22/20 22:46	1029
PCB-1248	ND	mg/kg	0.077		1	0.077	12/21/20	12/22/20 22:46	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 72.7-75.0 **Date/Time Sampled: 12/13/2020 15:14** **PSS Sample ID: 20121403-053**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.5**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.077		1	0.077	12/21/20	12/22/20 22:46	1029
PCB-1260	ND	mg/kg	0.077		1	0.077	12/21/20	12/22/20 22:46	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*108*	*%*	*40-149*		*1*	*12/21/20*	*12/22/20 22:46*	*1029*
Tetrachloro-m-xylene	*66*	*%*	*34-117*		*1*	*12/21/20*	*12/22/20 22:46*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Acenaphthylene	**0.039**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Acetophenone	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Anthracene	**0.035**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Atrazine	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
Benzo(a)anthracene	**0.16**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Benzo(a)pyrene	**0.17**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Benzo(b)fluoranthene	**0.086**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Benzo(g,h,i)perylene	**0.078**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Benzo(k)fluoranthene	**0.12**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Butyl benzyl phthalate	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Di-n-butyl phthalate	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Carbazole	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Caprolactam	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
4-Chloroaniline	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2-Chloronaphthalene	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2-Chlorophenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 72.7-75.0 **Date/Time Sampled: 12/13/2020 15:14** **PSS Sample ID: 20121403-053**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.5**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	**0.16**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Dibenz(a,h)Anthracene	**0.021**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Dibenzofuran	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2,4-Dichlorophenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Diethyl phthalate	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Dimethyl phthalate	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2,4-Dimethylphenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.26		1	0.26	12/18/20	12/22/20 14:52	1059
2,4-Dinitrophenol	ND	mg/kg	0.26		1	0.26	12/18/20	12/22/20 14:52	1059
2,4-Dinitrotoluene	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
2,6-Dinitrotoluene	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
Fluoranthene	**0.20**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Fluorene	**0.013**	mg/kg	0.013	J	1	0.013	12/18/20	12/22/20 14:52	1059
Hexachlorobenzene	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Hexachlorobutadiene	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
Hexachloroethane	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Indeno(1,2,3-c,d)Pyrene	**0.083**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Isophorone	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2-Methylnaphthalene	ND	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
2-Methyl phenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
3&4-Methylphenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Naphthalene	**0.017**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
2-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
3-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
4-Nitroaniline	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
Nitrobenzene	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2-Nitrophenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
4-Nitrophenol	ND	mg/kg	0.26		1	0.26	12/18/20	12/22/20 14:52	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Di-n-octyl phthalate	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
Pentachlorophenol	ND	mg/kg	0.10		1	0.1	12/18/20	12/22/20 14:52	1059
Phenanthrene	**0.10**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 72.7-75.0 **Date/Time Sampled: 12/13/2020 15:14** **PSS Sample ID: 20121403-053**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 64.5**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
Pyrene	**0.25**	mg/kg	0.013		1	0.013	12/18/20	12/22/20 14:52	1059
Pyridine	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.052		1	0.052	12/18/20	12/22/20 14:52	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*89*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 14:52*	*1059*
2-Fluorophenol	*86*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 14:52*	*1059*
Nitrobenzene-d5	*89*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 14:52*	*1059*
Phenol-d6	*82*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 14:52*	*1059*
Terphenyl-D14	*98*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 14:52*	*1059*
2,4,6-Tribromophenol	*88*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 14:52*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.36**	mg/kg	0.093		1	0.047	12/23/20	12/23/20 16:47	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 47.2-49.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-054**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.9**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	92		1	24	12/15/20	12/16/20 01:42	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**320**	mg/kg	45		10	45	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**360**	mg/kg	120		10	58	12/28/20	12/28/20 16:31	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**6.9**	mg/kg	18	J	1	5.6	12/22/20	12/22/20 14:17	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 47.2-49.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-054**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.9**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.43**	mg/kg	3.8	J	1	0.35	12/23/20	12/29/20 00:56	1064
Arsenic	**11**	mg/kg	0.76		1	0.083	12/23/20	12/29/20 00:56	1064
Beryllium	**2.5**	mg/kg	0.76		1	0.19	12/23/20	12/29/20 00:56	1064
Cadmium	**1.1**	mg/kg	0.76		1	0.076	12/23/20	12/29/20 00:56	1064
Chromium	**31**	mg/kg	0.76		1	0.42	12/23/20	12/29/20 00:56	1064
Copper	**47**	mg/kg	0.76		1	0.23	12/23/20	12/29/20 00:56	1064
Lead	**43**	mg/kg	0.76		1	0.32	12/23/20	12/29/20 00:56	1064
Manganese	**1,800**	mg/kg	0.76	E	1	0.64	12/23/20	12/29/20 00:56	1064
Mercury	**0.24**	mg/kg	0.15		1	0.055	12/23/20	12/29/20 00:56	1064
Nickel	**65**	mg/kg	0.76		1	0.26	12/23/20	12/29/20 00:56	1064
Selenium	**1.9**	mg/kg	0.76		1	0.076	12/23/20	12/29/20 00:56	1064
Silver	**0.67**	mg/kg	0.76	J	1	0.083	12/23/20	12/29/20 00:56	1064
Thallium	**0.24**	mg/kg	0.76	J	1	0.2	12/23/20	12/29/20 00:56	1064
Zinc	**270**	mg/kg	15		1	0.83	12/23/20	12/29/20 00:56	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.9		1	1.9	12/22/20	12/23/20 14:10	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	6.2		1	6.2	12/22/20	12/23/20 16:23	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*78*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 16:23*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 47.2-49.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-054**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.9**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
beta-BHC	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
delta-BHC	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Heptachlor	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Aldrin	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Heptachlor epoxide	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
gamma-Chlordane	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
alpha-Chlordane	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
4,4-DDE	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Endosulfan I	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Dieldrin	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Endrin	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
4,4-DDD	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Endosulfan II	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
4,4-DDT	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Endrin aldehyde	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Methoxychlor	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Endosulfan sulfate	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Endrin ketone	ND	mg/kg	0.0072		1	0.0072	12/19/20	12/21/20 13:45	1029
Toxaphene	ND	mg/kg	0.18		1	0.18	12/19/20	12/21/20 13:45	1029
Chlordane	ND	mg/kg	0.18		1	0.18	12/19/20	12/21/20 13:45	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*68*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 13:45*	*1029*
Decachlorobiphenyl	*88*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 13:45*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180581 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.090		1	0.09	12/21/20	12/22/20 02:56	1029
PCB-1221	ND	mg/kg	0.090		1	0.09	12/21/20	12/22/20 02:56	1029
PCB-1232	ND	mg/kg	0.090		1	0.09	12/21/20	12/22/20 02:56	1029
PCB-1242	ND	mg/kg	0.090		1	0.09	12/21/20	12/22/20 02:56	1029
PCB-1248	ND	mg/kg	0.090		1	0.09	12/21/20	12/22/20 02:56	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 47.2-49.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-054**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.9**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180581 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.090		1	0.09	12/21/20	12/22/20 02:56	1029
PCB-1260	ND	mg/kg	0.090		1	0.09	12/21/20	12/22/20 02:56	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*105*	*%*	*40-149*	*1*	*12/21/20*	*12/22/20 02:56*	*1029*
Tetrachloro-m-xylene	*79*	*%*	*34-117*	*1*	*12/21/20*	*12/22/20 02:56*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Acenaphthylene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Acetophenone	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Anthracene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Atrazine	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
Benzo(a)anthracene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Benzo(a)pyrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Benzo(b)fluoranthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Benzo(k)fluoranthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Butyl benzyl phthalate	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Di-n-butyl phthalate	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Carbazole	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Caprolactam	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
4-Chloroaniline	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2-Chloronaphthalene	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2-Chlorophenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 47.2-49.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-054**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.9**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Dibenzofuran	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2,4-Dichlorophenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Diethyl phthalate	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Dimethyl phthalate	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2,4-Dimethylphenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.32		1	0.32	12/18/20	12/22/20 12:16	1059
2,4-Dinitrophenol	ND	mg/kg	0.32		1	0.32	12/18/20	12/22/20 12:16	1059
2,4-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
2,6-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
Fluoranthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Fluorene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Hexachlorobenzene	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Hexachlorobutadiene	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
Hexachloroethane	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Isophorone	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2-Methylnaphthalene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
2-Methyl phenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
3&4-Methylphenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Naphthalene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
2-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
3-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
4-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
Nitrobenzene	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2-Nitrophenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
4-Nitrophenol	ND	mg/kg	0.32		1	0.32	12/18/20	12/22/20 12:16	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Di-n-octyl phthalate	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
Pentachlorophenol	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 12:16	1059
Phenanthrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 47.2-49.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-054**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.9**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
Pyrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 12:16	1059
Pyridine	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.063		1	0.063	12/18/20	12/22/20 12:16	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*90*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 12:16*	*1059*
2-Fluorophenol	*90*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 12:16*	*1059*
Nitrobenzene-d5	*90*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 12:16*	*1059*
Phenol-d6	*82*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 12:16*	*1059*
Terphenyl-D14	*93*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 12:16*	*1059*
2,4,6-Tribromophenol	*84*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 12:16*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.22**	mg/kg	0.12		1	0.062	12/23/20	12/23/20 16:50	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 48.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-055**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.3**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C GRO Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.23		1	0.12	12/23/20	12/23/20 19:08	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*83*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 19:08*	*1045*

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.17**	mg/kg	0.044		1	0.044	12/23/20	12/23/20 19:03	1045
Benzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Bromochloromethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Bromodichloromethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Bromoform	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Bromomethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
2-Butanone (MEK)	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 19:03	1045
Carbon Disulfide	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Carbon tetrachloride	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Chlorobenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Chloroethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Chloroform	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 19:03	1045
Chloromethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Cyclohexane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Dibromochloromethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2-Dibromoethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Dichlorodifluoromethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,1-Dichloroethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2-Dichloroethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,1-Dichloroethene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2-Dichloropropane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 48.0 **Date/Time Sampled: 12/13/2020 16:11** **PSS Sample ID: 20121403-055**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.3**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Ethylbenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
2-Hexanone (MBK)	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Isopropylbenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Methyl Acetate	ND	mg/kg	0.055		1	0.055	12/23/20	12/23/20 19:03	1045
Methylcyclohexane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Methylene chloride	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 19:03	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Naphthalene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Styrene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Tetrachloroethene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Toluene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Trichloroethene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Trichlorofluoromethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045
Vinyl chloride	ND	mg/kg	0.011		1	0.011	12/23/20	12/23/20 19:03	1045
m&p-Xylene	ND	mg/kg	0.0044		1	0.0044	12/23/20	12/23/20 19:03	1045
o-Xylene	ND	mg/kg	0.0022		1	0.0022	12/23/20	12/23/20 19:03	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*97*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 19:03*	*1045*
Dibromofluoromethane	*96*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 19:03*	*1045*
Toluene-D8	*100*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 19:03*	*1045*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 55.0-59.0 **Date/Time Sampled: 12/13/2020 16:40** **PSS Sample ID: 20121403-056**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.8**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	100		1	26	12/15/20	12/16/20 02:05	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**320**	mg/kg	50		10	50	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**760**	mg/kg	110		10	56	12/28/20	12/28/20 16:35	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**27**	mg/kg	21		1	6.5	12/22/20	12/22/20 14:17	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 55.0-59.0 **Date/Time Sampled: 12/13/2020 16:40** **PSS Sample ID: 20121403-056**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.8**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.52**	mg/kg	3.9	J	1	0.35	12/23/20	12/29/20 01:19	1064
Arsenic	**14**	mg/kg	0.77		1	0.085	12/23/20	12/29/20 01:19	1064
Beryllium	**2.9**	mg/kg	0.77		1	0.19	12/23/20	12/29/20 01:19	1064
Cadmium	**1.5**	mg/kg	0.77		1	0.077	12/23/20	12/29/20 01:19	1064
Chromium	**39**	mg/kg	0.77		1	0.42	12/23/20	12/29/20 01:19	1064
Copper	**54**	mg/kg	0.77		1	0.24	12/23/20	12/29/20 01:19	1064
Lead	**46**	mg/kg	0.77		1	0.32	12/23/20	12/29/20 01:19	1064
Manganese	**2,700**	mg/kg	0.77	E	1	0.65	12/23/20	12/29/20 01:19	1064
Mercury	**0.19**	mg/kg	0.15		1	0.056	12/23/20	12/29/20 01:19	1064
Nickel	**89**	mg/kg	0.77		1	0.27	12/23/20	12/29/20 01:19	1064
Selenium	**1.8**	mg/kg	0.77		1	0.077	12/23/20	12/29/20 01:19	1064
Silver	**1.1**	mg/kg	0.77		1	0.085	12/23/20	12/29/20 01:19	1064
Thallium	**0.29**	mg/kg	0.77	J	1	0.2	12/23/20	12/29/20 01:19	1064
Zinc	**360**	mg/kg	15		1	0.85	12/23/20	12/29/20 01:19	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	2.0		1	2	12/22/20	12/23/20 14:14	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	6.7		1	6.7	12/22/20	12/22/20 16:45	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*88*	*%*	*35-124*		*1*		*12/22/20*	*12/22/20 16:45*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 55.0-59.0 **Date/Time Sampled: 12/13/2020 16:40** **PSS Sample ID: 20121403-056**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.8**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
beta-BHC	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
delta-BHC	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Heptachlor	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Aldrin	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Heptachlor epoxide	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
gamma-Chlordane	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
alpha-Chlordane	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
4,4-DDE	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Endosulfan I	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Dieldrin	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Endrin	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
4,4-DDD	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Endosulfan II	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
4,4-DDT	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Endrin aldehyde	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Methoxychlor	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Endosulfan sulfate	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Endrin ketone	ND	mg/kg	0.0078		1	0.0078	12/19/20	12/21/20 14:00	1029
Toxaphene	ND	mg/kg	0.19		1	0.19	12/19/20	12/21/20 14:00	1029
Chlordane	ND	mg/kg	0.19		1	0.19	12/19/20	12/21/20 14:00	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*89*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 14:00*	*1029*
Tetrachloro-m-xylene	*69*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 14:00*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.097		1	0.097	12/21/20	12/22/20 23:13	1029
PCB-1221	ND	mg/kg	0.097		1	0.097	12/21/20	12/22/20 23:13	1029
PCB-1232	ND	mg/kg	0.097		1	0.097	12/21/20	12/22/20 23:13	1029
PCB-1242	ND	mg/kg	0.097		1	0.097	12/21/20	12/22/20 23:13	1029
PCB-1248	ND	mg/kg	0.097		1	0.097	12/21/20	12/22/20 23:13	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 55.0-59.0 **Date/Time Sampled: 12/13/2020 16:40** **PSS Sample ID: 20121403-056**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.8**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.097		1	0.097	12/21/20	12/22/20 23:13	1029
PCB-1260	ND	mg/kg	0.097		1	0.097	12/21/20	12/22/20 23:13	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*69*	*%*	*34-117*	*1*	*12/21/20*	*12/22/20 23:13*	*1029*
Decachlorobiphenyl	*109*	*%*	*40-149*	*1*	*12/21/20*	*12/22/20 23:13*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Acenaphthylene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Acetophenone	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Anthracene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Atrazine	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
Benzo(a)anthracene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Benzo(a)pyrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Benzo(b)fluoranthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Benzo(k)fluoranthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Butyl benzyl phthalate	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Di-n-butyl phthalate	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Carbazole	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Caprolactam	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
4-Chloroaniline	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2-Chloronaphthalene	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2-Chlorophenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 55.0-59.0 **Date/Time Sampled: 12/13/2020 16:40** **PSS Sample ID: 20121403-056**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.8**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Dibenzofuran	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2,4-Dichlorophenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Diethyl phthalate	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Dimethyl phthalate	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2,4-Dimethylphenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.33		1	0.33	12/18/20	12/22/20 13:08	1059
2,4-Dinitrophenol	ND	mg/kg	0.33		1	0.33	12/18/20	12/22/20 13:08	1059
2,4-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
2,6-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
Fluoranthene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Fluorene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Hexachlorobenzene	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Hexachlorobutadiene	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
Hexachloroethane	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Isophorone	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2-Methylnaphthalene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
2-Methyl phenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
3&4-Methylphenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Naphthalene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
2-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
3-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
4-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
Nitrobenzene	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2-Nitrophenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
4-Nitrophenol	ND	mg/kg	0.33		1	0.33	12/18/20	12/22/20 13:08	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Di-n-octyl phthalate	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
Pentachlorophenol	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:08	1059
Phenanthrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 55.0-59.0 **Date/Time Sampled: 12/13/2020 16:40** **PSS Sample ID: 20121403-056**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 49.8**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
Pyrene	ND	mg/kg	0.017		1	0.017	12/18/20	12/22/20 13:08	1059
Pyridine	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.066		1	0.066	12/18/20	12/22/20 13:08	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*93*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 13:08*	*1059*
2-Fluorophenol	*92*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 13:08*	*1059*
Nitrobenzene-d5	*92*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 13:08*	*1059*
Phenol-d6	*85*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 13:08*	*1059*
Terphenyl-D14	*97*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 13:08*	*1059*
2,4,6-Tribromophenol	*92*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 13:08*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.20**	mg/kg	0.11		1	0.056	12/23/20	12/23/20 16:53	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 60.6-64.0 **Date/Time Sampled: 12/13/2020 17:03** **PSS Sample ID: 20121403-057**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.2**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	93		1	24	12/15/20	12/16/20 03:37	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**490**	mg/kg	50		10	50	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**850**	mg/kg	110		10	57	12/28/20	12/28/20 16:39	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	**7.2**	mg/kg	18	J	1	5.7	12/22/20	12/22/20 14:17	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 60.6-64.0 **Date/Time Sampled: 12/13/2020 17:03** **PSS Sample ID: 20121403-057**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.2**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.57**	mg/kg	3.7	J	1	0.34	12/23/20	12/29/20 01:24	1064
Arsenic	**16**	mg/kg	0.75		1	0.082	12/23/20	12/29/20 01:24	1064
Beryllium	**3.4**	mg/kg	0.75		1	0.19	12/23/20	12/29/20 01:24	1064
Cadmium	**2.0**	mg/kg	0.75		1	0.075	12/23/20	12/29/20 01:24	1064
Chromium	**51**	mg/kg	0.75		1	0.41	12/23/20	12/29/20 01:24	1064
Copper	**69**	mg/kg	0.75		1	0.23	12/23/20	12/29/20 01:24	1064
Lead	**66**	mg/kg	0.75		1	0.31	12/23/20	12/29/20 01:24	1064
Manganese	**2,500**	mg/kg	0.75	E	1	0.63	12/23/20	12/29/20 01:24	1064
Mercury	**0.23**	mg/kg	0.15		1	0.055	12/23/20	12/29/20 01:24	1064
Nickel	**90**	mg/kg	0.75		1	0.26	12/23/20	12/29/20 01:24	1064
Selenium	**2.0**	mg/kg	0.75		1	0.075	12/23/20	12/29/20 01:24	1064
Silver	**1.7**	mg/kg	0.75		1	0.082	12/23/20	12/29/20 01:24	1064
Thallium	**0.38**	mg/kg	0.75	J	1	0.19	12/23/20	12/29/20 01:24	1064
Zinc	**390**	mg/kg	15		1	0.82	12/23/20	12/29/20 01:24	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.9		1	1.9	12/22/20	12/23/20 14:18	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**7.5**	mg/kg	6.4		1	6.4	12/22/20	12/23/20 17:13	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*115*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 17:13*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 60.6-64.0 **Date/Time Sampled: 12/13/2020 17:03** **PSS Sample ID: 20121403-057**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.2**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
beta-BHC	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
delta-BHC	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Heptachlor	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Aldrin	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Heptachlor epoxide	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
gamma-Chlordane	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
alpha-Chlordane	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
4,4-DDE	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Endosulfan I	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Dieldrin	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Endrin	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
4,4-DDD	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Endosulfan II	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
4,4-DDT	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Endrin aldehyde	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Methoxychlor	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Endosulfan sulfate	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Endrin ketone	ND	mg/kg	0.0076		1	0.0076	12/19/20	12/21/20 14:14	1029
Toxaphene	ND	mg/kg	0.19		1	0.19	12/19/20	12/21/20 14:14	1029
Chlordane	ND	mg/kg	0.19		1	0.19	12/19/20	12/21/20 14:14	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*96*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 14:14*	*1029*
Tetrachloro-m-xylene	*74*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 14:14*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.095		1	0.095	12/21/20	12/22/20 23:41	1029
PCB-1221	ND	mg/kg	0.095		1	0.095	12/21/20	12/22/20 23:41	1029
PCB-1232	ND	mg/kg	0.095		1	0.095	12/21/20	12/22/20 23:41	1029
PCB-1242	ND	mg/kg	0.095		1	0.095	12/21/20	12/22/20 23:41	1029
PCB-1248	ND	mg/kg	0.095		1	0.095	12/21/20	12/22/20 23:41	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 60.6-64.0 **Date/Time Sampled: 12/13/2020 17:03** **PSS Sample ID: 20121403-057**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.2**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.095		1	0.095	12/21/20	12/22/20 23:41	1029
PCB-1260	ND	mg/kg	0.095		1	0.095	12/21/20	12/22/20 23:41	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*74*	*%*	*34-117*	*1*	*12/21/20*	*12/22/20 23:41*	*1029*
Decachlorobiphenyl	*113*	*%*	*40-149*	*1*	*12/21/20*	*12/22/20 23:41*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Acenaphthylene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Acetophenone	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Anthracene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Atrazine	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
Benzo(a)anthracene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Benzo(a)pyrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Benzo(b)fluoranthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Benzo(k)fluoranthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Butyl benzyl phthalate	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Di-n-butyl phthalate	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Carbazole	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Caprolactam	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
4-Chloroaniline	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2-Chloronaphthalene	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2-Chlorophenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 60.6-64.0 **Date/Time Sampled: 12/13/2020 17:03** **PSS Sample ID: 20121403-057**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.2**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Dibenzofuran	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2,4-Dichlorophenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Diethyl phthalate	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Dimethyl phthalate	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2,4-Dimethylphenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.32		1	0.32	12/18/20	12/22/20 13:34	1059
2,4-Dinitrophenol	ND	mg/kg	0.32		1	0.32	12/18/20	12/22/20 13:34	1059
2,4-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
2,6-Dinitrotoluene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
Fluoranthene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Fluorene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Hexachlorobenzene	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Hexachlorobutadiene	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
Hexachloroethane	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Isophorone	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2-Methylnaphthalene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
2-Methyl phenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
3&4-Methylphenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Naphthalene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
2-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
3-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
4-Nitroaniline	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
Nitrobenzene	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2-Nitrophenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
4-Nitrophenol	ND	mg/kg	0.32		1	0.32	12/18/20	12/22/20 13:34	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Di-n-octyl phthalate	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
Pentachlorophenol	ND	mg/kg	0.13		1	0.13	12/18/20	12/22/20 13:34	1059
Phenanthrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 60.6-64.0 **Date/Time Sampled: 12/13/2020 17:03** **PSS Sample ID: 20121403-057**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 52.2**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
Pyrene	ND	mg/kg	0.016		1	0.016	12/18/20	12/22/20 13:34	1059
Pyridine	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.064		1	0.064	12/18/20	12/22/20 13:34	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*89*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 13:34*	*1059*
2-Fluorophenol	*87*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 13:34*	*1059*
Nitrobenzene-d5	*88*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 13:34*	*1059*
Phenol-d6	*80*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 13:34*	*1059*
Terphenyl-D14	*94*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 13:34*	*1059*
2,4,6-Tribromophenol	*86*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 13:34*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.26**	mg/kg	0.12		1	0.061	12/23/20	12/23/20 16:56	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 64.0-69.0 **Date/Time Sampled: 12/13/2020 17:20** **PSS Sample ID: 20121403-058**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 56.2**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.61**	mg/kg	2.8	J	1	0.26	12/23/20	12/29/20 01:29	1064
Arsenic	**18**	mg/kg	0.56		1	0.062	12/23/20	12/29/20 01:29	1064
Beryllium	**4.1**	mg/kg	0.56		1	0.14	12/23/20	12/29/20 01:29	1064
Cadmium	**2.8**	mg/kg	0.56		1	0.056	12/23/20	12/29/20 01:29	1064
Chromium	**65**	mg/kg	0.56		1	0.31	12/23/20	12/29/20 01:29	1064
Copper	**84**	mg/kg	0.56		1	0.17	12/23/20	12/29/20 01:29	1064
Lead	**68**	mg/kg	0.56		1	0.24	12/23/20	12/29/20 01:29	1064
Manganese	**2,200**	mg/kg	0.56	E	1	0.47	12/23/20	12/29/20 01:29	1064
Mercury	**0.34**	mg/kg	0.11		1	0.041	12/23/20	12/29/20 01:29	1064
Nickel	**96**	mg/kg	0.56		1	0.2	12/23/20	12/29/20 01:29	1064
Selenium	**2.9**	mg/kg	0.56		1	0.056	12/23/20	12/29/20 01:29	1064
Silver	**3.1**	mg/kg	0.56		1	0.062	12/23/20	12/29/20 01:29	1064
Thallium	**0.38**	mg/kg	0.56	J	1	0.15	12/23/20	12/29/20 01:29	1064
Zinc	**490**	mg/kg	11		1	0.62	12/23/20	12/29/20 01:29	1064

Sample ID: D8 69.0-74.0 **Date/Time Sampled: 12/13/2020 17:40** **PSS Sample ID: 20121403-059**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 55.8**

PP Metals Analytical Method: SW-846 6020 A Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.67**	mg/kg	3.1	J	1	0.28	12/23/20	12/29/20 01:34	1064
Arsenic	**19**	mg/kg	0.62		1	0.068	12/23/20	12/29/20 01:34	1064
Beryllium	**4.8**	mg/kg	0.62		1	0.15	12/23/20	12/29/20 01:34	1064
Cadmium	**2.3**	mg/kg	0.62		1	0.062	12/23/20	12/29/20 01:34	1064
Chromium	**64**	mg/kg	0.62		1	0.34	12/23/20	12/29/20 01:34	1064
Copper	**98**	mg/kg	0.62		1	0.19	12/23/20	12/29/20 01:34	1064
Lead	**73**	mg/kg	0.62		1	0.26	12/23/20	12/29/20 01:34	1064
Manganese	**1,500**	mg/kg	0.62	E	1	0.52	12/23/20	12/29/20 01:34	1064
Mercury	**0.41**	mg/kg	0.12		1	0.045	12/23/20	12/29/20 01:34	1064
Nickel	**94**	mg/kg	0.62		1	0.22	12/23/20	12/29/20 01:34	1064
Selenium	**4.2**	mg/kg	0.62		1	0.062	12/23/20	12/29/20 01:34	1064
Silver	**2.4**	mg/kg	0.62		1	0.068	12/23/20	12/29/20 01:34	1064
Thallium	**0.39**	mg/kg	0.62	J	1	0.16	12/23/20	12/29/20 01:34	1064
Zinc	**570**	mg/kg	12		1	0.68	12/23/20	12/29/20 01:34	1064

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 75.5-79.0 **Date/Time Sampled: 12/13/2020 18:00** **PSS Sample ID: 20121403-060**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.1**

Inorganic Anions: Sulfate — Analytical Method: EPA 300.0 — Preparation Method: E300.0P

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfate	ND	mg/kg	87		1	23	12/15/20	12/16/20 04:00	1053

Phosphorus, Total as P — Analytical Method: EPA 365.3 — Preparation Method: E365.3

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phosphorus, Total (as P)	**170**	mg/kg	43		10	43	12/18/20	12/18/20 16:31	1053

Nitrogen, Ammonia — Analytical Method: SM 4500-NH3-F -2011 — Preparation Method: SM4500-NH3B
Qualifier(s): See Batch 180685 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	**410**	mg/kg	92		10	46	12/28/20	12/28/20 16:43	1053

Sulfide, Methylene Blue — Analytical Method: SM 4500-S2 D 2000 — Preparation Method: SM4500S2_I
Qualifier(s): See Batch 180589 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Sulfide, total	ND	mg/kg	17		1	5.2	12/22/20	12/22/20 14:17	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 75.5-79.0 **Date/Time Sampled: 12/13/2020 18:00** **PSS Sample ID: 20121403-060**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.1**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: SW3050B

Qualifier(s): See Batch 180696 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	**0.85**	mg/kg	3.9	J	1	0.36	12/23/20	12/29/20 01:38	1064
Arsenic	**19**	mg/kg	0.78		1	0.086	12/23/20	12/29/20 01:38	1064
Beryllium	**4.3**	mg/kg	0.78		1	0.2	12/23/20	12/29/20 01:38	1064
Cadmium	**1.1**	mg/kg	0.78		1	0.078	12/23/20	12/29/20 01:38	1064
Chromium	**47**	mg/kg	0.78		1	0.43	12/23/20	12/29/20 01:38	1064
Copper	**100**	mg/kg	0.78		1	0.24	12/23/20	12/29/20 01:38	1064
Lead	**72**	mg/kg	0.78		1	0.33	12/23/20	12/29/20 01:38	1064
Manganese	**1,500**	mg/kg	0.78	E	1	0.66	12/23/20	12/29/20 01:38	1064
Mercury	**0.72**	mg/kg	0.16		1	0.057	12/23/20	12/29/20 01:38	1064
Nickel	**77**	mg/kg	0.78		1	0.27	12/23/20	12/29/20 01:38	1064
Selenium	**5.2**	mg/kg	0.78		1	0.078	12/23/20	12/29/20 01:38	1064
Silver	**0.48**	mg/kg	0.78	J	1	0.086	12/23/20	12/29/20 01:38	1064
Thallium	**0.38**	mg/kg	0.78	J	1	0.2	12/23/20	12/29/20 01:38	1064
Zinc	**400**	mg/kg	16		1	0.86	12/23/20	12/29/20 01:38	1064

Chromium, Hexavalent — Analytical Method: SW-846 7196 A — Preparation Method: SW3060A

Qualifier(s): See Batch 180623 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chromium, Hexavalent	ND	mg/kg	1.7		1	1.7	12/22/20	12/23/20 14:22	1061

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015C DRO — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**15**	mg/kg	5.5		1	5.5	12/22/20	12/23/20 16:48	1070
Surrogate(s)	***Recovery***		***Limits***						
o-Terphenyl	*95*	*%*	*35-124*		*1*		*12/22/20*	*12/23/20 16:48*	*1070*

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 75.5-79.0 **Date/Time Sampled: 12/13/2020 18:00** **PSS Sample ID: 20121403-060**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.1**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

Qualifier(s): See Batch 180570 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
alpha-BHC	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
gamma-BHC (Lindane)	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
beta-BHC	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
delta-BHC	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Heptachlor	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Aldrin	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Heptachlor epoxide	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
gamma-Chlordane	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
alpha-Chlordane	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
4,4-DDE	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Endosulfan I	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Dieldrin	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Endrin	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
4,4-DDD	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Endosulfan II	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
4,4-DDT	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Endrin aldehyde	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Methoxychlor	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Endosulfan sulfate	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Endrin ketone	ND	mg/kg	0.0065		1	0.0065	12/19/20	12/21/20 14:28	1029
Toxaphene	ND	mg/kg	0.16		1	0.16	12/19/20	12/21/20 14:28	1029
Chlordane	ND	mg/kg	0.16		1	0.16	12/19/20	12/21/20 14:28	1029

Surrogate(s)	*Recovery*		*Limits*				
Tetrachloro-m-xylene	*68*	*%*	*44-152*	*1*	*12/19/20*	*12/21/20 14:28*	*1029*
Decachlorobiphenyl	*89*	*%*	*39-151*	*1*	*12/19/20*	*12/21/20 14:28*	*1029*

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

Qualifier(s): See Batch 180687 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.081		1	0.081	12/21/20	12/23/20 00:10	1029
PCB-1221	ND	mg/kg	0.081		1	0.081	12/21/20	12/23/20 00:10	1029
PCB-1232	ND	mg/kg	0.081		1	0.081	12/21/20	12/23/20 00:10	1029
PCB-1242	ND	mg/kg	0.081		1	0.081	12/21/20	12/23/20 00:10	1029
PCB-1248	ND	mg/kg	0.081		1	0.081	12/21/20	12/23/20 00:10	1029

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 75.5-79.0 **Date/Time Sampled: 12/13/2020 18:00** **PSS Sample ID: 20121403-060**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.1**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Qualifier(s): See Batch 180687 on Case Narrative. — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
PCB-1254	ND	mg/kg	0.081		1	0.081	12/21/20	12/23/20 00:10	1029
PCB-1260	ND	mg/kg	0.081		1	0.081	12/21/20	12/23/20 00:10	1029

Surrogate(s)	*Recovery*		*Limits*				
Decachlorobiphenyl	*108*	*%*	*40-149*	*1*	*12/21/20*	*12/23/20 00:10*	*1029*
Tetrachloro-m-xylene	*70*	*%*	*34-117*	*1*	*12/21/20*	*12/23/20 00:10*	*1029*

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C
Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acenaphthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Acenaphthylene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Acetophenone	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Atrazine	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
Benzo(a)anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Benzo(a)pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Benzo(b)fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Benzo(g,h,i)perylene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Benzo(k)fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Biphenyl (Diphenyl)	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Butyl benzyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
bis(2-chloroethoxy) methane	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
bis(2-chloroethyl) ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
bis(2-chloroisopropyl) ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
bis(2-ethylhexyl) phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
4-Bromophenylphenyl ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Di-n-butyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Carbazole	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Caprolactam	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
4-Chloro-3-methyl phenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
4-Chloroaniline	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2-Chloronaphthalene	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2-Chlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
4-Chlorophenyl Phenyl ether	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 75.5-79.0 **Date/Time Sampled: 12/13/2020 18:00** **PSS Sample ID: 20121403-060**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.1**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chrysene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Dibenz(a,h)Anthracene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Dibenzofuran	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
3,3-Dichlorobenzidine	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2,4-Dichlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Diethyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Dimethyl phthalate	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2,4-Dimethylphenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
4,6-Dinitro-2-methyl phenol	ND	mg/kg	0.28		1	0.28	12/18/20	12/22/20 14:00	1059
2,4-Dinitrophenol	ND	mg/kg	0.28		1	0.28	12/18/20	12/22/20 14:00	1059
2,4-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
2,6-Dinitrotoluene	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
Fluoranthene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Fluorene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Hexachlorobenzene	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Hexachlorobutadiene	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Hexachlorocyclopentadiene	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
Hexachloroethane	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Indeno(1,2,3-c,d)Pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Isophorone	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2-Methylnaphthalene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
2-Methyl phenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
3&4-Methylphenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Naphthalene	**0.024**	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
2-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
3-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
4-Nitroaniline	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
Nitrobenzene	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2-Nitrophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
4-Nitrophenol	ND	mg/kg	0.28		1	0.28	12/18/20	12/22/20 14:00	1059
N-Nitrosodi-n-propyl amine	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
N-Nitrosodiphenylamine	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Di-n-octyl phthalate	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
Pentachlorophenol	ND	mg/kg	0.11		1	0.11	12/18/20	12/22/20 14:00	1059
Phenanthrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059

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Certificate of Analysis

Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: D8 75.5-79.0 **Date/Time Sampled: 12/13/2020 18:00** **PSS Sample ID: 20121403-060**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 60.1**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

Qualifier(s): See Batch 180617 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Phenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
Pyrene	ND	mg/kg	0.014		1	0.014	12/18/20	12/22/20 14:00	1059
Pyridine	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2,4,5-Trichlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059
2,4,6-Trichlorophenol	ND	mg/kg	0.056		1	0.056	12/18/20	12/22/20 14:00	1059

Surrogate(s)	*Recovery*		*Limits*				
2-Fluorobiphenyl	*90*	*%*	*50-104*	*1*	*12/18/20*	*12/22/20 14:00*	*1059*
2-Fluorophenol	*88*	*%*	*40-109*	*1*	*12/18/20*	*12/22/20 14:00*	*1059*
Nitrobenzene-d5	*89*	*%*	*41-101*	*1*	*12/18/20*	*12/22/20 14:00*	*1059*
Phenol-d6	*83*	*%*	*44-102*	*1*	*12/18/20*	*12/22/20 14:00*	*1059*
Terphenyl-D14	*92*	*%*	*70-115*	*1*	*12/18/20*	*12/22/20 14:00*	*1059*
2,4,6-Tribromophenol	*87*	*%*	*36-123*	*1*	*12/18/20*	*12/22/20 14:00*	*1059*

Total Cyanide — Analytical Method: SW-846 9014 — Preparation Method: SW9010C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Cyanide, Total	**0.45**	mg/kg	0.10		1	0.05	12/23/20	12/23/20 16:59	1053

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 76.2 **Date/Time Sampled: 12/13/2020 15:37** **PSS Sample ID: 20121403-061**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 47.5**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C GRO Preparation Method: SW5035A

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	mg/kg	0.24		1	0.12	12/23/20	12/23/20 19:39	1045
Surrogate(s)	***Recovery***		***Limits***						
a,a,a-Trifluorotoluene	*82*	*%*	*62-125*		*1*		*12/23/20*	*12/23/20 19:39*	*1045*

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Acetone	**0.17**	mg/kg	0.047		1	0.047	12/23/20	12/23/20 19:26	1045
Benzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Bromochloromethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Bromodichloromethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Bromoform	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Bromomethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
2-Butanone (MEK)	ND	mg/kg	0.012		1	0.012	12/23/20	12/23/20 19:26	1045
Carbon Disulfide	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Carbon tetrachloride	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Chlorobenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Chloroethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Chloroform	ND	mg/kg	0.012		1	0.012	12/23/20	12/23/20 19:26	1045
Chloromethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Cyclohexane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2-Dibromo-3-chloropropane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Dibromochloromethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2-Dibromoethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2-Dichlorobenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,3-Dichlorobenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,4-Dichlorobenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Dichlorodifluoromethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,1-Dichloroethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2-Dichloroethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,1-Dichloroethene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2-Dichloropropane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
cis-1,2-Dichloroethene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
cis-1,3-Dichloropropene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045

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Project Name: Conowingo
PSS Project No.: 20121403

Sample ID: C8 76.2 **Date/Time Sampled: 12/13/2020 15:37** **PSS Sample ID: 20121403-061**
Matrix: SOIL **Date/Time Received: 12/14/2020 09:30** **% Solids SM2540G-11: 47.5**

MDE TCL Volatile Organic Compounds Analytical Method: SW-846 8260 B Preparation Method: SW5035A

Qualifier(s): See Batch 180621 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
trans-1,3-Dichloropropene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Ethylbenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
2-Hexanone (MBK)	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Isopropylbenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Methyl Acetate	ND	mg/kg	0.059		1	0.059	12/23/20	12/23/20 19:26	1045
Methylcyclohexane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Methylene chloride	ND	mg/kg	0.012		1	0.012	12/23/20	12/23/20 19:26	1045
4-Methyl-2-Pentanone (MIBK)	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Methyl-t-Butyl Ether	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Naphthalene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Styrene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,1,2,2-Tetrachloroethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Tetrachloroethene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Toluene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2,3-Trichlorobenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2,4-Trichlorobenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,1,1-Trichloroethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,1,2-Trichloroethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Trichloroethene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Trichlorofluoromethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,1,2-Trichlorotrifluoroethane	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,2,4-Trimethylbenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
1,3,5-Trimethylbenzene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045
Vinyl chloride	ND	mg/kg	0.012		1	0.012	12/23/20	12/23/20 19:26	1045
m&p-Xylene	ND	mg/kg	0.0047		1	0.0047	12/23/20	12/23/20 19:26	1045
o-Xylene	ND	mg/kg	0.0024		1	0.0024	12/23/20	12/23/20 19:26	1045

Surrogate(s)	*Recovery*		*Limits*				
4-Bromofluorobenzene	*100*	*%*	*92-120*	*1*	*12/23/20*	*12/23/20 19:26*	*1045*
Dibromofluoromethane	*100*	*%*	*91-107*	*1*	*12/23/20*	*12/23/20 19:26*	*1045*
Toluene-D8	*100*	*%*	*89-108*	*1*	*12/23/20*	*12/23/20 19:26*	*1045*

ANALYTICAL REPORT

Lab Number:	L2056029
Client:	Phase Separation Science, Inc. 6630 Baltimore Nat'l Pike Suite 103 Baltimore, MD 21228
ATTN:	Simon Crisp
Phone:	(410) 747-8770
Project Name:	20121403
Project Number:	3037.02
Report Date:	12/22/20

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 20121403
Project Number: 3037.02

Lab Number: L2056029
Report Date: 12/22/20

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2056029-01	B7 48.2-50.6 (20121403-020)	SOIL	CONOWINGO	12/12/20 11:10	12/15/20
L2056029-02	B8 67.2-68.7 (20121403-033)	SOIL	CONOWINGO	12/12/20 14:40	12/15/20
L2056029-03	A8 57.8-62.3 (20121403-040)	SOIL	CONOWINGO	12/12/20 09:27	12/15/20
L2056029-04	C8 72.7-75.0 (20121403-053)	SOIL	CONOWINGO	12/13/20 15:14	12/15/20
L2056029-05	D8 60.6-64.0 (20121403-057)	SOIL	CONOWINGO	12/13/20 17:03	12/15/20

Project Name:	20121403	**Lab Number:**	L2056029
Project Number:	3037.02	**Report Date:**	12/22/20

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: 20121403 **Lab Number:** L2056029
Project Number: 3037.02 **Report Date:** 12/22/20

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Michelle M. Morris

Title: Technical Director/Representative Date: 12/22/20

INORGANICS
&
MISCELLANEOUS

Project Name: 20121403
Project Number: 3037.02

Lab Number: L2056029
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056029-01
Client ID: B7 48.2-50.6 (20121403-020)
Sample Location: CONOWINGO

Date Collected: 12/12/20 11:10
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	62.4		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.6	0.38	1	12/20/20 18:30	12/21/20 23:26	109,9016	AT

Project Name: 20121403
Project Number: 3037.02

Lab Number: L2056029
Report Date: 12/22/20

SAMPLE RESULTS

Lab ID: L2056029-02
Client ID: B8 67.2-68.7 (20121403-033)
Sample Location: CONOWINGO

Date Collected: 12/12/20 14:40
Date Received: 12/15/20
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.8		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	1.2	0.28	1	12/20/20 18:30	12/21/20 23:26	109,9016	AT

Project Name: 20121403 **Lab Number:** L2056029

Project Number: 3037.02 **Report Date:** 12/22/20

SAMPLE RESULTS

Lab ID: L2056029-03 Date Collected: 12/12/20 09:27

Client ID: A8 57.8-62.3 (20121403-040) Date Received: 12/15/20

Sample Location: CONOWINGO Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	51.1		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	2.0	0.47	1	12/20/20 18:30	12/21/20 23:27	109,9016	AT

Project Name: 20121403 **Lab Number:** L2056029

Project Number: 3037.02 **Report Date:** 12/22/20

SAMPLE RESULTS

Lab ID: L2056029-04 Date Collected: 12/13/20 15:14

Client ID: C8 72.7-75.0 (20121403-053) Date Received: 12/15/20

Sample Location: CONOWINGO Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	47.2		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	2.1	0.51	1	12/20/20 18:30	12/21/20 23:27	109,9016	AT

Project Name: 20121403 **Lab Number:** L2056029

Project Number: 3037.02 **Report Date:** 12/22/20

SAMPLE RESULTS

Lab ID: L2056029-05 Date Collected: 12/13/20 17:03

Client ID: D8 60.6-64.0 (20121403-057) Date Received: 12/15/20

Sample Location: CONOWINGO Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	50.9		%	0.100	NA	1	-	12/18/20 13:08	121,2540G	RI
Cyanide, Free	ND		mg/kg	2.0	0.47	1	12/20/20 18:30	12/21/20 23:28	109,9016	AT

Project Name: 20121403 **Lab Number:** L2056029

Project Number: 3037.02 **Report Date:** 12/22/20

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab for sample(s): 01-05 Batch: WG1447479-1										
Cyanide, Free	ND		mg/kg	1.0	0.24	1	12/20/20 18:30	12/21/20 23:23	109,9016	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: 20121403

Project Number: 3037.02

Lab Number: L2056029

Report Date: 12/22/20

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 Batch: WG1447479-2								
Cyanide, Free	86		-			-		

Matrix Spike Analysis
Batch Quality Control

Project Name: 20121403
Project Number: 3037.02

Lab Number: L2056029
Report Date: 12/22/20

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1447479-3 WG1447479-4 QC Sample: L2056048-01 Client ID: MS Sample												
Cyanide, Free	ND	30.7	22	73		22	73			0		

Lab Duplicate Analysis

Batch Quality Control

Project Name: 20121403
Project Number: 3037.02

Lab Number: L2056029
Report Date: 12/22/20

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1446584-1 QC Sample: L2056029-01 Client ID: B7 48.2-50.6 (20121403-020)						
Solids, Total	62.4	63.8	%	2		20

Project Name: 20121403
Project Number: 3037.02

Lab Number: L2056029
Report Date: 12/22/20

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2056029-01A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		FCN-9016(14),TS(7)
L2056029-02A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		FCN-9016(14),TS(7)
L2056029-03A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		TS(7),FCN-9016(14)
L2056029-04A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		FCN-9016(14),TS(7)
L2056029-05A	Glass 60mL/2oz unpreserved	A	NA		4.2	Y	Absent		FCN-9016(14),TS(7)

Project Name:	20121403	**Lab Number:**	L2056029
Project Number:	3037.02	**Report Date:**	12/22/20

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	20121403	**Lab Number:**	L2056029
Project Number:	3037.02	**Report Date:**	12/22/20

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	20121403	**Lab Number:**	L2056029
Project Number:	3037.02	**Report Date:**	12/22/20

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	20121403	**Lab Number:**	L2056029
Project Number:	3037.02	**Report Date:**	12/22/20

REFERENCES

109 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Revision 0, June 2010.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
EPA TO-12 Non-methane organics
EPA 3C Fixed gases
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Chain of Custody Form for Subcontracted Analyses

L2056039

~~L2056048~~Ch

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No.: **20121403**
Project Location: Conowingo
Project Number: 3037.02
Report To LOD: Yes

Samples Transferred To:
Alpha Analytical, Inc.
8 Walkup Drive
Westborough, MA 01581
Phone: 508-898-9220

For Questions or issues please contact: Lynn Jackson

Report Due On :12/30/20 05:00

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Free Cyanide	SW9014	2 OZ WMG	COOL

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : UPS

Condition Upon Receipt : _____

Comments :

Free Cyanide: Free Cyanide

Samples Relinquished By : _____ Date : 12/14/20 Time: _____ Samples Received By : _____ AMZ 12/15/20 1138

Samples Relinquished By: _____ Date : _____ Time : _____ Samples Received By: _____

Samples Relinquished By: _____ Date: _____ Time: _____ Samples Received By: _____

SAMPLE RECEIVING
(240) 717-8770
PHASE SEPARATION SCIENCE
9639 BALTIMORE NATIONAL PIKE
ELLICOTTSVILLE MD 21228

22 LBS

1 OF 1

SHIP TO:

SAMPLE RECEIVING
(508) 898-9220
ALPHA ANALYTICAL
8 WALKUP DRIVE
WESTBOROUGH MA 01581

MA 016 9-03

UPS NEXT DAY AIR

TRACKING # 1Z 231 3E4 01 6641 7268

1

BILLING: P/P

Report Number: 20-350-0653
Account Number: 07834

Waypoint ANALYTICAL
7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

Send To: PHASE SEPARATION SCIENCE
JOHN RICHARDSON
6630 BALTIMORE NATIONAL PIKE
BALTIMORE MD 21228

"Every acre...Every year."™

Grower: WO # 20121403
Conowingo
3037.02

SOIL ANALYSIS REPORT

Analytical Method(s):

Date Received: 12/15/2020 **Date Of Analysis:** 12/16/2020 **Date Of Report:** 12/17/2020

Sample ID / Field ID	Lab Number	OM % Rate	W/V Soil Class	ENR lbs/A	Phosphorus ppm Rate	Phosphorus ppm Rate	Phosphorus ppm Rate	Potassium K ppm Rate	Magnesium Mg ppm Rate	Calcium Ca ppm Rate	Sodium Na ppm Rate	pH Soil pH	pH Buffer Index	Acidity H meq/100g	C.E.C meq/100g
20121403-004	03896														
20121403-005	03897														
20121403-017	03899														
20121403-020	03900														
20121403-025	03901														

Sample ID / Field ID	Percent Base Saturation K %	Mg %	Ca %	Na %	H %	Nitrate NO_3 N ppm Rate	Sulfur S ppm Rate	Zinc Zn ppm Rate	Manganese Mn ppm Rate	Iron Fe ppm Rate	Copper Cu ppm Rate	Boron B ppm Rate	Soluble Salts SS ms/cm Rate		
20121403-004													0.12	VL	
20121403-005													0.11	VL	
20121403-017													0.12	VL	
20121403-020													0.15	VL	
20121403-025													0.21	VL	

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric Mc Groary

Pauric Mc Groary Ph.D., CPAg

Report Number: 20-350-0653
Account Number: 07834

Waypoint ANALYTICAL
7621 Whitepine Road, Richmond, VA 23237
Main 804-743-9401 ° Fax 804-271-6446
www.waypointanalytical.com

"Every acre...Every year."™

Send To: PHASE SEPARATION SCIENCE
JOHN RICHARDSON
6630 BALTIMORE NATIONAL PIKE
BALTIMORE MD 21228

Grower: WO # 20121403
Conowingo
3037.02

SOIL ANALYSIS REPORT

Analytical Method(s):

Date Received: 12/15/2020 **Date Of Analysis:** 12/16/2020 **Date Of Report:** 12/17/2020

Sample ID / Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
20121403-033	03902														
20121403-040	03903														
20121403-045	03904														
20121403-046	03905														
20121403-047	03906														

Sample ID / Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts		
	K %	Mg %	Ca %	Na %	H %	NO_3 N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate		
20121403-033													0.06 VL		
20121403-040													0.18 VL		
20121403-045													0.12 VL		
20121403-046													0.21 VL		
20121403-047													0.16 VL		

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric Mc Groary

Pauric Mc Groary Ph.D., CPAg

Report Number: 20-350-0653
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Grower: WO # 20121403
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3037.02

SOIL ANALYSIS REPORT

Analytical Method(s):

Date Received: 12/15/2020 **Date Of Analysis:** 12/16/2020 **Date Of Report:** 12/17/2020

Sample ID / Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
20121403-049	03907														
20121403-050	03908														
20121403-051	03910														
20121403-052	03911														
20121403-053	03912														

Sample ID / Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts		
	K %	Mg %	Ca %	Na %	H %	NO_3 N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate		
20121403-049													0.11 VL		
20121403-050													0		
20121403-051													0.12 VL		
20121403-052													0.12 VL		
20121403-053													0.15 VL		

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric Mc Groary

Pauric Mc Groary Ph.D., CPAg

Report Number: 20-350-0653
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Grower: WO # 20121403
Conowingo
3037.02

SOIL ANALYSIS REPORT

Analytical Method(s):

Date Received: 12/15/2020 **Date Of Analysis:** 12/16/2020 **Date Of Report:** 12/17/2020

Sample ID / Field ID	Lab Number	OM	W/V	ENR	Phosphorus			Potassium	Magnesium	Calcium	Sodium	pH		Acidity	C.E.C
		% Rate	Soil Class	lbs/A	ppm Rate	ppm Rate	ppm Rate	K ppm Rate	Mg ppm Rate	Ca ppm Rate	Na ppm Rate	Soil pH	Buffer Index	H meq/100g	meq/100g
20121403-054	03913														
20121403-056	03914														
20121403-057	03915														
20121403-060	03916														

Sample ID / Field ID	Percent Base Saturation					Nitrate	Sulfur	Zinc	Manganese	Iron	Copper	Boron	Soluble Salts			
	K %	Mg %	Ca %	Na %	H %	NO_3 N ppm Rate	S ppm Rate	Zn ppm Rate	Mn ppm Rate	Fe ppm Rate	Cu ppm Rate	B ppm Rate	SS ms/cm Rate			
20121403-054													0.16	VL		
20121403-056													0.18	VL		
20121403-057													0.01	VL		
20121403-060													0.15	VL		

Values on this report represent the plant available nutrients in the soil. Rating after each value: VL (Very Low), L (Low), M (Medium), H (High), VH (Very High). ENR - Estimated Nitrogen Release. C.E.C. - Cation Exchange Capacity.

Explanation of symbols: % (percent), ppm (parts per million), lbs/A (pounds per acre), ms/cm (milli-mhos per centimeter), meq/100g (milli-equivalent per 100 grams). Conversions: ppm x 2 = lbs/A, Soluble Salts ms/cm x 640 = ppm.

This report applies to sample(s) tested. Samples are retained a maximum of thirty days after testing.

Analysis prepared by: Waypoint Analytical Virginia, Inc.

by: Pauric Mc Groary

Pauric Mc Groary Ph.D., CPAg

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

January 15, 2021

Lynn Jackson
Phase Separation Science, Inc.
6630 Baltimore National Pike
Catonsville, MD 21228

RE: Project: 20121403
Pace Project No.: 30397089

Dear Lynn Jackson:

Enclosed are the analytical results for sample(s) received by the laboratory on December 14, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Green Bay
- Pace Analytical Services - Greensburg

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Samantha Bayura for
David A. Pichette
david.pichette@pacelabs.com
(724)850-5617
Project Manager

Enclosures

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 20121403
Pace Project No.: 30397089

Pace Analytical Services Pennsylvania
1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
ANAB DOD-ELAP Rad Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification #: PA01547
Connecticut Certification #: PH-0694
Delaware Certification
EPA Region 4 DW Rad
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Florida: Cert E871149 SEKS WET
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: KY90133
KY WW Permit #: KY0098221
KY WW Permit #: KY0000221
Louisiana DHH/TNI Certification #: LA180012
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: 2017020
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification #: 9991
Missouri Certification #: 235
Montana Certification #: Cert0082
Nebraska Certification #: NE-OS-29-14
Nevada Certification #: PA014572018-1
New Hampshire/TNI Certification #: 297617
New Jersey/TNI Certification #: PA051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Ohio EPA Rad Approval: #41249
Oregon/TNI Certification #: PA200002-010
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: 02867
Texas/TNI Certification #: T104704188-17-3
Utah/TNI Certification #: PA014572017-9
USDA Soil Permit #: P330-17-00091
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 9526
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Approve List for Rad
Wyoming Certification #: 8TMS-L

Pace Analytical Services Green Bay
1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30397089001	**20121403-001**	Solid	12/11/20 16:05	12/14/20 22:15
30397089002	**20121403-002**	Solid	12/11/20 16:35	12/14/20 22:15
30397089003	**20121403-003**	Solid	12/11/20 16:52	12/14/20 22:15
30397089004	**20121403-004**	Solid	12/11/20 16:55	12/14/20 22:15
30397089005	**20121403-005**	Solid	12/11/20 18:00	12/14/20 22:15
30397089006	**20121403-006**	Solid	12/11/20 18:05	12/14/20 22:15
30397089007	**20121403-007**	Solid	12/11/20 18:10	12/14/20 22:15
30397089008	**20121403-008**	Solid	12/11/20 18:25	12/14/20 22:15
30397089009	**20121403-009**	Solid	12/11/20 18:27	12/14/20 22:15
30397089010	**20121403-010**	Solid	12/12/20 07:50	12/14/20 22:15
30397089011	**20121403-011**	Solid	12/12/20 07:55	12/14/20 22:15
30397089012	**20121403-012**	Solid	12/12/20 08:57	12/14/20 22:15
30397089013	**20121403-013**	Solid	12/12/20 08:59	12/14/20 22:15
30397089014	**20121403-014**	Solid	12/12/20 09:48	12/14/20 22:15
30397089015	**20121403-015**	Solid	12/12/20 09:50	12/14/20 22:15
30397089016	**20121403-017**	Solid	12/12/20 10:25	12/14/20 22:15
30397089017	**20121403-018**	Solid	12/12/20 10:30	12/14/20 22:15
30397089018	**20121403-019**	Solid	12/12/20 11:00	12/14/20 22:15
30397089019	**20121403-020**	Solid	12/12/20 11:10	12/14/20 22:15
30397089020	**20121403-021**	Solid	12/12/20 11:50	12/14/20 22:15
30397089021	**20121403-022**	Solid	12/12/20 11:50	12/14/20 22:15
30397089022	**20121403-023**	Solid	12/12/20 11:55	12/14/20 22:15
30397089023	**20121403-024**	Solid	12/12/20 12:40	12/14/20 22:15
30397089024	**20121403-025**	Solid	12/12/20 12:45	12/14/20 22:15
30397089025	**20121403-026**	Solid	12/12/20 13:10	12/14/20 22:15
30397089026	**20121403-027**	Solid	12/12/20 13:15	12/14/20 22:15
30397089027	**20121403-028**	Solid	12/12/20 13:37	12/14/20 22:15
30397089028	**20121403-029**	Solid	12/12/20 13:40	12/14/20 22:15
30397089029	**20121403-031**	Solid	12/12/20 14:30	12/14/20 22:15
30397089030	**20121403-032**	Solid	12/12/20 14:35	12/14/20 22:15
30397089031	**20121403-033**	Solid	12/12/20 14:40	12/14/20 22:15
30397089032	**20121403-034**	Solid	12/12/20 15:05	12/14/20 22:15
30397089033	**20121403-035**	Solid	12/13/20 08:37	12/14/20 22:15
30397089034	**20121403-036**	Solid	12/13/20 08:52	12/14/20 22:15
30397089035	**20121403-037**	Solid	12/13/20 09:04	12/14/20 22:15
30397089036	**20121403-038**	Solid	12/13/20 09:16	12/14/20 22:15
30397089037	**20121403-040**	Solid	12/13/20 09:27	12/14/20 22:15

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30397089038	**20121403-041**	Solid	12/13/20 09:55	12/14/20 22:15
30397089039	**20121403-042**	Solid	12/13/20 10:10	12/14/20 22:15
30397089040	**20121403-043**	Solid	12/13/20 10:26	12/14/20 22:15
30397089041	**20121403-044**	Solid	12/13/20 11:27	12/14/20 22:15
30397089042	**20121403-045**	Solid	12/13/20 11:47	12/14/20 22:15
30397089043	**20121403-046**	Solid	12/13/20 12:14	12/14/20 22:15
30397089044	**20121403-047**	Solid	12/13/20 12:30	12/14/20 22:15
30397089045	**20121403-049**	Solid	12/13/20 12:48	12/14/20 22:15
30397089046	**20121403-050**	Solid	12/13/20 13:34	12/14/20 22:15
30397089047	**20121403-051**	Solid	12/13/20 14:40	12/14/20 22:15
30397089048	**20121403-052**	Solid	12/13/20 14:58	12/14/20 22:15
30397089049	**20121403-053**	Solid	12/13/20 15:14	12/14/20 22:15
30397089050	**20121403-054**	Solid	12/13/20 16:11	12/14/20 22:15
30397089051	**20121403-056**	Solid	12/13/20 16:40	12/14/20 22:15
30397089052	**20121403-057**	Solid	12/13/20 17:03	12/14/20 22:15
30397089053	**20121403-058**	Solid	12/13/20 17:20	12/14/20 22:15
30397089054	**20121403-059**	Solid	12/13/20 17:40	12/14/20 22:15
30397089055	**20121403-060**	Solid	12/13/20 18:00	12/14/20 22:15

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30397089001	**20121403-001**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089002	**20121403-002**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089003	**20121403-003**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089004	**20121403-004**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089005	**20121403-005**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089006	**20121403-006**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089007	**20121403-007**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089008	**20121403-008**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089009	**20121403-009**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089010	**20121403-010**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089011	**20121403-011**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089012	**20121403-012**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089013	**20121403-013**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089014	**20121403-014**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089015	**20121403-015**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089016	**20121403-017**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089017	**20121403-018**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30397089018	**20121403-019**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089019	**20121403-020**	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089020	**20121403-021**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089021	**20121403-022**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089022	**20121403-023**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089023	**20121403-024**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089024	**20121403-025**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089025	**20121403-026**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089026	**20121403-027**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089027	**20121403-028**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089028	**20121403-029**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089029	**20121403-031**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089030	**20121403-032**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089031	**20121403-033**	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089032	**20121403-034**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089033	**20121403-035**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089034	**20121403-036**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
30397089035	**20121403-037**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089036	**20121403-038**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089037	**20121403-040**	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089038	**20121403-041**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089039	**20121403-042**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089040	**20121403-043**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089041	**20121403-044**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089042	**20121403-045**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089043	**20121403-046**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089044	**20121403-047**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089045	**20121403-049**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089046	**20121403-050**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089047	**20121403-051**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089048	**20121403-052**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089049	**20121403-053**	ASTM D2974-87	JPH	1	PASI-PA

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SAMPLE ANALYTE COUNT

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089050	**20121403-054**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089051	**20121403-056**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089052	**20121403-057**	ASTM D2974-87	JPH	1	PASI-PA
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G
30397089053	**20121403-058**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089054	**20121403-059**	ASTM D2974-87	SRK	1	PASI-G
		EPA 9060 Modified	TJJ	4	PASI-G
30397089055	**20121403-060**	ASTM D2974-87	SRK	1	PASI-G
		EPA 351.2	JWL	1	PASI-PA
		EPA 9060 Modified	TJJ	4	PASI-G

PASI-G = Pace Analytical Services - Green Bay
PASI-PA = Pace Analytical Services - Greensburg

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PROJECT NARRATIVE

Project: 20121403
Pace Project No.: 30397089

Method: **EPA 351.2**
Description: 351.2 Total Kjeldahl Nitrogen
Client: Phase Separation Science, Inc.
Date: January 15, 2021

General Information:
19 samples were analyzed for EPA 351.2 by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 351.2 with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 428414

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30397086006,30397089019

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MS (Lab ID: 2070200)
  - Nitrogen, Kjeldahl, Total
- MS (Lab ID: 2070202)
  - Nitrogen, Kjeldahl, Total
- MSD (Lab ID: 2070201)
  - Nitrogen, Kjeldahl, Total
- MSD (Lab ID: 2070203)
  - Nitrogen, Kjeldahl, Total

QC Batch: 428800

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30397046004

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 2072062)
  - Nitrogen, Kjeldahl, Total
- MSD (Lab ID: 2072063)
  - Nitrogen, Kjeldahl, Total

QC Batch: 429103

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30397089044

MH: Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.

- MS (Lab ID: 2073138)
  - Nitrogen, Kjeldahl, Total

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PROJECT NARRATIVE

Project: 20121403
Pace Project No.: 30397089

Method: **EPA 351.2**
Description: 351.2 Total Kjeldahl Nitrogen
Client: Phase Separation Science, Inc.
Date: January 15, 2021

QC Batch: 429103

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 30397089044

ML: Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

- MSD (Lab ID: 2073139)
  - Nitrogen, Kjeldahl, Total

Additional Comments:

Analyte Comments:

QC Batch: 429103

D3: Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

- 20121403-049 (Lab ID: 30397089045)
  - Nitrogen, Kjeldahl, Total

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PROJECT NARRATIVE

Project: 20121403
Pace Project No.: 30397089

Method: **EPA 9060 Modified**
Description: Total Organic Carbon
Client: Phase Separation Science, Inc.
Date: January 15, 2021

General Information:
55 samples were analyzed for EPA 9060 Modified by Pace Analytical Services Green Bay. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

C4: Sample container did not meet EPA or method requirements.
- 20121403-001 (Lab ID: 30397089001)
- 20121403-002 (Lab ID: 30397089002)
- 20121403-003 (Lab ID: 30397089003)
- 20121403-004 (Lab ID: 30397089004)
- 20121403-005 (Lab ID: 30397089005)
- 20121403-006 (Lab ID: 30397089006)
- 20121403-007 (Lab ID: 30397089007)
- 20121403-008 (Lab ID: 30397089008)
- 20121403-009 (Lab ID: 30397089009)
- 20121403-010 (Lab ID: 30397089010)
- 20121403-011 (Lab ID: 30397089011)
- 20121403-012 (Lab ID: 30397089012)
- 20121403-013 (Lab ID: 30397089013)
- 20121403-014 (Lab ID: 30397089014)
- 20121403-015 (Lab ID: 30397089015)
- 20121403-017 (Lab ID: 30397089016)
- 20121403-018 (Lab ID: 30397089017)
- 20121403-019 (Lab ID: 30397089018)
- 20121403-020 (Lab ID: 30397089019)
- 20121403-021 (Lab ID: 30397089020)
- 20121403-022 (Lab ID: 30397089021)
- 20121403-023 (Lab ID: 30397089022)
- 20121403-024 (Lab ID: 30397089023)
- 20121403-025 (Lab ID: 30397089024)
- 20121403-026 (Lab ID: 30397089025)
- 20121403-027 (Lab ID: 30397089026)
- 20121403-028 (Lab ID: 30397089027)
- 20121403-029 (Lab ID: 30397089028)
- 20121403-031 (Lab ID: 30397089029)
- 20121403-032 (Lab ID: 30397089030)
- 20121403-033 (Lab ID: 30397089031)
- 20121403-034 (Lab ID: 30397089032)
- 20121403-035 (Lab ID: 30397089033)
- 20121403-036 (Lab ID: 30397089034)
- 20121403-037 (Lab ID: 30397089035)
- 20121403-038 (Lab ID: 30397089036)
- 20121403-040 (Lab ID: 30397089037)
- 20121403-041 (Lab ID: 30397089038)
- 20121403-042 (Lab ID: 30397089039)
- 20121403-043 (Lab ID: 30397089040)

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PROJECT NARRATIVE

Project: 20121403
Pace Project No.: 30397089

Method: **EPA 9060 Modified**
Description: Total Organic Carbon
Client: Phase Separation Science, Inc.
Date: January 15, 2021

C4: Sample container did not meet EPA or method requirements.
- 20121403-044 (Lab ID: 30397089041)
- 20121403-045 (Lab ID: 30397089042)
- 20121403-046 (Lab ID: 30397089043)
- 20121403-047 (Lab ID: 30397089044)
- 20121403-049 (Lab ID: 30397089045)
- 20121403-050 (Lab ID: 30397089046)
- 20121403-051 (Lab ID: 30397089047)
- 20121403-052 (Lab ID: 30397089048)
- 20121403-053 (Lab ID: 30397089049)
- 20121403-054 (Lab ID: 30397089050)
- 20121403-056 (Lab ID: 30397089051)
- 20121403-057 (Lab ID: 30397089052)
- 20121403-058 (Lab ID: 30397089053)
- 20121403-059 (Lab ID: 30397089054)
- 20121403-060 (Lab ID: 30397089055)

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-001 **Lab ID: 30397089001** Collected: 12/11/20 16:05 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**43.4**	%	0.10	0.10	1		12/28/20 14:00		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**2.1**	%	0.10	0.10	1		12/27/20 15:00		
Total Organic Carbon	**63700**	mg/kg	8610	2570	1		12/27/20 15:00	7440-44-0	
Total Organic Carbon	**65100**	mg/kg	8510	2540	1		12/27/20 15:05	7440-44-0	
Mean Total Organic Carbon	**64400**	mg/kg	8560	2550	1		12/27/20 15:00	7440-44-0	C4

Sample: 20121403-002 **Lab ID: 30397089002** Collected: 12/11/20 16:35 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**41.2**	%	0.10	0.10	1		12/28/20 14:01		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**28.4**	%	0.10	0.10	1		12/27/20 15:11		
Total Organic Carbon	**80200**	mg/kg	8470	2530	1		12/27/20 15:11	7440-44-0	
Total Organic Carbon	**107000**	mg/kg	7970	2380	1		12/27/20 15:19	7440-44-0	
Mean Total Organic Carbon	**93500**	mg/kg	8220	2450	1		12/27/20 15:11	7440-44-0	C4

Sample: 20121403-003 **Lab ID: 30397089003** Collected: 12/11/20 16:52 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**34.3**	%	0.10	0.10	1		12/28/20 14:01		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**10.5**	%	0.10	0.10	1		12/27/20 15:28		
Total Organic Carbon	**239000**	mg/kg	10200	3030	1		12/27/20 15:28	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-003 **Lab ID: 30397089003** Collected: 12/11/20 16:52 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**215000**	mg/kg	11200	3340	1		12/27/20 15:34	7440-44-0	
Mean Total Organic Carbon	**227000**	mg/kg	10700	3180	1		12/27/20 15:28	7440-44-0	C4

Sample: 20121403-004 **Lab ID: 30397089004** Collected: 12/11/20 16:55 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**33.4**	%	0.10	0.10	1		12/28/20 14:01		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**842**	mg/kg	171	121	5	12/23/20 11:30	12/24/20 12:31	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**0.81**	%	0.10	0.10	1		12/27/20 15:41		
Total Organic Carbon	**473000**	mg/kg	40200	12000	1		12/27/20 15:41	7440-44-0	
Total Organic Carbon	**477000**	mg/kg	45100	13400	1		12/27/20 15:47	7440-44-0	
Mean Total Organic Carbon	**475000**	mg/kg	42700	12700	1		12/27/20 15:41	7440-44-0	C4

Sample: 20121403-005 **Lab ID: 30397089005** Collected: 12/11/20 18:00 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**29.6**	%	0.10	0.10	1		12/28/20 14:01		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**966**	mg/kg	191	136	5	12/23/20 11:30	12/24/20 12:32	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**6.6**	%	0.10	0.10	1		12/27/20 15:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-005 **Lab ID: 30397089005** Collected: 12/11/20 18:00 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**521000**	mg/kg	39500	11800	1		12/27/20 15:53	7440-44-0	
Total Organic Carbon	**488000**	mg/kg	42200	12600	1		12/27/20 15:58	7440-44-0	
Mean Total Organic Carbon	**504000**	mg/kg	40800	12200	1		12/27/20 15:53	7440-44-0	C4

Sample: 20121403-006 **Lab ID: 30397089006** Collected: 12/11/20 18:05 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**42.3**	%	0.10	0.10	1		12/28/20 14:01		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**9.0**	%	0.10	0.10	1		12/27/20 16:04		
Total Organic Carbon	**61900**	mg/kg	8870	2650	1		12/27/20 16:04	7440-44-0	
Total Organic Carbon	**56600**	mg/kg	8960	2670	1		12/27/20 16:09	7440-44-0	
Mean Total Organic Carbon	**59300**	mg/kg	8910	2660	1		12/27/20 16:04	7440-44-0	C4

Sample: 20121403-007 **Lab ID: 30397089007** Collected: 12/11/20 18:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**40.7**	%	0.10	0.10	1		12/28/20 14:01		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.1**	%	0.10	0.10	1		12/27/20 16:15		
Total Organic Carbon	**98900**	mg/kg	9360	2790	1		12/27/20 16:15	7440-44-0	
Total Organic Carbon	**97800**	mg/kg	9250	2760	1		12/27/20 16:21	7440-44-0	
Mean Total Organic Carbon	**98300**	mg/kg	9310	2780	1		12/27/20 16:15	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-008 **Lab ID: 30397089008** Collected: 12/11/20 18:25 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**42.4**	%	0.10	0.10	1		12/28/20 14:01		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.8**	%	0.10	0.10	1		12/27/20 16:54		
Total Organic Carbon	**142000**	mg/kg	11600	3460	1		12/27/20 16:54	7440-44-0	
Total Organic Carbon	**145000**	mg/kg	12400	3680	1		12/27/20 17:01	7440-44-0	
Mean Total Organic Carbon	**143000**	mg/kg	12000	3570	1		12/27/20 16:54	7440-44-0	C4

Sample: 20121403-009 **Lab ID: 30397089009** Collected: 12/11/20 18:27 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**42.3**	%	0.10	0.10	1		12/28/20 14:02		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**0.91**	%	0.10	0.10	1		12/27/20 17:47		
Total Organic Carbon	**97800**	mg/kg	15000	4470	1		12/27/20 17:47	7440-44-0	
Total Organic Carbon	**98600**	mg/kg	16500	4930	1		12/27/20 18:22	7440-44-0	
Mean Total Organic Carbon	**98200**	mg/kg	15700	4700	1		12/27/20 17:47	7440-44-0	C4

Sample: 20121403-010 **Lab ID: 30397089010** Collected: 12/12/20 07:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**39.8**	%	0.10	0.10	1		12/28/20 14:02		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**0.30**	%	0.10	0.10	1		12/27/20 18:53		
Total Organic Carbon	**148000**	mg/kg	11600	3450	1		12/27/20 18:53	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-010 **Lab ID: 30397089010** Collected: 12/12/20 07:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**148000**	mg/kg	11900	3560	1		12/27/20 18:59	7440-44-0	
Mean Total Organic Carbon	**148000**	mg/kg	11800	3510	1		12/27/20 18:53	7440-44-0	C4

Sample: 20121403-011 **Lab ID: 30397089011** Collected: 12/12/20 07:55 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**18.7**	%	0.10	0.10	1		12/28/20 14:02		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**16.2**	%	0.10	0.10	1		12/27/20 19:04		
Total Organic Carbon	**8060**	mg/kg	5400	1610	1		12/27/20 19:04	7440-44-0	
Total Organic Carbon	**9480**	mg/kg	5510	1640	1		12/27/20 19:14	7440-44-0	
Mean Total Organic Carbon	**8770**	mg/kg	5450	1630	1		12/27/20 19:04	7440-44-0	C4

Sample: 20121403-012 **Lab ID: 30397089012** Collected: 12/12/20 08:57 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**18.0**	%	0.10	0.10	1		12/28/20 14:02		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.4**	%	0.10	0.10	1		12/28/20 15:46		
Total Organic Carbon	**2080**	mg/kg	726	217	1		12/28/20 15:46	7440-44-0	
Total Organic Carbon	**2170**	mg/kg	731	218	1		12/28/20 15:51	7440-44-0	
Mean Total Organic Carbon	**2120**	mg/kg	729	217	1		12/28/20 15:46	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-013 **Lab ID: 30397089013** Collected: 12/12/20 08:59 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**18.2**	%	0.10	0.10	1		12/28/20 14:02		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**3.9**	%	0.10	0.10	1		12/28/20 15:57		
Total Organic Carbon	**1680**	mg/kg	731	218	1		12/28/20 15:57	7440-44-0	
Total Organic Carbon	**1620**	mg/kg	732	218	1		12/28/20 16:03	7440-44-0	
Mean Total Organic Carbon	**1650**	mg/kg	731	218	1		12/28/20 15:57	7440-44-0	C4

Sample: 20121403-014 **Lab ID: 30397089014** Collected: 12/12/20 09:48 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**49.3**	%	0.10	0.10	1		12/28/20 14:03		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**36.4**	%	0.10	0.10	1		12/27/20 19:38		
Total Organic Carbon	**69500**	mg/kg	13200	3930	1		12/27/20 19:38	7440-44-0	
Total Organic Carbon	**100000**	mg/kg	12300	3670	1		12/27/20 19:44	7440-44-0	
Mean Total Organic Carbon	**84900**	mg/kg	12700	3800	1		12/27/20 19:38	7440-44-0	C4

Sample: 20121403-015 **Lab ID: 30397089015** Collected: 12/12/20 09:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**44.5**	%	0.10	0.10	1		12/28/20 14:03		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**5.6**	%	0.10	0.10	1		12/27/20 20:02		
Total Organic Carbon	**45300**	mg/kg	8530	2540	1		12/27/20 20:02	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-015 **Lab ID: 30397089015** Collected: 12/12/20 09:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**47900**	mg/kg	8500	2540	1		12/27/20 20:08	7440-44-0	
Mean Total Organic Carbon	**46600**	mg/kg	8510	2540	1		12/27/20 20:02	7440-44-0	C4

Sample: 20121403-017 **Lab ID: 30397089016** Collected: 12/12/20 10:25 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**42.3**	%	0.10	0.10	1		12/28/20 14:03		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**2290**	mg/kg	461	328	10	12/23/20 11:30	12/24/20 12:33	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**5.1**	%	0.10	0.10	1		12/27/20 20:13		
Total Organic Carbon	**84600**	mg/kg	9680	2890	1		12/27/20 20:13	7440-44-0	
Total Organic Carbon	**80400**	mg/kg	9560	2850	1		12/27/20 20:22	7440-44-0	
Mean Total Organic Carbon	**82500**	mg/kg	9620	2870	1		12/27/20 20:13	7440-44-0	C4

Sample: 20121403-018 **Lab ID: 30397089017** Collected: 12/12/20 10:30 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**45.0**	%	0.10	0.10	1		12/28/20 14:53		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**18.7**	%	0.10	0.10	1		12/27/20 20:34		
Total Organic Carbon	**57300**	mg/kg	10800	3230	1		12/27/20 20:34	7440-44-0	
Total Organic Carbon	**69100**	mg/kg	10300	3080	1		12/27/20 20:40	7440-44-0	
Mean Total Organic Carbon	**63200**	mg/kg	10600	3150	1		12/27/20 20:34	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-019 **Lab ID: 30397089018** Collected: 12/12/20 11:00 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**32.9**	%	0.10	0.10	1		12/28/20 14:53		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**34.6**	%	0.10	0.10	1		12/27/20 20:48		
Total Organic Carbon	**548000**	mg/kg	36000	10800	1		12/27/20 20:48	7440-44-0	
Total Organic Carbon	**387000**	mg/kg	36900	11000	1		12/27/20 20:55	7440-44-0	
Mean Total Organic Carbon	**468000**	mg/kg	36500	10900	1		12/27/20 20:48	7440-44-0	C4

Sample: 20121403-020 **Lab ID: 30397089019** Collected: 12/12/20 11:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Greensburg								
Percent Moisture	**26.3**	%	0.10	0.10	1		12/17/20 14:23		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
	Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**622**	mg/kg	34.9	24.8	1	12/23/20 11:30	12/24/20 12:13	7727-37-9	ML
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**8.4**	%	0.10	0.10	1		12/27/20 21:00		
Total Organic Carbon	**625000**	mg/kg	35400	10600	1		12/27/20 21:00	7440-44-0	
Total Organic Carbon	**574000**	mg/kg	35700	10600	1		12/27/20 21:06	7440-44-0	
Mean Total Organic Carbon	**600000**	mg/kg	35500	10600	1		12/27/20 21:00	7440-44-0	C4

Sample: 20121403-021 **Lab ID: 30397089020** Collected: 12/12/20 11:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**34.7**	%	0.10	0.10	1		12/28/20 14:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-021 **Lab ID: 30397089020** Collected: 12/12/20 11:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**7.0**	%	0.10	0.10	1		12/27/20 21:13		
Total Organic Carbon	**404000**	mg/kg	44100	13200	1		12/27/20 21:13	7440-44-0	
Total Organic Carbon	**377000**	mg/kg	37300	11100	1		12/27/20 21:19	7440-44-0	
Mean Total Organic Carbon	**390000**	mg/kg	40700	12200	1		12/27/20 21:13	7440-44-0	C4

Sample: 20121403-022 **Lab ID: 30397089021** Collected: 12/12/20 11:50 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**46.3**	%	0.10	0.10	1		12/28/20 14:53		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**2.0**	%	0.10	0.10	1		12/27/20 21:24		
Total Organic Carbon	**58900**	mg/kg	10400	3100	1		12/27/20 21:24	7440-44-0	
Total Organic Carbon	**57800**	mg/kg	10500	3140	1		12/27/20 21:31	7440-44-0	
Mean Total Organic Carbon	**58300**	mg/kg	10500	3120	1		12/27/20 21:24	7440-44-0	C4

Sample: 20121403-023 **Lab ID: 30397089022** Collected: 12/12/20 11:55 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**40.8**	%	0.10	0.10	1		12/28/20 14:53		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.1**	%	0.10	0.10	1		12/27/20 21:36		
Total Organic Carbon	**101000**	mg/kg	9410	2810	1		12/27/20 21:36	7440-44-0	
Total Organic Carbon	**102000**	mg/kg	9460	2820	1		12/27/20 21:42	7440-44-0	
Mean Total Organic Carbon	**101000**	mg/kg	9430	2810	1		12/27/20 21:36	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-024 **Lab ID: 30397089023** Collected: 12/12/20 12:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**44.5**	%	0.10	0.10	1		12/28/20 14:54		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.2**	%	0.10	0.10	1		12/27/20 21:48		
Total Organic Carbon	**160000**	mg/kg	11200	3330	1		12/27/20 21:48	7440-44-0	
Total Organic Carbon	**167000**	mg/kg	11100	3330	1		12/27/20 21:54	7440-44-0	
Mean Total Organic Carbon	**164000**	mg/kg	11200	3330	1		12/27/20 21:48	7440-44-0	C4

Sample: 20121403-025 **Lab ID: 30397089024** Collected: 12/12/20 12:45 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.3**	%	0.10	0.10	1		12/28/20 14:54		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**2580**	mg/kg	401	285	10	12/23/20 11:30	12/24/20 12:34	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.1**	%	0.10	0.10	1		12/27/20 22:00		
Total Organic Carbon	**87800**	mg/kg	12200	3650	1		12/27/20 22:00	7440-44-0	
Total Organic Carbon	**86800**	mg/kg	12300	3660	1		12/27/20 22:06	7440-44-0	
Mean Total Organic Carbon	**87300**	mg/kg	12200	3650	1		12/27/20 22:00	7440-44-0	C4

Sample: 20121403-026 **Lab ID: 30397089025** Collected: 12/12/20 13:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**42.8**	%	0.10	0.10	1		12/28/20 14:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-026 **Lab ID: 30397089025** Collected: 12/12/20 13:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**7.0**	%	0.10	0.10	1		12/28/20 15:05		
Total Organic Carbon	**102000**	mg/kg	9400	2800	1		12/28/20 15:05	7440-44-0	
Total Organic Carbon	**110000**	mg/kg	9450	2820	1		12/28/20 15:10	7440-44-0	
Mean Total Organic Carbon	**106000**	mg/kg	9420	2810	1		12/28/20 15:05	7440-44-0	C4

Sample: 20121403-027 **Lab ID: 30397089026** Collected: 12/12/20 13:15 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.0**	%	0.10	0.10	1		12/28/20 14:54		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**2.0**	%	0.10	0.10	1		12/28/20 15:17		
Total Organic Carbon	**109000**	mg/kg	12600	3770	1		12/28/20 15:17	7440-44-0	
Total Organic Carbon	**107000**	mg/kg	13000	3870	1		12/28/20 15:25	7440-44-0	
Mean Total Organic Carbon	**108000**	mg/kg	12800	3820	1		12/28/20 15:17	7440-44-0	C4

Sample: 20121403-028 **Lab ID: 30397089027** Collected: 12/12/20 13:37 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**43.7**	%	0.10	0.10	1		12/28/20 14:54		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.9**	%	0.10	0.10	1		12/28/20 15:33		
Total Organic Carbon	**108000**	mg/kg	12500	3730	1		12/28/20 15:33	7440-44-0	
Total Organic Carbon	**110000**	mg/kg	12500	3730	1		12/28/20 15:38	7440-44-0	
Mean Total Organic Carbon	**109000**	mg/kg	12500	3730	1		12/28/20 15:33	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-029 **Lab ID: 30397089028** Collected: 12/12/20 13:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**39.2**	%	0.10	0.10	1		12/28/20 14:54		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.0**	%	0.10	0.10	1		12/28/20 16:37		
Total Organic Carbon	**117000**	mg/kg	13700	4090	1		12/28/20 16:37	7440-44-0	
Total Organic Carbon	**122000**	mg/kg	12500	3730	1		12/28/20 16:43	7440-44-0	
Mean Total Organic Carbon	**119000**	mg/kg	13100	3910	1		12/28/20 16:37	7440-44-0	C4

Sample: 20121403-031 **Lab ID: 30397089029** Collected: 12/12/20 14:30 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**48.1**	%	0.10	0.10	1		12/28/20 14:54		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**2.6**	%	0.10	0.10	1		12/28/20 17:23		
Total Organic Carbon	**79600**	mg/kg	12600	3770	1		12/28/20 17:23	7440-44-0	
Total Organic Carbon	**77600**	mg/kg	12400	3700	1		12/28/20 17:29	7440-44-0	
Mean Total Organic Carbon	**78600**	mg/kg	12500	3730	1		12/28/20 17:23	7440-44-0	C4

Sample: 20121403-032 **Lab ID: 30397089030** Collected: 12/12/20 14:35 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**21.2**	%	0.10	0.10	1		12/28/20 14:55		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**30.5**	%	0.10	0.10	1		12/28/20 17:59		
Total Organic Carbon	**4980**	mg/kg	755	225	1		12/28/20 17:59	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-032 **Lab ID: 30397089030** Collected: 12/12/20 14:35 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**6770**	mg/kg	756	226	1		12/28/20 18:06	7440-44-0	
Mean Total Organic Carbon	**5870**	mg/kg	755	225	1		12/28/20 17:59	7440-44-0	C4

Sample: 20121403-033 **Lab ID: 30397089031** Collected: 12/12/20 14:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**12.8**	%	0.10	0.10	1		12/17/20 14:23		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**189**	mg/kg	28.4	20.2	1	12/23/20 11:30	12/24/20 12:16	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**7.1**	%	0.10	0.10	1		12/28/20 18:12		
Total Organic Carbon	**1280**	mg/kg	684	204	1		12/28/20 18:12	7440-44-0	
Total Organic Carbon	**1370**	mg/kg	685	204	1		12/28/20 18:30	7440-44-0	
Mean Total Organic Carbon	**1330**	mg/kg	685	204	1		12/28/20 18:12	7440-44-0	C4

Sample: 20121403-034 **Lab ID: 30397089032** Collected: 12/12/20 15:05 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**12.6**	%	0.10	0.10	1		12/28/20 14:55		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**39.3**	%	0.10	0.10	1		12/28/20 22:09		
Total Organic Carbon	**1800**	mg/kg	681	203	1		12/28/20 22:09	7440-44-0	
Total Organic Carbon	**1210**	mg/kg	682	203	1		12/28/20 22:15	7440-44-0	
Mean Total Organic Carbon	**1500**	mg/kg	681	203	1		12/28/20 22:09	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-035 **Lab ID: 30397089033** Collected: 12/13/20 08:37 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**54.8**	%	0.10	0.10	1		12/28/20 14:55		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**3.6**	%	0.10	0.10	1		12/28/20 18:41		
Total Organic Carbon	**41000**	mg/kg	13400	4010	1		12/28/20 18:41	7440-44-0	
Total Organic Carbon	**39600**	mg/kg	13700	4090	1		12/28/20 18:46	7440-44-0	
Mean Total Organic Carbon	**40300**	mg/kg	13600	4050	1		12/28/20 18:41	7440-44-0	C4

Sample: 20121403-036 **Lab ID: 30397089034** Collected: 12/13/20 08:52 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**52.1**	%	0.10	0.10	1		12/28/20 14:55		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**2.4**	%	0.10	0.10	1		12/28/20 18:52		
Total Organic Carbon	**48200**	mg/kg	13600	4050	1		12/28/20 18:52	7440-44-0	
Total Organic Carbon	**47000**	mg/kg	13100	3890	1		12/28/20 18:58	7440-44-0	
Mean Total Organic Carbon	**47600**	mg/kg	13300	3970	1		12/28/20 18:52	7440-44-0	C4

Sample: 20121403-037 **Lab ID: 30397089035** Collected: 12/13/20 09:04 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**48.0**	%	0.10	0.10	1		12/28/20 14:55		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.4**	%	0.10	0.10	1		12/28/20 19:05		
Total Organic Carbon	**47100**	mg/kg	10800	3210	1		12/28/20 19:05	7440-44-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-037 **Lab ID: 30397089035** Collected: 12/13/20 09:04 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**47700**	mg/kg	11500	3440	1		12/28/20 19:12	7440-44-0	
Mean Total Organic Carbon	**47400**	mg/kg	11100	3320	1		12/28/20 19:05	7440-44-0	C4

Sample: 20121403-038 **Lab ID: 30397089036** Collected: 12/13/20 09:16 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**50.3**	%	0.10	0.10	1		12/28/20 15:41		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**15.7**	%	0.10	0.10	1		12/28/20 19:17		
Total Organic Carbon	**66000**	mg/kg	10200	3040	1		12/28/20 19:17	7440-44-0	
Total Organic Carbon	**56400**	mg/kg	10300	3060	1		12/28/20 19:23	7440-44-0	
Mean Total Organic Carbon	**61200**	mg/kg	10200	3050	1		12/28/20 19:17	7440-44-0	C4

Sample: 20121403-040 **Lab ID: 30397089037** Collected: 12/13/20 09:27 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**45.9**	%	0.10	0.10	1		12/17/20 14:23		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**3090**	mg/kg	471	335	10	12/23/20 11:30	12/24/20 12:34	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**10.2**	%	0.10	0.10	1		12/28/20 19:40		
Total Organic Carbon	**54500**	mg/kg	10200	3040	1		12/28/20 19:40	7440-44-0	
Total Organic Carbon	**49200**	mg/kg	11100	3310	1		12/28/20 19:46	7440-44-0	
Mean Total Organic Carbon	**51900**	mg/kg	10600	3170	1		12/28/20 19:40	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-041 **Lab ID: 30397089038** Collected: 12/13/20 09:55 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**45.6**	%	0.10	0.10	1		12/28/20 15:41		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.4**	%	0.10	0.10	1		12/28/20 19:51		
Total Organic Carbon	**69500**	mg/kg	9070	2700	1		12/28/20 19:51	7440-44-0	
Total Organic Carbon	**70400**	mg/kg	8890	2650	1		12/28/20 19:57	7440-44-0	
Mean Total Organic Carbon	**70000**	mg/kg	8980	2680	1		12/28/20 19:51	7440-44-0	C4

Sample: 20121403-042 **Lab ID: 30397089039** Collected: 12/13/20 10:10 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**44.6**	%	0.10	0.10	1		12/28/20 15:41		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**0.68**	%	0.10	0.10	1		12/28/20 20:04		
Total Organic Carbon	**76700**	mg/kg	12600	3760	1		12/28/20 20:04	7440-44-0	
Total Organic Carbon	**77200**	mg/kg	12800	3830	1		12/28/20 20:11	7440-44-0	
Mean Total Organic Carbon	**77000**	mg/kg	12700	3790	1		12/28/20 20:04	7440-44-0	C4

Sample: 20121403-043 **Lab ID: 30397089040** Collected: 12/13/20 10:26 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**41.9**	%	0.10	0.10	1		12/28/20 15:41		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**14.9**	%	0.10	0.10	1		12/28/20 20:17		
Total Organic Carbon	**116000**	mg/kg	11000	3290	1		12/28/20 20:17	7440-44-0	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-043 **Lab ID: 30397089040** Collected: 12/13/20 10:26 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Total Organic Carbon	**99600**	mg/kg	10400	3110	1		12/28/20 20:25	7440-44-0	
Mean Total Organic Carbon	**108000**	mg/kg	10700	3200	1		12/28/20 20:17	7440-44-0	C4

Sample: 20121403-044 **Lab ID: 30397089041** Collected: 12/13/20 11:27 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**54.8**	%	0.10	0.10	1		12/28/20 15:41		
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**7.1**	%	0.10	0.10	1		12/28/20 20:31		
Total Organic Carbon	**36000**	mg/kg	12900	3850	1		12/28/20 20:31	7440-44-0	
Total Organic Carbon	**38700**	mg/kg	12100	3610	1		12/28/20 20:36	7440-44-0	
Mean Total Organic Carbon	**37400**	mg/kg	12500	3730	1		12/28/20 20:31	7440-44-0	C4

Sample: 20121403-045 **Lab ID: 30397089042** Collected: 12/13/20 11:47 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**28.4**	%	0.10	0.10	1		12/28/20 15:42		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1090**	mg/kg	180	128	5	12/23/20 11:30	12/24/20 12:35	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.1**	%	0.10	0.10	1		12/28/20 20:41		
Total Organic Carbon	**419000**	mg/kg	35800	10700	1		12/28/20 20:41	7440-44-0	
Total Organic Carbon	**437000**	mg/kg	30400	9060	1		12/28/20 20:48	7440-44-0	
Mean Total Organic Carbon	**428000**	mg/kg	33100	9870	1		12/28/20 20:41	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-046 **Lab ID: 30397089043** Collected: 12/13/20 12:14 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**47.1**	%	0.10	0.10	1		12/28/20 15:42		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**2470**	mg/kg	468	333	10	12/28/20 15:30	12/29/20 12:20	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**13.3**	%	0.10	0.10	1		12/28/20 20:54		
Total Organic Carbon	**78000**	mg/kg	12400	3700	1		12/28/20 20:54	7440-44-0	
Total Organic Carbon	**89100**	mg/kg	12500	3720	1		12/28/20 21:01	7440-44-0	
Mean Total Organic Carbon	**83500**	mg/kg	12400	3710	1		12/28/20 20:54	7440-44-0	C4

Sample: 20121403-047 **Lab ID: 30397089044** Collected: 12/13/20 12:30 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**41.7**	%	0.10	0.10	1		12/28/20 15:42		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1720**	mg/kg	214	152	5	12/30/20 07:15	12/30/20 14:09	7727-37-9	MH,ML
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**3.1**	%	0.10	0.10	1		12/28/20 21:06		
Total Organic Carbon	**119000**	mg/kg	8720	2600	1		12/28/20 21:06	7440-44-0	
Total Organic Carbon	**116000**	mg/kg	8760	2610	1		12/28/20 21:13	7440-44-0	
Mean Total Organic Carbon	**117000**	mg/kg	8740	2610	1		12/28/20 21:06	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-049 **Lab ID: 30397089045** Collected: 12/13/20 12:48 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**36.3**	%	0.10	0.10	1		12/28/20 15:42		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**205 U**	mg/kg	205	145	5	12/30/20 07:15	12/30/20 14:12	7727-37-9	D3
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**11.4**	%	0.10	0.10	1		12/28/20 21:18		
Total Organic Carbon	**447000**	mg/kg	36500	10900	1		12/28/20 21:18	7440-44-0	
Total Organic Carbon	**399000**	mg/kg	35300	10500	1		12/28/20 21:26	7440-44-0	
Mean Total Organic Carbon	**423000**	mg/kg	35900	10700	1		12/28/20 21:18	7440-44-0	C4

Sample: 20121403-050 **Lab ID: 30397089046** Collected: 12/13/20 13:34 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**55.6**	%	0.10	0.10	1		12/28/20 15:42		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1010**	mg/kg	287	204	5	12/30/20 07:15	12/30/20 14:13	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**8.6**	%	0.10	0.10	1		12/29/20 17:02		
Total Organic Carbon	**47100**	mg/kg	10200	3030	1		12/29/20 17:02	7440-44-0	
Total Organic Carbon	**43200**	mg/kg	9980	2980	1		12/29/20 17:07	7440-44-0	
Mean Total Organic Carbon	**45200**	mg/kg	10100	3010	1		12/29/20 17:02	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-051 **Lab ID: 30397089047** Collected: 12/13/20 14:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**45.5**	%	0.10	0.10	1		12/28/20 15:42		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1460**	mg/kg	223	158	5	12/30/20 07:15	12/30/20 14:13	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**5.0**	%	0.10	0.10	1		12/28/20 21:55		
Total Organic Carbon	**74900**	mg/kg	8960	2670	1		12/28/20 21:55	7440-44-0	
Total Organic Carbon	**71200**	mg/kg	9130	2720	1		12/28/20 22:03	7440-44-0	
Mean Total Organic Carbon	**73100**	mg/kg	9040	2700	1		12/28/20 21:55	7440-44-0	C4

Sample: 20121403-052 **Lab ID: 30397089048** Collected: 12/13/20 14:58 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**45.4**	%	0.10	0.10	1		12/28/20 15:42		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1190**	mg/kg	224	159	5	12/30/20 07:15	12/30/20 14:14	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**5.9**	%	0.10	0.10	1		12/29/20 17:47		
Total Organic Carbon	**58500**	mg/kg	12400	3710	1		12/29/20 17:47	7440-44-0	
Total Organic Carbon	**62100**	mg/kg	12700	3790	1		12/29/20 17:53	7440-44-0	
Mean Total Organic Carbon	**60300**	mg/kg	12600	3750	1		12/29/20 17:47	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-053 **Lab ID: 30397089049** Collected: 12/13/20 15:14 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**38.0**	%	0.10	0.10	1		12/17/20 14:23		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**788**	mg/kg	210	149	5	12/30/20 07:15	12/30/20 14:15	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**32.7**	%	0.10	0.10	1		12/29/20 18:20		
Total Organic Carbon	**674000**	mg/kg	47200	14100	1		12/29/20 18:20	7440-44-0	
Total Organic Carbon	**485000**	mg/kg	37200	11100	1		12/29/20 18:25	7440-44-0	
Mean Total Organic Carbon	**579000**	mg/kg	42200	12600	1		12/29/20 18:20	7440-44-0	C4

Sample: 20121403-054 **Lab ID: 30397089050** Collected: 12/13/20 16:11 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**47.0**	%	0.10	0.10	1		12/28/20 15:43		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1430**	mg/kg	225	160	5	12/30/20 07:15	12/30/20 14:16	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**14.2**	%	0.10	0.10	1		12/29/20 18:31		
Total Organic Carbon	**120000**	mg/kg	12000	3580	1		12/29/20 18:31	7440-44-0	
Total Organic Carbon	**138000**	mg/kg	11400	3410	1		12/29/20 18:38	7440-44-0	
Mean Total Organic Carbon	**129000**	mg/kg	11700	3490	1		12/29/20 18:31	7440-44-0	C4

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-056 **Lab ID: 30397089051** Collected: 12/13/20 16:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Green Bay								
Percent Moisture	**47.7**	%	0.10	0.10	1		12/28/20 15:43		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1420**	mg/kg	234	167	5	12/30/20 07:15	12/30/20 14:17	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**22.5**	%	0.10	0.10	1		12/29/20 18:43		
Total Organic Carbon	**82500**	mg/kg	10900	3240	1		12/29/20 18:43	7440-44-0	
Total Organic Carbon	**65900**	mg/kg	11000	3270	1		12/29/20 18:49	7440-44-0	
Mean Total Organic Carbon	**74200**	mg/kg	10900	3260	1		12/29/20 18:43	7440-44-0	C4

Sample: 20121403-057 **Lab ID: 30397089052** Collected: 12/13/20 17:03 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87 Pace Analytical Services - Greensburg								
Percent Moisture	**48.8**	%	0.10	0.10	1		12/17/20 14:23		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2 Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**1570**	mg/kg	239	170	5	12/30/20 07:15	12/30/20 14:18	7727-37-9	
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.4**	%	0.10	0.10	1		12/29/20 18:55		
Total Organic Carbon	**49900**	mg/kg	12600	3760	1		12/29/20 18:55	7440-44-0	
Total Organic Carbon	**50600**	mg/kg	11800	3530	1		12/29/20 19:00	7440-44-0	
Mean Total Organic Carbon	**50300**	mg/kg	12200	3650	1		12/29/20 18:55	7440-44-0	C4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-058 **Lab ID: 30397089053** Collected: 12/13/20 17:20 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**42.3**	%	0.10	0.10	1		12/28/20 15:43		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**6.8**	%	0.10	0.10	1		12/29/20 19:06		
Total Organic Carbon	**76800**	mg/kg	11700	3480	1		12/29/20 19:06	7440-44-0	
Total Organic Carbon	**82200**	mg/kg	12000	3580	1		12/29/20 19:11	7440-44-0	
Mean Total Organic Carbon	**79500**	mg/kg	11800	3530	1		12/29/20 19:06	7440-44-0	C4

Sample: 20121403-059 **Lab ID: 30397089054** Collected: 12/13/20 17:40 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**43.6**	%	0.10	0.10	1		12/28/20 15:43		
Total Organic Carbon	Analytical Method: EPA 9060 Modified								
	Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**4.0**	%	0.10	0.10	1		12/29/20 19:27		
Total Organic Carbon	**114000**	mg/kg	12400	3710	1		12/29/20 19:27	7440-44-0	
Total Organic Carbon	**110000**	mg/kg	12000	3580	1		12/29/20 19:33	7440-44-0	
Mean Total Organic Carbon	**112000**	mg/kg	12200	3650	1		12/29/20 19:27	7440-44-0	C4

Sample: 20121403-060 **Lab ID: 30397089055** Collected: 12/13/20 18:00 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Percent Moisture	Analytical Method: ASTM D2974-87								
	Pace Analytical Services - Green Bay								
Percent Moisture	**41.4**	%	0.10	0.10	1		12/28/20 15:43		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2 Preparation Method: EPA 351.2								
	Pace Analytical Services - Greensburg								
Nitrogen, Kjeldahl, Total	**2080**	mg/kg	198	140	5	12/30/20 07:15	12/30/20 14:18	7727-37-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 20121403
Pace Project No.: 30397089

Sample: 20121403-060 **Lab ID: 30397089055** Collected: 12/13/20 18:00 Received: 12/14/20 22:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Total Organic Carbon	Analytical Method: EPA 9060 Modified Pace Analytical Services - Green Bay								
Surrogates									
RPD%	**1.5**	%	0.10	0.10	1		12/29/20 19:38		
Total Organic Carbon	**163000**	mg/kg	11400	3400	1		12/29/20 19:38	7440-44-0	
Total Organic Carbon	**160000**	mg/kg	12100	3600	1		12/29/20 19:44	7440-44-0	
Mean Total Organic Carbon	**161000**	mg/kg	11700	3500	1		12/29/20 19:38	7440-44-0	C4

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 427592
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30397089019, 30397089031, 30397089037, 30397089049, 30397089052

SAMPLE DUPLICATE: 2066391

Parameter	Units	7353574001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.3	17.5	14	20	

SAMPLE DUPLICATE: 2066392

Parameter	Units	7353574002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.7	16.5	5	20	

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 374744
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397089001, 30397089002, 30397089003, 30397089004, 30397089005, 30397089006, 30397089007, 30397089008, 30397089009, 30397089010, 30397089011, 30397089012, 30397089013, 30397089014, 30397089015, 30397089016

SAMPLE DUPLICATE: 2165566

Parameter	Units	30397089001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	43.4	44.2	2	10	

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 374746
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397089017, 30397089018, 30397089020, 30397089021, 30397089022, 30397089023, 30397089024, 30397089025, 30397089026, 30397089027, 30397089028, 30397089029, 30397089030, 30397089032, 30397089033, 30397089034, 30397089035

SAMPLE DUPLICATE: 2165569

Parameter	Units	30397089017 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	45.0	44.7	1	10	

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 374749
QC Batch Method: ASTM D2974-87
Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397089036, 30397089038, 30397089039, 30397089040, 30397089041, 30397089042, 30397089043, 30397089044, 30397089045, 30397089046, 30397089047, 30397089048, 30397089050, 30397089051, 30397089053, 30397089054, 30397089055

SAMPLE DUPLICATE: 2165586

Parameter	Units	40219861001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.7	5.6	2	10	

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 428414 — Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 — Analysis Description: 351.2 TKN
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30397089004, 30397089005, 30397089016, 30397089019, 30397089024, 30397089031, 30397089037, 30397089042

METHOD BLANK: 2070198 — Matrix: Solid
Associated Lab Samples: 30397089004, 30397089005, 30397089016, 30397089019, 30397089024, 30397089031, 30397089037, 30397089042

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	25.0 U	25.0	17.8	12/24/20 11:55	

LABORATORY CONTROL SAMPLE: 2070199

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	99.9	97.7	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070200 2070201

Parameter	Units	30397086006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	608	130	129	588	672	-15	50	90-110	13	20	ML

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2070202 2070203

Parameter	Units	30397089019 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	622	142	130	432	397	-133	-173	90-110	8	20	ML

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 428800
QC Batch Method: EPA 351.2
Analysis Method: EPA 351.2
Analysis Description: 351.2 TKN
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30397089043

METHOD BLANK: 2072060 Matrix: Solid
Associated Lab Samples: 30397089043

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	25.0 U	25.0	17.8	12/29/20 12:04	

LABORATORY CONTROL SAMPLE: 2072061

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	99.9	97.6	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072062 2072063

Parameter	Units	30397046004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	302	143	138	949	829	450	382	90-110	14	20	MH

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 429103 — Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 — Analysis Description: 351.2 TKN
Laboratory: Pace Analytical Services - Greensburg
Associated Lab Samples: 30397089044, 30397089045, 30397089046, 30397089047, 30397089048, 30397089049, 30397089050, 30397089051, 30397089052, 30397089055

METHOD BLANK: 2073136 — Matrix: Solid
Associated Lab Samples: 30397089044, 30397089045, 30397089046, 30397089047, 30397089048, 30397089049, 30397089050, 30397089051, 30397089052, 30397089055

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	25.0 U	25.0	17.8	12/30/20 14:07	

LABORATORY CONTROL SAMPLE: 2073137

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/kg	99.9	98.7	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073138 2073139

Parameter	Units	30397089044 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, Kjeldahl, Total	mg/kg	1720	168	173	2180	1820	273	56	90-110	18	20	MH,ML

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 374468 Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397089001, 30397089002, 30397089003, 30397089004, 30397089005, 30397089006, 30397089007

METHOD BLANK: 2164171 Matrix: Solid
Associated Lab Samples: 30397089001, 30397089002, 30397089003, 30397089004, 30397089005, 30397089006, 30397089007

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	600 U	600	179	12/23/20 18:34	

LABORATORY CONTROL SAMPLE: 2164172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	120000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2164173 2164174

Parameter	Units	30397046017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	55800	103000	100000	162000	179000	104	123	50-150	10	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2164175 2164176

Parameter	Units	30397046018 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	98500	94000	87600	185000	166000	92	77	50-150	11	30	

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 374599 — Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified — Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 30397089008, 30397089009, 30397089010, 30397089011, 30397089012, 30397089013, 30397089014, 30397089015, 30397089016, 30397089017, 30397089018, 30397089019, 30397089020, 30397089021, 30397089022, 30397089023, 30397089024, 30397089025, 30397089026, 30397089027

METHOD BLANK: 2164991 — Matrix: Solid

Associated Lab Samples: 30397089008, 30397089009, 30397089010, 30397089011, 30397089012, 30397089013, 30397089014, 30397089015, 30397089016, 30397089017, 30397089018, 30397089019, 30397089020, 30397089021, 30397089022, 30397089023, 30397089024, 30397089025, 30397089026, 30397089027

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	600 U	600	179	12/27/20 16:28	

LABORATORY CONTROL SAMPLE: 2164992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	123000	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2164993 2164994

Parameter	Units	30397089008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	143000	125000	123000	269000	275000	100	107	50-150	2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2164995 2164996

Parameter	Units	30397089009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	98200	161000	164000	277000	276000	111	108	50-150	0	30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 374673 — Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified — Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay

Associated Lab Samples: 30397089028, 30397089029, 30397089030, 30397089031, 30397089032, 30397089033, 30397089034, 30397089035, 30397089036, 30397089037, 30397089038, 30397089039, 30397089040, 30397089041, 30397089042, 30397089043, 30397089044, 30397089045, 30397089046, 30397089047

METHOD BLANK: 2165353 — Matrix: Solid

Associated Lab Samples: 30397089028, 30397089029, 30397089030, 30397089031, 30397089032, 30397089033, 30397089034, 30397089035, 30397089036, 30397089037, 30397089038, 30397089039, 30397089040, 30397089041, 30397089042, 30397089043, 30397089044, 30397089045, 30397089046, 30397089047

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	600 U	600	179	12/28/20 16:09	

LABORATORY CONTROL SAMPLE: 2165354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	119000	100	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2165355 2165356

Parameter	Units	30397089028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	119000	132000	135000	248000	272000	97	114	50-150	9	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2165357 2165358

Parameter	Units	30397089029 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	78600	123000	124000	210000	215000	107	110	50-150	2	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: 20121403
Pace Project No.: 30397089

QC Batch: 374750 — Analysis Method: EPA 9060 Modified
QC Batch Method: EPA 9060 Modified — Analysis Description: 9060 TOC Average
Laboratory: Pace Analytical Services - Green Bay
Associated Lab Samples: 30397089048, 30397089049, 30397089050, 30397089051, 30397089052, 30397089053, 30397089054, 30397089055

METHOD BLANK: 2165587 — Matrix: Solid
Associated Lab Samples: 30397089048, 30397089049, 30397089050, 30397089051, 30397089052, 30397089053, 30397089054, 30397089055

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mean Total Organic Carbon	mg/kg	600 U	600	179	12/29/20 17:24	

LABORATORY CONTROL SAMPLE: 2165588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mean Total Organic Carbon	mg/kg	120000	119000	99	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2165589 2165590

Parameter	Units	30397089048 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mean Total Organic Carbon	mg/kg	60300	126000	134000	186000	197000	100	102	50-150	5	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 20121403
Pace Project No.: 30397089

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 30397089

[1]	The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

C4	Sample container did not meet EPA or method requirements.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
MH	Matrix spike recovery and/or matrix spike duplicate recovery was above laboratory control limits. Result may be biased high.
ML	Matrix spike recovery and/or matrix spike duplicate recovery was below laboratory control limits. Result may be biased low.

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397089001	**20121403-001**	ASTM D2974-87	374744		
30397089002	**20121403-002**	ASTM D2974-87	374744		
30397089003	**20121403-003**	ASTM D2974-87	374744		
30397089004	**20121403-004**	ASTM D2974-87	374744		
30397089005	**20121403-005**	ASTM D2974-87	374744		
30397089006	**20121403-006**	ASTM D2974-87	374744		
30397089007	**20121403-007**	ASTM D2974-87	374744		
30397089008	**20121403-008**	ASTM D2974-87	374744		
30397089009	**20121403-009**	ASTM D2974-87	374744		
30397089010	**20121403-010**	ASTM D2974-87	374744		
30397089011	**20121403-011**	ASTM D2974-87	374744		
30397089012	**20121403-012**	ASTM D2974-87	374744		
30397089013	**20121403-013**	ASTM D2974-87	374744		
30397089014	**20121403-014**	ASTM D2974-87	374744		
30397089015	**20121403-015**	ASTM D2974-87	374744		
30397089016	**20121403-017**	ASTM D2974-87	374744		
30397089017	**20121403-018**	ASTM D2974-87	374746		
30397089018	**20121403-019**	ASTM D2974-87	374746		
30397089019	**20121403-020**	ASTM D2974-87	427592		
30397089020	**20121403-021**	ASTM D2974-87	374746		
30397089021	**20121403-022**	ASTM D2974-87	374746		
30397089022	**20121403-023**	ASTM D2974-87	374746		
30397089023	**20121403-024**	ASTM D2974-87	374746		
30397089024	**20121403-025**	ASTM D2974-87	374746		
30397089025	**20121403-026**	ASTM D2974-87	374746		
30397089026	**20121403-027**	ASTM D2974-87	374746		
30397089027	**20121403-028**	ASTM D2974-87	374746		
30397089028	**20121403-029**	ASTM D2974-87	374746		
30397089029	**20121403-031**	ASTM D2974-87	374746		
30397089030	**20121403-032**	ASTM D2974-87	374746		
30397089031	**20121403-033**	ASTM D2974-87	427592		
30397089032	**20121403-034**	ASTM D2974-87	374746		
30397089033	**20121403-035**	ASTM D2974-87	374746		
30397089034	**20121403-036**	ASTM D2974-87	374746		
30397089035	**20121403-037**	ASTM D2974-87	374746		
30397089036	**20121403-038**	ASTM D2974-87	374749		
30397089037	**20121403-040**	ASTM D2974-87	427592		
30397089038	**20121403-041**	ASTM D2974-87	374749		
30397089039	**20121403-042**	ASTM D2974-87	374749		
30397089040	**20121403-043**	ASTM D2974-87	374749		
30397089041	**20121403-044**	ASTM D2974-87	374749		
30397089042	**20121403-045**	ASTM D2974-87	374749		
30397089043	**20121403-046**	ASTM D2974-87	374749		
30397089044	**20121403-047**	ASTM D2974-87	374749		
30397089045	**20121403-049**	ASTM D2974-87	374749		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397089046	**20121403-050**	ASTM D2974-87	374749		
30397089047	**20121403-051**	ASTM D2974-87	374749		
30397089048	**20121403-052**	ASTM D2974-87	374749		
30397089049	**20121403-053**	ASTM D2974-87	427592		
30397089050	**20121403-054**	ASTM D2974-87	374749		
30397089051	**20121403-056**	ASTM D2974-87	374749		
30397089052	**20121403-057**	ASTM D2974-87	427592		
30397089053	**20121403-058**	ASTM D2974-87	374749		
30397089054	**20121403-059**	ASTM D2974-87	374749		
30397089055	**20121403-060**	ASTM D2974-87	374749		
30397089004	**20121403-004**	EPA 351.2	428414	EPA 351.2	428631
30397089005	**20121403-005**	EPA 351.2	428414	EPA 351.2	428631
30397089016	**20121403-017**	EPA 351.2	428414	EPA 351.2	428631
30397089019	**20121403-020**	EPA 351.2	428414	EPA 351.2	428631
30397089024	**20121403-025**	EPA 351.2	428414	EPA 351.2	428631
30397089031	**20121403-033**	EPA 351.2	428414	EPA 351.2	428631
30397089037	**20121403-040**	EPA 351.2	428414	EPA 351.2	428631
30397089042	**20121403-045**	EPA 351.2	428414	EPA 351.2	428631
30397089043	**20121403-046**	EPA 351.2	428800	EPA 351.2	428979
30397089044	**20121403-047**	EPA 351.2	429103	EPA 351.2	429186
30397089045	**20121403-049**	EPA 351.2	429103	EPA 351.2	429186
30397089046	**20121403-050**	EPA 351.2	429103	EPA 351.2	429186
30397089047	**20121403-051**	EPA 351.2	429103	EPA 351.2	429186
30397089048	**20121403-052**	EPA 351.2	429103	EPA 351.2	429186
30397089049	**20121403-053**	EPA 351.2	429103	EPA 351.2	429186
30397089050	**20121403-054**	EPA 351.2	429103	EPA 351.2	429186
30397089051	**20121403-056**	EPA 351.2	429103	EPA 351.2	429186
30397089052	**20121403-057**	EPA 351.2	429103	EPA 351.2	429186
30397089055	**20121403-060**	EPA 351.2	429103	EPA 351.2	429186
30397089001	**20121403-001**	EPA 9060 Modified	374468		
30397089001	**20121403-001**	EPA 9060 Modified	374469		
30397089002	**20121403-002**	EPA 9060 Modified	374468		
30397089002	**20121403-002**	EPA 9060 Modified	374469		
30397089003	**20121403-003**	EPA 9060 Modified	374468		
30397089003	**20121403-003**	EPA 9060 Modified	374469		
30397089004	**20121403-004**	EPA 9060 Modified	374468		
30397089004	**20121403-004**	EPA 9060 Modified	374469		
30397089005	**20121403-005**	EPA 9060 Modified	374468		
30397089005	**20121403-005**	EPA 9060 Modified	374469		
30397089006	**20121403-006**	EPA 9060 Modified	374468		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397089006	**20121403-006**	EPA 9060 Modified	374469		
30397089007	**20121403-007**	EPA 9060 Modified	374468		
30397089007	**20121403-007**	EPA 9060 Modified	374469		
30397089008	**20121403-008**	EPA 9060 Modified	374599		
30397089008	**20121403-008**	EPA 9060 Modified	374600		
30397089009	**20121403-009**	EPA 9060 Modified	374599		
30397089009	**20121403-009**	EPA 9060 Modified	374600		
30397089010	**20121403-010**	EPA 9060 Modified	374599		
30397089010	**20121403-010**	EPA 9060 Modified	374600		
30397089011	**20121403-011**	EPA 9060 Modified	374599		
30397089011	**20121403-011**	EPA 9060 Modified	374600		
30397089012	**20121403-012**	EPA 9060 Modified	374599		
30397089012	**20121403-012**	EPA 9060 Modified	374600		
30397089013	**20121403-013**	EPA 9060 Modified	374599		
30397089013	**20121403-013**	EPA 9060 Modified	374600		
30397089014	**20121403-014**	EPA 9060 Modified	374599		
30397089014	**20121403-014**	EPA 9060 Modified	374600		
30397089015	**20121403-015**	EPA 9060 Modified	374599		
30397089015	**20121403-015**	EPA 9060 Modified	374600		
30397089016	**20121403-017**	EPA 9060 Modified	374599		
30397089016	**20121403-017**	EPA 9060 Modified	374600		
30397089017	**20121403-018**	EPA 9060 Modified	374599		
30397089017	**20121403-018**	EPA 9060 Modified	374600		
30397089018	**20121403-019**	EPA 9060 Modified	374599		
30397089018	**20121403-019**	EPA 9060 Modified	374600		
30397089019	**20121403-020**	EPA 9060 Modified	374599		
30397089019	**20121403-020**	EPA 9060 Modified	374600		
30397089020	**20121403-021**	EPA 9060 Modified	374599		
30397089020	**20121403-021**	EPA 9060 Modified	374600		
30397089021	**20121403-022**	EPA 9060 Modified	374599		
30397089021	**20121403-022**	EPA 9060 Modified	374600		
30397089022	**20121403-023**	EPA 9060 Modified	374599		

Pace Analytical Services, LLC
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Greensburg, PA 15601
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397089022	**20121403-023**	EPA 9060 Modified	374600		
30397089023	**20121403-024**	EPA 9060 Modified	374599		
30397089023	**20121403-024**	EPA 9060 Modified	374600		
30397089024	**20121403-025**	EPA 9060 Modified	374599		
30397089024	**20121403-025**	EPA 9060 Modified	374600		
30397089025	**20121403-026**	EPA 9060 Modified	374599		
30397089025	**20121403-026**	EPA 9060 Modified	374600		
30397089026	**20121403-027**	EPA 9060 Modified	374599		
30397089026	**20121403-027**	EPA 9060 Modified	374600		
30397089027	**20121403-028**	EPA 9060 Modified	374599		
30397089027	**20121403-028**	EPA 9060 Modified	374600		
30397089028	**20121403-029**	EPA 9060 Modified	374673		
30397089028	**20121403-029**	EPA 9060 Modified	374674		
30397089029	**20121403-031**	EPA 9060 Modified	374673		
30397089029	**20121403-031**	EPA 9060 Modified	374674		
30397089030	**20121403-032**	EPA 9060 Modified	374673		
30397089030	**20121403-032**	EPA 9060 Modified	374674		
30397089031	**20121403-033**	EPA 9060 Modified	374673		
30397089031	**20121403-033**	EPA 9060 Modified	374674		
30397089032	**20121403-034**	EPA 9060 Modified	374673		
30397089032	**20121403-034**	EPA 9060 Modified	374674		
30397089033	**20121403-035**	EPA 9060 Modified	374673		
30397089033	**20121403-035**	EPA 9060 Modified	374674		
30397089034	**20121403-036**	EPA 9060 Modified	374673		
30397089034	**20121403-036**	EPA 9060 Modified	374674		
30397089035	**20121403-037**	EPA 9060 Modified	374673		
30397089035	**20121403-037**	EPA 9060 Modified	374674		
30397089036	**20121403-038**	EPA 9060 Modified	374673		
30397089036	**20121403-038**	EPA 9060 Modified	374674		
30397089037	**20121403-040**	EPA 9060 Modified	374673		
30397089037	**20121403-040**	EPA 9060 Modified	374674		
30397089038	**20121403-041**	EPA 9060 Modified	374673		
30397089038	**20121403-041**	EPA 9060 Modified	374674		

Pace Analytical Services, LLC
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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397089039	**20121403-042**	EPA 9060 Modified	374673		
30397089039	**20121403-042**	EPA 9060 Modified	374674		
30397089040	**20121403-043**	EPA 9060 Modified	374673		
30397089040	**20121403-043**	EPA 9060 Modified	374674		
30397089041	**20121403-044**	EPA 9060 Modified	374673		
30397089041	**20121403-044**	EPA 9060 Modified	374674		
30397089042	**20121403-045**	EPA 9060 Modified	374673		
30397089042	**20121403-045**	EPA 9060 Modified	374674		
30397089043	**20121403-046**	EPA 9060 Modified	374673		
30397089043	**20121403-046**	EPA 9060 Modified	374674		
30397089044	**20121403-047**	EPA 9060 Modified	374673		
30397089044	**20121403-047**	EPA 9060 Modified	374674		
30397089045	**20121403-049**	EPA 9060 Modified	374673		
30397089045	**20121403-049**	EPA 9060 Modified	374674		
30397089046	**20121403-050**	EPA 9060 Modified	374673		
30397089046	**20121403-050**	EPA 9060 Modified	374674		
30397089047	**20121403-051**	EPA 9060 Modified	374673		
30397089047	**20121403-051**	EPA 9060 Modified	374674		
30397089048	**20121403-052**	EPA 9060 Modified	374750		
30397089048	**20121403-052**	EPA 9060 Modified	374751		
30397089049	**20121403-053**	EPA 9060 Modified	374750		
30397089049	**20121403-053**	EPA 9060 Modified	374751		
30397089050	**20121403-054**	EPA 9060 Modified	374750		
30397089050	**20121403-054**	EPA 9060 Modified	374751		
30397089051	**20121403-056**	EPA 9060 Modified	374750		
30397089051	**20121403-056**	EPA 9060 Modified	374751		
30397089052	**20121403-057**	EPA 9060 Modified	374750		
30397089052	**20121403-057**	EPA 9060 Modified	374751		
30397089053	**20121403-058**	EPA 9060 Modified	374750		
30397089053	**20121403-058**	EPA 9060 Modified	374751		
30397089054	**20121403-059**	EPA 9060 Modified	374750		
30397089054	**20121403-059**	EPA 9060 Modified	374751		

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 20121403
Pace Project No.: 30397089

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
30397089055	**20121403-060**	EPA 9060 Modified	374750		
30397089055	**20121403-060**	EPA 9060 Modified	374751		

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Lynn Jackson

W.O. No. : **20121403**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Report Due On :12/30/20 05:00

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-001	C6 28.3-31.1	12/11/20	16:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 001
20121403-002	C6 31.1-33.9	12/11/20	16:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 002
20121403-003	C6 33.9-35.0	12/11/20	16:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 003
20121403-004	C6 35.0-36.1	12/11/20	16:55	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 004
20121403-004	C6 35.0-36.1	12/11/20	16:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-005	C6 36.6-38.8	12/11/20	18:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 005
20121403-005	C6 36.6-38.8	12/11/20	18:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-006	C6 38.8-39.8	12/11/20	18:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 006
20121403-007	C6 39.8-41.1	12/11/20	18:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 007
20121403-008	C6 41.5-43.6	12/11/20	18:25	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 008
20121403-009	C6 43.6-46.1	12/11/20	18:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 009
20121403-010	C6 46.1-49.5	12/12/20	07:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 010
20121403-011	C6 49.5-51.1	12/12/20	07:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 011
20121403-012	C6 52.3-54.2	12/12/20	08:57	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 012
20121403-013	C6 54.2-56.1	12/12/20	08:59	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 013
20121403-014	B7 37.6-39.6	12/12/20	09:48	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 014
20121403-015	B7 39.6-40.6	12/12/20	09:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 015
20121403-017	57 41.0-43.3	12/12/20	10:25	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 016
20121403-017	57 41.0-43.3	12/12/20	10:25	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-018	B7 43.3-45.6	12/12/20	10:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 017
20121403-019	B7 47.4-48.2	12/12/20	11:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 018
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 019
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓

Chain of Custody Form for Subcontracted Analyses

30397089

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121403**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 019
20121403-021	B7 51.0-52.5	12/12/20	11:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 020
20121403-022	B7 52.5-54.4	12/12/20	11:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 021
20121403-023	B7 54.5-55.6	12/12/20	11:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 022
20121403-024	B7 55.6-58.1	12/12/20	12:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 023
20121403-025	B7 58.1-60.6	12/12/20	12:45	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 024
20121403-025	B7 58.1-60.6	12/12/20	12:45	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-026	B7 60.6-63.1	12/12/20	13:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 025
20121403-027	B7 63.1-65.6	12/12/20	13:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 026
20121403-028	B7 65.6-66.7	12/12/20	13:37	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 027
20121403-029	B7 66.7-68.1	12/12/20	13:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 028
20121403-031	B8 63.7-66.7	12/12/20	14:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 029
20121403-032	B8 66.7-67.2	12/12/20	14:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 030
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 031
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-034	B8 69.6-71.2	12/12/20	15:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 032
20121403-035	A8 41.2-42.3	12/13/20	08:37	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 033
20121403-036	A8 45.2-47.3	12/13/20	08:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 034
20121403-037	A8 50.5-52.3	12/13/20	09:04	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 035
20121403-038	A8 53.1-57.3	12/13/20	09:16	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 036
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 037
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓

Chain of Custody Form for Subcontracted Analyses # 30397089

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121403**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601
Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 037
20121403-041	A8 62.9-67.3	12/13/20	09:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 038
20121403-042	A8 67.3-72.3	12/13/20	10:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 039
20121403-043	A8 72.3-74.8	12/13/20	10:26	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 040
20121403-044	B8A 58.8-60.6	12/13/20	11:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 041
20121403-045	B8A 68.7-70.0	12/13/20	11:47	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL ↓ BM12-15-20 042
20121403-045	B8A 68.7-70.0	12/13/20	11:47	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓ BM12-15-20 042
20121403-046	B8A 71.9-75.0	12/13/20	12:14	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL ↓ BM12-15-20 043
20121403-046	B8A 71.9-75.0	12/13/20	12:14	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-047	B8A 75.3-80.0	12/13/20	12:30	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 044
20121403-047	B8A 75.3-80.0	12/13/20	12:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-049	B8A 81.1-82.4	12/13/20	12:48	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 045
20121403-049	B8A 81.1-82.4	12/13/20	12:48	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-050	C8 48.6-49.7	12/13/20	13:34	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 046
20121403-050	C8 48.6-49.7	12/13/20	13:34	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-051	C8 51.6-65.6	12/13/20	14:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 047
20121403-051	C8 51.6-65.6	12/13/20	14:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-052	C8 65.6-70.6	12/13/20	14:58	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 048
20121403-052	C8 65.6-70.6	12/13/20	14:58	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 049
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-054	D8 47.2-49.0	12/13/20	16:11	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 050

Chain of Custody Form for Subcontracted Analyses # 30397089

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : **20121403**
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601
Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-054	D8 47.2-49.0	12/13/20	16:11	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 050
20121403-056	D8 55.0-59.0	12/13/20	16:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 051
20121403-056	D8 55.0-59.0	12/13/20	16:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 052
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-058	D8 64.0-69.0	12/13/20	17:20	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 053
20121403-059	D8 69.0-74.0	12/13/20	17:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 054
20121403-060	D8 75.5-79.0	12/13/20	18:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 055
20121403-060	D8 75.5-79.0	12/13/20	18:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : Pace Courier

Condition Upon Receipt : _____

Comments :

Dioxins and Furans: Full List Dioxins & Furans

Samples Relinquished By : _____ Date : 12-14-20 Time: 1335 Samples Received By : _____

Samples Relinquished By: _____ Date : 12-14-20 Time : 1900 Samples Received By: EDS PACE 12-14-20 1920

Samples Relinquished By: EDS PACE Date: 12-14-20 Time: 2215 Samples Received By: _____ 12-14-20 2215

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Phase

Project # # 30397089

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other ____

Label BLM

LIMS Login BLM

Tracking #: N/A

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used 9 Type of Ice: (Wet) Blue None

Cooler Temperature Observed Temp 4.8 °C Correction Factor: 0.0 °C Final Temp: 4.8 °C

Temp should be above freezing to 6°C

pH paper Lot# N/A

Date and Initials of person examining contents: ET 12-15-20

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: SL	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: ~~VOA~~, coliform, TOC, O&G, Phenolics, Radon, ~~Non-aqueous matrix~~			✓	16.
All containers meet method preservation requirements.	✓			Initial when completed ET Date/time of preservation
				Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present		✓		
Rad Samples Screened < 0.5 mrem/hr			✓	Initial when completed: Date:

Client Notification/ Resolution:

Person Contacted: ____ Date/Time: ____ Contacted By: ____

Comments/ Resolution: ____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Internal Transfer Chain of Custody

40720113

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: NJ
Cert. Needed: ☒ Yes ☐ No

Workorder: 30397089 **Workorder Name:** 20121403 **Owner Received Date:** 12/14/2020 **Results Requested By:** 12/30/2020

Report To	Subcontract To
David A. Pichette Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3,4 Greensburg, PA 15601 Phone (724)850-5617	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: TOC SW9060	LAB USE ONLY
1	20121403-001	PS	12/11/2020 16:05	30397089001	Solid	1	X	001
2	20121403-002	PS	12/11/2020 16:35	30397089002	Solid	1	X	002
3	20121403-003	PS	12/11/2020 16:52	30397089003	Solid	1	X	003
4	20121403-004	PS	12/11/2020 16:55	30397089004	Solid	1	X	004
5	20121403-005	PS	12/11/2020 18:00	30397089005	Solid	1	X	005
6	20121403-006	PS	12/11/2020 18:05	30397089006	Solid	1	X	006
7	20121403-007	PS	12/11/2020 18:10	30397089007	Solid	1	X	007
8	20121403-008	PS	12/11/2020 18:25	30397089008	Solid	1	X	008
9	20121403-009	PS	12/11/2020 18:27	30397089009	Solid	1	X	009
10	20121403-010	PS	12/12/2020 07:50	30397089010	Solid	1	X	010
11	20121403-011	PS	12/12/2020 07:55	30397089011	Solid	1	X	011
12	20121403-012	PS	12/12/2020 08:57	30397089012	Solid	1	X	012
13	20121403-013	PS	12/12/2020 08:59	30397089013	Solid	1	X	013
14	20121403-014	PS	12/12/2020 09:48	30397089014	Solid	1	X	014
15	20121403-015	PS	12/12/2020 09:50	30397089015	Solid	1	X	015
16	20121403-017	PS	12/12/2020 10:25	30397089016	Solid	1	X	016
17	20121403-018	PS	12/12/2020 10:30	30397089017	Solid	1	X	017
18	20121403-019	PS	12/12/2020 11:00	30397089018	Solid	1	X	018
19	20121403-020	PS	12/12/2020 11:10	30397089019	Solid	1	X	019

Internal Transfer Chain of Custody

40220113

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: NJ
Cert. Needed: ☐ Yes ☐ No

Workorder: 30397089 **Workorder Name:** 20121403 **Owner Received Date:** 12/14/2020 **Results Requested By:** 12/30/2020

Report To	Subcontract To
David A. Pichette Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3,4 Greensburg, PA 15601 Phone (724)850-5617	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: TOC SW9060	LAB USE ONLY
20	20121403-021	PS	12/12/2020 11:50	30397089020	Solid	1	X	020
21	20121403-022	PS	12/12/2020 11:50	30397089021	Solid	1	X	021
22	20121403-023	PS	12/12/2020 11:55	30397089022	Solid	1	X	022
23	20121403-024	PS	12/12/2020 12:40	30397089023	Solid	1	X	023
24	20121403-025	PS	12/12/2020 12:45	30397089024	Solid	1	X	024
25	20121403-026	PS	12/12/2020 13:10	30397089025	Solid	1	X	025
26	20121403-027	PS	12/12/2020 13:15	30397089026	Solid	1	X	026
27	20121403-028	PS	12/12/2020 13:37	30397089027	Solid	1	X	027
28	20121403-029	PS	12/12/2020 13:40	30397089028	Solid	1	X	028
29	20121403-031	PS	12/12/2020 14:30	30397089029	Solid	1	X	029
30	20121403-032	PS	12/12/2020 14:35	30397089030	Solid	1	X	030
31	20121403-033	PS	12/12/2020 14:40	30397089031	Solid	1	X	031
32	20121403-034	PS	12/12/2020 15:05	30397089032	Solid	1	X	032
33	20121403-035	PS	12/13/2020 08:37	30397089033	Solid	1	X	033
34	20121403-036	PS	12/13/2020 08:52	30397089034	Solid	1	X	034
35	20121403-037	PS	12/13/2020 09:04	30397089035	Solid	1	X	035
36	20121403-038	PS	12/13/2020 09:16	30397089036	Solid	1	X	036
37	20121403-040	PS	12/13/2020 09:27	30397089037	Solid	1	X	037
38	20121403-041	PS	12/13/2020 09:55	30397089038	Solid	1	X	038
39	20121403-042	PS	12/13/2020 10:10	30397089039	Solid	1	X	039

Internal Transfer Chain of Custody

40220113

Pace Analytical®
www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: NJ
Cert. Needed: ☒ Yes ☐ No

Workorder: 30397089 **Workorder Name:** 20121403 **Owner Received Date:** 12/14/2020 **Results Requested By:** 12/30/2020

Report To	Subcontract To
David A. Pichette Pace Analytical Pittsburgh 1638 Roseytown Road Suites 2,3,4 Greensburg, PA 15601 Phone (724)850-5617	Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: TOC SW9060												LAB USE ONLY
40	20121403-043	PS	12/13/2020 10:26	30397089040	Solid	1						X												040
41	20121403-044	PS	12/13/2020 11:27	30397089041	Solid	1						X												041
42	20121403-045	PS	12/13/2020 11:47	30397089042	Solid	1						X												042
43	20121403-046	PS	12/13/2020 12:14	30397089043	Solid	1						X												043
44	20121403-047	PS	12/13/2020 12:30	30397089044	Solid	1						X												044
45	20121403-049	PS	12/13/2020 12:48	30397089045	Solid	1						X												045
46	20121403-050	PS	12/13/2020 13:34	30397089046	Solid	1						X												046
47	20121403-051	PS	12/13/2020 14:40	30397089047	Solid	1						X												047
48	20121403-052	PS	12/13/2020 14:58	30397089048	Solid	1						X												048
49	20121403-053	PS	12/13/2020 15:14	30397089049	Solid	1						X												049
50	20121403-054	PS	12/13/2020 16:11	30397089050	Solid	1						X												050
51	20121403-056	PS	12/13/2020 16:40	30397089051	Solid	1						X												051
52	20121403-057	PS	12/13/2020 17:03	30397089052	Solid	1						X												052
53	20121403-058	PS	12/13/2020 17:20	30397089053	Solid	1						X												053
54	20121403-059	PS	12/13/2020 17:40	30397089054	Solid	1						X												054
55	20121403-060	PS	12/13/2020 18:00	30397089055	Solid	1						X												055

4022013

					Comments
Transfers	Released By	Date/Time	Received By	Date/Time	
1		12/17/20 1726			
2	FedEx Express	12/18/20 1150	Madeline Richards	12-18-20 1150	
3					

Cooler Temperature on Receipt 0.5/0.5°C	Custody Seal Y or (N)	Received on Ice (Y) or N	Samples Intact (Y) or N

***In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 30397089

40220113

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Lynn Jackson

W.O. No.: **20121403**
Project Location: Conowingo
Project Number: 3037.02
Report To LOD: Yes

Report Due On :12/30/20 05:00

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone: 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-001	C6 28.3-31.1	12/11/20	16:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 001
20121403-002	C6 31.1-33.9	12/11/20	16:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 002
20121403-003	C6 33.9-35.0	12/11/20	16:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 003
20121403-004	C6 35.0-36.1	12/11/20	16:55	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 004
20121403-004	C6 35.0-36.1	12/11/20	16:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-005	C6 36.6-38.8	12/11/20	18:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 005
20121403-005	C6 36.6-38.8	12/11/20	18:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-006	C6 38.8-39.8	12/11/20	18:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 006
20121403-007	C6 39.8-41.1	12/11/20	18:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 007
20121403-008	C6 41.5-43.6	12/11/20	18:25	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 008
20121403-009	C6 43.6-46.1	12/11/20	18:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 009
20121403-010	C6 46.1-49.5	12/12/20	07:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 010
20121403-011	C6 49.5-51.1	12/12/20	07:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 011
20121403-012	C6 52.3-54.2	12/12/20	08:57	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 012
20121403-013	C6 54.2-56.1	12/12/20	08:59	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 013
20121403-014	B7 37.6-39.6	12/12/20	09:48	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 014
20121403-015	B7 39.6-40.6	12/12/20	09:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 015
20121403-017	57 41.0-43.3	12/12/20	10:25	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 016
20121403-017	57 41.0-43.3	12/12/20	10:25	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-018	B7 43.3-45.6	12/12/20	10:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 017
20121403-019	B7 47.4-48.2	12/12/20	11:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 018
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 019
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓

40220113

Chain of Custody Form for Subcontracted Analyses

30397089

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : 20121403
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 019
20121403-021	B7 51.0-52.5	12/12/20	11:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 020
20121403-022	B7 52.5-54.4	12/12/20	11:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 021
20121403-023	B7 54.5-55.6	12/12/20	11:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 022
20121403-024	B7 55.6-58.1	12/12/20	12:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 023
20121403-025	B7 58.1-60.6	12/12/20	12:45	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 024
20121403-025	B7 58.1-60.6	12/12/20	12:45	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-026	B7 60.6-63.1	12/12/20	13:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 025
20121403-027	B7 63.1-65.6	12/12/20	13:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 026
20121403-028	B7 65.6-66.7	12/12/20	13:37	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 027
20121403-029	B7 66.7-68.1	12/12/20	13:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 028
20121403-031	B8 63.7-66.7	12/12/20	14:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 029
20121403-032	B8 66.7-67.2	12/12/20	14:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 030
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 031
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-034	B8 69.6-71.2	12/12/20	15:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 032
20121403-035	A8 41.2-42.3	12/13/20	08:37	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 033
20121403-036	A8 45.2-47.3	12/13/20	08:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 034
20121403-037	A8 50.5-52.3	12/13/20	09:04	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 035
20121403-038	A8 53.1-57.3	12/13/20	09:16	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 036
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 037
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓

Chain of Custody Form for Subcontracted Analyses # 30397089

40220113

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : 20121403
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 037
20121403-041	A8 62.9-67.3	12/13/20	09:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 038
20121403-042	A8 67.3-72.3	12/13/20	10:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 039
20121403-043	A8 72.3-74.8	12/13/20	10:26	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 040
20121403-044	B8A 58.8-60.6	12/13/20	11:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 041
20121403-045	B8A 68.7-70.0	12/13/20	11:47	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL BM12-15-20 042
20121403-045	B8A 68.7-70.0	12/13/20	11:47	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL PM12-15-20
20121403-046	B8A 71.9-75.0	12/13/20	12:14	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL BM12-15-20 043
20121403-046	B8A 71.9-75.0	12/13/20	12:14	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-047	B8A 75.3-80.0	12/13/20	12:30	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 044
20121403-047	B8A 75.3-80.0	12/13/20	12:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-049	B8A 81.1-82.4	12/13/20	12:48	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 045
20121403-049	B8A 81.1-82.4	12/13/20	12:48	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-050	C8 48.6-49.7	12/13/20	13:34	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 046
20121403-050	C8 48.6-49.7	12/13/20	13:34	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-051	C8 51.6-65.6	12/13/20	14:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 047
20121403-051	C8 51.6-65.6	12/13/20	14:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-052	C8 65.6-70.6	12/13/20	14:58	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 048
20121403-052	C8 65.6-70.6	12/13/20	14:58	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 049
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-054	D8 47.2-49.0	12/13/20	16:11	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 050

40220113

Chain of Custody Form for Subcontracted Analyses # 30397089

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No.: 20121403
Project Location: Conowingo
Project Number: 3037.02
Report To LOD: Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone: 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-054	D8 47.2-49.0	12/13/20	16:11	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 050
20121403-056	D8 55.0-59.0	12/13/20	16:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 051
20121403-056	D8 55.0-59.0	12/13/20	16:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 052
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-058	D8 64.0-69.0	12/13/20	17:20	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 053
20121403-059	D8 69.0-74.0	12/13/20	17:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 054
20121403-060	D8 75.5-79.0	12/13/20	18:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 055
20121403-060	D8 75.5-79.0	12/13/20	18:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier: Pace Courier

Condition Upon Receipt: _____

Comments:

Dioxins and Furans: Full List Dioxins & Furans

Samples Relinquished By: _____ Date: 12-14-20 Time: 1535 Samples Received By: _____/Pace

Samples Relinquished By: _____/Pace Date: 12-14-20 Time: 1900 Samples Received By: EDS PACE 12-14-20 1920

Samples Relinquished By: EDS PACE Date: 12-14-20 Time: 2215 Samples Received By: _____ 12-14-20 2215

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Phase

Project # 30397089 / 40220113

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other

Label BLM

Tracking #: N/A

LIMS Login BLM

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used 9 Type of Ice: (Wet) Blue None

Cooler Temperature Observed Temp 4.8 °C Correction Factor: 0.0 °C Final Temp: 4.8 °C

Temp should be above freezing to 6°C

pH paper Lot# N/A

Date and Initials of person examining contents: ET 12-15-20

Comments:	Yes	No	N/A	
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: SL	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: ~~VOA~~, coliform, TOC, O&G, Phenolics, Radon, ~~Non-aqueous matrix~~			✓	16.
All containers meet method preservation requirements.	✓			Initial when completed: ET Date/time of preservation: Lot # of added preservative:
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present		✓		
Rad Samples Screened < 0.5 mrem/hr			✓	Initial when completed: Date:

Client Notification/ Resolution:

~~Person Contacted:~~ ~~Date/Time:~~ ~~Contacted By:~~

Comments/ Resolution:

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Pace Pittsburg Project # 40220113

All containers needing preservation have been checked and noted below: □Yes □No ~~□N/A~~ Initial when completed: Date/ Time:

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted):

Pace Lab #	Glass								Plastic					Vials						Jars				General			VOA Vials (>6mm)*	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN						
001																										1						2.5 / 5 / 10
002																										1						2.5 / 5 / 10
003																										1						2.5 / 5 / 10
004																										1						2.5 / 5 / 10
005																										1						2.5 / 5 / 10
006																										1						2.5 / 5 / 10
007																										1						2.5 / 5 / 10
008																										1						2.5 / 5 / 10
009																										1						2.5 / 5 / 10
010																										1						2.5 / 5 / 10
011																										1						2.5 / 5 / 10
012																										1						2.5 / 5 / 10
013																										1						2.5 / 5 / 10
014																										1						2.5 / 5 / 10
015																										1						2.5 / 5 / 10
016																										1						2.5 / 5 / 10
017																										1						2.5 / 5 / 10
018																										1						2.5 / 5 / 10
019																										1						2.5 / 5 / 10
020																										1						2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other:_____ Headspace in VOA Vials (>6mm) : □Yes □No ~~□N/A~~ *If yes look in headspace column

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	2 oz clear glass jar unpres.

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Pace Pittsburg Project #: 40220113

Pace Lab #	Glass								Plastic					Vials						Jars				General			VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN							
024																																	2.5 / 5 / 10
027																																	2.5 / 5 / 10
028																																	2.5 / 5 / 10
029																																	2.5 / 5 / 10
025																																	2.5 / 5 / 10
026																																	2.5 / 5 / 10
027																																	2.5 / 5 / 10
028																																	2.5 / 5 / 10
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046																																	2.5 / 5 / 10
047																																	2.5 / 5 / 10
048																																	2.5 / 5 / 10

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Pace Pittsburg Project #: 40220113

	Glass								Plastic					Vials						Jars				General									
Pace Lab #	AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	BP1U	BP3U	BP3B	BP3N	BP3S	VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	JGFU	JG9U	WGFU	WPFU	SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
049																										—							2.5 / 5 / 10
050																										—							2.5 / 5 / 10
051																										—							2.5 / 5 / 10
052																										—							2.5 / 5 / 10
053																										—							2.5 / 5 / 10
054																										—							2.5 / 5 / 10
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MM
12-16-20

Page 3 of 4

F-GB-C-046-Rev.03 (11Feb2020) Sample Preservation Receipt Form

Pace Analytical® 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 26Mar2020
	Document No.: ENV-FRM-GBAY-0014-Rev.00	Author: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: WO#: 40220113

Client Name: Pace Pittsburg

Courier: ☐ CS Logistics ☒ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☐ Client ☐ Pace Other:

Tracking #: 9242 2958 6223 (Mot #)

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other

Thermometer Used SR - 99 **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 0.5/0.5 /Corr: 0.5/0.5

Temp Blank Present: ☐ yes ☒ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 12-18-20 /Initials: MLR

Labeled By Initials: MLR

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☒N/A	4. IR WO MLR 12-18-20
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☐Yes ☒No	9. TOC requires amber glass MLR 12-18-20
-Pace Containers Used:	☐Yes ☒No ☐N/A	
-Pace IR Containers Used:	☒Yes ☐No ☐N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: S	☒Yes ☐No ☐N/A	12.
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample logir

Page 1 of 1

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

David Pichette
PACE Pittsburgh
1638 Roseytown Road
Suites 2,3 & 4
Greensburg PA 15601

REPORT OF LABORATORY ANALYSIS FOR PCDD/PCDF

Report Information:

Pace Project #: 10542701
Sample Receipt Date: 12/17/2020
Client Project #: 30397089
Client Sub PO #: N/A
State Cert #: 68-00563

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PCDD/PCDF Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Joanne Richardson, your Pace Project Manager.

This report has been reviewed by:

Joanne Richardson

January 14, 2021

Joanne Richardson,
(612) 607-6453
(612) 607-6444 (fax)

Report Prepared Date:
January 14, 2021

Report of Laboratory Analysis

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analyses performed on four samples submitted by a representative of Pace Analytical Services, LLC. The samples were analyzed for the presence or absence of polychlorodibenzo-p-dioxins (PCDDs) and polychlorodibenzofurans (PCDFs) using a modified version of USEPA Method 8290. The reporting limits were set to correspond to the lowest calibration points and a nominal 10-gram sample amount, and the sensitivity was verified by signal-to-noise measurements. The quantitation limits, adjusted for sample extraction amount, may be somewhat higher or lower than the reporting limits provided in this report. Estimated maximum possible concentration (EMPC) values were treated as positives in the toxic equivalence calculations. The samples were received above the recommended temperature range of 0-6 degrees Celsius.

Second column confirmation analyses of 2,3,7,8-TCDF values obtained from the primary (DB5-MS) column are performed only when specifically requested for a project and only when the values are above the concentration of the lowest calibration standard. Typical resolution for this isomer using the DB5-MS column ranges from 25-30%.

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 33-92%. Except for one low value, which was flagged "R" on the results table, the labeled internal standard recoveries obtained for this project were within the 40-135% target range specified in Method 8290. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

Concentrations below the calibration range were flagged "J" and should be regarded as estimates. Values obtained from analyses of diluted extracts were flagged "D".

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank to be free of PCDDs and PCDFs at the reporting limits. These results indicate that the sample processing steps did not significantly impact the results reported for the field samples.

A laboratory spike sample was also prepared using clean reference matrix that had been fortified with native standard materials. The recoveries of the spiked native compounds ranged from 94-128%. These results were within the target range for the method. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from these analyses will be provided upon request.

The response obtained for the labeled OCDD in calibration standard analysis Y210105A_17 was outside the target range. As specified in our procedures for this method, the average of the daily response factors for this compound was used in the calculations for the samples from this runshift. The affected values were flagged "Y" on the results tables. It should be noted that the accuracy of the native congener determinations was not impacted by this deviation.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
		Mississippi	MN00064
A2LA	2926.01	Missouri	10100
Alabama	40770	Montana	CERT0092
Alaska-DW	MN00064	Nebraska	NE-OS-18-06
Alaska-UST	17-009	Nevada	MN00064
Arizona	AZ0014	New Hampshire	2081
Arkansas - WW	88-0680	New Jersey	MN002
Arkansas-DW	MN00064	New York	11647
California	2929	North Carolina-	27700
Colorado	MN00064	North Carolina-	530
Connecticut	PH-0256	North Dakota	R-036
Florida	E87605	Ohio - VAP	CL101
Georgia	959	Ohio-DW	41244
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon- rimary	MN300001
Illinois	200011	Oregon-Second	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky-DW	90062	Tennessee	TN02818
Kentucky-WW	90062	Texas	T104704192
Louisiana-DEQ	AI-84596	Utah	MN00064
Louisiana-DW	MN00064	Vermont	VT-027053137
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Michigan	9909	West Virginia-D	382
Minnesota	027-053-137	West Virginia-D	9952C
Minnesota-Ag	via MN 027-053	Wisconsin	999407970
Minnesota-Petr	1240	Wyoming-UST	via A2LA 2926.

REPORT OF LABORATORY ANALYSIS

Appendix A

Sample Management

Internal Transfer Chain of Custody

Pace Analytical® www.pacelabs.com

☐ Samples Pre-Logged into eCOC.

State Of Origin: NJ
Cert. Needed: ☒ Yes ☐ No
Owner Received Date: 12/14/2020 **Results Requested By:** 12/30/2020

Workorder: 30397089 **Workorder Name:** 20121403

Report To
David A. Pichette
Pace Analytical Pittsburgh
1638 Roseytown Road
Suites 2,3,4
Greensburg, PA 15601
Phone (724)850-5617

Subcontract To
Pace Analytical Minnesota
1700 Elm Street SE
Suite 200
Minneapolis, MN 55414
Phone (612)607-1700

WO#: 10542701
10542701

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved	Requested Analysis: 32 Full list Dioxins by 8290 17cmpds	LAB USE ONLY
1	20121403-020	PS	12/12/2020 11:10	30397089019	Solid	1	X	001
2	20121403-033	PS	12/12/2020 14:40	30397089031	Solid	1	X	002
3	20121403-040	PS	12/13/2020 09:27	30397089037	Solid	1	X	003
4	20121403-053	PS	12/13/2020 15:14	30397089049	Solid	1	X	004
5	20121403-057	PS	12/13/2020 17:03	30397089052	Solid	1	X	005

Transfers	Released By	Date/Time	Received By	Date/Time
1	Ben Muntm	12-15-201600	Carl Artaug - Pace	12/17/20 840
2				
3				

Comments

Cooler Temperature on Receipt 6.8 °C **Custody Seal** Y or (N) **Received on Ice** (Y) or N **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

Chain of Custody Form for Subcontracted Analyses

WO#: 30397089

30397089

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Lynn Jackson

W.O. No.: 20121403
Project Location: Conowingo
Project Number: 3037.02
Report To LOD: Yes

Report Due On :12/30/20 05:00

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone: 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-001	C6 28.3-31.1	12/11/20	16:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 001
20121403-002	C6 31.1-33.9	12/11/20	16:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 002
20121403-003	C6 33.9-35.0	12/11/20	16:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 003
20121403-004	C6 35.0-36.1	12/11/20	16:55	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 004
20121403-004	C6 35.0-36.1	12/11/20	16:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-005	C6 36.6-38.8	12/11/20	18:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 005
20121403-005	C6 36.6-38.8	12/11/20	18:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-006	C6 38.8-39.8	12/11/20	18:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 006
20121403-007	C6 39.8-41.1	12/11/20	18:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 007
20121403-008	C6 41.5-43.6	12/11/20	18:25	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 008
20121403-009	C6 43.6-46.1	12/11/20	18:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 009
20121403-010	C6 46.1-49.5	12/12/20	07:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 010
20121403-011	C6 49.5-51.1	12/12/20	07:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 011
20121403-012	C6 52.3-54.2	12/12/20	08:57	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 012
20121403-013	C6 54.2-56.1	12/12/20	08:59	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 013
20121403-014	B7 37.6-39.6	12/12/20	09:48	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 014
20121403-015	B7 39.6-40.6	12/12/20	09:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 015
20121403-017	57 41.0-43.3	12/12/20	10:25	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 016
20121403-017	57 41.0-43.3	12/12/20	10:25	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-018	B7 43.3-45.6	12/12/20	10:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 017
20121403-019	B7 47.4-48.2	12/12/20	11:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 018
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 019
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓

Chain of Custody Form for Subcontracted Analyses

30397089 Page 2 of 4

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No.: 20121403
Project Location: Conowingo
Project Number: 3037.02
Report To LOD: Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone: 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-020	B7 48.2-50.6	12/12/20	11:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 019
20121403-021	B7 51.0-52.5	12/12/20	11:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 020
20121403-022	B7 52.5-54.4	12/12/20	11:50	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 021
20121403-023	B7 54.5-55.6	12/12/20	11:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 022
20121403-024	B7 55.6-58.1	12/12/20	12:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 023
20121403-025	B7 58.1-60.6	12/12/20	12:45	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 024
20121403-025	B7 58.1-60.6	12/12/20	12:45	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-026	B7 60.6-63.1	12/12/20	13:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 025
20121403-027	B7 63.1-65.6	12/12/20	13:15	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 026
20121403-028	B7 65.6-66.7	12/12/20	13:37	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 027
20121403-029	B7 66.7-68.1	12/12/20	13:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 028
20121403-031	B8 63.7-66.7	12/12/20	14:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 029
20121403-032	B8 66.7-67.2	12/12/20	14:35	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 030
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 031
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121403-033	B8 67.2-68.7	12/12/20	14:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-034	B8 69.6-71.2	12/12/20	15:05	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 032
20121403-035	A8 41.2-42.3	12/13/20	08:37	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 033
20121403-036	A8 45.2-47.3	12/13/20	08:52	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 034
20121403-037	A8 50.5-52.3	12/13/20	09:04	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 035
20121403-038	A8 53.1-57.3	12/13/20	09:16	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 036
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 037
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓

Chain of Custody Form for Subcontracted Analyses # 30397089

Chase Separation Science, Inc
9630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No. : 20121403
Project Location : Conowingo
Project Number : 3037.02
Report To LOD : Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601

Phone : 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-040	A8 57.8-62.3	12/13/20	09:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 037
20121403-041	A8 62.9-67.3	12/13/20	09:55	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 038
20121403-042	A8 67.3-72.3	12/13/20	10:10	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 039
20121403-043	A8 72.3-74.8	12/13/20	10:26	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 040
20121403-044	B8A 58.8-60.6	12/13/20	11:27	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 041
20121403-045	B8A 68.7-70.0	12/13/20	11:47	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL BM12-15-20 042
20121403-045	B8A 68.7-70.0	12/13/20	11:47	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL BM12-15-20 042
20121403-046	B8A 71.9-75.0	12/13/20	12:14	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL BM12-15-20 043
20121403-046	B8A 71.9-75.0	12/13/20	12:14	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-047	B8A 75.3-80.0	12/13/20	12:30	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 044
20121403-047	B8A 75.3-80.0	12/13/20	12:30	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-049	B8A 81.1-82.4	12/13/20	12:48	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 045
20121403-049	B8A 81.1-82.4	12/13/20	12:48	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-050	C8 48.6-49.7	12/13/20	13:34	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 046
20121403-050	C8 48.6-49.7	12/13/20	13:34	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-051	C8 51.6-65.6	12/13/20	14:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 047
20121403-051	C8 51.6-65.6	12/13/20	14:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-052	C8 65.6-70.6	12/13/20	14:58	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 048
20121403-052	C8 65.6-70.6	12/13/20	14:58	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 049
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL
20121403-053	C8 72.7-75.0	12/13/20	15:14	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL
20121403-054	D8 47.2-49.0	12/13/20	16:11	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 050

Chain of Custody Form for Subcontracted Analyses # 30397089

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

W.O. No.: **20121403**
Project Location: Conowingo
Project Number: 3037.02
Report To LOD: Yes

Samples Transferred To:
Pace Analytical Svc's., LLC - Pittsburgh PA
1638 Roseytown, Suites 2, 3 & 4
Greensburg, PA 15601
Phone: 724-850-5600

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
20121403-054	D8 47.2-49.0	12/13/20	16:11	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 050
20121403-056	D8 55.0-59.0	12/13/20	16:40	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 051
20121403-056	D8 55.0-59.0	12/13/20	16:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 052
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Dioxins and Furans	SW8290	2 OZ WMG	COOL ↓
20121403-057	D8 60.6-64.0	12/13/20	17:03	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓
20121403-058	D8 64.0-69.0	12/13/20	17:20	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 053
20121403-059	D8 69.0-74.0	12/13/20	17:40	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL 054
20121403-060	D8 75.5-79.0	12/13/20	18:00	Solid	Nitrogen, Kjeldahl	SM4500-NH3_G	2 OZ WMG	COOL 055
20121403-060	D8 75.5-79.0	12/13/20	18:00	Solid	Total Organic Carbon	SW9060	2 OZ WMG	COOL ↓

Data Deliverables Required: MS MSD SUM

Perform Q.C. on Sample : _____

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : Pace Courier

Condition Upon Receipt : _____

Comments :

Dioxins and Furans: Full List Dioxins & Furans

Samples Relinquished By : _____ Date : 12-14-20 Time: 1335 Samples Received By : _____

Samples Relinquished By: _____ Date : 12-14-20 Time : 1900 Samples Received By: _____ 12-14-20 1920

Samples Relinquished By: _____ Date: 12-14-20 Time: 2215 Samples Received By: _____ 12-14-20 2215

Pittsburgh Lab Sample Condition Upon Receipt

Pace Analytical

Client Name: Phase

Project # 30397089

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace Other ____

Label BLM

LIMS Login BLM

Tracking #: N/A

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☑ no

Thermometer Used 9 Type of Ice: (Wet) Blue None

Cooler Temperature Observed Temp 4.8 °C Correction Factor: 0.0 °C Final Temp: 4.8 °C

Temp should be above freezing to 6°C

Comments:	Yes	No	N/A	pH paper Lot# N/A / Date and Initials of person examining contents: ET 12-15-20
Chain of Custody Present:	✓			1.
Chain of Custody Filled Out:	✓			2.
Chain of Custody Relinquished:	✓			3.
Sampler Name & Signature on COC:		✓		4.
Sample Labels match COC: -Includes date/time/ID Matrix: SL	✓			5.
Samples Arrived within Hold Time:	✓			6.
Short Hold Time Analysis (<72hr remaining):		✓		7.
Rush Turn Around Time Requested:		✓		8.
Sufficient Volume:	✓			9.
Correct Containers Used: -Pace Containers Used:	✓			10.
Containers Intact:	✓			11.
Orthophosphate field filtered			✓	12.
Hex Cr Aqueous sample field filtered			✓	13.
Organic Samples checked for dechlorination:			✓	14.
Filtered volume received for Dissolved tests			✓	15.
All containers have been checked for preservation. exceptions: VOA, coliform, TOC, O&G, Phenolics, Radon, Non-aqueous matrix			✓	16.
All containers meet method preservation requirements.	✓			Initial when completed ET / Date/time of preservation / Lot # of added preservative
Headspace in VOA Vials (>6mm):			✓	17.
Trip Blank Present:		✓		18.
Trip Blank Custody Seals Present		✓		
Rad Samples Screened < 0.5 mrem/hr			✓	Initial when completed: / Date:

Client Notification/ Resolution:

Person Contacted: ____ Date/Time: ____ Contacted By: ____

Comments/ Resolution: ____

☐ **A check in this box indicates that additional information has been stored in ereports.**

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

*PM review is documented electronically in LIMS. When the Project Manager closes the SRF Review schedule in LIMS. The review is in the Status section of the Workorder Edit Screen.

Pace Analytical®	Document Name: **Sample Condition Upon Receipt (SCUR) - MN**	Document Revised: 12Aug2020 **Page 1 of 1**
	Document No.: **ENV-FRM-MIN4-0150 Rev.01**	Pace Analytical Services - **Minneapolis**

Sample Condition Upon Receipt

Client Name: Pace Pittsburgh

Project #: WO#: 10542701
PM: JMR Due Date: 01/04/21
CLIENT: PASI-PITT

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Pace ☐ SpeeDee ☐ Commercial

Tracking Number: 012Z 2958 5536 See Exceptions ☐ ENV-FRM-MIN4-0142

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: _____ **Temp Blank?** ☒ Yes ☐ No

Thermometer: ☒ T1(0461) ☐ T2(1336) ☐ T3(0459) ☐ T4(0254) ☐ T5(0489) **Type of Ice:** ☐ Wet ☐ Blue ☐ None ☐ Dry ☐ Melted

Did Samples Originate in West Virginia? ☐ Yes ☒ No **Were All Container Temps Taken?** ☐ Yes ☒ No ☐ N/A CA 12/17/20

Temp should be above freezing to 6°C **Cooler Temp Read w/temp blank:** 6.8 °C

Correction Factor: True **Cooler Temp Corrected w/temp blank:** 6.8 °C

Average Corrected Temp (no temp blank only): ____ °C ☐ See Exceptions ENV-FRM-MIN4-0142 ☐ 1 Container

USDA Regulated Soil: (☒ N/A, water sample/Other: SL) **Date/Initials of Person Examining Contents:** CA 12/17/20

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or VA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present and Filled Out?	☒ Yes	☐ No		1.
Chain of Custody Relinquished?	☒ Yes	☐ No		2.
Sampler Name and/or Signature on COC?	☐ Yes	☐ No	☒ N/A	3.
Samples Arrived within Hold Time?	☒ Yes	☐ No		4.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No		5. ☐ Fecal Coliform ☐ HPC ☐ Total Coliform/E coli ☐ BOD/cBOD ☐ Hex Chrome ☐ Turbidity ☐ Nitrate ☐ Nitrite ☐ Orthophos ☐ Other
Rush Turn Around Time Requested?	☐ Yes	☒ No		6.
Sufficient Volume?	☒ Yes	☐ No		7.
Correct Containers Used?	☒ Yes	☐ No		8.
-Pace Containers Used?	☒ Yes	☐ No		
Containers Intact?	☒ Yes	☐ No		9.
Field Filtered Volume Received for Dissolved Tests?	☐ Yes	☐ No	☒ N/A	10. Is sediment visible in the dissolved container? ☐ Yes ☐ No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☐ Water ☐ Soil ☐ Oil ☒ Other SL	☒ Yes	☐ No		11. **If no, write ID/ Date/Time on Container Below:** **See Exception** ☐ **ENV-FRM-MIN4-0142**
All containers needing acid/base preservation have been checked?	☐ Yes	☐ No	☒ N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐ Yes	☐ No	☒ N/A	☐ NaOH ☐ HNO_3 ☐ H_2SO_4 ☐ Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☐ Yes	☐ No	☒ N/A	Positive for Res. Chlorine? ☐ Yes ☐ No **pH Paper Lot#** **See Exception** ☐ **ENV-FRM-MIN4-0142**
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Extra labels present on soil VOA or WIDRO containers?	☐ Yes	☐ No	☒ N/A	13. **See Exception** ☐ **ENV-FRM-MIN4-0140**
Headspace in VOA Vials (greater than 6mm)?	☐ Yes	☐ No	☒ N/A	
Trip Blank Present?	☐ Yes	☐ No	☒ N/A	14.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	Pace Trip Blank Lot # (if purchased):

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: _____ Date/Time: _____

Comments/Resolution: _____

Project Manager Review: Joanne Richardson **Date:** 12-17-20

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: CA

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise (EDL)

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interferencepresent

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDEInterference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = SeeDiscussion

REPORT OF LABORATORY ANALYSIS

Appendix B

Sample Analysis Summary

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121403-020		
Lab Sample ID	30397089019		
Filename	U210108B_03		
Injected By	JRH		
Total Amount Extracted	13.9 g	Matrix	Solid
% Moisture	26.3	Dilution	NA
Dry Weight Extracted	10.2 g	Collected	12/12/2020 11:10
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210108B_01 & U210108B_17	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/08/2021 13:13

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.2	-----	1.0	2,3,7,8-TCDF-13C	2.00	65
Total TCDF	3.4	-----	1.0	2,3,7,8-TCDD-13C	2.00	71
				1,2,3,7,8-PeCDF-13C	2.00	53
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	54
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	55
				1,2,3,4,7,8-HxCDF-13C	2.00	52
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	54
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	51
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	61
				1,2,3,4,7,8-HxCDD-13C	2.00	50
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	45
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	33 R
				1,2,3,4,7,8,9-HpCDF-13C	2.00	48
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	54
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	44
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	ND	-----	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	67
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	12	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.53 ng/Kg		
Total HpCDF	23	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	9.8	-----	5.0			
Total HpCDD	22	-----	5.0			
OCDF	ND	-----	10			
OCDD	190	-----	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.
R = Recovery outside target range

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121403-033		
Lab Sample ID	30397089031		
Filename	U210108B_04		
Injected By	JRH		
Total Amount Extracted	11.8 g	Matrix	Solid
% Moisture	12.8	Dilution	NA
Dry Weight Extracted	10.3 g	Collected	12/12/2020 14:40
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210108B_01 & U210108B_17	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/08/2021 13:59

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	75
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	73
				1,2,3,7,8-PeCDF-13C	2.00	81
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	83
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	59
				1,2,3,4,7,8-HxCDF-13C	2.00	90
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	85
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	88
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	75
				1,2,3,4,7,8-HxCDD-13C	2.00	92
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	77
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	78
				1,2,3,4,7,8,9-HpCDF-13C	2.00	57
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	82
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	57
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	ND	-----	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	72
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	5.0			
Total HpCDD	ND	-----	5.0			
OCDF	ND	-----	10			
OCDD	ND	-----	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121403-040		
Lab Sample ID	30397089037		
Filename	U210108B_05		
Injected By	JRH		
Total Amount Extracted	18.9 g	Matrix	Solid
% Moisture	45.9	Dilution	NA
Dry Weight Extracted	10.2 g	Collected	12/13/2020 09:27
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210108B_01 & U210108B_17	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/08/2021 14:44

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	71
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	73
				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	60
Total TCDD	1.1	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	59
				1,2,3,4,7,8-HxCDF-13C	2.00	67
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	68
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	66
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	60
				1,2,3,4,7,8-HxCDD-13C	2.00	70
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	58
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	53
				1,2,3,4,7,8,9-HpCDF-13C	2.00	40
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	67
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	57
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	ND	-----	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	75
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.68 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	14	-----	5.0			
Total HpCDD	34	-----	5.0			
OCDF	ND	-----	10			
OCDD	540	-----	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121403-053		
Lab Sample ID	30397089049		
Filename	U210112A_14		
Injected By	SMT		
Total Amount Extracted	16.2 g	Matrix	Solid
% Moisture	38.0	Dilution	5
Dry Weight Extracted	10.1 g	Collected	12/13/2020 15:14
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210112A_01 & U210112A_16	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/12/2021 21:47

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg		Internal Standards	ng's Added	Percent Recovery	
2,3,7,8-TCDF	ND	-----	1.0	D	2,3,7,8-TCDF-13C	2.00	62	D
Total TCDF	ND	-----	1.0	D	2,3,7,8-TCDD-13C	2.00	58	D
					1,2,3,7,8-PeCDF-13C	2.00	60	D
2,3,7,8-TCDD	ND	-----	1.0	D	2,3,4,7,8-PeCDF-13C	2.00	59	D
Total TCDD	ND	-----	1.0	D	1,2,3,7,8-PeCDD-13C	2.00	60	D
					1,2,3,4,7,8-HxCDF-13C	2.00	56	D
1,2,3,7,8-PeCDF	ND	-----	5.0	D	1,2,3,6,7,8-HxCDF-13C	2.00	52	D
2,3,4,7,8-PeCDF	ND	-----	5.0	D	2,3,4,6,7,8-HxCDF-13C	2.00	53	D
Total PeCDF	ND	-----	5.0	D	1,2,3,7,8,9-HxCDF-13C	2.00	53	D
					1,2,3,4,7,8-HxCDD-13C	2.00	57	D
1,2,3,7,8-PeCDD	ND	-----	5.0	D	1,2,3,6,7,8-HxCDD-13C	2.00	43	D
Total PeCDD	ND	-----	5.0	D	1,2,3,4,6,7,8-HpCDF-13C	2.00	46	D
					1,2,3,4,7,8,9-HpCDF-13C	2.00	47	D
1,2,3,4,7,8-HxCDF	ND	-----	5.0	D	1,2,3,4,6,7,8-HpCDD-13C	2.00	55	D
1,2,3,6,7,8-HxCDF	ND	-----	5.0	D	OCDD-13C	4.00	41	D
2,3,4,6,7,8-HxCDF	ND	-----	5.0	D				
1,2,3,7,8,9-HxCDF	ND	-----	5.0	D	1,2,3,4-TCDD-13C	2.00	NA	
Total HxCDF	ND	-----	5.0	D	1,2,3,7,8,9-HxCDD-13C	2.00	NA	
1,2,3,4,7,8-HxCDD	ND	-----	5.0	D	2,3,7,8-TCDD-37Cl4	0.20	56	D
1,2,3,6,7,8-HxCDD	ND	-----	5.0	D				
1,2,3,7,8,9-HxCDD	ND	-----	5.0	D				
Total HxCDD	ND	-----	5.0	D				
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	D	Total 2,3,7,8-TCDD			
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	D	Equivalence: 0.29 ng/Kg			
Total HpCDF	ND	-----	5.0	D	(Lower-bound - Using ITE Factors)			
1,2,3,4,6,7,8-HpCDD	10	-----	5.0	JD				
Total HpCDD	21	-----	5.0	JD				
OCDF	ND	-----	10	D				
OCDD	190	-----	10	D				

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
D = Result obtained from analysis of diluted sample

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Sample Analysis Results

Client - PACE Pittsburgh

Client's Sample ID	20121403-057		
Lab Sample ID	30397089052		
Filename	U210108B_07		
Injected By	JRH		
Total Amount Extracted	19.6 g	Matrix	Solid
% Moisture	48.8	Dilution	NA
Dry Weight Extracted	10.0 g	Collected	12/13/2020 17:03
ICAL ID	U210106	Received	12/17/2020 08:40
CCal Filename(s)	U210108B_01 & U210108B_17	Extracted	12/23/2020 13:10
Method Blank ID	BLANK-85213	Analyzed	01/08/2021 16:14

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	1.1	-----	1.0	2,3,7,8-TCDF-13C	2.00	83
Total TCDF	5.2	-----	1.0	2,3,7,8-TCDD-13C	2.00	80
				1,2,3,7,8-PeCDF-13C	2.00	78
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	85
Total TCDD	1.5	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	65
				1,2,3,4,7,8-HxCDF-13C	2.00	82
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	79
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	79
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	74
				1,2,3,4,7,8-HxCDD-13C	2.00	85
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	67
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	63
				1,2,3,4,7,8,9-HpCDF-13C	2.00	60
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	81
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	60
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	ND	-----	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	76
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	5.4	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 1.4 ng/Kg		
Total HpCDF	12	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	25	-----	5.0			
Total HpCDD	59	-----	5.0			
OCDF	ND	-----	10			
OCDD	990	-----	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.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Blank Analysis Results

Lab Sample Name	DFBLKYJ		
Lab Sample ID	BLANK-85213	Matrix	Solid
Filename	Y210105A_09	Dilution	NA
Total Amount Extracted	10.2 g	Extracted	12/23/2020 13:10
ICAL ID	Y201219	Analyzed	01/05/2021 20:22
CCal Filename(s)	Y210105A_02 & Y210105A_17	Injected By	SMT

Native Isomers	Conc ng/Kg	EMPC ng/Kg	RL ng/Kg	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	1.0	2,3,7,8-TCDF-13C	2.00	86
Total TCDF	ND	-----	1.0	2,3,7,8-TCDD-13C	2.00	77
				1,2,3,7,8-PeCDF-13C	2.00	102
2,3,7,8-TCDD	ND	-----	1.0	2,3,4,7,8-PeCDF-13C	2.00	98
Total TCDD	ND	-----	1.0	1,2,3,7,8-PeCDD-13C	2.00	98
				1,2,3,4,7,8-HxCDF-13C	2.00	78
1,2,3,7,8-PeCDF	ND	-----	5.0	1,2,3,6,7,8-HxCDF-13C	2.00	88
2,3,4,7,8-PeCDF	ND	-----	5.0	2,3,4,6,7,8-HxCDF-13C	2.00	83
Total PeCDF	ND	-----	5.0	1,2,3,7,8,9-HxCDF-13C	2.00	82
				1,2,3,4,7,8-HxCDD-13C	2.00	74
1,2,3,7,8-PeCDD	ND	-----	5.0	1,2,3,6,7,8-HxCDD-13C	2.00	76
Total PeCDD	ND	-----	5.0	1,2,3,4,6,7,8-HpCDF-13C	2.00	85
				1,2,3,4,7,8,9-HpCDF-13C	2.00	81
1,2,3,4,7,8-HxCDF	ND	-----	5.0	1,2,3,4,6,7,8-HpCDD-13C	2.00	94
1,2,3,6,7,8-HxCDF	ND	-----	5.0	OCDD-13C	4.00	81 Y
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	ND	-----	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	79
1,2,3,6,7,8-HxCDD	ND	-----	5.0			
1,2,3,7,8,9-HxCDD	ND	-----	5.0			
Total HxCDD	ND	-----	5.0			
1,2,3,4,6,7,8-HpCDF	ND	-----	5.0	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	5.0	Equivalence: 0.00 ng/Kg		
Total HpCDF	ND	-----	5.0	(Lower-bound - Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	5.0			
Total HpCDD	ND	-----	5.0			
OCDF	ND	-----	10			
OCDD	ND	-----	10			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

Results reported on a total weight basis and are valid to no more than 2 significant figures.
Y = Calculated using average of daily RFs

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 8290 Laboratory Control Spike Results

Lab Sample ID	LCS-85214		
Filename	Y210105A_03	Matrix	Solid
Total Amount Extracted	10.2 g	Dilution	NA
ICAL ID	Y201219	Extracted	12/23/2020 13:10
CCal Filename(s)	Y210105A_02 & Y210105A_17	Analyzed	01/05/2021 15:47
Method Blank ID	BLANK-85213	Injected By	SMT

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.22	111	2,3,7,8-TCDF-13C	2.0	76
Total TCDF				2,3,7,8-TCDD-13C	2.0	72
				1,2,3,7,8-PeCDF-13C	2.0	87
2,3,7,8-TCDD	0.20	0.21	103	2,3,4,7,8-PeCDF-13C	2.0	80
Total TCDD				1,2,3,7,8-PeCDD-13C	2.0	81
				1,2,3,4,7,8-HxCDF-13C	2.0	56
1,2,3,7,8-PeCDF	1.0	0.97	97	1,2,3,6,7,8-HxCDF-13C	2.0	71
2,3,4,7,8-PeCDF	1.0	0.94	94	2,3,4,6,7,8-HxCDF-13C	2.0	65
Total PeCDF				1,2,3,7,8,9-HxCDF-13C	2.0	77
				1,2,3,4,7,8-HxCDD-13C	2.0	50
1,2,3,7,8-PeCDD	1.0	0.95	95	1,2,3,6,7,8-HxCDD-13C	2.0	61
Total PeCDD				1,2,3,4,6,7,8-HpCDF-13C	2.0	66
				1,2,3,4,7,8,9-HpCDF-13C	2.0	70
1,2,3,4,7,8-HxCDF	1.0	1.1	105	1,2,3,4,6,7,8-HpCDD-13C	2.0	76
1,2,3,6,7,8-HxCDF	1.0	1.0	101	OCDD-13C	4.0	67 Y
2,3,4,6,7,8-HxCDF	1.0	1.0	103			
1,2,3,7,8,9-HxCDF	1.0	1.0	101	1,2,3,4-TCDD-13C	2.0	NA
Total HxCDF				1,2,3,7,8,9-HxCDD-13C	2.0	NA
1,2,3,4,7,8-HxCDD	1.0	1.1	108	2,3,7,8-TCDD-37Cl4	0.20	68
1,2,3,6,7,8-HxCDD	1.0	1.1	113			
1,2,3,7,8,9-HxCDD	1.0	1.3	128			
Total HxCDD						
1,2,3,4,6,7,8-HpCDF	1.0	1.1	107			
1,2,3,4,7,8,9-HpCDF	1.0	1.00	100			
Total HpCDF						
1,2,3,4,6,7,8-HpCDD	1.0	0.95	95			
Total HpCDD						
OCDF	2.0	2.0	100			
OCDD	2.0	2.1	104			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
R = Recovery outside of target range

Y = RF averaging used in calculations
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

REPORT OF LABORATORY ANALYSIS

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www.phaseonline.com

Project Name: Conowingo

PSS Project No.: 20121403

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Sample "C8 76.2" not indicated on COC, logged in for VOCs and GRO.

Analytical:

Nitrogen, Ammonia

Batch: 180685

Matrix spike (MS) and Relative Percent Difference (RPD) exceedances identified; see QC summary.
The concentration of ammonia in the reference sample was greater than four times the matrix spike concentration.

Analytical:

Sulfide, Methylene Blue

Batch: 180589

Matrix spike duplicate (MSD) exceedance identified; see QC summary.

Analytical:

PP Metals

Batch: 180694

Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see QC summary.

Method exceedance: Continuing Calibration Verification (CCV) #6 falls outside of acceptance limits (90% - 110%) for lead at 89% recovery.
The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration : manganese

Batch: 180696

Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see QC summary.
Method exceedance: Continuing Calibration Verification (CCV) #7 falls outside of acceptance limits (90% - 110%) for lead at 89% recovery.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

SM 4500-NH3-F -2011: Nitrogen, Ammonia (as N)

Batch: 180697
Method Exceedances:
Initial Calibration Verification (ICV) and Continuing Calibration Verification #4 fall outside of acceptance limits (90% - 110%) for silver at 89.3% recovery.All other bracketing QC, including Low Level Calibration Verifications and Batch QC, pass for this analyte.
Matrix spike/matrix spike duplicate (MS/MSD) and/or Relative Percent Difference (RPD) exceedances identified; see QC summary.
Low Level Continuing Calibration Verification (LLCCV) #03 and #05 exceeded acceptance limits (70-130% recovery) for manganese at 165% and 216% recovery respectively. The samples were 10 times the LLCCV concentration for this analyte. All other bracketing QC passes for these analytes.

Laboratory Control Sample (LCS) falls outside of acceptance limits (80% - 120%) for beryllium at 121% recovery. MS/MSD pass within LCS limits for this analyte.

Analytical:

Chromium, Hexavalent

Batch: 180623
Matrix spike recoveries fell outside acceptance limits but results for the laboratory control sample were within limits. Additional characterization determinations to indicate the sample's reducing/oxidizing nature may be useful in the interpretation of the spike data (see section 8.5 of EPA 3060A).

Analytical:

Organochlorine Pesticides

Batch: 180570
Method exceedance: The recovery of closing continuing calibration verification (CCV) is above acceptance limits.

Batch: 180644
Method exceedance: The recoveries of 4,4-DDT, Methoxychlor and Toxaphne in closing continuing calibration verification (CCV) are below acceptance limits due to sample matrix.

Analytical:

Polychlorinated Biphenyls

Batch: 180580
Method exceedance: The recoveries of peak 3 for aroclor 1016 and peaks 2 and 4 for aroclor 1260 in closing continuing calibration verification (CCV) are above acceptance limits.

Batch: 180581
Method exceedance: The recoveries of peak 3 for aroclor 1016 and peaks 2 and 4 for aroclor 1260 in closing continuing calibration verification (CCV) are above acceptance limits.

Batch: 180686
Method exceedance: The recoveries of Aroclor 1016 in continuing calibration verifications (CCV-02 and 03) are 78% and 76%.

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Project Name: Conowingo

PSS Project No.: 20121403

Batch: 180687
Method exceedance: The recoveries of Aroclor 1016 in continuing calibration verifications (CCV-02 and 03) are 78% and 76%.

Analytical:

TCL Volatiles plus Oxygenates

Batch: 180621
Continuing calibration verification standard (CCV) exceedance identified; see QC summary.

Analytical:

TCL Semivolatile Organic Compounds

Batch: 180586
Continuing calibration verification standard (CCV) exceedances identified; see QC summary.
Method exceedances:
-Qualtity control sample surrogate exceedances identified, see QC summary.
-Laboratory control sample/laboratory control sample duplicate (LCS/LCSD) exceedances identified; see QC summary.
-Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified; see QC summary.
-Benzo-b-fluoranthene and benzo-k-fluoranthene do not meet resolution criteria.

Batch: 180617
Continuing calibration verification standard (CCV) exceedance identified; see QC summary.
Method exceedance: Benzo-b-fluoranthene and benzo-k-fluoranthene do not meet resolution criteria.

PHASE SEPARATION SCIENCE

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20121403

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 300.0	C6 35.0-36.1	Initial	20121403-004	S	84238	180432	12/15/2020 13:25	12/15/2020 17:40
	C6 36.6-38.8	Initial	20121403-005	S	84238	180432	12/15/2020 13:25	12/15/2020 18:49
	B7 41.0-43.3	Initial	20121403-017	S	84238	180432	12/15/2020 13:25	12/15/2020 19:12
	B7 48.2-50.6	Initial	20121403-020	S	84238	180432	12/15/2020 13:25	12/15/2020 19:35
	B7 58.1-60.6	Initial	20121403-025	S	84238	180432	12/15/2020 13:25	12/15/2020 19:58
	B8 67.2-68.7	Initial	20121403-033	S	84238	180432	12/15/2020 13:25	12/15/2020 20:21
	A8 57.8-62.3	Initial	20121403-040	S	84238	180432	12/15/2020 13:25	12/15/2020 20:44
	B8A 68.7-70.0	Initial	20121403-045	S	84238	180432	12/15/2020 13:25	12/15/2020 21:07
	B8A 71.9-75.0	Initial	20121403-046	S	84238	180432	12/15/2020 13:25	12/15/2020 22:39
	B8A 75.3-80.0	Initial	20121403-047	S	84238	180432	12/15/2020 13:25	12/15/2020 23:25
	B8A 81.1-82.4	Initial	20121403-049	S	84238	180432	12/15/2020 13:25	12/15/2020 23:48
	C8 48.6-49.7	Initial	20121403-050	S	84238	180432	12/15/2020 13:25	12/16/2020 00:11
	C8 61.6-65.6	Initial	20121403-051	S	84238	180432	12/15/2020 13:25	12/16/2020 00:34
	C8 65.6-70.6	Initial	20121403-052	S	84238	180432	12/15/2020 13:25	12/16/2020 00:57
	C8 72.7-75.0	Initial	20121403-053	S	84238	180432	12/15/2020 13:25	12/16/2020 01:19
	D8 47.2-49.0	Initial	20121403-054	S	84238	180432	12/15/2020 13:25	12/16/2020 01:42
	D8 55.0-59.0	Initial	20121403-056	S	84238	180432	12/15/2020 13:25	12/16/2020 02:05
	D8 60.6-64.0	Initial	20121403-057	S	84238	180432	12/15/2020 13:25	12/16/2020 03:37
	D8 75.5-79.0	Initial	20121403-060	S	84238	180432	12/15/2020 13:25	12/16/2020 04:00
	84238-1-BKS	BKS	84238-1-BKS	S	84238	180432	12/15/2020 13:25	12/15/2020 17:17
	84238-1-BLK	BLK	84238-1-BLK	S	84238	180432	12/15/2020 13:25	12/15/2020 16:54
	C6 35.0-36.1 S	MS	20121403-004 S	S	84238	180432	12/15/2020 13:25	12/15/2020 18:03
	B8A 71.9-75.0 S	MS	20121403-046 S	S	84238	180432	12/15/2020 13:25	12/15/2020 23:02
	C6 35.0-36.1 SD	MSD	20121403-004 S	S	84238	180432	12/15/2020 13:25	12/15/2020 18:26
EPA 365.3	C6 36.6-38.8	Initial	20121403-005	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	B7 48.2-50.6	Initial	20121403-020	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	B8 67.2-68.7	Initial	20121403-033	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	B8A 68.7-70.0	Initial	20121403-045	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	B8A 81.1-82.4	Initial	20121403-049	S	84283	180517	12/18/2020 12:50	12/18/2020 14:36
	84283-1-BKS	BKS	84283-1-BKS	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	84283-1-BLK	BLK	84283-1-BLK	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	B8 67.2-68.7 S	MS	20121403-033 S	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	B8 67.2-68.7 SD	MSD	20121403-033 S	S	84283	180517	12/18/2020 12:50	12/18/2020 14:35
	C6 35.0-36.1	Initial	20121403-004	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	B7 41.0-43.3	Initial	20121403-017	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	B7 58.1-60.6	Initial	20121403-025	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	A8 57.8-62.3	Initial	20121403-040	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	B8A 71.9-75.0	Initial	20121403-046	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	B8A 75.3-80.0	Initial	20121403-047	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	C8 48.6-49.7	Initial	20121403-050	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	C8 61.6-65.6	Initial	20121403-051	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	C8 65.6-70.6	Initial	20121403-052	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	C8 72.7-75.0	Initial	20121403-053	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	D8 47.2-49.0	Initial	20121403-054	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	D8 55.0-59.0	Initial	20121403-056	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31

PHASE SEPARATION SCIENCE

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20121403

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 365.3	D8 60.6-64.0	Initial	20121403-057	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
	D8 75.5-79.0	Initial	20121403-060	S	84283	180518	12/18/2020 14:48	12/18/2020 16:31
SM 4500-NH3-F - 2011	C6 35.0-36.1	Initial	20121403-004	S	84233	180416	12/15/2020 10:43	12/15/2020 18:20
	C6 36.6-38.8	Initial	20121403-005	S	84233	180416	12/15/2020 10:43	12/15/2020 18:24
	B7 41.0-43.3	Initial	20121403-017	S	84233	180416	12/15/2020 10:43	12/15/2020 18:28
	B7 48.2-50.6	Initial	20121403-020	S	84233	180416	12/15/2020 10:43	12/15/2020 18:32
	B8 67.2-68.7	Initial	20121403-033	S	84233	180416	12/15/2020 10:43	12/15/2020 18:40
	A8 57.8-62.3	Initial	20121403-040	S	84233	180416	12/15/2020 10:43	12/15/2020 18:44
	84233-1-BKS	BKS	84233-1-BKS	S	84233	180416	12/15/2020 10:43	12/15/2020 16:52
	84233-1-BLK	BLK	84233-1-BLK	S	84233	180416	12/15/2020 10:43	12/15/2020 16:48
	84233-1-BSD	BSD	84233-1-BSD	S	84233	180416	12/15/2020 10:43	12/15/2020 16:56
	C4 28.4'-31.9' D	MD	20121018-006 D	S	84233	180416	12/15/2020 10:43	12/15/2020 17:04
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84233	180416	12/15/2020 10:43	12/15/2020 17:12
	B7 58.1-60.6	Initial	20121403-025	S	84373	180685	12/28/2020 11:34	12/28/2020 15:34
	B8A 68.7-70.0	Initial	20121403-045	S	84373	180685	12/28/2020 11:34	12/28/2020 15:51
	B8A 71.9-75.0	Initial	20121403-046	S	84373	180685	12/28/2020 11:34	12/28/2020 15:55
	B8A 75.3-80.0	Initial	20121403-047	S	84373	180685	12/28/2020 11:34	12/28/2020 15:59
	B8A 81.1-82.4	Initial	20121403-049	S	84373	180685	12/28/2020 11:34	12/28/2020 16:03
	C8 48.6-49.7	Initial	20121403-050	S	84373	180685	12/28/2020 12:18	12/28/2020 16:15
	C8 61.6-65.6	Initial	20121403-051	S	84373	180685	12/28/2020 12:18	12/28/2020 16:19
	C8 65.6-70.6	Initial	20121403-052	S	84373	180685	12/28/2020 12:18	12/28/2020 16:23
	C8 72.7-75.0	Initial	20121403-053	S	84373	180685	12/28/2020 12:18	12/28/2020 16:27
	D8 47.2-49.0	Initial	20121403-054	S	84373	180685	12/28/2020 12:18	12/28/2020 16:31
	D8 55.0-59.0	Initial	20121403-056	S	84373	180685	12/28/2020 12:18	12/28/2020 16:35
	D8 60.6-64.0	Initial	20121403-057	S	84373	180685	12/28/2020 12:18	12/28/2020 16:39
	D8 75.5-79.0	Initial	20121403-060	S	84373	180685	12/28/2020 12:18	12/28/2020 16:43
	84373-1-BKS	BKS	84373-1-BKS	S	84373	180685	12/28/2020 12:18	12/28/2020 15:26
	84373-1-BLK	BLK	84373-1-BLK	S	84373	180685	12/28/2020 11:34	12/28/2020 15:22
	84373-1-BSD	BSD	84373-1-BSD	S	84373	180685	12/28/2020 12:18	12/28/2020 15:30
	B7 58.1-60.6 D	MD	20121403-025 D	S	84373	180685	12/28/2020 11:34	12/28/2020 15:39
	B7 58.1-60.6 S	MS	20121403-025 S	S	84373	180685	12/28/2020 11:34	12/28/2020 15:43
	B7 58.1-60.6 SD	MSD	20121403-025 S	S	84373	180685	12/28/2020 11:34	12/28/2020 15:47
SM 4500-S2 D 2000	C6 35.0-36.1	Initial	20121403-004	S	84311	180542	12/21/2020 11:24	12/21/2020 13:49
	C6 36.6-38.8	Initial	20121403-005	S	84311	180542	12/21/2020 11:24	12/21/2020 13:49
	B7 41.0-43.3	Initial	20121403-017	S	84311	180542	12/21/2020 11:24	12/21/2020 13:49
	84311-1-BKS	BKS	84311-1-BKS	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	84311-1-BLK	BLK	84311-1-BLK	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84311	180542	12/21/2020 11:24	12/21/2020 13:29
	B7 48.2-50.6	Initial	20121403-020	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	B7 58.1-60.6	Initial	20121403-025	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	B8 67.2-68.7	Initial	20121403-033	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	A8 57.8-62.3	Initial	20121403-040	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	B8A 68.7-70.0	Initial	20121403-045	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	B8A 71.9-75.0	Initial	20121403-046	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07

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Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SM 4500-S2 D 2000	B8A 75.3-80.0	Initial	20121403-047	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	B8A 81.1-82.4	Initial	20121403-049	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	C8 48.6-49.7	Initial	20121403-050	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	C8 61.6-65.6	Initial	20121403-051	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	C8 65.6-70.6	Initial	20121403-052	S	84335	180589	12/22/2020 11:09	12/22/2020 14:17
	C8 72.7-75.0	Initial	20121403-053	S	84335	180589	12/22/2020 11:09	12/22/2020 14:17
	D8 47.2-49.0	Initial	20121403-054	S	84335	180589	12/22/2020 11:09	12/22/2020 14:17
	D8 55.0-59.0	Initial	20121403-056	S	84335	180589	12/22/2020 11:09	12/22/2020 14:17
	D8 60.6-64.0	Initial	20121403-057	S	84335	180589	12/22/2020 11:09	12/22/2020 14:17
	D8 75.5-79.0	Initial	20121403-060	S	84335	180589	12/22/2020 11:09	12/22/2020 14:17
	84335-1-BKS	BKS	84335-1-BKS	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	84335-1-BLK	BLK	84335-1-BLK	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	B8 67.2-68.7 S	MS	20121403-033 S	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
	B8 67.2-68.7 SD	MSD	20121403-033 S	S	84335	180589	12/22/2020 11:09	12/22/2020 14:07
SM2540G	C6 28.3-31.1	Initial	20121403-001	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 31.1-33.9	Initial	20121403-002	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 33.9-35.0	Initial	20121403-003	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 35.0-36.1	Initial	20121403-004	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 36.6-38.8	Initial	20121403-005	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 38.8-39.8	Initial	20121403-006	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 39.8-41.1	Initial	20121403-007	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 41.5-43.6	Initial	20121403-008	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 43.6-46.1	Initial	20121403-009	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 46.1-49.5	Initial	20121403-010	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 49.5-51.1	Initial	20121403-011	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 52.3-54.2	Initial	20121403-012	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 54.2-56.1	Initial	20121403-013	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 37.6-39.6	Initial	20121403-014	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 39.6-40.6	Initial	20121403-015	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 42.0	Initial	20121403-016	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 41.0-43.3	Initial	20121403-017	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 43.3-45.6	Initial	20121403-018	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 47.4-48.2	Initial	20121403-019	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 48.2-50.6	Initial	20121403-020	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	180388-1-BLK	BLK	180388-1-BLK	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 28.3-31.1 D	MD	20121403-001 D	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	C6 49.5-51.1 D	MD	20121403-011 D	S	180388	180388	12/15/2020 13:42	12/15/2020 13:42
	B7 51.0-52.5	Initial	20121403-021	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 52.5-54.5	Initial	20121403-022	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 54.5-55.6	Initial	20121403-023	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 55.6-58.1	Initial	20121403-024	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 58.1-60.6	Initial	20121403-025	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 60.6-63.1	Initial	20121403-026	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 63.1-65.6	Initial	20121403-027	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 65.6-66.7	Initial	20121403-028	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15

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Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SM2540G	B7 66.7-68.1	Initial	20121403-029	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B8 66.7	Initial	20121403-030	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B8 63.7-66.7	Initial	20121403-031	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B8 66.7-67.2	Initial	20121403-032	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B8 67.2-68.7	Initial	20121403-033	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B8 69.6-71.2	Initial	20121403-034	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	A8 41.2-42.3	Initial	20121403-035	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	A8 45.2-47.3	Initial	20121403-036	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	A8 50.5-52.3	Initial	20121403-037	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	A8 53.1-57.3	Initial	20121403-038	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	A8 62.3	Initial	20121403-039	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	A8 57.8-62.3	Initial	20121403-040	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	180400-1-BLK	BLK	180400-1-BLK	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B7 51.0-52.5 D	MD	20121403-021 D	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	B8 63.7-66.7 D	MD	20121403-031 D	S	180400	180400	12/15/2020 15:15	12/15/2020 15:15
	A8 62.9-67.3	Initial	20121403-041	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	A8 67.3-72.3	Initial	20121403-042	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	A8 72.3-74.8	Initial	20121403-043	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	B8A 58.8-60.0	Initial	20121403-044	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	B8A 68.7-70.0	Initial	20121403-045	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	B8A 71.9-75.0	Initial	20121403-046	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	B8A 75.3-80.0	Initial	20121403-047	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	B8A 81.5	Initial	20121403-048	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	B8A 81.1-82.4	Initial	20121403-049	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	C8 48.6-49.7	Initial	20121403-050	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	180448-1-BLK	BLK	180448-1-BLK	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	A8 62.9-67.3 D	MD	20121403-041 D	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	13409-PEX-SW1-12/20 D	MD	20121608-001 D	S	180448	180448	12/17/2020 12:19	12/17/2020 12:19
	C8 61.6-65.6	Initial	20121403-051	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	C8 65.6-70.6	Initial	20121403-052	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	C8 72.7-75.0	Initial	20121403-053	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	D8 47.2-49.0	Initial	20121403-054	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	D8 48.0	Initial	20121403-055	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	D8 55.0-59.0	Initial	20121403-056	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	D8 60.6-64.0	Initial	20121403-057	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	D8 64.0-69.0	Initial	20121403-058	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	D8 69.0-74.0	Initial	20121403-059	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	D8 75.5-79.0	Initial	20121403-060	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	C8 76.2	Initial	20121403-061	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	180457-1-BLK	BLK	180457-1-BLK	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	C8 61.6-65.6 D	MD	20121403-051 D	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
	C8 76.2 D	MD	20121403-061 D	S	180457	180457	12/17/2020 14:12	12/17/2020 14:12
SW-846 6020 A	B7 52.5-54.5	Initial	20121403-022	S	84363	180694	12/23/2020 15:49	12/28/2020 20:25
	B7 54.5-55.6	Initial	20121403-023	S	84363	180694	12/23/2020 15:49	12/28/2020 21:08
	B7 55.6-58.1	Initial	20121403-024	S	84363	180694	12/23/2020 15:49	12/28/2020 21:13

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SW-846 6020 A	B7 58.1-60.6	Initial	20121403-025	S	84363	180694	12/23/2020 15:49	12/28/2020 21:17
	B7 60.6-63.1	Initial	20121403-026	S	84363	180694	12/23/2020 15:49	12/28/2020 21:22
	B7 63.1-65.6	Initial	20121403-027	S	84363	180694	12/23/2020 15:49	12/28/2020 21:27
	B7 65.6-66.7	Initial	20121403-028	S	84363	180694	12/23/2020 15:49	12/28/2020 21:32
	B7 66.7-68.1	Initial	20121403-029	S	84363	180694	12/23/2020 15:49	12/28/2020 21:55
	B8 63.7-66.7	Initial	20121403-031	S	84363	180694	12/23/2020 15:49	12/28/2020 22:00
	B8 66.7-67.2	Initial	20121403-032	S	84363	180694	12/23/2020 15:49	12/28/2020 22:05
	B8 67.2-68.7	Initial	20121403-033	S	84363	180694	12/23/2020 15:49	12/28/2020 22:09
	B8 69.6-71.2	Initial	20121403-034	S	84363	180694	12/23/2020 15:49	12/28/2020 22:14
	A8 41.2-42.3	Initial	20121403-035	S	84363	180694	12/23/2020 15:49	12/28/2020 22:19
	A8 45.2-47.3	Initial	20121403-036	S	84363	180694	12/23/2020 15:49	12/28/2020 22:24
	A8 50.5-52.3	Initial	20121403-037	S	84363	180694	12/23/2020 15:49	12/28/2020 22:29
	A8 53.1-57.3	Initial	20121403-038	S	84363	180694	12/23/2020 15:49	12/28/2020 22:33
	A8 57.8-62.3	Initial	20121403-040	S	84363	180694	12/23/2020 15:49	12/28/2020 22:38
	A8 62.9-67.3	Initial	20121403-041	S	84363	180694	12/23/2020 15:49	12/28/2020 23:02
	A8 67.3-72.3	Initial	20121403-042	S	84363	180694	12/23/2020 15:49	12/28/2020 23:07
	A8 72.3-74.8	Initial	20121403-043	S	84363	180694	12/23/2020 15:49	12/28/2020 23:11
	84363-1-BKS	BKS	84363-1-BKS	S	84363	180694	12/23/2020 15:49	12/28/2020 20:21
	84363-1-BLK	BLK	84363-1-BLK	S	84363	180694	12/23/2020 15:49	12/28/2020 20:16
	B7 52.5-54.5 S	MS	20121403-022 S	S	84363	180694	12/23/2020 15:49	12/28/2020 20:49
	B7 52.5-54.5 SD	MSD	20121403-022 S	S	84363	180694	12/23/2020 15:49	12/28/2020 20:54
	B8A 58.8-60.0	Initial	20121403-044	S	84364	180696	12/23/2020 16:15	12/28/2020 23:30
	B8A 68.7-70.0	Initial	20121403-045	S	84364	180696	12/23/2020 16:15	12/29/2020 00:18
	B8A 71.9-75.0	Initial	20121403-046	S	84364	180696	12/23/2020 16:15	12/29/2020 00:22
	B8A 75.3-80.0	Initial	20121403-047	S	84364	180696	12/23/2020 16:15	12/29/2020 00:27
	B8A 81.1-82.4	Initial	20121403-049	S	84364	180696	12/23/2020 16:15	12/29/2020 00:32
	C8 48.6-49.7	Initial	20121403-050	S	84364	180696	12/23/2020 16:15	12/29/2020 00:37
	C8 61.6-65.6	Initial	20121403-051	S	84364	180696	12/23/2020 16:15	12/29/2020 00:41
	C8 65.6-70.6	Initial	20121403-052	S	84364	180696	12/23/2020 16:15	12/29/2020 00:46
	C8 72.7-75.0	Initial	20121403-053	S	84364	180696	12/23/2020 16:15	12/29/2020 00:51
	D8 47.2-49.0	Initial	20121403-054	S	84364	180696	12/23/2020 16:15	12/29/2020 00:56
	D8 55.0-59.0	Initial	20121403-056	S	84364	180696	12/23/2020 16:15	12/29/2020 01:19
	D8 60.6-64.0	Initial	20121403-057	S	84364	180696	12/23/2020 16:15	12/29/2020 01:24
	D8 64.0-69.0	Initial	20121403-058	S	84364	180696	12/23/2020 16:15	12/29/2020 01:29
	D8 69.0-74.0	Initial	20121403-059	S	84364	180696	12/23/2020 16:15	12/29/2020 01:34
	D8 75.5-79.0	Initial	20121403-060	S	84364	180696	12/23/2020 16:15	12/29/2020 01:38
	84364-1-BKS	BKS	84364-1-BKS	S	84364	180696	12/23/2020 16:15	12/28/2020 23:25
	84364-1-BLK	BLK	84364-1-BLK	S	84364	180696	12/23/2020 16:15	12/28/2020 23:21
	B8A 58.8-60.6 S	MS	20121403-044 S	S	84364	180696	12/23/2020 16:15	12/28/2020 23:35
	B8A 58.8-60.6 SD	MSD	20121403-044 S	S	84364	180696	12/23/2020 16:15	12/28/2020 23:40
	C6 28.3-31.1	Initial	20121403-001	S	84360	180697	12/23/2020 15:28	12/28/2020 17:44
	C6 31.1-33.9	Initial	20121403-002	S	84360	180697	12/23/2020 15:28	12/28/2020 18:08
	C6 33.9-35.0	Initial	20121403-003	S	84360	180697	12/23/2020 15:28	12/28/2020 18:13
	C6 35.0-36.1	Initial	20121403-004	S	84360	180697	12/23/2020 15:28	12/28/2020 18:17
	C6 36.6-38.8	Initial	20121403-005	S	84360	180697	12/23/2020 15:28	12/28/2020 18:56
	C6 38.8-39.8	Initial	20121403-006	S	84360	180697	12/23/2020 15:28	12/28/2020 19:01

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Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 6020 A	C6 39.8-41.1	Initial	20121403-007	S	84360	180697	12/23/2020 15:28	12/28/2020 19:05
	C6 41.5-43.6	Initial	20121403-008	S	84360	180697	12/23/2020 15:28	12/28/2020 19:10
	C6 43.6-46.1	Initial	20121403-009	S	84360	180697	12/23/2020 15:28	12/28/2020 19:15
	C6 46.1-49.5	Initial	20121403-010	S	84360	180697	12/23/2020 15:28	12/28/2020 19:20
	C6 49.5-51.1	Initial	20121403-011	S	84360	180697	12/23/2020 15:28	12/28/2020 19:24
	C6 52.3-54.2	Initial	20121403-012	S	84360	180697	12/23/2020 15:28	12/28/2020 19:29
	C6 54.2-56.1	Initial	20121403-013	S	84360	180697	12/23/2020 15:28	12/28/2020 20:03
	B7 37.6-39.6	Initial	20121403-014	S	84360	180697	12/23/2020 15:28	12/28/2020 20:08
	B7 39.6-40.6	Initial	20121403-015	S	84360	180697	12/23/2020 15:28	12/28/2020 20:12
	B7 41.0-43.3	Initial	20121403-017	S	84360	180697	12/23/2020 15:46	12/28/2020 20:17
	B7 43.3-45.6	Initial	20121403-018	S	84360	180697	12/23/2020 15:28	12/28/2020 20:22
	B7 47.4-48.2	Initial	20121403-019	S	84360	180697	12/23/2020 15:28	12/28/2020 20:27
	B7 48.2-50.6	Initial	20121403-020	S	84360	180697	12/23/2020 15:28	12/28/2020 20:31
	B7 51.0-52.5	Initial	20121403-021	S	84360	180697	12/23/2020 15:46	12/28/2020 20:36
	84360-1-BKS	BKS	84360-1-BKS	S	84360	180697	12/23/2020 15:28	12/28/2020 17:39
	84360-1-BLK	BLK	84360-1-BLK	S	84360	180697	12/23/2020 15:28	12/28/2020 17:34
	C6 28.3-31.1 S	MS	20121403-001 S	S	84360	180697	12/23/2020 15:28	12/28/2020 17:49
	C6 28.3-31.1 SD	MSD	20121403-001 S	S	84360	180697	12/23/2020 15:28	12/28/2020 17:54
SW-846 7196 A	C6 35.0-36.1	Initial	20121403-004	S	84225	180402	12/14/2020 15:41	12/15/2020 14:50
	C6 36.6-38.8	Initial	20121403-005	S	84225	180402	12/14/2020 15:41	12/15/2020 14:54
	B7 41.0-43.3	Initial	20121403-017	S	84225	180402	12/14/2020 15:41	12/15/2020 14:58
	B7 48.2-50.6	Initial	20121403-020	S	84225	180402	12/14/2020 15:41	12/15/2020 15:06
	B7 58.1-60.6	Initial	20121403-025	S	84225	180402	12/14/2020 15:41	12/15/2020 15:10
	B8 67.2-68.7	Initial	20121403-033	S	84225	180402	12/14/2020 15:41	12/15/2020 15:12
	A8 57.8-62.3	Initial	20121403-040	S	84225	180402	12/14/2020 15:41	12/15/2020 15:16
	84225-1-BKS	BKS	84225-1-BKS	S	84225	180402	12/14/2020 15:41	12/15/2020 13:48
	84225-1-BLK	BLK	84225-1-BLK	S	84225	180402	12/14/2020 15:41	12/15/2020 13:46
	84225-1-BSD	BSD	84225-1-BSD	S	84225	180402	12/14/2020 15:41	12/15/2020 13:50
	C4 28.4'-31.9' D	MD	20121018-006 D	S	84225	180402	12/14/2020 15:41	12/15/2020 13:56
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84225	180402	12/14/2020 15:41	12/15/2020 13:58
	B8A 68.7-70.0	Initial	20121403-045	S	84337	180623	12/22/2020 10:49	12/23/2020 13:20
	B8A 71.9-75.0	Initial	20121403-046	S	84337	180623	12/22/2020 10:49	12/23/2020 13:38
	B8A 75.3-80.0	Initial	20121403-047	S	84337	180623	12/22/2020 10:49	12/23/2020 13:42
	B8A 81.1-82.4	Initial	20121403-049	S	84337	180623	12/22/2020 10:49	12/23/2020 13:46
	C8 48.6-49.7	Initial	20121403-050	S	84337	180623	12/22/2020 10:49	12/23/2020 13:50
	C8 61.6-65.6	Initial	20121403-051	S	84337	180623	12/22/2020 10:49	12/23/2020 13:58
	C8 65.6-70.6	Initial	20121403-052	S	84337	180623	12/22/2020 10:49	12/23/2020 14:02
	C8 72.7-75.0	Initial	20121403-053	S	84337	180623	12/22/2020 10:49	12/23/2020 14:06
	D8 47.2-49.0	Initial	20121403-054	S	84337	180623	12/22/2020 10:49	12/23/2020 14:10
	D8 55.0-59.0	Initial	20121403-056	S	84337	180623	12/22/2020 10:49	12/23/2020 14:14
	D8 60.6-64.0	Initial	20121403-057	S	84337	180623	12/22/2020 10:49	12/23/2020 14:18
	D8 75.5-79.0	Initial	20121403-060	S	84337	180623	12/22/2020 10:49	12/23/2020 14:22
	84337-1-BKS	BKS	84337-1-BKS	S	84337	180623	12/22/2020 10:49	12/23/2020 13:12
	84337-1-BLK	BLK	84337-1-BLK	S	84337	180623	12/22/2020 10:49	12/23/2020 13:10
	84337-1-BSD	BSD	84337-1-BSD	S	84337	180623	12/22/2020 10:49	12/23/2020 13:14

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Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 7196 A	B8A 68.7-70.0 D	MD	20121403-045 D	S	84337	180623	12/22/2020 10:49	12/23/2020 13:24
	B8A 68.7-70.0 S	MS	20121403-045 S	S	84337	180623	12/22/2020 10:49	12/23/2020 13:28
SW-846 8015C DRO	C6 36.6-38.8	Initial	20121403-005	S	84300	180553	12/20/2020 12:22	12/21/2020 18:03
	B7 41.0-43.3	Initial	20121403-017	S	84300	180553	12/20/2020 12:22	12/21/2020 16:49
	B7 48.2-50.6	Initial	20121403-020	S	84300	180553	12/20/2020 12:22	12/21/2020 17:13
	A8 57.8-62.3	Initial	20121403-040	S	84300	180553	12/20/2020 12:22	12/21/2020 16:24
	B8A 68.7-70.0	Initial	20121403-045	S	84300	180553	12/20/2020 12:22	12/21/2020 18:53
	84300-1-BKS	BKS	84300-1-BKS	S	84300	180553	12/20/2020 12:22	12/21/2020 14:44
	84300-1-BLK	BLK	84300-1-BLK	S	84300	180553	12/20/2020 12:22	12/21/2020 13:05
	84300-1-BSD	BSD	84300-1-BSD	S	84300	180553	12/20/2020 12:22	12/21/2020 15:09
	C6 35.0-36.1	Initial	20121403-004	S	84300	180554	12/20/2020 12:22	12/21/2020 17:13
	B7 58.1-60.6	Initial	20121403-025	S	84300	180554	12/20/2020 12:22	12/21/2020 16:24
	B8 67.2-68.7	Initial	20121403-033	S	84300	180554	12/20/2020 12:22	12/21/2020 15:34
	B8 67.2-68.7 S	MS	20121403-033 S	S	84300	180554	12/20/2020 12:22	12/21/2020 14:44
	B8 67.2-68.7 SD	MSD	20121403-033 S	S	84300	180554	12/20/2020 12:22	12/21/2020 15:09
	84344-1-BKS	BKS	84344-1-BKS	S	84344	180601	12/22/2020 14:30	12/22/2020 15:56
	84344-1-BLK	BLK	84344-1-BLK	S	84344	180601	12/22/2020 14:30	12/22/2020 15:31
	84344-1-BSD	BSD	84344-1-BSD	S	84344	180601	12/22/2020 14:30	12/22/2020 16:21
	D8 55.0-59.0	Initial	20121403-056	S	84344	180602	12/22/2020 14:30	12/22/2020 16:45
	D8 55.0-59.0 S	MS	20121403-056 S	S	84344	180602	12/22/2020 14:30	12/22/2020 15:56
	D8 55.0-59.0 SD	MSD	20121403-056 S	S	84344	180602	12/22/2020 14:30	12/22/2020 16:21
	B8A 75.3-80.0	Initial	20121403-047	S	84344	180628	12/22/2020 14:30	12/23/2020 15:34
	B8A 81.1-82.4	Initial	20121403-049	S	84344	180628	12/22/2020 14:30	12/23/2020 17:38
	C8 61.6-65.6	Initial	20121403-051	S	84344	180628	12/22/2020 14:30	12/23/2020 15:58
	D8 47.2-49.0	Initial	20121403-054	S	84344	180628	12/22/2020 14:30	12/23/2020 16:23
	D8 75.5-79.0	Initial	20121403-060	S	84344	180628	12/22/2020 14:30	12/23/2020 16:48
	B8A 71.9-75.0	Initial	20121403-046	S	84344	180629	12/22/2020 14:31	12/23/2020 16:48
	C8 48.6-49.7	Initial	20121403-050	S	84344	180629	12/22/2020 14:30	12/23/2020 15:58
	C8 65.6-70.6	Initial	20121403-052	S	84344	180629	12/22/2020 14:30	12/23/2020 16:23
	C8 72.7-75.0	Initial	20121403-053	S	84344	180629	12/22/2020 14:30	12/23/2020 17:38
	D8 60.6-64.0	Initial	20121403-057	S	84344	180629	12/22/2020 14:30	12/23/2020 17:13
SW-846 8015C GRO	B7 42.0	Initial	20121403-016	S	84380	180659	12/23/2020 10:07	12/23/2020 17:06
	B8 66.7	Initial	20121403-030	S	84380	180659	12/23/2020 10:07	12/23/2020 17:37
	A8 62.3	Initial	20121403-039	S	84380	180659	12/23/2020 10:07	12/23/2020 18:07
	B8A 81.5	Initial	20121403-048	S	84380	180659	12/23/2020 10:07	12/23/2020 18:38
	D8 48.0	Initial	20121403-055	S	84380	180659	12/23/2020 10:07	12/23/2020 19:08
	C8 76.2	Initial	20121403-061	S	84380	180659	12/23/2020 10:07	12/23/2020 19:39
	84380-2-BKS	BKS	84380-2-BKS	S	84380	180659	12/23/2020 10:07	12/23/2020 10:37
	84380-2-BLK	BLK	84380-2-BLK	S	84380	180659	12/23/2020 10:07	12/23/2020 13:03
	84380-2-BSD	BSD	84380-2-BSD	S	84380	180659	12/23/2020 10:07	12/23/2020 11:32
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84380	180659	12/23/2020 10:07	12/23/2020 12:02
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84380	180659	12/23/2020 10:07	12/23/2020 12:33
SW-846 8081 B	B8A 75.3-80.0	Initial	20121403-047	S	84296	180570	12/19/2020 07:22	12/21/2020 12:19
	B8A 81.1-82.4	Initial	20121403-049	S	84296	180570	12/19/2020 07:22	12/21/2020 12:33

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Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 8081 B	C8 48.6-49.7	Initial	20121403-050	S	84296	180570	12/19/2020 07:22	12/21/2020 12:47
	C8 61.6-65.6	Initial	20121403-051	S	84296	180570	12/19/2020 07:22	12/21/2020 13:02
	C8 65.6-70.6	Initial	20121403-052	S	84296	180570	12/19/2020 07:22	12/21/2020 13:16
	C8 72.7-75.0	Initial	20121403-053	S	84296	180570	12/19/2020 07:22	12/21/2020 13:31
	D8 47.2-49.0	Initial	20121403-054	S	84296	180570	12/19/2020 07:22	12/21/2020 13:45
	D8 55.0-59.0	Initial	20121403-056	S	84296	180570	12/19/2020 07:22	12/21/2020 14:00
	D8 60.6-64.0	Initial	20121403-057	S	84296	180570	12/19/2020 07:22	12/21/2020 14:14
	D8 75.5-79.0	Initial	20121403-060	S	84296	180570	12/19/2020 07:22	12/21/2020 14:28
	84296-1-BKS	BKS	84296-1-BKS	S	84296	180570	12/19/2020 07:22	12/21/2020 11:21
	84296-1-BLK	BLK	84296-1-BLK	S	84296	180570	12/19/2020 07:22	12/21/2020 11:07
	84296-1-BSD	BSD	84296-1-BSD	S	84296	180570	12/19/2020 07:22	12/21/2020 11:35
	GTA-AG-1 S	MS	20121821-001 S	S	84296	180570	12/19/2020 07:22	12/21/2020 11:50
	GTA-AG-1 SD	MSD	20121821-001 S	S	84296	180570	12/19/2020 07:22	12/21/2020 12:04
	C6 35.0-36.1	Initial	20121403-004	S	84284	180644	12/18/2020 10:38	12/21/2020 21:45
	C6 36.6-38.8	Initial	20121403-005	S	84284	180644	12/18/2020 10:38	12/21/2020 22:00
	B7 41.0-43.3	Initial	20121403-017	S	84284	180644	12/18/2020 10:38	12/21/2020 22:14
	B7 48.2-50.6	Initial	20121403-020	S	84284	180644	12/18/2020 10:38	12/21/2020 22:28
	B7 58.1-60.6	Initial	20121403-025	S	84284	180644	12/18/2020 10:38	12/21/2020 22:43
	B8 67.2-68.7	Initial	20121403-033	S	84284	180644	12/18/2020 10:38	12/21/2020 22:58
	A8 57.8-62.3	Initial	20121403-040	S	84284	180644	12/18/2020 10:38	12/21/2020 23:12
	B8A 68.7-70.0	Initial	20121403-045	S	84284	180644	12/18/2020 10:38	12/22/2020 19:07
	B8A 71.9-75.0	Initial	20121403-046	S	84284	180644	12/18/2020 10:38	12/22/2020 19:21
	84284-1-BKS	BKS	84284-1-BKS	S	84284	180644	12/18/2020 10:38	12/21/2020 19:35
	84284-1-BLK	BLK	84284-1-BLK	S	84284	180644	12/18/2020 10:38	12/21/2020 19:20
	84284-1-BSD	BSD	84284-1-BSD	S	84284	180644	12/18/2020 10:38	12/21/2020 19:49
	B7 58.1-60.6 S	MS	20121403-025 S	S	84284	180644	12/18/2020 10:38	12/21/2020 20:47
	B7 58.1-60.6 SD	MSD	20121403-025 S	S	84284	180644	12/18/2020 10:38	12/21/2020 21:02
SW-846 8082 A	B8A 71.9-75.0	Initial	20121403-046	S	84285	180580	12/18/2020 10:39	12/21/2020 22:44
	84285-1-BKS	BKS	84285-1-BKS	S	84285	180580	12/18/2020 10:39	12/21/2020 20:23
	84285-1-BLK	BLK	84285-1-BLK	S	84285	180580	12/18/2020 10:39	12/21/2020 19:54
	84285-1-BSD	BSD	84285-1-BSD	S	84285	180580	12/18/2020 10:39	12/21/2020 20:51
	B8A 71.9-75.0 S	MS	20121403-046 S	S	84285	180580	12/18/2020 10:39	12/21/2020 21:48
	B8A 71.9-75.0 SD	MSD	20121403-046 S	S	84285	180580	12/18/2020 10:39	12/21/2020 22:16
	D8 47.2-49.0	Initial	20121403-054	S	84312	180581	12/21/2020 12:48	12/22/2020 02:56
	84312-1-BKS	BKS	84312-1-BKS	S	84312	180581	12/21/2020 12:48	12/22/2020 01:04
	84312-1-BLK	BLK	84312-1-BLK	S	84312	180581	12/21/2020 12:48	12/22/2020 00:36
	84312-1-BSD	BSD	84312-1-BSD	S	84312	180581	12/21/2020 12:48	12/22/2020 01:32
	D8 47.2-49.0 S	MS	20121403-054 S	S	84312	180581	12/21/2020 12:48	12/22/2020 02:00
	D8 47.2-49.0 SD	MSD	20121403-054 S	S	84312	180581	12/21/2020 12:48	12/22/2020 02:27
	C6 35.0-36.1	Initial	20121403-004	S	84285	180686	12/18/2020 10:39	12/22/2020 15:43
	C6 36.6-38.8	Initial	20121403-005	S	84285	180686	12/18/2020 10:39	12/22/2020 16:12
	B7 41.0-43.3	Initial	20121403-017	S	84285	180686	12/18/2020 10:39	12/22/2020 16:40
	B7 48.2-50.6	Initial	20121403-020	S	84285	180686	12/18/2020 10:39	12/22/2020 17:08
	B7 58.1-60.6	Initial	20121403-025	S	84285	180686	12/18/2020 10:39	12/22/2020 18:32
	B8 67.2-68.7	Initial	20121403-033	S	84285	180686	12/18/2020 10:39	12/22/2020 19:01

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SW-846 8082 A	A8 57.8-62.3	Initial	20121403-040	S	84285	180686	12/18/2020 10:39	12/22/2020 19:29
	B8A 68.7-70.0	Initial	20121403-045	S	84285	180686	12/18/2020 10:39	12/22/2020 19:57
	B8A 75.3-80.0	Initial	20121403-047	S	84312	180687	12/21/2020 12:48	12/22/2020 20:25
	B8A 81.1-82.4	Initial	20121403-049	S	84312	180687	12/21/2020 12:48	12/22/2020 20:53
	C8 48.6-49.7	Initial	20121403-050	S	84312	180687	12/21/2020 12:48	12/22/2020 21:21
	C8 61.6-65.6	Initial	20121403-051	S	84312	180687	12/21/2020 12:48	12/22/2020 21:49
	C8 65.6-70.6	Initial	20121403-052	S	84312	180687	12/21/2020 12:48	12/22/2020 22:17
	C8 72.7-75.0	Initial	20121403-053	S	84312	180687	12/21/2020 12:48	12/22/2020 22:46
	D8 55.0-59.0	Initial	20121403-056	S	84312	180687	12/21/2020 12:48	12/22/2020 23:13
	D8 60.6-64.0	Initial	20121403-057	S	84312	180687	12/21/2020 12:48	12/22/2020 23:41
	D8 75.5-79.0	Initial	20121403-060	S	84312	180687	12/21/2020 12:48	12/23/2020 00:10
SW-846 8260 B	B7 42.0	Initial	20121403-016	S	84358	180621	12/23/2020 09:01	12/23/2020 17:34
	B8 66.7	Initial	20121403-030	S	84358	180621	12/23/2020 09:01	12/23/2020 17:56
	A8 62.3	Initial	20121403-039	S	84358	180621	12/23/2020 09:01	12/23/2020 18:19
	B8A 81.5	Initial	20121403-048	S	84358	180621	12/23/2020 09:01	12/23/2020 18:41
	D8 48.0	Initial	20121403-055	S	84358	180621	12/23/2020 09:01	12/23/2020 19:03
	C8 76.2	Initial	20121403-061	S	84358	180621	12/23/2020 09:01	12/23/2020 19:26
	84358-1-BKS	BKS	84358-1-BKS	S	84358	180621	12/23/2020 09:01	12/23/2020 10:07
	84358-1-BLK	BLK	84358-1-BLK	S	84358	180621	12/23/2020 09:01	12/23/2020 12:21
	84358-1-BSD	BSD	84358-1-BSD	S	84358	180621	12/23/2020 09:01	12/23/2020 10:30
	GTA-UST 7B S	MS	20121604-002 S	S	84358	180621	12/23/2020 09:01	12/23/2020 10:52
	GTA-UST 7B SD	MSD	20121604-002 S	S	84358	180621	12/23/2020 09:01	12/23/2020 11:14
SW-846 8270 C	B7 41.0-43.3	Initial	20121403-017	S	84282	180586	12/18/2020 10:06	12/21/2020 21:48
	B8 67.2-68.7	Initial	20121403-033	S	84282	180586	12/18/2020 10:06	12/21/2020 22:15
	A8 57.8-62.3	Initial	20121403-040	S	84282	180586	12/18/2020 10:06	12/21/2020 22:41
	B8A 71.9-75.0	Initial	20121403-046	S	84282	180586	12/18/2020 10:06	12/21/2020 21:22
	B8A 75.3-80.0	Initial	20121403-047	S	84282	180586	12/18/2020 10:06	12/21/2020 23:07
	84282-1-BKS	BKS	84282-1-BKS	S	84282	180586	12/18/2020 10:06	12/21/2020 16:07
	84282-1-BLK	BLK	84282-1-BLK	S	84282	180586	12/18/2020 10:06	12/21/2020 14:49
	84282-1-BSD	BSD	84282-1-BSD	S	84282	180586	12/18/2020 10:06	12/21/2020 16:33
	B8A 71.9-75.0 S	MS	20121403-046 S	S	84282	180586	12/18/2020 10:06	12/21/2020 20:29
	B8A 71.9-75.0 SD	MSD	20121403-046 S	S	84282	180586	12/18/2020 10:06	12/21/2020 20:55
	C6 35.0-36.1	Initial	20121403-004	S	84282	180617	12/18/2020 10:06	12/22/2020 15:18
	C6 36.6-38.8	Initial	20121403-005	S	84282	180617	12/18/2020 10:06	12/22/2020 15:45
	B7 48.2-50.6	Initial	20121403-020	S	84282	180617	12/18/2020 10:06	12/22/2020 16:11
	B7 58.1-60.6	Initial	20121403-025	S	84282	180617	12/18/2020 10:06	12/22/2020 14:26
	B8A 68.7-70.0	Initial	20121403-045	S	84282	180617	12/18/2020 10:06	12/22/2020 17:03
	B8A 81.1-82.4	Initial	20121403-049	S	84282	180617	12/18/2020 10:06	12/22/2020 16:37
	C8 48.6-49.7	Initial	20121403-050	S	84282	180617	12/18/2020 10:06	12/22/2020 11:23
	C8 61.6-65.6	Initial	20121403-051	S	84282	180617	12/18/2020 10:06	12/22/2020 11:50
	C8 65.6-70.6	Initial	20121403-052	S	84282	180617	12/18/2020 10:06	12/22/2020 12:42
	C8 72.7-75.0	Initial	20121403-053	S	84282	180617	12/18/2020 10:06	12/22/2020 14:52
	D8 47.2-49.0	Initial	20121403-054	S	84282	180617	12/18/2020 10:06	12/22/2020 12:16
	D8 55.0-59.0	Initial	20121403-056	S	84282	180617	12/18/2020 10:06	12/22/2020 13:08
	D8 60.6-64.0	Initial	20121403-057	S	84282	180617	12/18/2020 10:06	12/22/2020 13:34

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Lab Chronology

Project Name: Conowingo
PSS Project No.: 20121403

Method	Client Sample ID	Analysis Type	PSS Sample ID	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 8270 C	D8 75.5-79.0	Initial	20121403-060	S	84282	180617	12/18/2020 10:06	12/22/2020 14:00
SW-846 9014	C6 35.0-36.1	Initial	20121403-004	S	84266	180506	12/17/2020 11:27	12/17/2020 17:23
	C6 36.6-38.8	Initial	20121403-005	S	84266	180506	12/17/2020 11:27	12/17/2020 17:26
	B7 41.0-43.3	Initial	20121403-017	S	84266	180506	12/17/2020 11:27	12/17/2020 17:29
	B7 48.2-50.6	Initial	20121403-020	S	84266	180506	12/17/2020 11:27	12/17/2020 17:32
	B7 58.1-60.6	Initial	20121403-025	S	84266	180506	12/17/2020 11:27	12/17/2020 17:35
	B8 67.2-68.7	Initial	20121403-033	S	84266	180506	12/17/2020 11:27	12/17/2020 17:38
	84266-1-BKS	BKS	84266-1-BKS	S	84266	180506	12/17/2020 11:26	12/17/2020 16:20
	84266-1-BLK	BLK	84266-1-BLK	S	84266	180506	12/17/2020 11:26	12/17/2020 16:17
	84266-1-BSD	BSD	84266-1-BSD	S	84266	180506	12/17/2020 11:26	12/17/2020 16:23
	C4 28.4'-31.9' S	MS	20121018-006 S	S	84266	180506	12/17/2020 11:26	12/17/2020 16:29
	C4 28.4'-31.9' SD	MSD	20121018-006 S	S	84266	180506	12/17/2020 11:26	12/17/2020 16:32
	A8 57.8-62.3	Initial	20121403-040	S	84354	180668	12/23/2020 11:00	12/23/2020 16:02
	B8A 68.7-70.0	Initial	20121403-045	S	84354	180668	12/23/2020 11:00	12/23/2020 16:20
	B8A 71.9-75.0	Initial	20121403-046	S	84354	180668	12/23/2020 11:00	12/23/2020 16:23
	B8A 75.3-80.0	Initial	20121403-047	S	84354	180668	12/23/2020 11:00	12/23/2020 16:26
	B8A 81.1-82.4	Initial	20121403-049	S	84354	180668	12/23/2020 11:00	12/23/2020 16:35
	C8 48.6-49.7	Initial	20121403-050	S	84354	180668	12/23/2020 11:00	12/23/2020 16:38
	C8 61.6-65.6	Initial	20121403-051	S	84354	180668	12/23/2020 11:00	12/23/2020 16:41
	C8 65.6-70.6	Initial	20121403-052	S	84354	180668	12/23/2020 11:00	12/23/2020 16:44
	C8 72.7-75.0	Initial	20121403-053	S	84354	180668	12/23/2020 11:00	12/23/2020 16:47
	D8 47.2-49.0	Initial	20121403-054	S	84354	180668	12/23/2020 11:00	12/23/2020 16:50
	D8 55.0-59.0	Initial	20121403-056	S	84354	180668	12/23/2020 11:00	12/23/2020 16:53
	D8 60.6-64.0	Initial	20121403-057	S	84354	180668	12/23/2020 11:00	12/23/2020 16:56
	D8 75.5-79.0	Initial	20121403-060	S	84354	180668	12/23/2020 11:00	12/23/2020 16:59
	84354-1-BKS	BKS	84354-1-BKS	S	84354	180668	12/23/2020 11:00	12/23/2020 15:56
	84354-1-BLK	BLK	84354-1-BLK	S	84354	180668	12/23/2020 11:00	12/23/2020 15:53
	84354-1-BSD	BSD	84354-1-BSD	S	84354	180668	12/23/2020 11:00	12/23/2020 15:59
	A8 57.8-62.3 S	MS	20121403-040 S	S	84354	180668	12/23/2020 11:00	12/23/2020 16:05
	A8 57.8-62.3 SD	MSD	20121403-040 S	S	84354	180668	12/23/2020 11:00	12/23/2020 16:08

Analytical Method: EPA 365.3 Prep Method: E365.3_Prep
Seq Number: 180517 Matrix: Solid Date Prep: 12/18/20
MB Sample Id: 84283-1-BLK LCS Sample Id: 84283-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	<0.1538	5.051	5.200	103	70-130	mg/kg	

Analytical Method: EPA 365.3 Prep Method: E365.3_Prep
Seq Number: 180517 Matrix: Soil Date Prep: 12/18/20
Parent Sample Id: 20121403-033 MS Sample Id: 20121403-033 S MSD Sample Id: 20121403-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Phosphorus, Total (as P)	10.67	18.15	24.22	75	22.37	63	50-150	8	30	mg/kg	

Analytical Method: SM 4500-NH3-F -2011 Prep Method: SM4500-NH3B
Seq Number: 180416 Matrix: Solid Date Prep: 12/15/20
MB Sample Id: 84233-1-BLK LCS Sample Id: 84233-1-BKS LCSD Sample Id: 84233-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	<1.442	14.42	14.93	104	16.80	103	85-115	1	20	mg/kg	

Analytical Method: SM 4500-NH3-F -2011 Prep Method: SM4500-NH3B
Seq Number: 180685 Matrix: Solid Date Prep: 12/28/20
MB Sample Id: 84373-1-BLK LCS Sample Id: 84373-1-BKS LCSD Sample Id: 84373-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	<1.579	15.79	16.55	105	15.65	104	85-115	1	20	mg/kg	

Analytical Method: SM 4500-NH3-F -2011 Prep Method: SM4500-NH3B
Seq Number: 180685 Matrix: Soil Date Prep: 12/28/20
Parent Sample Id: 20121403-025 MD Sample Id: 20121403-025 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	731.9	751.7	3	20	mg/kg	

Analytical Method: SM 4500-NH3-F -2011 Prep Method: SM4500-NH3B
Seq Number: 180685 Matrix: Soil Date Prep: 12/28/20
Parent Sample Id: 20121403-025 MS Sample Id: 20121403-025 S MSD Sample Id: 20121403-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	731.9	106.8	866.3	126	820.5	83	80-120	41	20	mg/kg	XF

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 9014 Prep Method: SW9010C
Seq Number: 180506 Matrix: Solid Date Prep: 12/17/20
MB Sample Id: 84266-1-BLK LCS Sample Id: 84266-1-BKS LCSD Sample Id: 84266-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.02941	0.5882	0.6331	108	0.5820	107	85-115	1	25	mg/kg	

Analytical Method: SW-846 9014 Prep Method: SW9010C
Seq Number: 180668 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84354-1-BLK LCS Sample Id: 84354-1-BKS LCSD Sample Id: 84354-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Cyanide, Total	<0.03191	0.6383	0.5608	88	0.5690	91	85-115	3	25	mg/kg	

Analytical Method: SW-846 9014 Prep Method: SW9010C
Seq Number: 180668 Matrix: Soil Date Prep: 12/23/20
Parent Sample Id: 20121403-040 MS Sample Id: 20121403-040 S MSD Sample Id: 20121403-040 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Cyanide, Total	0.2419	1.247	1.210	78	1.290	81	54-120	4	25	mg/kg	

Analytical Method: EPA 300.0 Prep Method: E300.0P
Seq Number: 180432 Matrix: Solid Date Prep: 12/15/20
MB Sample Id: 84238-1-BLK LCS Sample Id: 84238-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Sulfate	<12.56	483.1	499.2	103	90-110	mg/kg	

Analytical Method: EPA 300.0 Prep Method: E300.0P
Seq Number: 180432 Matrix: Soil Date Prep: 12/15/20
Parent Sample Id: 20121403-004 MS Sample Id: 20121403-004 S MSD Sample Id: 20121403-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Sulfate	<19.80	761.5	808.1	106	790.8	104	43-156	2	20	mg/kg	

Analytical Method: EPA 300.0 Prep Method: E300.0P
Seq Number: 180432 Matrix: Soil Date Prep: 12/15/20
Parent Sample Id: 20121403-046 MS Sample Id: 20121403-046 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Flag
Sulfate	<25.23	960.7	949.8	99	43-156	mg/kg	

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QC Summary

Project Name Conowingo
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Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180697 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84360-1-BLK LCS Sample Id: 84360-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<0.2064	17.94	20.95	117	80-120	mg/kg	
Arsenic	<0.04935	17.94	18.30	102	80-120	mg/kg	
Beryllium	<0.1121	17.94	21.70	121	80-120	mg/kg	H
Cadmium	<0.04486	17.94	19.71	110	80-120	mg/kg	
Chromium	<0.2467	17.94	19.91	111	80-120	mg/kg	
Copper	<0.1391	17.94	19.05	106	80-120	mg/kg	
Lead	<0.1884	17.94	18.97	106	80-120	mg/kg	
Manganese	<0.3768	17.94	21.24	118	80-120	mg/kg	
Mercury	<0.03275	0.4486	0.4845	108	80-120	mg/kg	
Nickel	<0.1570	17.94	18.09	101	80-120	mg/kg	
Selenium	<0.04486	17.94	18.41	103	80-120	mg/kg	
Silver	<0.04935	17.94	19.65	110	80-120	mg/kg	
Thallium	<0.1166	17.94	17.24	96	80-120	mg/kg	
Zinc	<0.4935	89.72	91.64	102	80-120	mg/kg	

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180694 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84363-1-BLK LCS Sample Id: 84363-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<0.2045	17.78	17.66	99	80-120	mg/kg	
Arsenic	<0.04889	17.78	16.08	90	80-120	mg/kg	
Beryllium	<0.1111	17.78	16.48	93	80-120	mg/kg	
Cadmium	<0.04445	17.78	16.63	94	80-120	mg/kg	
Chromium	<0.2445	17.78	17.84	100	80-120	mg/kg	
Copper	<0.1378	17.78	16.43	92	80-120	mg/kg	
Lead	<0.1867	17.78	15.63	88	80-120	mg/kg	
Manganese	<0.3734	17.78	16.47	93	80-120	mg/kg	
Mercury	<0.03245	0.4445	0.3983	90	80-120	mg/kg	
Nickel	<0.1556	17.78	16.04	90	80-120	mg/kg	
Selenium	<0.04445	17.78	17.73	100	80-120	mg/kg	
Silver	<0.04889	17.78	18.54	104	80-120	mg/kg	
Thallium	<0.1156	17.78	16.17	91	80-120	mg/kg	
Zinc	<0.4889	88.90	79.95	90	80-120	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180696 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84364-1-BLK LCS Sample Id: 84364-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<0.2101	18.27	18.15	99	80-120	mg/kg	
Arsenic	<0.05025	18.27	16.84	92	80-120	mg/kg	
Beryllium	<0.1142	18.27	18.37	101	80-120	mg/kg	
Cadmium	<0.04568	18.27	17.04	93	80-120	mg/kg	
Chromium	<0.2512	18.27	18.47	101	80-120	mg/kg	
Copper	<0.1416	18.27	17.36	95	80-120	mg/kg	
Lead	<0.1919	18.27	16.01	88	80-120	mg/kg	
Manganese	<0.3837	18.27	18.11	99	80-120	mg/kg	
Mercury	<0.03335	0.4568	0.4604	101	80-120	mg/kg	
Nickel	<0.1599	18.27	16.90	93	80-120	mg/kg	
Selenium	<0.04568	18.27	17.46	96	80-120	mg/kg	
Silver	<0.05025	18.27	19.16	105	80-120	mg/kg	
Thallium	<0.1188	18.27	16.94	93	80-120	mg/kg	
Zinc	<0.5025	91.36	85.02	93	80-120	mg/kg	

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180697 Matrix: Soil Date Prep: 12/23/20
Parent Sample Id: 20121403-001 MS Sample Id: 20121403-001 S MSD Sample Id: 20121403-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	0.4872	33.34	30.97	91	27.02	88	75-125	3	30	mg/kg	
Arsenic	12.01	33.34	50.93	117	42.39	101	75-125	15	30	mg/kg	
Beryllium	2.755	33.34	40.97	115	37.22	115	75-125	0	30	mg/kg	
Cadmium	1.838	33.34	41.01	117	33.85	107	75-125	9	30	mg/kg	
Chromium	38.22	33.34	85.61	142	75.94	126	75-125	12	30	mg/kg	X
Copper	53.85	33.34	101.3	142	89.81	120	75-125	17	30	mg/kg	X
Lead	51.23	33.34	89.68	115	85.32	114	75-125	1	30	mg/kg	
Manganese	2512	33.34	2592	240	2474	0	75-125	200	30	mg/kg	XF
Mercury	0.2093	0.8334	1.113	108	1.011	107	75-125	1	30	mg/kg	
Nickel	79.70	33.34	126.9	142	117.8	127	75-125	11	30	mg/kg	X
Selenium	1.233	33.34	32.59	94	29.97	96	75-125	2	30	mg/kg	
Silver	1.378	33.34	37.02	107	33.47	107	75-125	0	30	mg/kg	
Thallium	0.4527	33.34	29.77	88	28.07	92	75-125	4	20	mg/kg	
Zinc	318.7	166.7	543.7	135	489.8	114	75-125	17	30	mg/kg	X

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180694 Matrix: Soil Date Prep: 12/23/20
Parent Sample Id: 20121403-022 MS Sample Id: 20121403-022 S MSD Sample Id: 20121403-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	0.5291	29.02	20.81	70	17.61	68	75-125	3	30	mg/kg	X
Arsenic	14.32	29.02	42.62	98	40.47	104	75-125	6	30	mg/kg	
Beryllium	2.939	29.02	32.48	102	28.13	100	75-125	2	30	mg/kg	
Cadmium	2.844	29.02	31.74	100	28.00	100	75-125	0	30	mg/kg	
Chromium	54.87	29.02	89.22	118	82.91	112	75-125	5	30	mg/kg	
Copper	71.00	29.02	107.9	127	102.9	127	75-125	0	30	mg/kg	X
Lead	65.02	29.02	95.38	105	91.38	105	75-125	0	30	mg/kg	
Manganese	2179	29.02	2481	1041	2441	1045	75-125	0	30	mg/kg	X
Mercury	0.2289	0.7256	0.8678	88	0.8541	100	75-125	13	30	mg/kg	
Nickel	76.72	29.02	120.1	149	115.9	156	75-125	5	30	mg/kg	X
Selenium	1.632	29.02	30.59	100	27.29	102	75-125	2	30	mg/kg	
Silver	4.078	29.02	36.24	111	31.99	111	75-125	0	30	mg/kg	
Thallium	0.4791	29.02	26.50	90	23.43	92	75-125	2	20	mg/kg	
Zinc	440.5	145.1	644.6	141	621.5	144	75-125	2	30	mg/kg	X

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 180696 Matrix: Soil Date Prep: 12/23/20
Parent Sample Id: 20121403-044 MS Sample Id: 20121403-044 S MSD Sample Id: 20121403-044 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Antimony	<0.4385	38.13	28.33	74	22.97	75	75-125	1	30	mg/kg	X
Arsenic	12.59	38.13	48.75	95	39.15	88	75-125	8	30	mg/kg	
Beryllium	2.771	38.13	43.24	106	35.98	110	75-125	4	30	mg/kg	
Cadmium	1.186	38.13	37.54	95	30.14	96	75-125	1	30	mg/kg	
Chromium	37.85	38.13	81.04	113	64.37	88	75-125	25	30	mg/kg	
Copper	48.91	38.13	87.71	102	71.04	73	75-125	33	30	mg/kg	X
Lead	41.71	38.13	74.68	86	60.71	63	75-125	31	30	mg/kg	X
Manganese	2469	38.13	2255	0	1827	0	75-125	NC	30	mg/kg	X
Mercury	0.1712	0.9533	1.023	89	0.8397	89	75-125	0	30	mg/kg	
Nickel	81.49	38.13	125.8	116	100.5	63	75-125	59	30	mg/kg	X
Selenium	1.194	38.13	38.01	97	30.80	98	75-125	1	30	mg/kg	
Silver	0.8125	38.13	39.93	103	32.33	105	75-125	2	30	mg/kg	
Thallium	0.4405	38.13	34.93	90	28.19	92	75-125	2	20	mg/kg	
Zinc	326.9	190.7	536.5	110	437.4	73	75-125	40	30	mg/kg	X

Analytical Method: SM 4500-S2 D 2000 Prep Method: SM4500S2_I
Seq Number: 180542 Matrix: Solid Date Prep: 12/21/20
MB Sample Id: 84311-1-BLK LCS Sample Id: 84311-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Sulfide, total	<3.131	40.40	30.86	76	50-150	mg/kg	

Analytical Method: SM 4500-S2 D 2000 Prep Method: SM4500S2_I
Seq Number: 180589 Matrix: Solid Date Prep: 12/22/20
MB Sample Id: 84335-1-BLK LCS Sample Id: 84335-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Sulfide, total	<2.897	37.38	25.05	67	50-150	mg/kg	

Analytical Method: SM 4500-S2 D 2000 Prep Method: SM4500S2_I
Seq Number: 180589 Matrix: Soil Date Prep: 12/22/20
Parent Sample Id: 20121403-033 MS Sample Id: 20121403-033 S MSD Sample Id: 20121403-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Sulfide, total	<3.889	50.18	25.66	51	20.55	46	50-150	10	20	mg/kg	X

Analytical Method: SM2540G
Seq Number: 180388 Matrix: Soil
Parent Sample Id: 20121403-001 MD Sample Id: 20121403-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	56.3	56.1	0	10	%	

Analytical Method: SM2540G
Seq Number: 180388 Matrix: Soil
Parent Sample Id: 20121403-011 MD Sample Id: 20121403-011 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	82.0	82.1	0	10	%	

Analytical Method: SM2540G
Seq Number: 180400 Matrix: Soil
Parent Sample Id: 20121403-021 MD Sample Id: 20121403-021 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	67.5	67.6	0	10	%	

Analytical Method: SM2540G
Seq Number: 180400 Matrix: Soil
Parent Sample Id: 20121403-031 MD Sample Id: 20121403-031 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	53.9	54.0	0	10	%	

Analytical Method: SM2540G
Seq Number: 180448 Matrix: Soil
Parent Sample Id: 20121403-041 MD Sample Id: 20121403-041 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	57.2	57.2	0	10	%	

Analytical Method: SM2540G
Seq Number: 180457 Matrix: Soil
Parent Sample Id: 20121403-051 MD Sample Id: 20121403-051 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	53.9	53.8	0	10	%	

Analytical Method: SM2540G
Seq Number: 180457 Matrix: Soil
Parent Sample Id: 20121403-061 MD Sample Id: 20121403-061 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Solids, percent	47.5	48.0	1	10	%	

Analytical Method: SW-846 7196 A Prep Method: SW3060A
Seq Number: 180402 Matrix: Solid Date Prep: 12/14/20
MB Sample Id: 84225-1-BLK LCS Sample Id: 84225-1-BKS LCSD Sample Id: 84225-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Chromium, Hexavalent	<1.004	5.020	4.922	98	4.984	100	80-120	2	20	mg/kg	

Analytical Method: SW-846 7196 A Prep Method: SW3060A
Seq Number: 180623 Matrix: Solid Date Prep: 12/22/20
MB Sample Id: 84337-1-BLK LCS Sample Id: 84337-1-BKS LCSD Sample Id: 84337-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Chromium, Hexavalent	<0.9929	4.965	5.127	103	4.857	98	80-120	5	20	mg/kg	

Analytical Method: SW-846 7196 A Prep Method: SW3060A
Seq Number: 180623 Matrix: Soil Date Prep: 12/22/20
Parent Sample Id: 20121403-045 MD Sample Id: 20121403-045 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Flag
Chromium, Hexavalent	<1.337	<1.337	NC	20	mg/kg	

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Analytical Method: SW-846 7196 A Prep Method: SW3060A
Seq Number: 180623 Matrix: Soil Date Prep: 12/22/20
Parent Sample Id: 20121403-045 MS Sample Id: 20121403-045 S

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Flag
Chromium, Hexavalent	<1.354	6.768	<1.354	0	75-125	mg/kg	X

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 180644 Matrix: Solid Date Prep: 12/18/20
MB Sample Id: 84284-1-BLK LCS Sample Id: 84284-1-BKS LCSD Sample Id: 84284-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
alpha-BHC	<0.003937	0.01969	0.01883	96	0.01876	96	49-150	0	25	mg/kg	
gamma-BHC (Lindane)	<0.003937	0.01969	0.01878	95	0.01870	96	47-145	1	25	mg/kg	
beta-BHC	<0.003937	0.01969	0.01781	90	0.01770	91	46-140	1	25	mg/kg	
delta-BHC	<0.003937	0.01969	0.01915	97	0.01907	98	47-152	1	25	mg/kg	
Heptachlor	<0.003937	0.01969	0.01893	96	0.01884	97	35-156	1	25	mg/kg	
Aldrin	<0.003937	0.01969	0.01931	98	0.01932	99	48-144	1	25	mg/kg	
Heptachlor epoxide	<0.003937	0.01969	0.01915	97	0.01911	98	52-143	1	25	mg/kg	
gamma-Chlordane	<0.003937	0.01969	0.01940	99	0.01932	99	49-132	0	25	mg/kg	
alpha-Chlordane	<0.003937	0.01969	0.01924	98	0.01919	99	48-144	1	25	mg/kg	
4,4-DDE	<0.003937	0.01969	0.01993	101	0.01991	102	46-146	1	25	mg/kg	
Endosulfan I	<0.003937	0.01969	0.01942	99	0.01935	99	47-138	0	25	mg/kg	
Dieldrin	<0.003937	0.01969	0.02007	102	0.02003	103	48-142	1	25	mg/kg	
Endrin	<0.003937	0.01969	0.01924	98	0.01896	97	34-155	1	25	mg/kg	
4,4-DDD	<0.003937	0.01969	0.02107	107	0.02101	108	46-141	1	25	mg/kg	
Endosulfan II	<0.003937	0.01969	0.01990	101	0.01983	102	43-141	1	25	mg/kg	
4,4-DDT	<0.003937	0.01969	0.02091	106	0.02064	106	22-153	0	25	mg/kg	
Endrin aldehyde	<0.003937	0.01969	0.02078	106	0.02065	106	45-140	0	25	mg/kg	
Methoxychlor	<0.003937	0.01969	0.02062	105	0.02027	104	25-146	1	25	mg/kg	
Endosulfan sulfate	<0.003937	0.01969	0.01981	101	0.01975	101	43-134	0	25	mg/kg	
Endrin ketone	<0.003937	0.01969	0.02114	107	0.02109	108	38-149	1	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	84		101		101		39-151	%
Tetrachloro-m-xylene	75		92		93		44-152	%

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Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 180570 Matrix: Solid Date Prep: 12/19/20
MB Sample Id: 84296-1-BLK LCS Sample Id: 84296-1-BKS LCSD Sample Id: 84296-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
alpha-BHC	<0.004086	0.02043	0.02204	108	0.02214	109	49-150	1	25	mg/kg	
gamma-BHC (Lindane)	<0.004086	0.02043	0.02140	105	0.02155	106	47-145	1	25	mg/kg	
beta-BHC	<0.004086	0.02043	0.02148	105	0.02156	107	46-140	2	25	mg/kg	
delta-BHC	<0.004086	0.02043	0.02258	111	0.02288	113	47-152	2	25	mg/kg	
Heptachlor	<0.004086	0.02043	0.02044	100	0.02059	102	35-156	2	25	mg/kg	
Aldrin	<0.004086	0.02043	0.02066	101	0.02078	103	48-144	2	25	mg/kg	
Heptachlor epoxide	<0.004086	0.02043	0.02048	100	0.02065	102	52-143	2	25	mg/kg	
gamma-Chlordane	<0.004086	0.02043	0.02034	100	0.02057	102	49-132	2	25	mg/kg	
alpha-Chlordane	<0.004086	0.02043	0.02072	101	0.02085	103	48-144	2	25	mg/kg	
4,4-DDE	<0.004086	0.02043	0.01914	94	0.01927	95	46-146	1	25	mg/kg	
Endosulfan I	<0.004086	0.02043	0.02061	101	0.02078	103	47-138	2	25	mg/kg	
Dieldrin	<0.004086	0.02043	0.01972	97	0.02003	99	48-142	2	25	mg/kg	
Endrin	<0.004086	0.02043	0.01931	95	0.01967	97	34-155	2	25	mg/kg	
4,4-DDD	<0.004086	0.02043	0.01903	93	0.01938	96	46-141	3	25	mg/kg	
Endosulfan II	<0.004086	0.02043	0.02009	98	0.02055	102	43-141	4	25	mg/kg	
4,4-DDT	<0.004086	0.02043	0.02028	99	0.02069	102	22-153	3	25	mg/kg	
Endrin aldehyde	<0.004086	0.02043	0.02048	100	0.02140	106	45-140	6	25	mg/kg	
Methoxychlor	<0.004086	0.02043	0.02188	107	0.02207	109	25-146	2	25	mg/kg	
Endosulfan sulfate	<0.004086	0.02043	0.02003	98	0.02046	101	43-134	3	25	mg/kg	
Endrin ketone	<0.004086	0.02043	0.02044	100	0.02076	103	38-149	3	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	85		104		106		39-151	%
Tetrachloro-m-xylene	75		90		90		44-152	%

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 180644 Matrix: Soil Date Prep: 12/18/20
Parent Sample Id: 20121403-025 MS Sample Id: 20121403-025 S MSD Sample Id: 20121403-025 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
alpha-BHC	<0.006898	0.03449	0.03159	92	0.03083	90	48-146	2	30	mg/kg	
gamma-BHC (Lindane)	<0.006898	0.03449	0.03173	92	0.03125	91	55-144	1	30	mg/kg	
beta-BHC	<0.006898	0.03449	0.02982	86	0.02994	87	54-142	1	30	mg/kg	
delta-BHC	<0.006898	0.03449	0.02987	87	0.03123	91	54-145	4	30	mg/kg	
Heptachlor	<0.006898	0.03449	0.03213	93	0.03149	92	44-145	1	30	mg/kg	
Aldrin	<0.006898	0.03449	0.03190	92	0.03193	93	53-136	1	30	mg/kg	
Heptachlor epoxide	<0.006898	0.03449	0.03082	89	0.03080	90	54-135	1	30	mg/kg	
gamma-Chlordane	<0.006898	0.03449	0.03185	92	0.03190	93	54-134	1	30	mg/kg	
alpha-Chlordane	<0.006898	0.03449	0.03189	92	0.03183	93	56-138	1	30	mg/kg	
4,4-DDE	<0.006898	0.03449	0.03327	96	0.03336	97	54-146	1	30	mg/kg	
Endosulfan I	<0.006898	0.03449	0.03223	93	0.03222	94	55-136	1	30	mg/kg	
Dieldrin	<0.006898	0.03449	0.03396	98	0.03399	99	60-133	1	30	mg/kg	
Endrin	<0.006898	0.03449	0.03299	96	0.03303	96	51-147	0	30	mg/kg	
4,4-DDD	<0.006898	0.03449	0.03530	102	0.03557	104	52-134	2	30	mg/kg	
Endosulfan II	<0.006898	0.03449	0.03280	95	0.03301	96	58-130	1	30	mg/kg	
4,4-DDT	<0.006898	0.03449	0.03521	102	0.03496	102	39-147	0	30	mg/kg	
Endrin aldehyde	<0.006898	0.03449	0.03365	98	0.03386	99	52-133	1	30	mg/kg	
Methoxychlor	<0.006898	0.03449	0.03689	107	0.03738	109	40-139	2	30	mg/kg	
Endosulfan sulfate	<0.006898	0.03449	0.03342	97	0.03368	98	44-136	1	30	mg/kg	
Endrin ketone	<0.006898	0.03449	0.03551	103	0.03556	104	45-139	1	30	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Decachlorobiphenyl	97		96		39-151	%
Tetrachloro-m-xylene	87		85		44-152	%

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 180580 Matrix: Solid Date Prep: 12/18/20
MB Sample Id: 84285-1-BLK LCS Sample Id: 84285-1-BKS LCSD Sample Id: 84285-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
PCB-1016	<0.04985	0.4985	0.5024	101	0.5232	102	67-104	1	25	mg/kg	
PCB-1260	<0.04985	0.4985	0.4986	100	0.5230	102	57-119	2	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	89		112		113		40-149	%
Tetrachloro-m-xylene	84		101		104		34-117	%

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 180581 Matrix: Solid Date Prep: 12/21/20
MB Sample Id: 84312-1-BLK LCS Sample Id: 84312-1-BKS LCSD Sample Id: 84312-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
PCB-1016	<0.04975	0.4975	0.5121	103	0.5222	103	67-104	0	25	mg/kg	
PCB-1260	<0.04975	0.4975	0.5280	106	0.5292	105	57-119	1	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Decachlorobiphenyl	95		122		121		40-149	%
Tetrachloro-m-xylene	89		105		104		34-117	%

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 180580 Matrix: Soil Date Prep: 12/18/20
Parent Sample Id: 20121403-046 MS Sample Id: 20121403-046 S MSD Sample Id: 20121403-046 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
PCB-1016	<0.09230	0.9230	0.7285	79	0.7148	80	60-113	1	30	mg/kg	
PCB-1260	<0.09230	0.9230	0.8629	93	0.8474	95	51-130	2	30	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Decachlorobiphenyl	113		119		40-149	%
Tetrachloro-m-xylene	79		78		34-117	%

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 180581 Matrix: Soil Date Prep: 12/21/20
Parent Sample Id: 20121403-054 MS Sample Id: 20121403-054 S MSD Sample Id: 20121403-054 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
PCB-1016	<0.09461	0.9461	0.9373	99	0.8619	92	60-113	7	30	mg/kg	
PCB-1260	<0.09461	0.9461	0.9518	101	0.9014	97	51-130	4	30	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Decachlorobiphenyl	111		108		40-149	%
Tetrachloro-m-xylene	96		86		34-117	%

Analytical Method: SW-846 8015C DRO Prep Method: SW3550C
Seq Number: 180553 Matrix: Solid Date Prep: 12/20/20
MB Sample Id: 84300-1-BLK LCS Sample Id: 84300-1-BKS LCSD Sample Id: 84300-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-DRO (Diesel Range Organics)	<3.341	33.41	35.00	105	32.82	98	56-118	7	22	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
o-Terphenyl	113		105		104		35-124	%

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Analytical Method: SW-846 8015C DRO Prep Method: SW3550C
Seq Number: 180601 Matrix: Solid Date Prep: 12/22/20
MB Sample Id: 84344-1-BLK LCS Sample Id: 84344-1-BKS LCSD Sample Id: 84344-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-DRO (Diesel Range Organics)	<3.340	33.40	26.93	81	25.84	77	56-118	4	22	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
o-Terphenyl	75		80		77		35-124	%

Analytical Method: SW-846 8015C DRO Prep Method: SW3550C
Seq Number: 180554 Matrix: Soil Date Prep: 12/20/20
Parent Sample Id: 20121403-033 MS Sample Id: 20121403-033 S MSD Sample Id: 20121403-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-DRO (Diesel Range Organics)	<3.791	37.91	40.49	107	40.84	106	27-137	1	31	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
o-Terphenyl	114		113		35-124	%

Analytical Method: SW-846 8015C DRO Prep Method: SW3550C
Seq Number: 180602 Matrix: Soil Date Prep: 12/22/20
Parent Sample Id: 20121403-056 MS Sample Id: 20121403-056 S MSD Sample Id: 20121403-056 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-DRO (Diesel Range Organics)	<6.700	67.00	62.12	93	54.98	83	27-137	11	31	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
o-Terphenyl	89		83		35-124	%

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 180586 Matrix: Solid Date Prep: 12/18/20
MB Sample Id: 84282-1-BLK LCS Sample Id: 84282-1-BKS LCSD Sample Id: 84282-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acenaphthene	<0.008286	1.326	1.388	105	1.360	102	74-104	3	25	mg/kg	H
Acenaphthylene	<0.008286	1.326	1.458	110	1.440	108	76-107	2	25	mg/kg	H
Acetophenone	<0.03315	1.326	1.445	109	1.407	105	73-113	4	25	mg/kg	
Anthracene	<0.008286	1.326	1.352	102	1.366	102	76-115	0	25	mg/kg	
Atrazine	<0.06629	1.326	1.334	101	1.306	98	34-104	3	25	mg/kg	
Benzo(a)anthracene	<0.008286	1.326	1.260	95	1.259	94	70-110	1	25	mg/kg	
Benzo(a)pyrene	<0.008286	1.326	1.226	92	1.238	93	62-125	1	25	mg/kg	
Benzo(b)fluoranthene	<0.008286	1.326	1.221	92	1.196	90	52-135	2	25	mg/kg	
Benzo(g,h,i)perylene	<0.008286	1.326	1.251	94	1.252	94	57-131	0	25	mg/kg	
Benzo(k)fluoranthene	<0.008286	1.326	1.236	93	1.275	95	58-117	2	25	mg/kg	
Biphenyl (Diphenyl)	<0.03315	1.326	1.453	110	1.431	107	66-116	3	25	mg/kg	
Butyl benzyl phthalate	<0.03315	1.326	1.513	114	1.494	112	75-118	2	25	mg/kg	
bis(2-chloroethoxy) methane	<0.03315	1.326	1.649	124	1.624	122	69-111	2	25	mg/kg	H
bis(2-chloroethyl) ether	<0.03315	1.326	1.399	106	1.366	102	64-110	4	25	mg/kg	
bis(2-chloroisopropyl) ether	<0.03315	1.326	1.354	102	1.316	99	45-118	3	25	mg/kg	
bis(2-ethylhexyl) phthalate	<0.03315	1.326	1.579	119	1.557	117	75-120	2	25	mg/kg	
4-Bromophenylphenyl ether	<0.03315	1.326	1.500	113	1.487	111	75-112	2	25	mg/kg	H
Di-n-butyl phthalate	<0.03315	1.326	1.462	110	1.457	109	80-113	1	25	mg/kg	
Carbazole	<0.03315	1.326	1.041	79	1.060	79	65-120	0	25	mg/kg	
Caprolactam	<0.06629	1.326	1.401	106	1.340	100	60-116	6	25	mg/kg	
4-Chloro-3-methyl phenol	<0.03315	1.326	1.457	110	1.432	107	76-114	3	25	mg/kg	
4-Chloroaniline	<0.03315	1.326	1.076	81	1.057	79	64-106	3	25	mg/kg	
2-Chloronaphthalene	<0.03315	1.326	1.400	106	1.396	104	76-106	2	25	mg/kg	
2-Chlorophenol	<0.03315	1.326	1.382	104	1.348	101	70-111	3	25	mg/kg	
4-Chlorophenyl Phenyl ether	<0.03315	1.326	1.518	114	1.494	112	73-111	2	25	mg/kg	H
Chrysene	<0.008286	1.326	1.391	105	1.386	104	74-113	1	25	mg/kg	
Dibenz(a,h)Anthracene	<0.008286	1.326	1.266	95	1.276	96	52-138	1	25	mg/kg	
Dibenzofuran	<0.03315	1.326	1.474	111	1.458	109	78-111	2	25	mg/kg	
3,3-Dichlorobenzidine	<0.03315	1.326	1.321	100	1.336	100	64-130	0	25	mg/kg	
2,4-Dichlorophenol	<0.03315	1.326	1.448	109	1.401	105	70-113	4	25	mg/kg	
Diethyl phthalate	<0.03315	1.326	1.457	110	1.450	109	76-111	1	25	mg/kg	
Dimethyl phthalate	<0.03315	1.326	1.429	108	1.430	107	76-111	1	25	mg/kg	
2,4-Dimethylphenol	<0.03315	1.326	1.436	108	1.395	104	72-119	4	25	mg/kg	
4,6-Dinitro-2-methyl phenol	<0.1657	1.326	1.382	104	1.347	101	68-143	3	25	mg/kg	
2,4-Dinitrophenol	<0.1657	1.326	1.458	110	1.412	106	52-141	4	25	mg/kg	
2,4-Dinitrotoluene	<0.06629	1.326	1.450	109	1.433	107	77-116	2	25	mg/kg	
2,6-Dinitrotoluene	<0.06629	1.326	1.441	109	1.444	108	76-112	1	25	mg/kg	
Fluoranthene	<0.008286	1.326	1.390	105	1.386	104	82-112	1	25	mg/kg	
Fluorene	<0.008286	1.326	1.389	105	1.374	103	78-105	2	25	mg/kg	
Hexachlorobenzene	<0.03315	1.326	1.439	109	1.409	105	74-113	4	25	mg/kg	
Hexachlorobutadiene	<0.03315	1.326	1.408	106	1.384	104	71-106	2	25	mg/kg	
Hexachlorocyclopentadiene	<0.06629	1.326	1.074	81	1.020	76	50-131	6	25	mg/kg	
Hexachloroethane	<0.03315	1.326	1.325	100	1.293	97	62-109	3	25	mg/kg	
Indeno(1,2,3-c,d)Pyrene	<0.008286	1.326	1.278	96	1.294	97	49-142	1	25	mg/kg	
Isophorone	<0.03315	1.326	1.442	109	1.415	106	66-108	3	25	mg/kg	H
2-Methylnaphthalene	<0.008286	1.326	1.416	107	1.399	105	66-112	2	25	mg/kg	
2-Methyl phenol	<0.03315	1.326	1.452	110	1.416	106	73-113	4	25	mg/kg	
3&4-Methylphenol	<0.03315	1.326	1.455	110	1.411	106	68-116	4	25	mg/kg	
Naphthalene	<0.008286	1.326	1.309	99	1.270	95	72-104	4	25	mg/kg	
2-Nitroaniline	<0.06629	1.326	1.334	101	1.320	99	63-113	2	25	mg/kg	
3-Nitroaniline	<0.06629	1.326	1.188	90	1.180	88	65-119	2	25	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 180586 Matrix: Solid Date Prep: 12/18/20
MB Sample Id: 84282-1-BLK LCS Sample Id: 84282-1-BKS LCSD Sample Id: 84282-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
4-Nitroaniline	<0.06629	1.326	0.9811	74	0.9709	73	55-141	1	25	mg/kg	
Nitrobenzene	<0.03315	1.326	1.301	98	1.256	94	60-110	4	25	mg/kg	
2-Nitrophenol	<0.03315	1.326	1.278	96	1.248	93	72-117	3	25	mg/kg	
4-Nitrophenol	<0.1657	1.326	1.277	96	1.199	90	49-143	6	25	mg/kg	
N-Nitrosodi-n-propyl amine	<0.03315	1.326	1.345	101	1.299	97	47-119	4	25	mg/kg	
N-Nitrosodiphenylamine	<0.03315	1.326	1.244	94	1.218	91	69-109	3	25	mg/kg	
Di-n-octyl phthalate	<0.06629	1.326	1.387	105	1.368	102	59-126	3	25	mg/kg	
Pentachlorophenol	<0.06629	1.326	1.462	110	1.435	107	59-125	3	25	mg/kg	
Phenanthrene	<0.008286	1.326	1.321	100	1.317	99	76-109	1	25	mg/kg	
Phenol	<0.03315	1.326	1.313	99	1.298	97	57-118	2	25	mg/kg	
Pyrene	<0.008286	1.326	1.410	106	1.394	104	77-113	2	25	mg/kg	
Pyridine	<0.03315	1.326	1.441	109	1.437	108	53-109	1	25	mg/kg	
2,4,5-Trichlorophenol	<0.03315	1.326	1.411	106	1.400	105	66-122	1	25	mg/kg	
2,4,6-Trichlorophenol	<0.03315	1.326	1.442	109	1.437	108	66-114	1	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
2-Fluorobiphenyl	105	*	97		96		50-104	%
2-Fluorophenol	115	*	95		96		40-109	%
Nitrobenzene-d5	103	*	98		93		41-101	%
Phenol-d6	98		91		90		44-102	%
Terphenyl-D14	104		95		92		70-115	%
2,4,6-Tribromophenol	104		102		100		36-123	%

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 180586 Matrix: Soil Date Prep: 12/18/20
Parent Sample Id: 20121403-046 MS Sample Id: 20121403-046 S MSD Sample Id: 20121403-046 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acenaphthene	<0.01517	2.427	2.432	100	2.430	100	63-112	0	30	mg/kg	
Acenaphthylene	<0.01517	2.427	2.565	106	2.572	106	70-110	0	30	mg/kg	
Acetophenone	<0.06068	2.427	2.483	102	2.485	102	61-114	0	30	mg/kg	
Anthracene	<0.01517	2.427	2.491	103	2.487	103	72-120	0	30	mg/kg	
Atrazine	<0.1214	2.427	2.454	101	2.421	100	29-110	1	30	mg/kg	
Benzo(a)anthracene	0.02428	2.427	2.351	96	2.382	97	64-118	1	30	mg/kg	
Benzo(a)pyrene	0.02974	2.427	2.219	90	2.233	91	59-129	1	30	mg/kg	
Benzo(b)fluoranthene	0.02185	2.427	2.170	89	2.174	89	39-155	0	30	mg/kg	
Benzo(g,h,i)perylene	0.03581	2.427	2.232	90	2.242	91	55-130	1	30	mg/kg	
Benzo(k)fluoranthene	0.02792	2.427	2.342	95	2.352	96	45-129	1	30	mg/kg	
Biphenyl (Diphenyl)	<0.06068	2.427	2.602	107	2.578	106	51-125	1	30	mg/kg	
Butyl benzyl phthalate	<0.06068	2.427	3.039	125	3.067	126	74-121	1	30	mg/kg	X
bis(2-chloroethoxy) methane	<0.06068	2.427	2.877	119	2.874	119	58-112	0	30	mg/kg	X
bis(2-chloroethyl) ether	<0.06068	2.427	2.565	106	2.581	106	57-107	0	30	mg/kg	
bis(2-chloroisopropyl) ether	<0.06068	2.427	2.485	102	2.439	101	35-115	1	30	mg/kg	
bis(2-ethylhexyl) phthalate	<0.06068	2.427	3.109	128	3.133	129	72-127	1	30	mg/kg	X
4-Bromophenylphenyl ether	<0.06068	2.427	2.655	109	2.657	110	72-116	1	30	mg/kg	
Di-n-butyl phthalate	<0.06068	2.427	2.719	112	2.741	113	79-115	1	30	mg/kg	
Carbazole	<0.06068	2.427	1.914	79	1.854	76	64-121	4	30	mg/kg	
Caprolactam	<0.1214	2.427	2.576	106	2.541	105	46-126	1	30	mg/kg	
4-Chloro-3-methyl phenol	<0.06068	2.427	2.605	107	2.583	107	65-121	0	30	mg/kg	
4-Chloroaniline	<0.06068	2.427	1.720	71	1.741	72	45-116	1	30	mg/kg	
2-Chloronaphthalene	<0.06068	2.427	2.470	102	2.460	101	68-109	1	30	mg/kg	
2-Chlorophenol	<0.06068	2.427	2.356	97	2.388	98	55-113	1	30	mg/kg	
4-Chlorophenyl Phenyl ether	<0.06068	2.427	2.627	108	2.647	109	70-115	1	30	mg/kg	
Chrysene	0.02003	2.427	2.533	104	2.558	105	68-119	1	30	mg/kg	
Dibenz(a,h)Anthracene	0.02549	2.427	2.264	92	2.265	92	52-136	0	30	mg/kg	
Dibenzofuran	<0.06068	2.427	2.602	107	2.612	108	70-117	1	30	mg/kg	
3,3-Dichlorobenzidine	<0.06068	2.427	2.075	85	2.038	84	72-127	1	30	mg/kg	
2,4-Dichlorophenol	<0.06068	2.427	2.507	103	2.496	103	60-115	0	30	mg/kg	
Diethyl phthalate	<0.06068	2.427	2.656	109	2.675	110	73-117	1	30	mg/kg	
Dimethyl phthalate	<0.06068	2.427	2.645	109	2.608	108	73-114	1	30	mg/kg	
2,4-Dimethylphenol	<0.06068	2.427	2.446	101	2.325	96	52-125	5	30	mg/kg	
4,6-Dinitro-2-methyl phenol	<0.3034	2.427	1.912	79	1.911	79	25-164	0	30	mg/kg	
2,4-Dinitrophenol	<0.3034	2.427	1.954	81	1.923	79	20-149	3	30	mg/kg	
2,4-Dinitrotoluene	<0.1214	2.427	2.556	105	2.564	106	75-115	1	30	mg/kg	
2,6-Dinitrotoluene	<0.1214	2.427	2.590	107	2.589	107	72-114	0	30	mg/kg	
Fluoranthene	<0.01517	2.427	2.563	106	2.556	105	73-121	1	30	mg/kg	
Fluorene	<0.01517	2.427	2.458	101	2.456	101	70-114	0	30	mg/kg	
Hexachlorobenzene	<0.06068	2.427	2.635	109	2.644	109	72-116	0	30	mg/kg	
Hexachlorobutadiene	<0.06068	2.427	2.451	101	2.426	100	57-110	1	30	mg/kg	
Hexachlorocyclopentadiene	<0.1214	2.427	1.415	58	1.275	53	21-134	9	30	mg/kg	
Hexachloroethane	<0.06068	2.427	2.229	92	2.237	92	51-107	0	30	mg/kg	
Indeno(1,2,3-c,d)Pyrene	0.03035	2.427	2.247	91	2.221	90	44-147	1	30	mg/kg	
Isophorone	<0.06068	2.427	2.564	106	2.530	104	57-109	2	30	mg/kg	
2-Methylnaphthalene	<0.01517	2.427	2.487	102	2.493	103	51-115	1	30	mg/kg	
2-Methyl phenol	<0.06068	2.427	2.516	104	2.510	104	60-114	0	30	mg/kg	
3&4-Methylphenol	<0.06068	2.427	2.559	105	2.534	104	58-115	1	30	mg/kg	
Naphthalene	<0.01517	2.427	2.291	94	2.274	94	60-107	0	30	mg/kg	
2-Nitroaniline	<0.1214	2.427	2.353	97	2.311	95	56-118	2	30	mg/kg	
3-Nitroaniline	<0.1214	2.427	1.901	78	1.852	76	66-117	3	30	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 180586 Matrix: Soil Date Prep: 12/18/20
Parent Sample Id: 20121403-046 MS Sample Id: 20121403-046 S MSD Sample Id: 20121403-046 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
4-Nitroaniline	<0.1214	2.427	1.342	55	1.244	51	60-132	8	30	mg/kg	X
Nitrobenzene	<0.06068	2.427	2.241	92	2.222	92	51-107	0	30	mg/kg	
2-Nitrophenol	<0.06068	2.427	2.107	87	2.125	88	59-118	1	30	mg/kg	
4-Nitrophenol	<0.3034	2.427	1.987	82	1.973	81	40-146	1	30	mg/kg	
N-Nitrosodi-n-propyl amine	<0.06068	2.427	2.306	95	2.294	95	34-121	0	30	mg/kg	
N-Nitrosodiphenylamine	<0.06068	2.427	2.069	85	2.019	83	66-112	2	30	mg/kg	
Di-n-octyl phthalate	<0.1214	2.427	2.816	116	2.821	116	56-136	0	30	mg/kg	
Pentachlorophenol	<0.1214	2.427	2.599	107	2.583	107	38-148	0	30	mg/kg	
Phenanthrene	<0.01517	2.427	2.399	99	2.396	99	73-116	0	30	mg/kg	
Phenol	<0.06068	2.427	2.349	97	2.395	99	51-114	2	30	mg/kg	
Pyrene	<0.01517	2.427	2.823	116	2.874	119	71-121	3	30	mg/kg	
Pyridine	<0.06068	2.427	2.465	102	2.536	105	32-114	3	30	mg/kg	
2,4,5-Trichlorophenol	<0.06068	2.427	2.526	104	2.508	103	61-125	1	30	mg/kg	
2,4,6-Trichlorophenol	<0.06068	2.427	2.537	105	2.510	104	57-121	1	30	mg/kg	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
2-Fluorobiphenyl	94		92		50-104	%
2-Fluorophenol	91		91		40-109	%
Nitrobenzene-d5	92		89		41-101	%
Phenol-d6	85		85		44-102	%
Terphenyl-D14	99		100		70-115	%
2,4,6-Tribromophenol	96		95		36-123	%

Analytical Method: SW-846 8015C GRO Prep Method: SW5030
Seq Number: 180659 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84380-2-BLK LCS Sample Id: 84380-2-BKS LCSD Sample Id: 84380-2-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
TPH-GRO (Gasoline Range Organics	<0.05000	5.000	4.502	90	4.315	86	84-119	5	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
a,a,a-Trifluorotoluene	86		99		97		62-125	%

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 180621 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84358-1-BLK LCS Sample Id: 84358-1-BKS LCSD Sample Id: 84358-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Acetone	<0.02000	0.06000	0.06030	101	0.05666	94	74-206	7	25	mg/kg	
Benzene	<0.001000	0.06000	0.06197	103	0.06414	107	87-117	4	25	mg/kg	
Bromochloromethane	<0.001000	0.06000	0.06506	108	0.06750	113	75-118	5	25	mg/kg	
Bromodichloromethane	<0.001000	0.06000	0.06334	106	0.06527	109	84-121	3	25	mg/kg	
Bromoform	<0.001000	0.06000	0.06038	101	0.06814	114	77-120	12	25	mg/kg	
Bromomethane	<0.001000	0.06000	0.06362	106	0.06403	107	86-128	1	25	mg/kg	
2-Butanone (MEK)	<0.005000	0.06000	0.06042	101	0.05945	99	74-124	2	25	mg/kg	
Carbon Disulfide	<0.001000	0.06000	0.06037	101	0.05754	96	85-124	5	25	mg/kg	
Carbon tetrachloride	<0.001000	0.06000	0.06576	110	0.06631	111	90-123	1	25	mg/kg	
Chlorobenzene	<0.001000	0.06000	0.05570	93	0.06246	104	84-114	11	25	mg/kg	
Chloroethane	<0.001000	0.06000	0.05768	96	0.05807	97	84-119	1	25	mg/kg	
Chloroform	<0.005000	0.06000	0.06227	104	0.06534	109	86-117	5	25	mg/kg	
Chloromethane	<0.001000	0.06000	0.04906	82	0.05319	89	72-155	8	25	mg/kg	
Cyclohexane	<0.001000	0.06000	0.05897	98	0.06124	102	87-127	4	25	mg/kg	
1,2-Dibromo-3-chloropropane	<0.001000	0.06000	0.05412	90	0.06199	103	69-132	13	25	mg/kg	
Dibromochloromethane	<0.001000	0.06000	0.05769	96	0.06488	108	82-119	12	25	mg/kg	
1,2-Dibromoethane	<0.001000	0.06000	0.05623	94	0.06302	105	78-116	11	25	mg/kg	
1,2-Dichlorobenzene	<0.001000	0.06000	0.05237	87	0.06064	101	75-119	15	25	mg/kg	
1,3-Dichlorobenzene	<0.001000	0.06000	0.05349	89	0.05983	100	80-116	12	25	mg/kg	
1,4-Dichlorobenzene	<0.001000	0.06000	0.05248	87	0.05942	99	79-116	13	25	mg/kg	
Dichlorodifluoromethane	<0.001000	0.06000	0.05447	91	0.05530	92	36-141	1	25	mg/kg	
1,1-Dichloroethane	<0.001000	0.06000	0.05623	94	0.05706	95	89-124	1	25	mg/kg	
1,2-Dichloroethane	<0.001000	0.06000	0.05992	100	0.06247	104	84-121	4	25	mg/kg	
1,1-Dichloroethene	<0.001000	0.06000	0.06293	105	0.05893	98	82-122	7	25	mg/kg	
1,2-Dichloropropane	<0.001000	0.06000	0.05768	96	0.06129	102	86-122	6	25	mg/kg	
cis-1,2-Dichloroethene	<0.001000	0.06000	0.06321	105	0.06212	104	85-116	1	25	mg/kg	
cis-1,3-Dichloropropene	<0.001000	0.06000	0.06298	105	0.06547	109	82-124	4	25	mg/kg	
trans-1,2-Dichloroethene	<0.001000	0.06000	0.06324	105	0.06208	103	85-118	2	25	mg/kg	
trans-1,3-Dichloropropene	<0.001000	0.06000	0.06376	106	0.06627	110	78-128	4	25	mg/kg	
Ethylbenzene	<0.001000	0.06000	0.05588	93	0.06011	100	85-116	7	25	mg/kg	
2-Hexanone (MBK)	<0.001000	0.06000	0.05715	95	0.05942	99	66-136	4	25	mg/kg	
Isopropylbenzene	<0.001000	0.06000	0.05138	86	0.05838	97	81-117	12	25	mg/kg	
Methyl Acetate	<0.02500	0.06000	0.06282	105	0.06095	102	82-122	3	25	mg/kg	
Methylcyclohexane	<0.001000	0.06000	0.06152	103	0.06328	105	85-121	2	25	mg/kg	
Methylene chloride	<0.005000	0.06000	0.06328	105	0.06245	104	86-122	1	25	mg/kg	
4-Methyl-2-Pentanone (MIBK)	<0.001000	0.06000	0.05807	97	0.06017	100	67-134	3	25	mg/kg	
Methyl-t-Butyl Ether	<0.001000	0.06000	0.06449	107	0.06249	104	61-131	3	25	mg/kg	
Naphthalene	<0.001000	0.06000	0.05467	91	0.06484	108	69-131	17	25	mg/kg	
Styrene	<0.001000	0.06000	0.05694	95	0.06398	107	83-118	12	25	mg/kg	
1,1,2,2-Tetrachloroethane	<0.001000	0.06000	0.04992	83	0.05771	96	75-122	15	25	mg/kg	
Tetrachloroethene	<0.001000	0.06000	0.06548	109	0.06882	115	77-121	5	25	mg/kg	
Toluene	<0.001000	0.06000	0.06292	105	0.06540	109	81-119	4	25	mg/kg	
1,2,3-Trichlorobenzene	<0.001000	0.06000	0.05945	99	0.07157	119	69-127	18	25	mg/kg	
1,2,4-Trichlorobenzene	<0.001000	0.06000	0.05854	98	0.06821	114	72-128	15	25	mg/kg	
1,1,1-Trichloroethane	<0.001000	0.06000	0.06484	108	0.06650	111	88-120	3	25	mg/kg	
1,1,2-Trichloroethane	<0.001000	0.06000	0.06167	103	0.06594	110	76-122	7	25	mg/kg	
Trichloroethene	<0.001000	0.06000	0.05944	99	0.06503	108	84-119	9	25	mg/kg	
Trichlorofluoromethane	<0.001000	0.06000	0.06263	104	0.06247	104	82-121	0	25	mg/kg	
1,1,2-Trichlorotrifluoroethane	<0.001000	0.06000	0.06271	105	0.05916	99	80-123	6	25	mg/kg	
1,2,4-Trimethylbenzene	<0.001000	0.06000	0.05177	86	0.05873	98	83-119	13	25	mg/kg	
1,3,5-Trimethylbenzene	<0.001000	0.06000	0.05142	86	0.05842	97	80-118	12	25	mg/kg	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 180621 Matrix: Solid Date Prep: 12/23/20
MB Sample Id: 84358-1-BLK LCS Sample Id: 84358-1-BKS LCSD Sample Id: 84358-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Flag
Vinyl chloride	<0.005000	0.06000	0.05953	99	0.06068	101	80-140	2	25	mg/kg	
m&p-Xylene	<0.002000	0.1200	0.1120	93	0.1225	102	83-117	9	25	mg/kg	
o-Xylene	<0.001000	0.06000	0.05650	94	0.06216	104	85-115	10	25	mg/kg	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	97		92		93		92-120	%
Dibromofluoromethane	97		106		100		91-107	%
Toluene-D8	99		110	*	102		89-108	%

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

Analytical Method: EPA 365.3
Seq Number: 180517 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/18/20 14:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	0.9200	93	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 180517 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/18/20 14:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	0.9020	92	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 180517 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/18/20 14:36

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	0.9230	94	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 180518 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/18/20 16:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	1.008	102	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 180518 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/18/20 16:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	1.010	103	90-110	mg/kg	

Analytical Method: EPA 365.3
Seq Number: 180518 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/18/20 16:31

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Phosphorus, Total (as P)	0.9850	1.011	103	90-110	mg/kg	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 16:40

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.479	99	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/15/20 17:36

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.619	105	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/15/20 18:12

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.600	104	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180416 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/15/20 18:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.607	104	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180685 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/28/20 15:14

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.489	100	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180685 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/28/20 16:07

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.432	97	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180685 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/28/20 16:47

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.474	99	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180061 Matrix: Water
Parent Sample Id: ICV ICV Sample Id: ICV Analyzed Date: 12/03/20 15:00

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.425	97	90-110	mg/L	

Analytical Method: SM 4500-NH3-F -2011
Seq Number: 180684 Matrix: Water
Parent Sample Id: ICV ICV Sample Id: ICV Analyzed Date: 12/28/20 14:30

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Nitrogen, Ammonia (as N)	2.500	2.429	97	90-110	mg/L	

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/17/20 16:11

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	104.6	105	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/17/20 16:50

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	105.3	105	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/17/20 17:17

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	106.4	106	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180506 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/17/20 17:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	107.8	108	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180668 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/23/20 15:47

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	102.6	103	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180668 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/23/20 16:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	102.6	103	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 180668 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/23/20 17:02

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Cyanide, Total	100	100.3	100	90-110	ug/L	

Analytical Method: SW-846 9014
Seq Number: 179847 Matrix: Water
Parent Sample Id: ICV ICV Sample Id: ICV Analyzed Date: 11/20/20 12:17

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Cyanide, Total	100	93.70	94	85-115	ug/L	

Analytical Method: EPA 300.0
Seq Number: 180432 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 16:08

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfate	50.00	50.73	101	90-110	mg/L	

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QC Summary

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Analytical Method: EPA 300.0
Seq Number: 180432 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/15/20 21:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfate	50.00	49.96	100	90-110	mg/L	

Analytical Method: EPA 300.0
Seq Number: 180432 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/16/20 02:28

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfate	50.00	49.70	99	90-110	mg/L	

Analytical Method: EPA 300.0
Seq Number: 180432 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/16/20 04:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfate	50.00	49.66	99	90-110	mg/L	

Analytical Method: EPA 300.0
Seq Number: 179968 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 11/30/20 15:02

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Sulfate	50.00	50.70	101	90-110	mg/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A
Seq Number: 180697 Matrix: Water
CCV Sample Id: CCV 2 Analyzed Date: 12/28/20 17:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	39.00	98	90-110	ug/L	
Arsenic	40.00	37.53	94	90-110	ug/L	
Beryllium	40.00	42.67	107	90-110	ug/L	
Cadmium	40.00	40.18	100	90-110	ug/L	
Chromium	40.00	40.46	101	90-110	ug/L	
Copper	40.00	38.79	97	90-110	ug/L	
Lead	40.00	37.63	94	90-110	ug/L	
Manganese	40.00	42.17	105	90-110	ug/L	
Mercury	1.000	0.9800	98	90-110	ug/L	
Nickel	40.00	36.72	92	90-110	ug/L	
Selenium	40.00	38.59	96	90-110	ug/L	
Silver	40.00	36.76	92	90-110	ug/L	
Thallium	40.00	37.48	94	90-110	ug/L	
Zinc	200	187.6	94	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180697 Matrix: Water
CCV Sample Id: CCV 3 Analyzed Date: 12/28/20 18:32

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	39.79	99	90-110	ug/L	
Arsenic	40.00	39.84	100	90-110	ug/L	
Beryllium	40.00	42.02	105	90-110	ug/L	
Cadmium	40.00	42.73	107	90-110	ug/L	
Chromium	40.00	42.96	107	90-110	ug/L	
Copper	40.00	41.30	103	90-110	ug/L	
Lead	40.00	37.47	94	90-110	ug/L	
Manganese	40.00	41.89	105	90-110	ug/L	
Mercury	1.000	0.9800	98	90-110	ug/L	
Nickel	40.00	39.25	98	90-110	ug/L	
Selenium	40.00	38.59	96	90-110	ug/L	
Silver	40.00	36.70	92	90-110	ug/L	
Thallium	40.00	37.52	94	90-110	ug/L	
Zinc	200	200.2	100	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A
Seq Number: 180694 Matrix: Water
CCV Sample Id: CCV 2 Analyzed Date: 12/28/20 19:28

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	38.18	95	90-110	ug/L	
Arsenic	40.00	36.86	92	90-110	ug/L	
Beryllium	40.00	34.40	86	90-110	ug/L	X
Cadmium	40.00	39.37	98	90-110	ug/L	
Chromium	40.00	40.73	102	90-110	ug/L	
Copper	40.00	38.36	96	90-110	ug/L	
Lead	40.00	34.80	87	90-110	ug/L	X
Manganese	40.00	36.72	92	90-110	ug/L	
Mercury	1.000	0.9880	99	90-110	ug/L	
Nickel	40.00	37.18	93	90-110	ug/L	
Selenium	40.00	41.58	104	90-110	ug/L	
Silver	40.00	37.61	94	90-110	ug/L	
Thallium	40.00	36.72	92	90-110	ug/L	
Zinc	200	188.3	94	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180697 Matrix: Water
CCV Sample Id: CCV 4 Analyzed Date: 12/28/20 19:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	38.24	96	90-110	ug/L	
Arsenic	40.00	37.48	94	90-110	ug/L	
Beryllium	40.00	40.55	101	90-110	ug/L	
Cadmium	40.00	39.18	98	90-110	ug/L	
Chromium	40.00	40.02	100	90-110	ug/L	
Copper	40.00	38.42	96	90-110	ug/L	
Lead	40.00	36.16	90	90-110	ug/L	
Manganese	40.00	41.66	104	90-110	ug/L	
Mercury	1.000	0.9020	90	90-110	ug/L	
Nickel	40.00	36.58	91	90-110	ug/L	
Selenium	40.00	39.22	98	90-110	ug/L	
Silver	40.00	35.70	89	90-110	ug/L	X
Thallium	40.00	36.25	91	90-110	ug/L	
Zinc	200	186.5	93	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A
Seq Number: 180694 Matrix: Water
CCV Sample Id: CCV 3 Analyzed Date: 12/28/20 20:35

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	40.29	101	90-110	ug/L	
Arsenic	40.00	37.36	93	90-110	ug/L	
Beryllium	40.00	37.77	94	90-110	ug/L	
Cadmium	40.00	38.76	97	90-110	ug/L	
Chromium	40.00	40.79	102	90-110	ug/L	
Copper	40.00	38.55	96	90-110	ug/L	
Lead	40.00	36.76	92	90-110	ug/L	
Manganese	40.00	38.97	97	90-110	ug/L	
Mercury	1.000	0.9700	97	90-110	ug/L	
Nickel	40.00	37.30	93	90-110	ug/L	
Selenium	40.00	41.89	105	90-110	ug/L	
Silver	40.00	39.63	99	90-110	ug/L	
Thallium	40.00	39.08	98	90-110	ug/L	
Zinc	200	189	95	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180697 Matrix: Water
CCV Sample Id: CCV 5 Analyzed Date: 12/28/20 20:55

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	38.02	95	90-110	ug/L	
Arsenic	40.00	38.16	95	90-110	ug/L	
Beryllium	40.00	41.28	103	90-110	ug/L	
Cadmium	40.00	39.55	99	90-110	ug/L	
Chromium	40.00	40.28	101	90-110	ug/L	
Copper	40.00	38.94	97	90-110	ug/L	
Lead	40.00	36.40	91	90-110	ug/L	
Manganese	40.00	42.58	106	90-110	ug/L	
Mercury	1.000	0.9310	93	90-110	ug/L	
Nickel	40.00	36.84	92	90-110	ug/L	
Selenium	40.00	39.92	100	90-110	ug/L	
Silver	40.00	36.16	90	90-110	ug/L	
Thallium	40.00	36.88	92	90-110	ug/L	
Zinc	200	189	95	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A
Seq Number: 180694 Matrix: Water
CCV Sample Id: CCV 4 Analyzed Date: 12/28/20 21:41

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	39.65	99	90-110	ug/L	
Arsenic	40.00	37.54	94	90-110	ug/L	
Beryllium	40.00	40.07	100	90-110	ug/L	
Cadmium	40.00	39.42	99	90-110	ug/L	
Chromium	40.00	41.14	103	90-110	ug/L	
Copper	40.00	38.35	96	90-110	ug/L	
Lead	40.00	36.57	91	90-110	ug/L	
Manganese	40.00	38.80	97	90-110	ug/L	
Mercury	1.000	0.9310	93	90-110	ug/L	
Nickel	40.00	36.59	91	90-110	ug/L	
Selenium	40.00	41.31	103	90-110	ug/L	
Silver	40.00	39.17	98	90-110	ug/L	
Thallium	40.00	39.07	98	90-110	ug/L	
Zinc	200	190.4	95	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180694 Matrix: Water
CCV Sample Id: CCV 5 Analyzed Date: 12/28/20 22:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	40.01	100	90-110	ug/L	
Arsenic	40.00	37.48	94	90-110	ug/L	
Beryllium	40.00	40.18	100	90-110	ug/L	
Cadmium	40.00	38.88	97	90-110	ug/L	
Chromium	40.00	40.93	102	90-110	ug/L	
Copper	40.00	38.74	97	90-110	ug/L	
Lead	40.00	36.23	91	90-110	ug/L	
Manganese	40.00	38.62	97	90-110	ug/L	
Mercury	1.000	0.9940	99	90-110	ug/L	
Nickel	40.00	37.48	94	90-110	ug/L	
Selenium	40.00	43.21	108	90-110	ug/L	
Silver	40.00	39.11	98	90-110	ug/L	
Thallium	40.00	38.74	97	90-110	ug/L	
Zinc	200	193	97	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A
Seq Number: 180696 Matrix: Water
CCV Sample Id: CCV 5 Analyzed Date: 12/28/20 22:48

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	40.01	100	90-110	ug/L	
Arsenic	40.00	37.48	94	90-110	ug/L	
Beryllium	40.00	40.18	100	90-110	ug/L	
Cadmium	40.00	38.88	97	90-110	ug/L	
Chromium	40.00	40.93	102	90-110	ug/L	
Copper	40.00	38.74	97	90-110	ug/L	
Lead	40.00	36.23	91	90-110	ug/L	
Manganese	40.00	38.62	97	90-110	ug/L	
Mercury	1.000	0.9940	99	90-110	ug/L	
Nickel	40.00	37.48	94	90-110	ug/L	
Selenium	40.00	43.21	108	90-110	ug/L	
Silver	40.00	39.11	98	90-110	ug/L	
Thallium	40.00	38.74	97	90-110	ug/L	
Zinc	200	193	97	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180694 Matrix: Water
CCV Sample Id: CCV 6 Analyzed Date: 12/28/20 23:54

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	39.07	98	90-110	ug/L	
Arsenic	40.00	38.25	96	90-110	ug/L	
Beryllium	40.00	41.47	104	90-110	ug/L	
Cadmium	40.00	39.74	99	90-110	ug/L	
Chromium	40.00	41.36	103	90-110	ug/L	
Copper	40.00	39.22	98	90-110	ug/L	
Lead	40.00	35.43	89	90-110	ug/L	X
Manganese	40.00	37.58	94	90-110	ug/L	
Mercury	1.000	0.9670	97	90-110	ug/L	
Nickel	40.00	37.93	95	90-110	ug/L	
Selenium	40.00	42.62	107	90-110	ug/L	
Silver	40.00	38.39	96	90-110	ug/L	
Thallium	40.00	38.24	96	90-110	ug/L	
Zinc	200	196.6	98	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A
Seq Number: 180696 Matrix: Water
CCV Sample Id: CCV 6 Analyzed Date: 12/28/20 23:54

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	39.07	98	90-110	ug/L	
Arsenic	40.00	38.25	96	90-110	ug/L	
Beryllium	40.00	41.47	104	90-110	ug/L	
Cadmium	40.00	39.74	99	90-110	ug/L	
Chromium	40.00	41.36	103	90-110	ug/L	
Copper	40.00	39.22	98	90-110	ug/L	
Lead	40.00	35.43	89	90-110	ug/L	X
Manganese	40.00	37.58	94	90-110	ug/L	
Mercury	1.000	0.9670	97	90-110	ug/L	
Nickel	40.00	37.93	95	90-110	ug/L	
Selenium	40.00	42.62	107	90-110	ug/L	
Silver	40.00	38.39	96	90-110	ug/L	
Thallium	40.00	38.24	96	90-110	ug/L	
Zinc	200	196.6	98	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180696 Matrix: Water
CCV Sample Id: CCV 7 Analyzed Date: 12/29/20 01:05

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	39.67	99	90-110	ug/L	
Arsenic	40.00	38.12	95	90-110	ug/L	
Beryllium	40.00	42.46	106	90-110	ug/L	
Cadmium	40.00	38.68	97	90-110	ug/L	
Chromium	40.00	41.53	104	90-110	ug/L	
Copper	40.00	38.81	97	90-110	ug/L	
Lead	40.00	35.55	89	90-110	ug/L	X
Manganese	40.00	38.12	95	90-110	ug/L	
Mercury	1.000	0.9450	95	90-110	ug/L	
Nickel	40.00	37.90	95	90-110	ug/L	
Selenium	40.00	42.11	105	90-110	ug/L	
Silver	40.00	38.90	97	90-110	ug/L	
Thallium	40.00	38.93	97	90-110	ug/L	
Zinc	200	194.3	97	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A
Seq Number: 180696 Matrix: Water
CCV Sample Id: CCV 8 Analyzed Date: 12/29/20 01:53

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Antimony	40.00	39.54	99	90-110	ug/L	
Arsenic	40.00	37.78	94	90-110	ug/L	
Beryllium	40.00	42.53	106	90-110	ug/L	
Cadmium	40.00	38.95	97	90-110	ug/L	
Chromium	40.00	41.71	104	90-110	ug/L	
Copper	40.00	38.89	97	90-110	ug/L	
Lead	40.00	35.88	90	90-110	ug/L	
Manganese	40.00	38.84	97	90-110	ug/L	
Mercury	1.000	0.9800	98	90-110	ug/L	
Nickel	40.00	37.88	95	90-110	ug/L	
Selenium	40.00	41.22	103	90-110	ug/L	
Silver	40.00	38.98	97	90-110	ug/L	
Thallium	40.00	38.46	96	90-110	ug/L	
Zinc	200	191.4	96	90-110	ug/L	

Analytical Method: SW-846 6020 A
Seq Number: 180697 Matrix: Water
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 12/28/20 13:13

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	40.00	38.21	96	90-110	ug/L	
Arsenic	40.00	37.42	94	90-110	ug/L	
Beryllium	40.00	38.86	97	90-110	ug/L	
Cadmium	40.00	41.02	103	90-110	ug/L	
Chromium	40.00	40.89	102	90-110	ug/L	
Copper	40.00	39.17	98	90-110	ug/L	
Lead	40.00	36.97	92	90-110	ug/L	
Manganese	40.00	39.90	100	90-110	ug/L	
Mercury	1.000	0.9780	98	90-110	ug/L	
Nickel	40.00	37.05	93	90-110	ug/L	
Selenium	40.00	37.29	93	90-110	ug/L	
Silver	40.00	35.71	89	90-110	ug/L	X
Thallium	40.00	36.61	92	90-110	ug/L	
Zinc	200	188.2	94	90-110	ug/L	

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QC Summary

Project Name Conowingo
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Analytical Method: SW-846 6020 A

Seq Number: 180694 Matrix: Water
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 12/28/20 16:43

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	40.00	40.15	100	90-110	ug/L	
Arsenic	40.00	39.49	99	90-110	ug/L	
Beryllium	40.00	37.48	94	90-110	ug/L	
Cadmium	40.00	40.93	102	90-110	ug/L	
Chromium	40.00	43.16	108	90-110	ug/L	
Copper	40.00	40.54	101	90-110	ug/L	
Lead	40.00	37.94	95	90-110	ug/L	
Manganese	40.00	38.39	96	90-110	ug/L	
Mercury	1.000	1.050	105	90-110	ug/L	
Nickel	40.00	39.32	98	90-110	ug/L	
Selenium	40.00	40.53	101	90-110	ug/L	
Silver	40.00	39.18	98	90-110	ug/L	
Thallium	40.00	40.21	101	90-110	ug/L	
Zinc	200	202.4	101	90-110	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180696 Matrix: Water
Parent Sample Id: ICV 1 ICV Sample Id: ICV 1 Analyzed Date: 12/28/20 16:43

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Antimony	40.00	40.15	100	90-110	ug/L	
Arsenic	40.00	39.49	99	90-110	ug/L	
Beryllium	40.00	37.48	94	90-110	ug/L	
Cadmium	40.00	40.93	102	90-110	ug/L	
Chromium	40.00	43.16	108	90-110	ug/L	
Copper	40.00	40.54	101	90-110	ug/L	
Lead	40.00	37.94	95	90-110	ug/L	
Manganese	40.00	38.39	96	90-110	ug/L	
Mercury	1.000	1.050	105	90-110	ug/L	
Nickel	40.00	39.32	98	90-110	ug/L	
Selenium	40.00	40.53	101	90-110	ug/L	
Silver	40.00	39.18	98	90-110	ug/L	
Thallium	40.00	40.21	101	90-110	ug/L	
Zinc	200	202.4	101	90-110	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 6020 A

Seq Number: 180697 Matrix: Water
Parent Sample Id: LLCCV 2 LLCCV Sample Id: LLCCV 2 Analyzed Date: 12/28/20 17:25

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	4.921	98	70-130	ug/L	
Arsenic	1.000	0.9880	99	70-130	ug/L	
Beryllium	1.000	1.147	115	70-130	ug/L	
Cadmium	1.000	1.019	102	70-130	ug/L	
Chromium	1.000	1.162	116	70-130	ug/L	
Copper	1.000	0.9540	95	70-130	ug/L	
Lead	1.000	1.027	103	70-130	ug/L	
Manganese	1.000	1.227	123	70-130	ug/L	
Mercury	0.2000	0.2120	106	70-130	ug/L	
Nickel	1.000	1.011	101	70-130	ug/L	
Selenium	1.000	1.092	109	70-130	ug/L	
Silver	1.000	1.045	105	70-130	ug/L	
Thallium	1.000	1.060	106	70-130	ug/L	
Zinc	20.00	19.59	98	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180697 Matrix: Water
Parent Sample Id: LLCCV 3 LLCCV Sample Id: LLCCV 3 Analyzed Date: 12/28/20 18:41

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.037	101	70-130	ug/L	
Arsenic	1.000	1.015	102	70-130	ug/L	
Beryllium	1.000	1.190	119	70-130	ug/L	
Cadmium	1.000	1.135	114	70-130	ug/L	
Chromium	1.000	1.210	121	70-130	ug/L	
Copper	1.000	0.9610	96	70-130	ug/L	
Lead	1.000	1.069	107	70-130	ug/L	
Manganese	1.000	1.652	165	70-130	ug/L	X
Mercury	0.2000	0.2060	103	70-130	ug/L	
Nickel	1.000	1.000	100	70-130	ug/L	
Selenium	1.000	1.121	112	70-130	ug/L	
Silver	1.000	1.069	107	70-130	ug/L	
Thallium	1.000	1.084	108	70-130	ug/L	
Zinc	20.00	20.11	101	70-130	ug/L	

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QC Summary

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Analytical Method: SW-846 6020 A

Seq Number: 180694 Matrix: Water
Parent Sample Id: LLCCV 2 LLCCV Sample Id: LLCCV 2 Analyzed Date: 12/28/20 19:33

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.194	104	70-130	ug/L	
Arsenic	1.000	0.9700	97	70-130	ug/L	
Beryllium	1.000	0.9390	94	70-130	ug/L	
Cadmium	1.000	1.039	104	70-130	ug/L	
Chromium	1.000	1.171	117	70-130	ug/L	
Copper	1.000	0.8800	88	70-130	ug/L	
Lead	1.000	0.8670	87	70-130	ug/L	
Manganese	1.000	0.9380	94	70-130	ug/L	
Mercury	0.2000	0.2470	124	70-130	ug/L	
Nickel	1.000	0.9660	97	70-130	ug/L	
Selenium	1.000	1.094	109	70-130	ug/L	
Silver	1.000	1.146	115	70-130	ug/L	
Thallium	1.000	1.016	102	70-130	ug/L	
Zinc	20.00	19.70	99	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180697 Matrix: Water
Parent Sample Id: LLCCV 4 LLCCV Sample Id: LLCCV 4 Analyzed Date: 12/28/20 19:53

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.153	103	70-130	ug/L	
Arsenic	1.000	1.018	102	70-130	ug/L	
Beryllium	1.000	1.164	116	70-130	ug/L	
Cadmium	1.000	1.142	114	70-130	ug/L	
Chromium	1.000	1.200	120	70-130	ug/L	
Copper	1.000	0.9480	95	70-130	ug/L	
Lead	1.000	1.015	102	70-130	ug/L	
Manganese	1.000	1.210	121	70-130	ug/L	
Mercury	0.2000	0.2130	107	70-130	ug/L	
Nickel	1.000	1.016	102	70-130	ug/L	
Selenium	1.000	1.218	122	70-130	ug/L	
Silver	1.000	1.065	107	70-130	ug/L	
Thallium	1.000	1.101	110	70-130	ug/L	
Zinc	20.00	19.95	100	70-130	ug/L	

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QC Summary

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Analytical Method: SW-846 6020 A

Seq Number: 180694 Matrix: Water
Parent Sample Id: LLCCV 3 LLCCV Sample Id: LLCCV 3 Analyzed Date: 12/28/20 20:39

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.185	104	70-130	ug/L	
Arsenic	1.000	0.8050	81	70-130	ug/L	
Beryllium	1.000	0.9910	99	70-130	ug/L	
Cadmium	1.000	0.9870	99	70-130	ug/L	
Chromium	1.000	1.151	115	70-130	ug/L	
Copper	1.000	0.8570	86	70-130	ug/L	
Lead	1.000	0.8350	84	70-130	ug/L	
Manganese	1.000	0.9220	92	70-130	ug/L	
Mercury	0.2000	0.1900	95	70-130	ug/L	
Nickel	1.000	0.9270	93	70-130	ug/L	
Selenium	1.000	0.9500	95	70-130	ug/L	
Silver	1.000	1.107	111	70-130	ug/L	
Thallium	1.000	1.049	105	70-130	ug/L	
Zinc	20.00	19.45	97	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180697 Matrix: Water
Parent Sample Id: LLCCV 5 LLCCV Sample Id: LLCCV 5 Analyzed Date: 12/28/20 21:00

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.081	102	70-130	ug/L	
Arsenic	1.000	1.088	109	70-130	ug/L	
Beryllium	1.000	1.145	115	70-130	ug/L	
Cadmium	1.000	1.102	110	70-130	ug/L	
Chromium	1.000	1.185	119	70-130	ug/L	
Copper	1.000	0.9440	94	70-130	ug/L	
Lead	1.000	1.043	104	70-130	ug/L	
Manganese	1.000	2.161	216	70-130	ug/L	X
Mercury	0.2000	0.2100	105	70-130	ug/L	
Nickel	1.000	0.9660	97	70-130	ug/L	
Selenium	1.000	1.195	120	70-130	ug/L	
Silver	1.000	1.034	103	70-130	ug/L	
Thallium	1.000	1.097	110	70-130	ug/L	
Zinc	20.00	20.15	101	70-130	ug/L	

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QC Summary

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Analytical Method: SW-846 6020 A

Seq Number: 180694 Matrix: Water
Parent Sample Id: LLCCV 4 LLCCV Sample Id: LLCCV 4 Analyzed Date: 12/28/20 21:46

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.099	102	70-130	ug/L	
Arsenic	1.000	0.9120	91	70-130	ug/L	
Beryllium	1.000	1.028	103	70-130	ug/L	
Cadmium	1.000	1.049	105	70-130	ug/L	
Chromium	1.000	1.234	123	70-130	ug/L	
Copper	1.000	0.8610	86	70-130	ug/L	
Lead	1.000	0.8650	87	70-130	ug/L	
Manganese	1.000	0.9510	95	70-130	ug/L	
Mercury	0.2000	0.2040	102	70-130	ug/L	
Nickel	1.000	0.9690	97	70-130	ug/L	
Selenium	1.000	1.056	106	70-130	ug/L	
Silver	1.000	1.106	111	70-130	ug/L	
Thallium	1.000	1.020	102	70-130	ug/L	
Zinc	20.00	19.70	99	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180694 Matrix: Water
Parent Sample Id: LLCCV 5 LLCCV Sample Id: LLCCV 5 Analyzed Date: 12/28/20 22:52

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.179	104	70-130	ug/L	
Arsenic	1.000	0.9540	95	70-130	ug/L	
Beryllium	1.000	1.046	105	70-130	ug/L	
Cadmium	1.000	1.015	102	70-130	ug/L	
Chromium	1.000	1.245	125	70-130	ug/L	
Copper	1.000	0.8310	83	70-130	ug/L	
Lead	1.000	0.8510	85	70-130	ug/L	
Manganese	1.000	1.005	101	70-130	ug/L	
Mercury	0.2000	0.2400	120	70-130	ug/L	
Nickel	1.000	0.9870	99	70-130	ug/L	
Selenium	1.000	1.194	119	70-130	ug/L	
Silver	1.000	1.145	115	70-130	ug/L	
Thallium	1.000	0.9650	97	70-130	ug/L	
Zinc	20.00	20.23	101	70-130	ug/L	

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QC Summary

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Analytical Method: SW-846 6020 A

Seq Number: 180696 Matrix: Water
Parent Sample Id: LLCCV 5 LLCCV Sample Id: LLCCV 5 Analyzed Date: 12/28/20 22:52

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.179	104	70-130	ug/L	
Arsenic	1.000	0.9540	95	70-130	ug/L	
Beryllium	1.000	1.046	105	70-130	ug/L	
Cadmium	1.000	1.015	102	70-130	ug/L	
Chromium	1.000	1.245	125	70-130	ug/L	
Copper	1.000	0.8310	83	70-130	ug/L	
Lead	1.000	0.8510	85	70-130	ug/L	
Manganese	1.000	1.005	101	70-130	ug/L	
Mercury	0.2000	0.2400	120	70-130	ug/L	
Nickel	1.000	0.9870	99	70-130	ug/L	
Selenium	1.000	1.194	119	70-130	ug/L	
Silver	1.000	1.145	115	70-130	ug/L	
Thallium	1.000	0.9650	97	70-130	ug/L	
Zinc	20.00	20.23	101	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180694 Matrix: Water
Parent Sample Id: LLCCV 6 LLCCV Sample Id: LLCCV 6 Analyzed Date: 12/28/20 23:59

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.257	105	70-130	ug/L	
Arsenic	1.000	0.9500	95	70-130	ug/L	
Beryllium	1.000	1.080	108	70-130	ug/L	
Cadmium	1.000	1.167	117	70-130	ug/L	
Chromium	1.000	1.228	123	70-130	ug/L	
Copper	1.000	0.7890	79	70-130	ug/L	
Lead	1.000	0.8890	89	70-130	ug/L	
Manganese	1.000	0.9670	97	70-130	ug/L	
Mercury	0.2000	0.2390	120	70-130	ug/L	
Nickel	1.000	0.9680	97	70-130	ug/L	
Selenium	1.000	1.192	119	70-130	ug/L	
Silver	1.000	1.156	116	70-130	ug/L	
Thallium	1.000	1.034	103	70-130	ug/L	
Zinc	20.00	20.01	100	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180696 Matrix: Water

Parent Sample Id: LLCCV 6 LLCCV Sample Id: LLCCV 6 Analyzed Date: 12/28/20 23:59

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.257	105	70-130	ug/L	
Arsenic	1.000	0.9500	95	70-130	ug/L	
Beryllium	1.000	1.080	108	70-130	ug/L	
Cadmium	1.000	1.167	117	70-130	ug/L	
Chromium	1.000	1.228	123	70-130	ug/L	
Copper	1.000	0.7890	79	70-130	ug/L	
Lead	1.000	0.8890	89	70-130	ug/L	
Manganese	1.000	0.9670	97	70-130	ug/L	
Mercury	0.2000	0.2390	120	70-130	ug/L	
Nickel	1.000	0.9680	97	70-130	ug/L	
Selenium	1.000	1.192	119	70-130	ug/L	
Silver	1.000	1.156	116	70-130	ug/L	
Thallium	1.000	1.034	103	70-130	ug/L	
Zinc	20.00	20.01	100	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180696 Matrix: Water

Parent Sample Id: LLCCV 7 LLCCV Sample Id: LLCCV 7 Analyzed Date: 12/29/20 01:10

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.155	103	70-130	ug/L	
Arsenic	1.000	0.9260	93	70-130	ug/L	
Beryllium	1.000	1.079	108	70-130	ug/L	
Cadmium	1.000	0.9970	100	70-130	ug/L	
Chromium	1.000	1.263	126	70-130	ug/L	
Copper	1.000	0.7750	78	70-130	ug/L	
Lead	1.000	0.8770	88	70-130	ug/L	
Manganese	1.000	1.012	101	70-130	ug/L	
Mercury	0.2000	0.2150	108	70-130	ug/L	
Nickel	1.000	1.003	100	70-130	ug/L	
Selenium	1.000	1.055	106	70-130	ug/L	
Silver	1.000	1.133	113	70-130	ug/L	
Thallium	1.000	1.047	105	70-130	ug/L	
Zinc	20.00	20.48	102	70-130	ug/L	

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QC Summary

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Analytical Method: SW-846 6020 A

Seq Number: 180696 Matrix: Water
Parent Sample Id: LLCCV 8 LLCCV Sample Id: LLCCV 8 Analyzed Date: 12/29/20 01:57

Parameter	Spike Amount	LLCCV Result	LLCCV %Rec	Limits	Units	Flag
Antimony	5.000	5.203	104	70-130	ug/L	
Arsenic	1.000	1.010	101	70-130	ug/L	
Beryllium	1.000	1.089	109	70-130	ug/L	
Cadmium	1.000	0.9470	95	70-130	ug/L	
Chromium	1.000	1.296	130	70-130	ug/L	
Copper	1.000	0.8220	82	70-130	ug/L	
Lead	1.000	0.8580	86	70-130	ug/L	
Manganese	1.000	1.015	102	70-130	ug/L	
Mercury	0.2000	0.2760	138	70-130	ug/L	X
Nickel	1.000	0.9450	95	70-130	ug/L	
Selenium	1.000	1.160	116	70-130	ug/L	
Silver	1.000	1.114	111	70-130	ug/L	
Thallium	1.000	0.9670	97	70-130	ug/L	
Zinc	20.00	19.75	99	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180697 Matrix: Water
Parent Sample Id: LLICV 1 LLICV Sample Id: LLICV 1 Analyzed Date: 12/28/20 13:22

Parameter	Spike Amount	LLICV Result	LLICV %Rec	Limits	Units	Flag
Antimony	5.000	4.882	98	70-130	ug/L	
Arsenic	1.000	1.076	108	70-130	ug/L	
Beryllium	1.000	1.111	111	70-130	ug/L	
Cadmium	1.000	1.104	110	70-130	ug/L	
Chromium	1.000	1.152	115	70-130	ug/L	
Copper	1.000	0.9570	96	70-130	ug/L	
Lead	1.000	1.002	100	70-130	ug/L	
Manganese	1.000	1.160	116	70-130	ug/L	
Mercury	0.2000	0.2190	110	70-130	ug/L	
Nickel	1.000	0.9720	97	70-130	ug/L	
Selenium	1.000	1.109	111	70-130	ug/L	
Silver	1.000	1.020	102	70-130	ug/L	
Thallium	1.000	1.050	105	70-130	ug/L	
Zinc	20.00	19.57	98	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180694 Matrix: Water

Parent Sample Id: LLICV 1 LLICV Sample Id: LLICV 1 Analyzed Date: 12/28/20 16:52

Parameter	Spike Amount	LLICV Result	LLICV %Rec	Limits	Units	Flag
Antimony	5.000	5.214	104	70-130	ug/L	
Arsenic	1.000	1.000	100	70-130	ug/L	
Beryllium	1.000	1.057	106	70-130	ug/L	
Cadmium	1.000	0.9630	96	70-130	ug/L	
Chromium	1.000	1.067	107	70-130	ug/L	
Copper	1.000	0.9470	95	70-130	ug/L	
Lead	1.000	0.8990	90	70-130	ug/L	
Manganese	1.000	0.9430	94	70-130	ug/L	
Mercury	0.2000	0.2450	123	70-130	ug/L	
Nickel	1.000	1.069	107	70-130	ug/L	
Selenium	1.000	1.113	111	70-130	ug/L	
Silver	1.000	1.086	109	70-130	ug/L	
Thallium	1.000	1.061	106	70-130	ug/L	
Zinc	20.00	20.02	100	70-130	ug/L	

Analytical Method: SW-846 6020 A

Seq Number: 180696 Matrix: Water

Parent Sample Id: LLICV 1 LLICV Sample Id: LLICV 1 Analyzed Date: 12/28/20 16:52

Parameter	Spike Amount	LLICV Result	LLICV %Rec	Limits	Units	Flag
Antimony	5.000	5.214	104	70-130	ug/L	
Arsenic	1.000	1.000	100	70-130	ug/L	
Beryllium	1.000	1.057	106	70-130	ug/L	
Cadmium	1.000	0.9630	96	70-130	ug/L	
Chromium	1.000	1.067	107	70-130	ug/L	
Copper	1.000	0.9470	95	70-130	ug/L	
Lead	1.000	0.8990	90	70-130	ug/L	
Manganese	1.000	0.9430	94	70-130	ug/L	
Mercury	0.2000	0.2450	123	70-130	ug/L	
Nickel	1.000	1.069	107	70-130	ug/L	
Selenium	1.000	1.113	111	70-130	ug/L	
Silver	1.000	1.086	109	70-130	ug/L	
Thallium	1.000	1.061	106	70-130	ug/L	
Zinc	20.00	20.02	100	70-130	ug/L	

Analytical Method: SM 4500-S2 D 2000

Seq Number: 180542 Matrix: Solid

CCV Sample Id: CCV-01 Analyzed Date: 12/21/20 13:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3841	96	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180542 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/21/20 13:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3863	97	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180542 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/21/20 13:49

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3720	93	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180589 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/22/20 14:07

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3776	94	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180589 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/22/20 14:07

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.3775	94	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180589 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/22/20 14:17

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.4054	101	80-120	mg/kg	

Analytical Method: SM 4500-S2 D 2000
Seq Number: 180098 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 09/09/20 15:35

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Sulfide, total	0.4000	0.4258	106	90-110	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180402 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/15/20 14:22

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2600	104	85-115	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180402 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/15/20 15:00

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2594	104	85-115	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180402 Matrix: Solid
CCV Sample Id: CCV-03 Analyzed Date: 12/15/20 15:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2556	102	85-115	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180623 Matrix: Solid
CCV Sample Id: CCV-01 Analyzed Date: 12/23/20 13:52

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2466	99	85-115	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180623 Matrix: Solid
CCV Sample Id: CCV-02 Analyzed Date: 12/23/20 14:24

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2501	100	85-115	mg/kg	

Analytical Method: SW-846 7196 A
Seq Number: 180401 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 12/15/20 13:42

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2544	102	85-115	mg/kg	

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Analytical Method: SW-846 7196 A

Seq Number: 180622 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 12/23/20 13:06

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.2500	0.2487	99	85-115	mg/kg	

Analytical Method: SW-846 7196 A

Seq Number: 180402 Matrix: Solid
Parent Sample Id: MRL MRL Sample Id: MRL Analyzed Date: 12/15/20 13:52

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.05000	0.05420	108	50-150	mg/kg	

Analytical Method: SW-846 7196 A

Seq Number: 180623 Matrix: Solid
Parent Sample Id: MRL MRL Sample Id: MRL Analyzed Date: 12/23/20 13:16

Parameter	Spike Amount	MRL Result	MRL %Rec	Limits	Units	Flag
Chromium, Hexavalent	0.05000	0.05370	107	50-150	mg/kg	

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Analytical Method: SW-846 8081 B
Seq Number: 180570 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/21/20 09:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	23.02	115	80-120	ug/L	
gamma-BHC (Lindane)	20.00	22.08	110	80-120	ug/L	
beta-BHC	20.00	21.80	109	80-120	ug/L	
delta-BHC	20.00	23.33	117	80-120	ug/L	
Heptachlor	20.00	21.80	109	80-120	ug/L	
Aldrin	20.00	21.47	107	80-120	ug/L	
Heptachlor epoxide	20.00	20.54	103	80-120	ug/L	
gamma-Chlordane	20.00	20.71	104	80-120	ug/L	
alpha-Chlordane	20.00	21.21	106	80-120	ug/L	
4,4-DDE	20.00	20.47	102	80-120	ug/L	
Endosulfan I	20.00	21.13	106	80-120	ug/L	
Dieldrin	20.00	20.16	101	80-120	ug/L	
Endrin	20.00	19.92	100	80-120	ug/L	
4,4-DDD	20.00	19.64	98	80-120	ug/L	
Endosulfan II	20.00	20.51	103	80-120	ug/L	
4,4-DDT	20.00	22.13	111	80-120	ug/L	
Endrin aldehyde	20.00	22.13	111	80-120	ug/L	
Methoxychlor	20.00	23.64	118	80-120	ug/L	
Endosulfan sulfate	20.00	20.09	100	80-120	ug/L	
Endrin ketone	20.00	20.81	104	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	106	80-120	%	
Tetrachloro-m-xylene	93	80-120	%	

Analytical Method: SW-846 8081 B
Seq Number: 180570 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/21/20 09:40

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	304	101	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180570 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/21/20 09:55

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	325	108	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B

Seq Number: 180570 Matrix: Water

CCV Sample Id: CCV-02 Analyzed Date: 12/21/20 14:43

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	25.67	128	80-120	ug/L	X
gamma-BHC (Lindane)	20.00	25.64	128	80-120	ug/L	X
beta-BHC	20.00	25.13	126	80-120	ug/L	X
delta-BHC	20.00	25.49	127	80-120	ug/L	X
Heptachlor	20.00	22.78	114	80-120	ug/L	
Aldrin	20.00	23.41	117	80-120	ug/L	
Heptachlor epoxide	20.00	22.43	112	80-120	ug/L	
gamma-Chlordane	20.00	22.75	114	80-120	ug/L	
alpha-Chlordane	20.00	22.55	113	80-120	ug/L	
4,4-DDE	20.00	19.62	98	80-120	ug/L	
Endosulfan I	20.00	22.75	114	80-120	ug/L	
Dieldrin	20.00	21.14	106	80-120	ug/L	
Endrin	20.00	20.78	104	80-120	ug/L	
4,4-DDD	20.00	20.81	104	80-120	ug/L	
Endosulfan II	20.00	22.39	112	80-120	ug/L	
4,4-DDT	20.00	23.35	117	80-120	ug/L	
Endrin aldehyde	20.00	25.04	125	80-120	ug/L	X
Methoxychlor	20.00	26.21	131	80-120	ug/L	X
Endosulfan sulfate	20.00	21.84	109	80-120	ug/L	
Endrin ketone	20.00	22.46	112	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	105	80-120	%	
Tetrachloro-m-xylene	90	80-120	%	

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Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CCV-03 Analyzed Date: 12/21/20 15:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.68	93	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.62	93	80-120	ug/L	
beta-BHC	20.00	17.51	88	80-120	ug/L	
delta-BHC	20.00	18.90	95	80-120	ug/L	
Heptachlor	20.00	18.87	94	80-120	ug/L	
Aldrin	20.00	19.24	96	80-120	ug/L	
Heptachlor epoxide	20.00	18.86	94	80-120	ug/L	
gamma-Chlordane	20.00	19.09	95	80-120	ug/L	
alpha-Chlordane	20.00	18.96	95	80-120	ug/L	
4,4-DDE	20.00	19.62	98	80-120	ug/L	
Endosulfan I	20.00	19.12	96	80-120	ug/L	
Dieldrin	20.00	19.68	98	80-120	ug/L	
Endrin	20.00	19.46	97	80-120	ug/L	
4,4-DDD	20.00	20.74	104	80-120	ug/L	
Endosulfan II	20.00	19.60	98	80-120	ug/L	
4,4-DDT	20.00	20.81	104	80-120	ug/L	
Endrin aldehyde	20.00	20.22	101	80-120	ug/L	
Methoxychlor	20.00	21.42	107	80-120	ug/L	
Endosulfan sulfate	20.00	19.49	97	80-120	ug/L	
Endrin ketone	20.00	20.69	103	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	95	80-120	%	
Tetrachloro-m-xylene	87	80-120	%	

Analytical Method: SW-846 8081 B
Seq Number: 180570 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/21/20 15:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	299.3	100	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/21/20 15:30

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	297.8	99	80-120	ug/L	
Toxaphene	300	291.6	97	80-120	ug/L	
Toxaphene	300	294.3	98	80-120	ug/L	
Toxaphene	300	301.6	101	80-120	ug/L	
Toxaphene	300	308	103	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180570 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/21/20 15:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	269	90	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/21/20 15:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	278.1	93	80-120	ug/L	
Chlordane	300	255.5	85	80-120	ug/L	
Chlordane	300	279.3	93	80-120	ug/L	
Chlordane	300	277.4	92	80-120	ug/L	
Chlordane	300	295.8	99	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B

Seq Number: 180644 Matrix: Water

CCV Sample Id: CCV-04 Analyzed Date: 12/21/20 20:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.59	93	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.44	92	80-120	ug/L	
beta-BHC	20.00	17.37	87	80-120	ug/L	
delta-BHC	20.00	18.55	93	80-120	ug/L	
Heptachlor	20.00	18.46	92	80-120	ug/L	
Aldrin	20.00	19.12	96	80-120	ug/L	
Heptachlor epoxide	20.00	18.72	94	80-120	ug/L	
gamma-Chlordane	20.00	18.88	94	80-120	ug/L	
alpha-Chlordane	20.00	18.75	94	80-120	ug/L	
4,4-DDE	20.00	19.37	97	80-120	ug/L	
Endosulfan I	20.00	18.95	95	80-120	ug/L	
Dieldrin	20.00	19.50	98	80-120	ug/L	
Endrin	20.00	18.32	92	80-120	ug/L	
4,4-DDD	20.00	20.32	102	80-120	ug/L	
Endosulfan II	20.00	19.45	97	80-120	ug/L	
4,4-DDT	20.00	19.32	97	80-120	ug/L	
Endrin aldehyde	20.00	20.33	102	80-120	ug/L	
Methoxychlor	20.00	19.65	98	80-120	ug/L	
Endosulfan sulfate	20.00	19.25	96	80-120	ug/L	
Endrin ketone	20.00	20.56	103	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	94	80-120	%	
Tetrachloro-m-xylene	88	80-120	%	

Analytical Method: SW-846 8081 B

Seq Number: 180644 Matrix: Water

CCV Sample Id: TOX Analyzed Date: 12/21/20 20:18

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	289.3	96	80-120	ug/L	
Toxaphene	300	283.4	94	80-120	ug/L	
Toxaphene	300	284.5	95	80-120	ug/L	
Toxaphene	300	287.1	96	80-120	ug/L	
Toxaphene	300	299.4	100	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/21/20 20:33

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	266.6	89	80-120	ug/L	
Chlordane	300	250.7	84	80-120	ug/L	
Chlordane	300	272.1	91	80-120	ug/L	
Chlordane	300	270.5	90	80-120	ug/L	
Chlordane	300	280.4	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CCV-05 Analyzed Date: 12/21/20 23:41

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.76	94	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.53	93	80-120	ug/L	
beta-BHC	20.00	17.42	87	80-120	ug/L	
delta-BHC	20.00	18.69	93	80-120	ug/L	
Heptachlor	20.00	17.43	87	80-120	ug/L	
Aldrin	20.00	19.06	95	80-120	ug/L	
Heptachlor epoxide	20.00	18.56	93	80-120	ug/L	
gamma-Chlordane	20.00	18.64	93	80-120	ug/L	
alpha-Chlordane	20.00	18.55	93	80-120	ug/L	
4,4-DDE	20.00	19.18	96	80-120	ug/L	
Endosulfan I	20.00	18.73	94	80-120	ug/L	
Dieldrin	20.00	19.28	96	80-120	ug/L	
Endrin	20.00	17.94	90	80-120	ug/L	
4,4-DDD	20.00	21.72	109	80-120	ug/L	
Endosulfan II	20.00	19.25	96	80-120	ug/L	
4,4-DDT	20.00	11.88	59	80-120	ug/L	X
Endrin aldehyde	20.00	19.82	99	80-120	ug/L	
Methoxychlor	20.00	14.36	72	80-120	ug/L	X
Endosulfan sulfate	20.00	18.82	94	80-120	ug/L	
Endrin ketone	20.00	19.54	98	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	91	80-120	%	
Tetrachloro-m-xylene	88	80-120	%	

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PSS Project No.: 20121403

Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/21/20 23:55

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	270.1	90	80-120	ug/L	
Toxaphene	300	238.4	79	80-120	ug/L	X
Toxaphene	300	186.8	62	80-120	ug/L	X
Toxaphene	300	151.1	50	80-120	ug/L	X
Toxaphene	300	177.9	59	80-120	ug/L	X

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/22/20 00:10

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	257.9	86	80-120	ug/L	
Chlordane	300	253.2	84	80-120	ug/L	
Chlordane	300	273.5	91	80-120	ug/L	
Chlordane	300	270.9	90	80-120	ug/L	
Chlordane	300	249	83	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B

Seq Number: 180644 Matrix: Water

CCV Sample Id: CCV-06 Analyzed Date: 12/22/20 09:58

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	17.66	88	80-120	ug/L	
gamma-BHC (Lindane)	20.00	17.64	88	80-120	ug/L	
beta-BHC	20.00	16.52	83	80-120	ug/L	
delta-BHC	20.00	17.89	89	80-120	ug/L	
Heptachlor	20.00	18.64	93	80-120	ug/L	
Aldrin	20.00	18.51	93	80-120	ug/L	
Heptachlor epoxide	20.00	18.28	91	80-120	ug/L	
gamma-Chlordane	20.00	18.52	93	80-120	ug/L	
alpha-Chlordane	20.00	18.51	93	80-120	ug/L	
4,4-DDE	20.00	19.33	97	80-120	ug/L	
Endosulfan I	20.00	18.68	93	80-120	ug/L	
Dieldrin	20.00	19.36	97	80-120	ug/L	
Endrin	20.00	20.85	104	80-120	ug/L	
4,4-DDD	20.00	18.42	92	80-120	ug/L	
Endosulfan II	20.00	19.08	95	80-120	ug/L	
4,4-DDT	20.00	22.77	114	80-120	ug/L	
Endrin aldehyde	20.00	19.28	96	80-120	ug/L	
Methoxychlor	20.00	22.92	115	80-120	ug/L	
Endosulfan sulfate	20.00	18.54	93	80-120	ug/L	
Endrin ketone	20.00	18.52	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	87	80-120	%	
Tetrachloro-m-xylene	83	80-120	%	

Analytical Method: SW-846 8081 B

Seq Number: 180644 Matrix: Water

CCV Sample Id: TOX Analyzed Date: 12/22/20 10:15

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	308.2	103	80-120	ug/L	
Toxaphene	300	306.8	102	80-120	ug/L	
Toxaphene	300	333	111	80-120	ug/L	
Toxaphene	300	355.1	118	80-120	ug/L	
Toxaphene	300	355.3	118	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/22/20 10:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	294.5	98	80-120	ug/L	
Chlordane	300	263.4	88	80-120	ug/L	
Chlordane	300	287.2	96	80-120	ug/L	
Chlordane	300	285.6	95	80-120	ug/L	
Chlordane	300	325.1	108	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CCV-07 Analyzed Date: 12/22/20 16:29

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.37	92	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.32	92	80-120	ug/L	
beta-BHC	20.00	17.65	88	80-120	ug/L	
delta-BHC	20.00	18.59	93	80-120	ug/L	
Heptachlor	20.00	19.02	95	80-120	ug/L	
Aldrin	20.00	19.05	95	80-120	ug/L	
Heptachlor epoxide	20.00	18.75	94	80-120	ug/L	
gamma-Chlordane	20.00	18.95	95	80-120	ug/L	
alpha-Chlordane	20.00	18.83	94	80-120	ug/L	
4,4-DDE	20.00	19.36	97	80-120	ug/L	
Endosulfan I	20.00	18.99	95	80-120	ug/L	
Dieldrin	20.00	19.60	98	80-120	ug/L	
Endrin	20.00	20.35	102	80-120	ug/L	
4,4-DDD	20.00	17.75	89	80-120	ug/L	
Endosulfan II	20.00	19.38	97	80-120	ug/L	
4,4-DDT	20.00	21.62	108	80-120	ug/L	
Endrin aldehyde	20.00	19.39	97	80-120	ug/L	
Methoxychlor	20.00	21.97	110	80-120	ug/L	
Endosulfan sulfate	20.00	19.13	96	80-120	ug/L	
Endrin ketone	20.00	19.70	99	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	94	80-120	%	
Tetrachloro-m-xylene	87	80-120	%	

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QC Summary

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Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/22/20 16:43

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	304.2	101	80-120	ug/L	
Toxaphene	300	306.4	102	80-120	ug/L	
Toxaphene	300	319.2	106	80-120	ug/L	
Toxaphene	300	338	113	80-120	ug/L	
Toxaphene	300	337.7	113	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CHLOR Analyzed Date: 12/22/20 16:58

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	287.2	96	80-120	ug/L	
Chlordane	300	261.3	87	80-120	ug/L	
Chlordane	300	286.3	95	80-120	ug/L	
Chlordane	300	284.6	95	80-120	ug/L	
Chlordane	300	313.2	104	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: CCV-08 Analyzed Date: 12/22/20 19:50

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
alpha-BHC	20.00	18.69	93	80-120	ug/L	
gamma-BHC (Lindane)	20.00	18.56	93	80-120	ug/L	
beta-BHC	20.00	17.34	87	80-120	ug/L	
delta-BHC	20.00	18.63	93	80-120	ug/L	
Heptachlor	20.00	18.63	93	80-120	ug/L	
Aldrin	20.00	18.80	94	80-120	ug/L	
Heptachlor epoxide	20.00	18.31	92	80-120	ug/L	
gamma-Chlordane	20.00	18.32	92	80-120	ug/L	
alpha-Chlordane	20.00	18.22	91	80-120	ug/L	
4,4-DDE	20.00	18.77	94	80-120	ug/L	
Endosulfan I	20.00	18.38	92	80-120	ug/L	
Dieldrin	20.00	18.96	95	80-120	ug/L	
Endrin	20.00	19.78	99	80-120	ug/L	
4,4-DDD	20.00	18.48	92	80-120	ug/L	
Endosulfan II	20.00	18.46	92	80-120	ug/L	
4,4-DDT	20.00	17.25	86	80-120	ug/L	
Endrin aldehyde	20.00	18.49	92	80-120	ug/L	
Methoxychlor	20.00	18.83	94	80-120	ug/L	
Endosulfan sulfate	20.00	18.24	91	80-120	ug/L	
Endrin ketone	20.00	18.42	92	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	84	80-120	%	
Tetrachloro-m-xylene	88	80-120	%	

Analytical Method: SW-846 8081 B
Seq Number: 180644 Matrix: Water
CCV Sample Id: TOX Analyzed Date: 12/22/20 20:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Toxaphene	300	285.2	95	80-120	ug/L	
Toxaphene	300	257.3	86	80-120	ug/L	
Toxaphene	300	211.6	71	80-120	ug/L	X
Toxaphene	300	182.6	61	80-120	ug/L	X
Toxaphene	300	218.3	73	80-120	ug/L	X

Surrogate	CCV Result	Limits	Units	Flag

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Analytical Method: SW-846 8081 B

Seq Number: 180644 Matrix: Water

CCV Sample Id: CHLOR Analyzed Date: 12/22/20 20:19

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Chlordane	300	282.3	94	80-120	ug/L	
Chlordane	300	258.4	86	80-120	ug/L	
Chlordane	300	281.2	94	80-120	ug/L	
Chlordane	300	278.3	93	80-120	ug/L	
Chlordane	300	282.7	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B

Seq Number: 143912 Matrix: Solid

Parent Sample Id: ICV ICV Sample Id: ICV Analyzed Date: 06/24/17 21:36

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
alpha-BHC	20.00	19.59	98	58-120	ug/kg	
gamma-BHC (Lindane)	20.00	19.39	97	57-120	ug/kg	
beta-BHC	20.00	18.65	93	59-118	ug/kg	
delta-BHC	20.00	19.26	96	52-123	ug/kg	
Heptachlor	20.00	17.65	88	44-130	ug/kg	
Aldrin	20.00	19.14	96	59-123	ug/kg	
Heptachlor epoxide	20.00	19.07	95	61-119	ug/kg	
gamma-Chlordane	20.00	19.08	95	61-122	ug/kg	
alpha-Chlordane	20.00	18.97	95	61-123	ug/kg	
4,4-DDE	20.00	19.32	97	49-131	ug/kg	
Endosulfan I	20.00	19.44	97	66-118	ug/kg	
Dieldrin	20.00	19.01	95	60-122	ug/kg	
Endrin	20.00	20.11	101	39-133	ug/kg	
4,4-DDD	20.00	18.98	95	44-130	ug/kg	
Endosulfan II	20.00	18.79	94	59-118	ug/kg	
4,4-DDT	20.00	17.20	86	28-134	ug/kg	
Endrin aldehyde	20.00	19.14	96	51-129	ug/kg	
Methoxychlor	20.00	17.51	88	33-135	ug/kg	
Endosulfan sulfate	20.00	18.30	92	54-124	ug/kg	
Endrin ketone	20.00	18.52	93	58-123	ug/kg	

Surrogate	ICV Result	Limits	Units	Flag
Decachlorobiphenyl	72	23-165	%	
Tetrachloro-m-xylene	81	31-145	%	

Analytical Method: SW-846 8081 B

Seq Number: 177759 Matrix: Water

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 09/11/20 14:40

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
alpha-BHC	20.00	19.98	100	80-120	ug/L	
gamma-BHC (Lindane)	20.00	19.74	99	80-120	ug/L	
beta-BHC	20.00	19.27	96	80-120	ug/L	
delta-BHC	20.00	19.81	99	80-120	ug/L	
Heptachlor	20.00	19.37	97	80-120	ug/L	
Aldrin	20.00	19.69	98	80-120	ug/L	
Heptachlor epoxide	20.00	19.40	97	80-120	ug/L	
gamma-Chlordane	20.00	19.49	97	80-120	ug/L	
alpha-Chlordane	20.00	19.53	98	80-120	ug/L	
4,4-DDE	20.00	19.66	98	80-120	ug/L	
Endosulfan I	20.00	19.41	97	80-120	ug/L	
Dieldrin	20.00	19.54	98	80-120	ug/L	
Endrin	20.00	19.30	97	80-120	ug/L	
4,4-DDD	20.00	19.34	97	80-120	ug/L	
Endosulfan II	20.00	19.31	97	80-120	ug/L	
4,4-DDT	20.00	18.54	93	80-120	ug/L	
Endrin aldehyde	20.00	19.41	97	80-120	ug/L	
Methoxychlor	20.00	18.53	93	80-120	ug/L	
Endosulfan sulfate	20.00	19.28	96	80-120	ug/L	
Endrin ketone	20.00	19.03	95	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
Decachlorobiphenyl	95	80-120	%	
Tetrachloro-m-xylene	98	80-120	%	

Analytical Method: SW-846 8081 B

Seq Number: 177759 Matrix: Water

Parent Sample Id: ICV-02 ICV Sample Id: ICV-02 Analyzed Date: 09/11/20 16:06

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Toxaphene	300	325.6	109	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8081 B

Seq Number: 177759 Matrix: Water

Parent Sample Id: ICV-03 ICV Sample Id: ICV-03 Analyzed Date: 09/11/20 17:32

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Chlordane	300	297.6	99	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

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QC Summary

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Analytical Method: SW-846 8082 A
Seq Number: 180580 Matrix: Water
CCV Sample Id: CCV-04 Analyzed Date: 12/21/20 15:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	116.3	116	80-120	ug/L	
PCB-1260	100	103	103	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	83	80-120	%	
Tetrachloro-m-xylene	96	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180580 Matrix: Water
CCV Sample Id: CCV-05 Analyzed Date: 12/21/20 21:19

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	88.95	89	80-120	ug/L	
PCB-1260	100	118.9	119	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	94	80-120	%	
Tetrachloro-m-xylene	97	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180581 Matrix: Water
CCV Sample Id: CCV-05 Analyzed Date: 12/21/20 21:19

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	102.7	103	80-120	ug/L	
PCB-1260	100	107.1	107	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	94	80-120	%	
Tetrachloro-m-xylene	97	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180580 Matrix: Water
CCV Sample Id: CCV-06 Analyzed Date: 12/22/20 05:43

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	124.2	124	80-120	ug/L	X
PCB-1260	100	113.4	113	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	104	80-120	%	
Tetrachloro-m-xylene	103	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180581 Matrix: Water
CCV Sample Id: CCV-06 Analyzed Date: 12/22/20 05:43

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	112.8	113	80-120	ug/L	
PCB-1260	100	113.7	114	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	104	80-120	%	
Tetrachloro-m-xylene	103	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180686 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/22/20 10:58

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	91.23	91	80-120	ug/L	
PCB-1016	100	82.77	83	80-120	ug/L	
PCB-1016	100	116.2	116	80-120	ug/L	
PCB-1016	100	104	104	80-120	ug/L	
PCB-1016	100	99.71	100	80-120	ug/L	
PCB-1260	100	97.66	98	80-120	ug/L	
PCB-1260	100	114.7	115	80-120	ug/L	
PCB-1260	100	104.9	105	80-120	ug/L	
PCB-1260	100	115.9	116	80-120	ug/L	
PCB-1260	100	105.6	106	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	101	80-120	%	
Tetrachloro-m-xylene	89	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180687 Matrix: Water
CCV Sample Id: CCV-01 Analyzed Date: 12/22/20 10:58

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	82.77	83	80-120	ug/L	
PCB-1260	100	114.7	115	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	101	80-120	%	
Tetrachloro-m-xylene	89	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180686 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/22/20 18:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	91.48	91	80-120	ug/L	
PCB-1016	100	77.59	78	80-120	ug/L	X
PCB-1016	100	112.8	113	80-120	ug/L	
PCB-1016	100	97.96	98	80-120	ug/L	
PCB-1016	100	95.81	96	80-120	ug/L	
PCB-1260	100	107.7	108	80-120	ug/L	
PCB-1260	100	117.8	118	80-120	ug/L	
PCB-1260	100	103.4	103	80-120	ug/L	
PCB-1260	100	118	118	80-120	ug/L	
PCB-1260	100	106	106	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	104	80-120	%	
Tetrachloro-m-xylene	90	80-120	%	

Analytical Method: SW-846 8082 A
Seq Number: 180687 Matrix: Water
CCV Sample Id: CCV-02 Analyzed Date: 12/22/20 18:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	91.48	91	80-120	ug/L	
PCB-1260	100	118	118	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	104	80-120	%	
Tetrachloro-m-xylene	90	80-120	%	

Analytical Method: SW-846 8082 A

Seq Number: 180686 Matrix: Water

CCV Sample Id: CCV-03 Analyzed Date: 12/23/20 01:06

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	94.30	94	80-120	ug/L	
PCB-1016	100	75.80	76	80-120	ug/L	X
PCB-1016	100	113.5	114	80-120	ug/L	
PCB-1016	100	98.49	98	80-120	ug/L	
PCB-1016	100	96.21	96	80-120	ug/L	
PCB-1260	100	96.33	96	80-120	ug/L	
PCB-1260	100	117.8	118	80-120	ug/L	
PCB-1260	100	105.7	106	80-120	ug/L	
PCB-1260	100	120	120	80-120	ug/L	
PCB-1260	100	104.9	105	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	106	80-120	%	
Tetrachloro-m-xylene	92	80-120	%	

Analytical Method: SW-846 8082 A

Seq Number: 180687 Matrix: Water

CCV Sample Id: CCV-03 Analyzed Date: 12/23/20 01:06

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
PCB-1016	100	98.49	98	80-120	ug/L	
PCB-1260	100	96.33	96	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
Decachlorobiphenyl	106	80-120	%	
Tetrachloro-m-xylene	92	80-120	%	

Analytical Method: SW-846 8082 A

Seq Number: 178961 Matrix: Water

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 10/20/20 12:18

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1016	100	107.2	107	80-120	ug/L	
PCB-1260	100	112	112	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
Decachlorobiphenyl	82	80-120	%	
Tetrachloro-m-xylene	80	80-120	%	

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QC Summary

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Analytical Method: SW-846 8082 A
Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-02 ICV Sample Id: ICV-02 Analyzed Date: 10/20/20 16:36

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1221	100	104.5	105	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A
Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-03 ICV Sample Id: ICV-03 Analyzed Date: 10/20/20 19:53

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1232	100	116.5	117	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A
Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-04 ICV Sample Id: ICV-04 Analyzed Date: 10/20/20 23:12

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1242	100	116.2	116	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A
Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-05 ICV Sample Id: ICV-05 Analyzed Date: 10/21/20 02:28

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1248	100	104.6	105	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8082 A

Seq Number: 178961 Matrix: Water
Parent Sample Id: ICV-06 ICV Sample Id: ICV-06 Analyzed Date: 10/21/20 05:44

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
PCB-1254	100	106.1	106	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag

Analytical Method: SW-846 8015C DRO

Seq Number: 180553 Matrix: Water
CCV Sample Id: CCV-F1 Analyzed Date: 12/21/20 06:50

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2861	114	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	118	80-120	%	

Analytical Method: SW-846 8015C DRO

Seq Number: 180553 Matrix: Water
CCV Sample Id: CCV-F2 Analyzed Date: 12/21/20 13:55

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2562	102	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	105	80-120	%	

Analytical Method: SW-846 8015C DRO

Seq Number: 180554 Matrix: Water
CCV Sample Id: CCV-R1 Analyzed Date: 12/21/20 13:55

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2754	110	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	114	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180553 Matrix: Water
CCV Sample Id: CCV-F3 Analyzed Date: 12/21/20 21:47

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2436	97	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	96	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180554 Matrix: Water
CCV Sample Id: CCV-R2 Analyzed Date: 12/21/20 21:47

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2425	97	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	94	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180601 Matrix: Water
CCV Sample Id: CCV-F1 Analyzed Date: 12/22/20 14:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2449	98	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	97	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180602 Matrix: Water
CCV Sample Id: CCV-R1 Analyzed Date: 12/22/20 14:42

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2643	106	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	104	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180601 Matrix: Water
CCV Sample Id: CCV-F2 Analyzed Date: 12/22/20 18:24

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2434	97	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	98	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180602 Matrix: Water
CCV Sample Id: CCV-R2 Analyzed Date: 12/22/20 18:24

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2698	108	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	106	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180628 Matrix: Water
CCV Sample Id: CCV-F1 Analyzed Date: 12/23/20 14:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2336	93	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	94	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180629 Matrix: Water
CCV Sample Id: CCV-R1 Analyzed Date: 12/23/20 14:44

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2418	97	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	99	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180628 Matrix: Water
CCV Sample Id: CCV-F2 Analyzed Date: 12/23/20 19:41

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2486	99	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	99	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 180629 Matrix: Water
CCV Sample Id: CCV-R2 Analyzed Date: 12/23/20 19:41

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2549	102	80-120	mg/L	

Surrogate	CCV Result	Limits	Units	Flag
o-Terphenyl	104	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 177034 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 08/18/20 12:32

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2555	102	80-120	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
o-Terphenyl	95	80-120	%	

Analytical Method: SW-846 8015C DRO
Seq Number: 178799 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 10/16/20 12:08

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
TPH-DRO (Diesel Range Organics)	2500	2752	110	80-120	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
o-Terphenyl	110	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C

Seq Number: 180586 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 12/21/20 13:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acenaphthene	40000	43420	109	80-120	ug/L	
Acenaphthylene	40000	44450	111	80-120	ug/L	
Acetophenone	40000	43810	110	80-120	ug/L	
Anthracene	40000	42090	105	80-120	ug/L	
Atrazine	40000	38630	97	80-120	ug/L	
Benzo(a)anthracene	40000	39700	99	80-120	ug/L	
Benzo(a)pyrene	40000	38630	97	80-120	ug/L	
Benzo(b)fluoranthene	40000	38250	96	80-120	ug/L	
Benzo(g,h,i)perylene	40000	37790	94	80-120	ug/L	
Benzo(k)fluoranthene	40000	38410	96	80-120	ug/L	
Biphenyl (Diphenyl)	40000	43100	108	80-120	ug/L	
Butyl benzyl phthalate	40000	47550	119	80-120	ug/L	
bis(2-chloroethoxy) methane	40000	44480	111	80-120	ug/L	
bis(2-chloroethyl) ether	40000	44410	111	80-120	ug/L	
bis(2-chloroisopropyl) ether	40000	39600	99	80-120	ug/L	
bis(2-ethylhexyl) phthalate	40000	50340	126	80-120	ug/L	X
4-Bromophenylphenyl ether	40000	44280	111	80-120	ug/L	
Di-n-butyl phthalate	40000	45310	113	80-120	ug/L	
Carbazole	40000	24350	61	80-120	ug/L	X
Caprolactam	40000	40400	101	80-120	ug/L	
4-Chloro-3-methyl phenol	40000	43710	109	80-120	ug/L	
4-Chloroaniline	40000	33610	84	80-120	ug/L	
2-Chloronaphthalene	40000	42770	107	80-120	ug/L	
2-Chlorophenol	40000	44230	111	80-120	ug/L	
4-Chlorophenyl Phenyl ether	40000	43270	108	80-120	ug/L	
Chrysene	40000	43130	108	80-120	ug/L	
Dibenz(a,h)Anthracene	40000	38880	97	80-120	ug/L	
Dibenzofuran	40000	42330	106	80-120	ug/L	
3,3-Dichlorobenzidine	40000	33690	84	80-120	ug/L	
2,4-Dichlorophenol	40000	44570	111	80-120	ug/L	
Diethyl phthalate	40000	44320	111	80-120	ug/L	
Dimethyl phthalate	40000	44740	112	80-120	ug/L	
2,4-Dimethylphenol	40000	42890	107	80-120	ug/L	
4,6-Dinitro-2-methyl phenol	40000	39830	100	80-120	ug/L	
2,4-Dinitrophenol	40000	41460	104	80-120	ug/L	
2,4-Dinitrotoluene	40000	43160	108	80-120	ug/L	
2,6-Dinitrotoluene	40000	43900	110	80-120	ug/L	
Fluoranthene	40000	41710	104	80-120	ug/L	
Fluorene	40000	42900	107	80-120	ug/L	
Hexachlorobenzene	40000	42160	105	80-120	ug/L	
Hexachlorobutadiene	40000	44050	110	80-120	ug/L	
Hexachlorocyclopentadiene	40000	33900	85	80-120	ug/L	
Hexachloroethane	40000	41780	104	80-120	ug/L	
Indeno(1,2,3-c,d)Pyrene	40000	38330	96	80-120	ug/L	
Isophorone	40000	45510	114	80-120	ug/L	
2-Methylnaphthalene	40000	43920	110	80-120	ug/L	
2-Methyl phenol	40000	45000	113	80-120	ug/L	
3&4-Methylphenol	40000	44570	111	80-120	ug/L	
Naphthalene	40000	42600	107	80-120	ug/L	
2-Nitroaniline	40000	40730	102	80-120	ug/L	
3-Nitroaniline	40000	25080	63	80-120	ug/L	X

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C

Seq Number: 180586 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 12/21/20 13:04

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
4-Nitroaniline	40000	20960	52	80-120	ug/L	X
Nitrobenzene	40000	41680	104	80-120	ug/L	
2-Nitrophenol	40000	40970	102	80-120	ug/L	
4-Nitrophenol	40000	36700	92	80-120	ug/L	
N-Nitrosodi-n-propyl amine	40000	44080	110	80-120	ug/L	
N-Nitrosodiphenylamine	40000	35590	89	80-120	ug/L	
Di-n-octyl phthalate	40000	43400	109	80-120	ug/L	
Pentachlorophenol	40000	44160	110	80-120	ug/L	
Phenanthrene	40000	41660	104	80-120	ug/L	
Phenol	40000	42480	106	80-120	ug/L	
Pyrene	40000	45340	113	80-120	ug/L	
Pyridine	40000	47710	119	80-120	ug/L	
2,4,5-Trichlorophenol	40000	43750	109	80-120	ug/L	
2,4,6-Trichlorophenol	40000	44550	111	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
2-Fluorobiphenyl	108	80-120	%	
2-Fluorophenol	114	80-120	%	
Nitrobenzene-d5	107	80-120	%	
Phenol-d6	106	80-120	%	
Terphenyl-D14	115	80-120	%	
2,4,6-Tribromophenol	111	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C

Seq Number: 180617 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 12/22/20 10:57

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acenaphthene	40000	43240	108	80-120	ug/L	
Acenaphthylene	40000	45110	113	80-120	ug/L	
Acetophenone	40000	42710	107	80-120	ug/L	
Anthracene	40000	41440	104	80-120	ug/L	
Atrazine	40000	42580	106	80-120	ug/L	
Benzo(a)anthracene	40000	40120	100	80-120	ug/L	
Benzo(a)pyrene	40000	39230	98	80-120	ug/L	
Benzo(b)fluoranthene	40000	39530	99	80-120	ug/L	
Benzo(g,h,i)perylene	40000	39940	100	80-120	ug/L	
Benzo(k)fluoranthene	40000	37800	95	80-120	ug/L	
Biphenyl (Diphenyl)	40000	43400	109	80-120	ug/L	
Butyl benzyl phthalate	40000	43430	109	80-120	ug/L	
bis(2-chloroethoxy) methane	40000	43810	110	80-120	ug/L	
bis(2-chloroethyl) ether	40000	43660	109	80-120	ug/L	
bis(2-chloroisopropyl) ether	40000	39300	98	80-120	ug/L	
bis(2-ethylhexyl) phthalate	40000	44000	110	80-120	ug/L	
4-Bromophenylphenyl ether	40000	42610	107	80-120	ug/L	
Di-n-butyl phthalate	40000	42360	106	80-120	ug/L	
Carbazole	40000	47260	118	80-120	ug/L	
Caprolactam	40000	42250	106	80-120	ug/L	
4-Chloro-3-methyl phenol	40000	44040	110	80-120	ug/L	
4-Chloroaniline	40000	42800	107	80-120	ug/L	
2-Chloronaphthalene	40000	43790	109	80-120	ug/L	
2-Chlorophenol	40000	44540	111	80-120	ug/L	
4-Chlorophenyl Phenyl ether	40000	43090	108	80-120	ug/L	
Chrysene	40000	43810	110	80-120	ug/L	
Dibenz(a,h)Anthracene	40000	41260	103	80-120	ug/L	
Dibenzofuran	40000	42770	107	80-120	ug/L	
3,3-Dichlorobenzidine	40000	46210	116	80-120	ug/L	
2,4-Dichlorophenol	40000	45020	113	80-120	ug/L	
Diethyl phthalate	40000	42550	106	80-120	ug/L	
Dimethyl phthalate	40000	43450	109	80-120	ug/L	
2,4-Dimethylphenol	40000	42760	107	80-120	ug/L	
4,6-Dinitro-2-methyl phenol	40000	45460	114	80-120	ug/L	
2,4-Dinitrophenol	40000	47510	119	80-120	ug/L	
2,4-Dinitrotoluene	40000	44830	112	80-120	ug/L	
2,6-Dinitrotoluene	40000	44050	110	80-120	ug/L	
Fluoranthene	40000	42280	106	80-120	ug/L	
Fluorene	40000	42970	107	80-120	ug/L	
Hexachlorobenzene	40000	41050	103	80-120	ug/L	
Hexachlorobutadiene	40000	43340	108	80-120	ug/L	
Hexachlorocyclopentadiene	40000	45160	113	80-120	ug/L	
Hexachloroethane	40000	43530	109	80-120	ug/L	
Indeno(1,2,3-c,d)Pyrene	40000	40610	102	80-120	ug/L	
Isophorone	40000	43880	110	80-120	ug/L	
2-Methylnaphthalene	40000	43680	109	80-120	ug/L	
2-Methyl phenol	40000	44490	111	80-120	ug/L	
3&4-Methylphenol	40000	44060	110	80-120	ug/L	
Naphthalene	40000	42730	107	80-120	ug/L	
2-Nitroaniline	40000	43790	109	80-120	ug/L	
3-Nitroaniline	40000	45060	113	80-120	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C

Seq Number: 180617 Matrix: Water

CCV Sample Id: CCV-01 Analyzed Date: 12/22/20 10:57

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
4-Nitroaniline	40000	51540	129	80-120	ug/L	X
Nitrobenzene	40000	42980	107	80-120	ug/L	
2-Nitrophenol	40000	42680	107	80-120	ug/L	
4-Nitrophenol	40000	42650	107	80-120	ug/L	
N-Nitrosodi-n-propyl amine	40000	43860	110	80-120	ug/L	
N-Nitrosodiphenylamine	40000	43510	109	80-120	ug/L	
Di-n-octyl phthalate	40000	38740	97	80-120	ug/L	
Pentachlorophenol	40000	42090	105	80-120	ug/L	
Phenanthrene	40000	41760	104	80-120	ug/L	
Phenol	40000	44630	112	80-120	ug/L	
Pyrene	40000	43890	110	80-120	ug/L	
Pyridine	40000	39580	99	80-120	ug/L	
2,4,5-Trichlorophenol	40000	43970	110	80-120	ug/L	
2,4,6-Trichlorophenol	40000	44620	112	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
2-Fluorobiphenyl	109	80-120	%	
2-Fluorophenol	97	80-120	%	
Nitrobenzene-d5	111	80-120	%	
Phenol-d6	110	80-120	%	
Terphenyl-D14	110	80-120	%	
2,4,6-Tribromophenol	109	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8270 C

Seq Number: 180294 Matrix: Solid
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 12/10/20 09:43

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acenaphthene	40.00	41.89	105	80-120	mg/kg	
Acenaphthylene	40.00	43.53	109	80-120	mg/kg	
Acetophenone	40.00	43.75	109	80-120	mg/kg	
Anthracene	40.00	43.45	109	80-120	mg/kg	
Atrazine	40.00	43.85	110	80-120	mg/kg	
Benzo(a)anthracene	40.00	39.63	99	80-120	mg/kg	
Benzo(a)pyrene	40.00	39.90	100	80-120	mg/kg	
Benzo(b)fluoranthene	40.00	39.49	99	80-120	mg/kg	
Benzo(g,h,i)perylene	40.00	38.82	97	80-120	mg/kg	
Benzo(k)fluoranthene	40.00	39.58	99	80-120	mg/kg	
Biphenyl (Diphenyl)	40.00	43.53	109	80-120	mg/kg	
Butyl benzyl phthalate	40.00	44.01	110	80-120	mg/kg	
bis(2-chloroethoxy) methane	40.00	43.68	109	80-120	mg/kg	
bis(2-chloroethyl) ether	40.00	42.51	106	80-120	mg/kg	
bis(2-chloroisopropyl) ether	40.00	39.01	98	80-120	mg/kg	
bis(2-ethylhexyl) phthalate	40.00	44.14	110	80-120	mg/kg	
4-Bromophenylphenyl ether	40.00	43.46	109	80-120	mg/kg	
Di-n-butyl phthalate	40.00	42.90	107	80-120	mg/kg	
Carbazole	40.00	47.69	119	80-120	mg/kg	
Caprolactam	40.00	45.28	113	80-120	mg/kg	
4-Chloro-3-methyl phenol	40.00	44.06	110	80-120	mg/kg	
4-Chloroaniline	40.00	42.56	106	80-120	mg/kg	
2-Chloronaphthalene	40.00	43.56	109	80-120	mg/kg	
2-Chlorophenol	40.00	44.00	110	80-120	mg/kg	
4-Chlorophenyl Phenyl ether	40.00	42.31	106	80-120	mg/kg	
Chrysene	40.00	42.29	106	80-120	mg/kg	
Dibenz(a,h)Anthracene	40.00	40.33	101	80-120	mg/kg	
Dibenzofuran	40.00	42.54	106	80-120	mg/kg	
3,3-Dichlorobenzidine	40.00	46.65	117	80-120	mg/kg	
2,4-Dichlorophenol	40.00	45.17	113	80-120	mg/kg	
Diethyl phthalate	40.00	42.77	107	80-120	mg/kg	
Dimethyl phthalate	40.00	42.67	107	80-120	mg/kg	
2,4-Dimethylphenol	40.00	43.15	108	80-120	mg/kg	
4,6-Dinitro-2-methyl phenol	40.00	35.86	90	80-120	mg/kg	
2,4-Dinitrophenol	40.00	35.60	89	80-120	mg/kg	
2,4-Dinitrotoluene	40.00	43.10	108	80-120	mg/kg	
2,6-Dinitrotoluene	40.00	43.75	109	80-120	mg/kg	
Fluoranthene	40.00	43.25	108	80-120	mg/kg	
Fluorene	40.00	43.23	108	80-120	mg/kg	
Hexachlorobenzene	40.00	41.76	104	80-120	mg/kg	
Hexachlorobutadiene	40.00	43.67	109	80-120	mg/kg	
Hexachlorocyclopentadiene	40.00	40.24	101	80-120	mg/kg	
Hexachloroethane	40.00	42.63	107	80-120	mg/kg	
Indeno(1,2,3-c,d)Pyrene	40.00	40.21	101	80-120	mg/kg	
Isophorone	40.00	43.78	109	80-120	mg/kg	
2-Methylnaphthalene	40.00	43.40	109	80-120	mg/kg	
2-Methyl phenol	40.00	43.93	110	80-120	mg/kg	
3&4-Methylphenol	40.00	44.33	111	80-120	mg/kg	
Naphthalene	40.00	42.59	106	80-120	mg/kg	
2-Nitroaniline	40.00	42.84	107	80-120	mg/kg	
3-Nitroaniline	40.00	44.56	111	80-120	mg/kg	

Analytical Method: SW-846 8270 C

Seq Number: 180294 Matrix: Solid

Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 12/10/20 09:43

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
4-Nitroaniline	40.00	49.21	123	80-120	mg/kg	H
Nitrobenzene	40.00	42.88	107	80-120	mg/kg	
2-Nitrophenol	40.00	41.51	104	80-120	mg/kg	
4-Nitrophenol	40.00	42.36	106	80-120	mg/kg	
N-Nitrosodi-n-propyl amine	40.00	43.01	108	80-120	mg/kg	
N-Nitrosodiphenylamine	40.00	44.39	111	80-120	mg/kg	
Di-n-octyl phthalate	40.00	40.55	101	80-120	mg/kg	
Pentachlorophenol	40.00	43.54	109	80-120	mg/kg	
Phenanthrene	40.00	41.98	105	80-120	mg/kg	
Phenol	40.00	43.76	109	80-120	mg/kg	
Pyrene	40.00	43.79	109	80-120	mg/kg	
Pyridine	40.00	45.45	114	80-120	mg/kg	
2,4,5-Trichlorophenol	40.00	44.14	110	80-120	mg/kg	
2,4,6-Trichlorophenol	40.00	44.04	110	80-120	mg/kg	

Surrogate	ICV Result	Limits	Units	Flag
2-Fluorobiphenyl	108	80-120	%	
2-Fluorophenol	115	80-120	%	
Nitrobenzene-d5	110	80-120	%	
Phenol-d6	109	80-120	%	
Terphenyl-D14	108	80-120	%	
2,4,6-Tribromophenol	107	80-120	%	

Analytical Method: SW-846 8015C GRO

Seq Number: 180659 Matrix: Water

CCV Sample Id: CCV, GRO-1 Analyzed Date: 12/23/20 10:07

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organics	5000	4650	93	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	101	80-120	%	

Analytical Method: SW-846 8015C GRO

Seq Number: 180659 Matrix: Water

CCV Sample Id: CCV, GRO-2 Analyzed Date: 12/23/20 21:12

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organics	5000	4266	85	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	97	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8021B

Seq Number: 178752 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 10/13/20 19:55

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
TPH-GRO (Gasoline Range Organic:	5000	5219	104	80-120	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
a,a,a-Trifluorotoluene	122	80-120	%	*

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8260 B

Seq Number: 180621 Matrix: Water

CCV Sample Id: CCV, VOC-1 Analyzed Date: 12/23/20 09:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Acetone	60.00	60.19	100	80-120	ug/L	
Benzene	60.00	56.72	95	80-120	ug/L	
Bromochloromethane	60.00	56.77	95	80-120	ug/L	
Bromodichloromethane	60.00	58.01	97	80-120	ug/L	
Bromoform	60.00	59.67	99	80-120	ug/L	
Bromomethane	60.00	65.36	109	80-120	ug/L	
2-Butanone (MEK)	60.00	52.32	87	80-120	ug/L	
Carbon Disulfide	60.00	56.95	95	80-120	ug/L	
Carbon tetrachloride	60.00	60.12	100	80-120	ug/L	
Chlorobenzene	60.00	54.10	90	80-120	ug/L	
Chloroethane	60.00	53.62	89	80-120	ug/L	
Chloroform	60.00	56.84	95	80-120	ug/L	
Chloromethane	60.00	49.01	82	80-120	ug/L	
Cyclohexane	60.00	54.66	91	80-120	ug/L	
1,2-Dibromo-3-chloropropane	60.00	53.11	89	80-120	ug/L	
Dibromochloromethane	60.00	57.47	96	80-120	ug/L	
1,2-Dibromoethane	60.00	55.30	92	80-120	ug/L	
1,2-Dichlorobenzene	60.00	52.31	87	80-120	ug/L	
1,3-Dichlorobenzene	60.00	52.39	87	80-120	ug/L	
Dichlorodifluoromethane	60.00	50.79	85	80-120	ug/L	
1,4-Dichlorobenzene	60.00	51.95	87	80-120	ug/L	
1,1-Dichloroethane	60.00	48.97	82	80-120	ug/L	
1,2-Dichloroethane	60.00	53.96	90	80-120	ug/L	
cis-1,2-Dichloroethene	60.00	56.20	94	80-120	ug/L	
1,1-Dichloroethene	60.00	56.10	94	80-120	ug/L	
1,2-Dichloropropane	60.00	53.78	90	80-120	ug/L	
cis-1,3-Dichloropropene	60.00	57.62	96	80-120	ug/L	
trans-1,3-Dichloropropene	60.00	58.91	98	80-120	ug/L	
trans-1,2-Dichloroethene	60.00	52.84	88	80-120	ug/L	
Ethylbenzene	60.00	55.47	92	80-120	ug/L	
2-Hexanone (MBK)	60.00	54.34	91	80-120	ug/L	
Isopropylbenzene	60.00	51.13	85	80-120	ug/L	
Methyl Acetate	60.00	55.74	93	80-120	ug/L	
Methylcyclohexane	60.00	54.84	91	80-120	ug/L	
Methylene chloride	60.00	58.50	98	80-120	ug/L	
4-Methyl-2-Pentanone (MIBK)	60.00	54.53	91	80-120	ug/L	
Methyl-t-Butyl Ether	60.00	52.25	87	80-120	ug/L	
Naphthalene	60.00	48.78	81	80-120	ug/L	
Styrene	60.00	55.89	93	80-120	ug/L	
1,1,2,2-Tetrachloroethane	60.00	50.55	84	80-120	ug/L	
Tetrachloroethene	60.00	59.05	98	80-120	ug/L	
Toluene	60.00	57.36	96	80-120	ug/L	
1,2,3-Trichlorobenzene	60.00	53.20	89	80-120	ug/L	
1,2,4-Trichlorobenzene	60.00	53.16	89	80-120	ug/L	
1,1,1-Trichloroethane	60.00	59.81	100	80-120	ug/L	
Trichloroethene	60.00	58.17	97	80-120	ug/L	
1,1,2-Trichloroethane	60.00	56.63	94	80-120	ug/L	
Trichlorofluoromethane	60.00	56.46	94	80-120	ug/L	
1,1,2-Trichlorotrifluoroethane	60.00	55.69	93	80-120	ug/L	
1,2,4-Trimethylbenzene	60.00	51.92	87	80-120	ug/L	
1,3,5-Trimethylbenzene	60.00	50.66	84	80-120	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8260 B

Seq Number: 180621 Matrix: Water

CCV Sample Id: CCV, VOC-1 Analyzed Date: 12/23/20 09:23

Parameter	Spike Amount	CCV Result	CCV %Rec	Limits	Units	Flag
Vinyl chloride	60.00	55.59	93	80-120	ug/L	
m&p-Xylene	120	110.2	92	80-120	ug/L	
o-Xylene	60.00	56.23	94	80-120	ug/L	

Surrogate	CCV Result	Limits	Units	Flag
4-Bromofluorobenzene	78	80-120	%	X
Dibromofluoromethane	80	80-120	%	
Toluene-D8	86	80-120	%	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8260 B

Seq Number: 179936 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 11/25/20 09:27

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Acetone	60.00	66.07	110	75-125	ug/L	
Benzene	60.00	59.88	100	75-125	ug/L	
Bromochloromethane	60.00	59.97	100	75-125	ug/L	
Bromodichloromethane	60.00	60.80	101	75-125	ug/L	
Bromoform	60.00	63.17	105	75-125	ug/L	
Bromomethane	60.00	62.27	104	75-125	ug/L	
2-Butanone (MEK)	60.00	58.02	97	75-125	ug/L	
Carbon Disulfide	60.00	60.63	101	75-125	ug/L	
Carbon tetrachloride	60.00	60.31	101	75-125	ug/L	
Chlorobenzene	60.00	60.01	100	75-125	ug/L	
Chloroethane	60.00	58.27	97	75-125	ug/L	
Chloroform	60.00	59.85	100	75-125	ug/L	
Chloromethane	60.00	63.05	105	75-125	ug/L	
Cyclohexane	60.00	59.66	99	75-125	ug/L	
1,2-Dibromo-3-chloropropane	60.00	62.24	104	75-125	ug/L	
Dibromochloromethane	60.00	61.55	103	75-125	ug/L	
1,2-Dibromoethane	60.00	60.58	101	75-125	ug/L	
1,2-Dichlorobenzene	60.00	58.89	98	75-125	ug/L	
1,3-Dichlorobenzene	60.00	58.16	97	75-125	ug/L	
Dichlorodifluoromethane	60.00	59.89	100	75-125	ug/L	
1,4-Dichlorobenzene	60.00	59.35	99	75-125	ug/L	
1,1-Dichloroethane	60.00	60.13	100	75-125	ug/L	
1,2-Dichloroethane	60.00	58.76	98	75-125	ug/L	
cis-1,2-Dichloroethene	60.00	59.35	99	75-125	ug/L	
1,1-Dichloroethene	60.00	59.79	100	75-125	ug/L	
1,2-Dichloropropane	60.00	60.82	101	75-125	ug/L	
cis-1,3-Dichloropropene	60.00	62.85	105	75-125	ug/L	
trans-1,3-Dichloropropene	60.00	63.75	106	75-125	ug/L	
trans-1,2-Dichloroethene	60.00	59.91	100	75-125	ug/L	
Ethylbenzene	60.00	60.56	101	75-125	ug/L	
2-Hexanone (MBK)	60.00	60.55	101	75-125	ug/L	
Isopropylbenzene	60.00	56.51	94	75-125	ug/L	
Methyl Acetate	60.00	61.10	102	75-125	ug/L	
Methylcyclohexane	60.00	59.59	99	75-125	ug/L	
Methylene chloride	60.00	65.81	110	75-125	ug/L	
4-Methyl-2-Pentanone (MIBK)	60.00	60.62	101	75-125	ug/L	
Methyl-t-Butyl Ether	60.00	66.19	110	75-125	ug/L	
Naphthalene	60.00	63.99	107	75-125	ug/L	
Styrene	60.00	61.39	102	75-125	ug/L	
1,1,2,2-Tetrachloroethane	60.00	56.91	95	75-125	ug/L	
Tetrachloroethene	60.00	58.16	97	75-125	ug/L	
Toluene	60.00	59.83	100	75-125	ug/L	
1,2,3-Trichlorobenzene	60.00	68.40	114	75-125	ug/L	
1,2,4-Trichlorobenzene	60.00	67.49	112	75-125	ug/L	
1,1,1-Trichloroethane	60.00	60.81	101	75-125	ug/L	
Trichloroethene	60.00	59.34	99	75-125	ug/L	
1,1,2-Trichloroethane	60.00	59.41	99	75-125	ug/L	
Trichlorofluoromethane	60.00	58.82	98	75-125	ug/L	
1,1,2-Trichlorotrifluoroethane	60.00	59.34	99	75-125	ug/L	
1,2,4-Trimethylbenzene	60.00	58.81	98	75-125	ug/L	
1,3,5-Trimethylbenzene	60.00	57.71	96	75-125	ug/L	

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QC Summary

Project Name Conowingo
PSS Project No.: 20121403

Analytical Method: SW-846 8260 B

Seq Number: 179936 Matrix: Water
Parent Sample Id: ICV-01 ICV Sample Id: ICV-01 Analyzed Date: 11/25/20 09:27

Parameter	Spike Amount	ICV Result	ICV %Rec	Limits	Units	Flag
Vinyl chloride	60.00	58.07	97	75-125	ug/L	
m&p-Xylene	120	121.8	102	75-125	ug/L	
o-Xylene	60.00	60.63	101	75-125	ug/L	

Surrogate	ICV Result	Limits	Units	Flag
4-Bromofluorobenzene	97	75-125	%	
Dibromofluoromethane	100	75-125	%	
Toluene-D8	99	75-125	%	

X = Recovery outside of QC Criteria

CHAIN OF CUSTODY FORM

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① PSS CLIENT: NGEM | OFFICE LOCATION:

BILL TO (if different): | PHONE #:

CONTACT: | EMAIL:

PROJECT NAME: Conowingo | PROJECT #: 3037.2

SITE LOCATION: Conowingo | P.O. #:

SAMPLER(S): Wesley Irons / S. Bedosky | DW CERT #:

PSS Work Order #: 2012403 | PAGE 1 OF 6

Matrix Codes: SW=Surface Water, DW=Drinking Water, GW=Ground Water, WW=Waste Water, O=Oil, S=Soil, SOL=Solid, A=Air, WI=Wipe

Preservative Codes: 1 - HCL; 2 - H_2SO_4; 3 - HNO_3; 4 - NaOH; 5 - E624KIT; 6 - ICE; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - TerraCore Kit

② ③

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	Preservatives Use Codes	Hex chrome, total cyanide, sulfide, sulfate, nitrate, nitrite, fluoride, bromide	SVOCs, Pesticides, DRO, ammonia, phosphates	Soluable Salts	TKN	Dioxins/Furans	Free Cyanide	VOCs	PP metals + moisture	TOC
							Analysis/ Method Required								9	
1	C6 28.3 - 31.1	12/11/20	1605	S	2	G								X	X	
2	C6 31.1 - 33.9	12/11/20	1635	S	2	G								X	X	
3	C6 33.9 - 35.0	12/11/20	1652	S	2	G								X	X	
4	C6 35.0 - 36.1	12/11/20	1655	S	7	G	X	X	X	X	X			X	X	
5	C6 36.6 - 38.8	12/11/20	1800	S	7	G	X	X	X	X	X			X	X	
6	C6 38.8 - 39.8	12/11/20	1805	S	2	G								X	X	
7	C6 39.8 - 41.1	12/11/20	1810	S	2	G								X	X	
8	C6 41.5 - 43.6	12/11/20	1825	S	2	G								X	X	
9	C6 43.6 - 46.1	12/11/20	1827	S	2	G								X	X	
10	C6 46.1 - 49.5	12/12/20	0750	S	2	G								X	X	

⑤

Relinquished By: (1)	Date	Time	Received By:
Wesley Irons	12/14/20	0930	
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

④

Requested TAT (One TAT per COC)

☐ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

STATE RESULTS REPORTED TO: ☐ MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER

COMPLIANCE? ☐ DW ☐ WW

EDD FORMAT TYPE

Special Instructions:

Ice Present: PRES

Custody Seal: ABS

Coolers: 5 Temp: 3.4°-5.5°C

Shipping Carrier: Client

CHAIN OF CUSTODY FORM

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①

PSS CLIENT: NGEM	OFFICE LOCATION:	PSS Work Order #: 20121403	PAGE 2 OF 6
BILL TO (if different):	PHONE #:		
CONTACT:	EMAIL:		
PROJECT NAME: Conowingo	PROJECT #: 3037.2		
SITE LOCATION: Conowingo	P.O. #:		
SAMPLER(S): Wesley Irons/S. Bedosky	DW CERT #:		

Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe

Preservative Codes: 1 - HCL; 2 - H_2SO_4; 3 - HNO_3; 4 - NaOH; 5 - E624KIT; 6 - ICE; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - TerraCore Kit

② ③

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	hexchrome, chloride, sulfide, sulfate, nitrate/nitrite	SVOCs	Pesticides PCBs	DRO ammonia phosphates	Soluble Salts	TKN	Dioxins/Furans	Free Cyanide	VOCs + GRO	PP metals/moisture	TOC		
Preservatives Use Codes															9				
11	C6 49.5-51.1	12/12/20	0755	S	2	G										X	X		
12	C6 52.3-54.2	12/12/20	0857	S	2	G										X	X		
13	C6 54.2-56.1	12/12/20	0859	S	2	G										X	X		
14	B7 37.6-39.6	12/12/20	0948	S	2	G										X	X		
15	B7 39.6-40.6	12/12/20	0950	S	2	G										X	X		
16	B7 42.0	12/12/20	1022	S	1	G									X				
17	B7 41.0-43.3	12/12/20	1025	S	7	G	X	X	X	X	X					X	X		
18	B7 43.3-45.6	12/12/20	1030	S	2	G										X	X		
19	B7 47.4-48.2	12/12/20	1100	S	2	G										X	X		
20	B7 48.2-50.6	12/12/20	1110	S	9	G	X	X	X	X	X	X	X			X	X		

⑤

Relinquished By:	Date	Time	Received By:
(1) Wesley Irons	12/14/20	0930	[signature]
(2)			
(3)			
(4)			

④

Requested TAT (One TAT per COC)
❑ 5-Day ❑ 3-Day ❑ 2-Day
❑ Next Day ❑ Emergency ❑ Other

STATE RESULTS REPORTED TO:
❑ MD ❑ DE ❑ PA ❑ VA ❑ WV
❑ OTHER

COMPLIANCE?
❑ DW ❑ WW

EDD FORMAT TYPE

Special Instructions:

Ice Present: PRES	
Custody Seal: ABS	
# Coolers: 5	Temp: 3.4-5.5°C
Shipping Carrier: Client	

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure of PSS-provided quotation, including any and all attorney's or other reasonable fees if collection becomes necessary.

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CHAIN OF CUSTODY FORM

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①

PSS CLIENT: NGEM	OFFICE LOCATION:	PSS Work Order #: 20121403	PAGE 3 OF 6
BILL TO (if different):	PHONE #:	Matrix Codes: SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe	
CONTACT:	EMAIL:		
PROJECT NAME: Conowingo	PROJECT #: 3037.2		
SITE LOCATION: Conowingo	P.O. #:		
SAMPLER(S): Wesley Irons / S Bedosky	DW CERT #:		

② ③

Preservative Codes: 1 - HCL; 2 - H_2SO_4; 3 - HNO_3; 4 - NaOH; 5 - E624KIT; 6 - ICE; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - TerraCore Kit

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	hex. chrome, total cyanide, sulfide, sulfate, moisture, corrosion	SVOCs	Pesticides PCBs DRO	ammonia phosphates	Soluble salts	TKN	Dioxins/Furans	Free Cyanide	VOCs & GRO	PP metals & moisture	TOC		
Preservatives Use Codes																9			
21	B7 51.0-52.5	12/12/20	1150	S	2	G									X	X			
22	B7 52.5-54.5	12/12/20	1150	S	2	G									X	X			
23	B7 54.5-55.6	12/12/20	1155	S	2	G									X	X			
24	B7 55.6-58.1	12/12/20	1240	S	2	G									X	X			
25	B7 58.1-60.6	12/12/20	1245	S	~~4~~7	G	X	X	X	X	X	~~X~~	~~X~~		X	X		NO D/F+FC	
26	B7 60.6-631	12/12/20	1310	S	2	G									X	X			
27	B7 63.1-65.6	12/12/20	1315	S	2	G									X	X			
28	B7 65.6-667	12/12/20	1337	S	2	G									X	X			
29	B7 66.7-68.1	12/12/20	1340	S	2	G									X	X			
30	B8 66.7	12/12/20	1420	S	1	G								X					

⑤ ④

Relinquished By	Date	Time	Received By
Relinquished By: (1) Wesley Irons	12/14/20	0930	Received By: [signature]
Relinquished By: (2)	Date	Time	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

Requested TAT (One TAT per COC)
❑ 5-Day ❑ 3-Day ❑ 2-Day
❑ Next Day ❑ Emergency ❑ Other

STATE RESULTS REPORTED TO:
❑ MD ❑ DE ❑ PA ❑ VA ❑ WV
❑ OTHER

COMPLIANCE?
❑ DW ❑ WW

EDD FORMAT TYPE

Special Instructions:

Ice Present: PRES
Custody Seal: ABS
Coolers: 5 Temp: 3.4°-5.5°C
Shipping Carrier: Client

This chain of custody is a legal document. The client (PSS Client), by signing, or having client's agent sign, this "Chain of Custody Form", agrees to pay for the above requested services per the latest version of the Service Brochure of PSS-provided quotation, including any and all attorney's or other reasonable fees if collection becomes necessary.

PHASE SEPARATION SCIENCE

CHAIN OF CUSTODY FORM

All fields must be completed accurately. Shaded sections for lab use only.

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①

PSS CLIENT: NGEM	OFFICE LOCATION:
BILL TO (If different):	PHONE #:
CONTACT:	EMAIL:
PROJECT NAME: Conowingo	PROJECT #: 3037.2
SITE LOCATION: Conowingo	P.O. #:
SAMPLER(S): Wesley Irons / S. Bedosky	DW CERT #:

PSS Work Order #: 20121403 PAGE 4 OF 6

Matrix Codes:
SW=Surface Water DW=Drinking Water GW=Ground Water WW=Waste Water O=Oil S=Soil SOL=Solid A=Air WI=Wipe

Preservative Codes: 1 - HCL; 2 - H_2SO_4; 3 - HNO_3; 4 - NaOH; 5 - E624KIT; 6 - ICE; 7 - Sodium Thiosulfate; 8 - Ascorbic Acid; 9 - TerraCore Kit

②

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	hex Chrome, [illegible]	SVOCs pesticides pcbs	PRO ammonia [illegible]	Soluble Salts	Dioxins/Furans	free Cyanide	VOCs+GRO	PP metals/moisture	TOC	TKN	
Preservatives Use Codes ③													9				
31	B8 63.7-66.7	12/12/20	1430	S	2	G								X	X		
32	B8 66.7-67.2	12/12/20	1435	S	2	G								X	X		
33	B8 67.2-68.7	12/12/20	1440	S	9	G	X	X	X	X	X	X		X	X	X	
34	B8 69.6-71.2	12/12/20	1505	S	2	G								X	X		
35	A8 41.2-42.3	12/13/20	0837	S	2	G								X	X		
36	A8 45.2-47.3	12/13/20	0852	S	2	G								X	X		
37	A8 50.5-52.3	12/13/20	0904	S	2	G								X	X		
38	A8 53.1-57.3	12/13/20	0916	S	2	G								X	X		
39	A8 62.3	12/13/20	0927	S	1	G							X				
40	A8 57.8-62.3	12/13/20	0927	S	9	G	X	X	X	X	X	X		X	X	X	

⑤

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④

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COMPLIANCE? ☐ DW ☐ WW

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① PSS CLIENT: NGEM | OFFICE LOCATION:

BILL TO (if different): | PHONE #:

CONTACT: | EMAIL:

PROJECT NAME: Conowingo | PROJECT #: 30372

SITE LOCATION: Conowingo | P.O. #:

SAMPLER(S): Wesley Irons / S. Bedosky | DW CERT #:

PSS Work Order #: 20121403 | PAGE 5 OF 6

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Preservatives Use Codes: VOCs + GRO: 9

Analysis/Method Required ③: (1) hex chrome total cyanide sulfide sulfate moisture [illegible]; (2) SVOCs pesticides PCBs; (3) PRO ammonia phosphates; (4) soluable salts; (5) TKN; (6) Dioxins/Furans; (7) VOCs + GRO; (8) PP metal + moisture; (9) TOC; (10) Free Cyanide

②

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
41	A8 62.9 - 67.3	12/13/20	0955	S	2	G								X	X		
42	A8 67.3 - 72.3	12/13/20	1010	S	2	G								X	X		
43	A8 72.3 - 74.8	12/13/20	1026	S	2	G								X	X		
44	B8A 58.8 - ~~60.6~~ 60.0 SPR 3/5/21	12/13/20	1127	S	2	G								X	X		
45	B8A 68.7 - 70.0	12/13/20	1147	S	7	G	X	X	X	X	X			X	X		
46	B8A 71.9 - 75.0	12/13/20	1214	S	7	G	X	X	X	X	X			X	X		
47	B8A 75.3 - 80.0	12/13/20	1230	S	7	G	X	X	X	X	X			X	X		
48	B8A 81.5	12/13/20	1248	S	1	G							X				
49	B8A 81.1 - 82.4	12/13/20	1248	S	7	G	X	X	X	X	X			X	X		
50	C8 48.6 - 49.7	12/13/20	1334	S	7	G	X	X	X	X	X			X	X		

⑤

Relinquished By	Date	Time	Received By
(1) Wesley Irons	12/14/20	0930	[signature]
(2)			
(3)			
(4)			

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STATE RESULTS REPORTED TO: ☐ MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER

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PROJECT NAME: Conowingo | PROJECT #: 3037.2

SITE LOCATION: Conowingo | P.O. #:

SAMPLER(S): Wesley Irons/S. Bedosky | DW CERT #:

PSS Work Order #: 20121403 | PAGE 6 OF 6

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② ③ Analysis/Method Required (Preservatives Use Codes: 9 for VOCs · GRO)

PSS ID	SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX Use Codes	# OF CONTAINERS	SAMPLE TYPE: C=COMPOSITE G=GRAB	hex chrome, total cyanide, Sulfate sulfide	SVOCs, pesticides, PCBs	PRO ammonia phosphate	soluble salts	TKN	Dioxins/furans	VOCs · GRO	PP metals moisture	TOC	Free Cyanide	
51	C8 61.6-65.6	12/13/20	1440	S	7	G	X	X	X	X	X			X	X		
52	C8 65.6-70.6	12/13/20	1458	S	7	G	X	X	X	X	X			X	X		
53	C8 72.7-75.0	12/13/20	1514	S	9	G	X	X	X	X	X	X		X	X	X	
54	D8 47.2-49.0	12/13/20	1611	S	7	G	X	X	X	X	X			X	X		
55	D8 48.0	12/13/20	1611	S	1	G							X				
56	D8 55.0-59.0	12/13/20	1640	S	7	G	X	X	X	X	X			X	X		
57	D8 60.6-64.0	12/13/20	1703	S	9	G	X	X	X	X	X	X		X	X	X	
58	D8 64.0-69.0	12/13/20	1720	S	2	G								X	X		
59	D8 69.0-74.0	12/13/20	1740	S	2	G								X	X		
60	D8 75.5-79.0	12/13/20	1800	S	7	G	X	X	X	X	X			X	X		
	C8 76.2	12/13/20	1550	S	1	G							X				

⑤

Relinquished By:	Date	Time	Received By:
(1) Wesley Irons	12/14/20	0930	[signature]
(2)			
(3)			
(4)			

5/13 3/15/21

④ Requested TAT (One TAT per COC): ☐ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

STATE RESULTS REPORTED TO: ☐ MD ☐ DE ☐ PA ☐ VA ☐ WV ☐ OTHER

COMPLIANCE? ☐ DW ☐ WW

EDD FORMAT TYPE

Special Instructions:

Ice Present: PRES

Custody Seal: ABS

Coolers: 5

Temp: 3.4-5.5°C

Shipping Carrier: Client

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800-932-9047
www.phaseonline.com

Sample Receipt Checklist

Project Name: Conowingo
PSS Project No.: 20121403

Client Name Northgate Environmental Manageme
Disposal Date 01/18/2021

Received By Thomas Wingate
Date Received 12/14/2020 09:30:00 AM
Delivered By Client
Tracking No Not Applicable
Logged In By Thomas Wingate

Shipping Container(s)
No. of Coolers 5

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5.5
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	Wesley Irons, S. Bedosky
COC agrees with sample labels?	Yes	MD DW Cert. No.	N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Holding Time

		Total No. of Samples Received	61
All Samples Received Within Holding Time(s)?	Yes	Total No. of Containers Received	251

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Sample "C8 76.2" not indicated on COC, logged in for VOCs and GRO.

Samples Inspected/Checklist Completed By: Thomas Wingate — Date: 12/14/2020

PM Review and Approval: Lynn Jackson — Date: 01/19/2021