Phase II Investigation
Work Plan

Area A: Parcel A4
Sparrows Point Terminal, LLC
Sparrows Point, Maryland

Prepared for:
EnviroAnalytics Group
1650 Des Peres Road, Suite 230
Saint Louis, Missouri 63131

Prepared by:
ARM Group Inc.
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Revision 2
October 29, 2015

ARM Project 150298M

Respectfully submitted,

Eric S. Magdar
Senior Geologist

T. Neil Peters, P.E.
Vice President

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1.0 INTRODUCTION

1.1 Introduction

ARM Group Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), has prepared the following Work Plan to complete a Phase II site investigation on a portion of the Sparrows Point Terminal, LLC property that has been designated as Area A, Parcel A4 (the Site). Parcel A4 is comprised of 61.4 acres of the approximately 3,100-acre former plant property located as shown on **Figure 1**.

Site characterization of Parcel A4 will be performed in compliance with requirements pursuant to the following:

- Administrative Consent Order (ACO) between Sparrows Point Terminal, LLC (SPT) and the Maryland Department of the Environment (effective September 12, 2014); and
- Settlement Agreement and Covenant Not to Sue (SA) between Sparrows Point Terminal, LLC and the United States Environmental Protection Agency (effective November 25, 2014).

An application to enter the Site into the Maryland Department of the Environment Voluntary Cleanup Program (MDE-VCP) was submitted to MDE on September 10, 2014. The Site's current and anticipated future use is Tier 3 (Industrial), and plans for the Site include demolition and redevelopment over the next several years.

Parcel A4 is part of the acreage that was removed (Carveout Area) from inclusion in the Multimedia Consent Decree between Bethlehem Steel Corporation, the United States Environmental Protection Agency (EPA), and the Maryland Department of the Environment (MDE) (effective October 8, 1997) as documented in correspondence received from EPA on September 12, 2014. Based on this agreement, EPA has determined that no further investigation or corrective measures will be required under the terms of the Consent Decree for the Carveout Area. However, the SA reflects that the property within the Carveout Area will remain subject to the EPA's RCRA Corrective Action authorities.

1.2 Site Background

From the late 1800s until 2012, the production and manufacturing of steel was conducted at Sparrows Point. Iron and steel production operations and processes at Sparrows Point included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, Sparrows Point was the largest steel

facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steelmaking operations at the Facility ceased in fall 2012.

Groundcover at the Site is comprised of 74% natural soils and 26% slag fill based on the approximate shoreline of the Sparrows Point Peninsula in 1916, as shown on **Figure 2** (Adapted from Figure 2-20 on the Description of Current Conditions Report (DCC) report prepared by Rust Environmental and Infrastructure, dated January 1998). The Site is partially occupied by the New Cold Mill Complex (NCMC) building.

The fully-automated NCMC; which utilized highly efficient emission control equipment, supplied light, flat-rolled sheet steel. The NCMC was supplied with hot-rolled steel from Sparrows Point's modern hot strip mill. Cold-rolled products from Sparrows Point were used in containers, tubing, machinery, storage tanks, automotive parts, metal furniture, electrical lighting equipment and hardware.

The NCMC, which replaced the old cold mill, housed an in-line continuous pickler, which cleaned steel prior to rolling. The pickler was linked to a sheet steel cold reduction section that consisted of a five-stand tandem mill. Additionally, the NCMC contained a hydrogen batch annealing facility, a combination skin pass mill and tension leveling line, a coil build-up and inspection line, a packaging line, cranes, storage areas and offices. Additional descriptions of these processes are provided below:

In-Line Continuous Pickler:
The Pickling Line prepared hot bands from the Hot Strip mill for further processing in the Tandem Mill. Steel was uncoiled, welded to the previous band and the scale broken before sending it through a continuous bath of hydrochloric (HCL) acid pickling solution. Acid flowed countercurrent with the strip and was removed at the entry end of the pickler. The strip was then rinsed and dried and may have been oiled and then re-coiled, or could be passed directly to the Tandem Mill.

Tandem Mill:
The Tandem Mill reduced the thickness of the strip, produced a smooth, dense surface and developed the required metallurgical properties of the steel. It received strip directly from the HCL pickler passing it through a five-stand continuous mill arrangement. After rolling, it was rewound into a coil for shipment to final customers, to the Annealing operations, and/or Coating operations. The Tandem Mill was operated with a fume-exhaust system that vented to a mist eliminator.

Skin Pass Mill:
The Skin Pass was a stand-alone unit that functioned as a single stand mill that could cold work annealed coils from the Hydrogen Anneal Furnaces and apply a customer required surface finish. It could also function as a tension-level line. The mill created the desired shape, surface, and temper to the steel that was required by the customer. Sometimes a rolling solution was applied to the strip before entering the mill stand work rolls. After the rolling process, the strip was air-dried, re-coiled and oiled if required for rust protection. VOC emissions were controlled in an enclosed fume exhaust system.

Coil Buildup Line:
Due to customer requirements for coil size, tension and quality, finished coils sometimes needed to be inspected and re-wound. The Coil Buildup Line took a coil from the Cold Rolled Products Lines, uncoiled it and recoiled it to the specified tension and size.

Hydrogen Anneal:
The Hydrogen Annealing facility received coils processed in the Tandem Mills and annealed them to varying degrees of hardness determined by the customer's end use. An inner cover was placed over the stacked coils in which an inert atmosphere of hydrogen circulated picking up heat from the gas fired outer cover's burners. Gases produced from the operation of the furnace included residual oils on the surface of the coils, which were consumed in the furnace. Each furnace vented inside the building. Blowers and thermostats on the furnace were used to control the temperature. The furnace was left on the pedestal (base) for 15-20 hours.

There are three existing groundwater wells located within the Site boundaries: SW04-PZM001 (shallow zone), SW04-PZM030 (intermediate zone), and SW04-PZM056 (lower zone). Groundwater samples have been collected from these wells in the past and analyzed for a limited set of general water quality parameters. Available analytical data from these samples are presented in **Appendix A**. The data indicate that historical concentrations of iron and manganese have exceeded the Project Action Limits (PALs) in wells SW04-PZM030 and SW04-PZM056. There is no historical soil or soil gas sampling data from this parcel, except for the data provided in the Building Occupancy Assessment (BOA) (**Appendix B**).

In March and April 2015, ARM conducted a Building Occupancy Assessment (BOA) of the NCMC to verify that the current conditions within and below the buildings would not pose a potentially unacceptable risk to commercial workers occupying the buildings. The results of the BOA investigation are provided in the NCMC BOA report dated April 13, 2015, which has been included as **Appendix B**. The investigation of Parcel A4 described in this work plan will be limited to the areas outside of the NCMC.

1.3 Sampling Design and Rationale

Across the whole Sparrows Point property, several buildings and facilities may have been historical sources of environmental contamination. These areas were identified as targets for sampling through a careful review of historical documents. When a sampling target was identified, at least two borings were placed at or around its location using GIS software (ArcMap Version 10.2.2). The first sampling targets to be identified were Recognized Environmental Conditions (RECs) located within the Site boundaries, as shown on the REC Location Map provided in the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos Consultants dated May 19, 2014. Additional Findings (non-RECs) from the Phase I ESA which were identified as Potential Environmental Concerns were also reviewed and targeted as applicable. There were no findings or RECs identified at the Site.

Following the identification and evaluation of any RECs at the Site, SWMUs and Areas of Concern (AOCs) were identified from the DCC Report Figure 3-1. Additional Findings, SWMUs, or AOCs that were identified include the Pipe Mill Trenches/Sump (SWMU 49) and a Hydraulic Oil Storage Area (AOC O). The location of AOC O is now occupied by the NCMC building.

The Pipe Mill Trenches/Sumps (SWMU 49) were identified as a unit associated with piping designed to transport process wastewater from the Pipe Mill to the TMC Discharge Pipes (SWMU 2) and ultimately to the Tin Mill Canal.

The Hydraulic Oil Storage Area (AOC O), located on the east side of the Pipe Mill, managed non-hazardous, water-based hydraulic fluid until the Pipe Mill ceased to operate in the late 1980's.

Following the identification of all SWMUs and AOCs, four (4) sets of historical site drawings were reviewed to identify additional sampling targets. These site drawings included the 5000 Set (Plant Arrangement), the 5100 Set (Plant Index), the 5500 Set (Plant Sewer Lines), and a set of drawings indicating coke oven gas distribution drip leg locations. There were no drip legs identified inside the boundary of Parcel A4. A summary of the specific drawings covering the Site is presented in the table below:

Parcel A4 Historical Site Drawings Details				
Set Name	Typical Features Shown	Drawing Number	Original Date Drawn	Latest Revision Date
Plant Arrangement	Roads, water bodies, building/structure footprints, electric lines, above-ground pipelines (e.g.: steam, nitrogen, etc.)	5044	8/3/1959	3/11/1982
		5049	6/4/1968	3/11/1982
		5050	*Unknown*	3/18/1982
		5054	4/27/1959	3/11/1982
		5055	1/27/1959	3/11/1982
Plant Index	Roads, water bodies, demolished buildings/structures, electric lines, above-ground pipelines	5144	*Unknown*	8/5/2008
		5149	*Unknown*	3/28/2008
		5150	*Unknown*	8/18/2008
		5154	*Unknown*	3/26/2008
		5155	*Unknown*	3/3/2008
Plant Sewer Lines	Same as above plus trenches, sumps, underground piping (includes pipe materials)	5544	9/16/1959	2/27/1976
		5549	10/15/1959	3/3/1976
		5550	9/16/1959	3/5/1976
		5554	2/10/1976	2/10/1976
		5555	2/10/1976	2/10/1976
Drip Legs	Coke Oven Gas Drip Legs Locations	5888	*Unknown*	Sept. 1988
		5887	*Unknown*	Sept. 1988

Sampling target locations were identified if the historical site drawings depicted industrial activities or a specific feature at a location that may have been a source of environmental contamination that impacted the Site. Based on this criterion, additional sampling targets that were identified at the Site include acid storage tanks and a waste oil tank. The number of proposed borings that targeted a specific feature is directly related to the size and likely historical presence of materials that could have impacted the Site. The full list of sampling targets, along with the specific rationale for sampling each, is provided as **Appendix C. Figures 3 through 7** show the proposed borings and the Site boundary overlain on the relevant figures and drawings from the historical documents.

Additional sample locations were then added to fill in areas with insufficient coverage (large spatial gaps between proposed borings) within the Site and to meet the sample density requirements set forth in Worksheet 17 – Sampling Design and Rationale. Parcel A4 contains a total of 61.3 acres: 33.2 acres without engineered barriers and 28.1 acres with engineered barriers (buildings/paving). Of the 28.1 acres containing engineered barriers, 18.1 acres is covered by the NCMC (sampling covered by sub-slab soil gas), and 10.0 acres consists of roads and parking area. The density of soil gas sampling points was maintained above the sample density

requirement of 1 per 20,000 square feet set forth in Worksheet 17 – Sampling Design and Rationale. In accordance with the relevant sampling density requirements for the areas outside the NCMC building, a minimum of 23 soil boring locations are required in the area without engineered barriers, and a minimum of 5 soil boring locations are required in parking areas. Sampling coverage of the building footprints is addressed by a previously completed BOA, discussed in **Appendix B**. **Figure 8** shows proposed boring on an aerial image to indicate locations of borings with regard to engineered barriers (roads, pavement, and the NCMC).

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

2.1 Project Personnel

The site characterization of Area B Parcel A4 will be conducted by ARM under a contract with EAG. ARM will provide project planning, field sampling and reporting support. The required drilling, Geoprobe® and laboratory services will be contracted directly by EAG. The management, field, and laboratory responsibilities of key project personnel are defined in this section.

The ARM Project Manager, Mr. Eric Magdar, is responsible for ensuring that all activities are conducted in accordance with this Work Plan and the contract requirements. Mr. Magdar will provide technical coordination with the MDE, EPA and EAG. The ARM Project Manager is responsible for managing all operations conducted for this project including:

- Ensure all personnel assigned to this project review the technical project plans before initiation of all tasks associated with the project.
- Review of project plans in a timely manner.
- Ensure proper methods and procedures are implemented to collect representative samples.
- Monitor the project budget and schedule and ensure the availability of necessary personnel, equipment, subcontractors, and other necessary services.

The lead ARM Geologist, Mr. Stewart Kabis, will be responsible for coordinating field activities including the collection, preservation, documentation and shipment of samples. Mr. Kabis will directly communicate with the ARM Project Manager and Laboratory Project Manager on issues pertaining to sample shipments, schedules, container requirements, and other necessary issues. Mr. Kabis is also responsible for ensuring the accuracy of sample documentation including the completion of the chain-of-custody (CoC) forms.

Pace Analytical Services, Inc. (PACE) of Greensburg, Pennsylvania will provide the analytical services for this project. The address for the laboratory is as follows:

Pace Analytical
1638 Roseytown Road
Greensburg, PA 15601

During the field activities, the Laboratory Project Manager will coordinate directly with the ARM Project Manager on issues regarding sample shipments, schedules, container requirements,

and other field-laboratory logistics. The Laboratory Project Manager will monitor the daily activities of the laboratory, coordinate all production activities, and ensure that work is being conducted as specified in this document. Ms. Samantha Bayura will be the Laboratory Project Manager for PACE on this project.

2.2 Health and Safety Issues

Because of the potential presence of metals, petroleum hydrocarbons and chlorinated hydrocarbons in the soil and groundwater at the Site, the investigation will be conducted under a site-specific Health and Safety Plan to protect investigation workers from possible exposure to contaminated soil and groundwater.

Based on information provided to ARM, the planned site activities will be conducted under modified Level D personal protection. The requirements of the modified Level D protection are defined in ARM's site specific Health and Safety Plan. All field personnel assigned for work at the Site have been trained in accordance with the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response standard (29 CFR 1910.120) and other applicable OSHA training standards. All field staff will be experienced in hazardous waste site work, use of personal protective equipment (PPE), and emergency response procedures.

3.0 FIELD ACTIVITIES AND PROCEDURES

3.1 Utility Clearance

ARM will take appropriate precautions to avoid subsurface utilities and structures during the site investigation. Prior to initiating any subsurface investigation, ARM will attempt to determine the location of utilities in the project area using the Miss Utility system. Additionally, any required state or local permits will be acquired prior to the commencement of site activities.

In addition to the Miss Utility system, EAG will clear each proposed boring with utility personnel currently working on the property. To facilitate this, ARM will locate with a GPS and mark all proposed boring locations in the field.

3.2 Sampling Plan

The purpose of this site characterization is to identify any existing hazardous conditions across the entire Site. A summary of the RECs and other areas of concern that will be investigated, along with the proposed boring identification number and the analyses being performed, have been provided as **Appendix C.**

This Work Plan presents the methods and protocols to be used to complete the site characterization. These methods and procedures follow the MDE-VCP and EPA guidelines. Information regarding the project organization, field activities and sampling methods, sampling equipment, sample handling and management procedures, the laboratory analytical methods and selected laboratory, quality control and quality assurance procedures, investigation-derived waste (IDW) management methods, reporting requirements are described in detail in the Quality Assurance Project Plan (QAPP) that has been developed to support the investigation and remediation of the Sparrows Point Terminal Site (Sparrows Point Terminal Quality Assurance Project Plan, ARM Group Inc.).

The proposed schedule of this investigation is contained in this work plan. All site characterization activities will be conducted under the site-specific health and safety plan (HASP); which is provided as **Appendix D.**

3.3 Soil Investigation

Soil samples will be collected from the locations identified on the Sample Summary Table in **Appendix C** at the locations shown on **Figures 3 through 7**, and in accordance with the procedures referenced in the Quality Assurance Plan (QAPP) Worksheet 21—Field SOPs (Standard Operating Procedures).

Regarding soil sampling depth, a shallow sample will be collected from the 0 to 1 foot depth interval, and a deeper sample will be collected from the 4 to 5 foot depth interval. One additional set of samples will also be collected from the 9 to 10 foot depth interval if groundwater has not been encountered; however, these samples will be held by the laboratory pending the analysis of the 0 to 1 and 4 to 5 foot depth interval samples. If the PID or other field observations indicate contamination to exist at a depth greater than 3 feet bgs but less than 9 feet bgs, and is above the water table, the sample from the deeper 4-5 foot interval may be shifted to the depth interval indicated by the PID response. It should be noted that no soil samples will be collected from a depth that is below the water table. All samples will be collected using a Geoprobe in accordance with the methods specified in SOP No. 009 Sub-Surface Soil Sampling.

After soil sampling has been concluded at a location, all down-hole soil sampling equipment will be decontaminated according to procedures referenced in the QAPP Worksheet 21—Field SOPs and Appendix A of the QAPP, SOP No. 016 Equipment Decontamination. The decontamination procedures that will be used during the course of this investigation include Decontamination Area (Section 3.1 of the SOP), Decontamination of Sampling Equipment (Section 3.5), Decontamination of Groundwater Sampling Pumps (Section 3.6), Decontamination of Measurement Devices & Monitoring Equipment (Section 3.7), Decontamination of Subsurface Drilling Equipment (Section 3.8), and Document and Record Keeping (Section 5).

All soil samples will be analyzed for TCL-VOCs, TCL-SVOCs, TAL-Metals, Oil & Grease, hexavalent chromium, and cyanide. Additionally, the shallow soil samples collected across the Site from the 0-1 foot bgs interval will also be analyzed for PCBs. Soil samples associated with the Hydraulic Oil Storage Area and Waste Oil Tank will also be analyzed for TPH-DRO and TPH-GRO. Analytical methods, sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30—Sample Containers, Preservation, and Holding Times.

3.4 Groundwater Investigation

Temporary piezometers will be installed at the locations identified on **Figure 7** in accordance with the procedures referenced in the QAPP Worksheet 21—Field SOPs (SOP No. 28 – Direct Push Installation and Construction of Temporary Groundwater Sample Collection Points). The locations where piezometers will be installed include: A4-002-PZ, A4-005-PZ, A4-007-PZ, A4-010-PZ, A4-012-PZ, A4-013-PZ and A4-014-PZ. Groundwater samples will be collected from these temporary piezometers and from one currently existing monitoring well (SW04-PZM001) in accordance with the procedures referenced in the QAPP Worksheet 21—Field SOPs (SOP No. 6 – Groundwater Sampling).

Prior to the start of sampling work at Parcel A4, the existing well will be inspected to determine its overall condition. This inspection includes locating the well, documenting the condition of the well pad and/or cover, documenting the condition of the flush mount or stick-up protective casing, documenting the condition of a lock and locking cap if either are present, measuring depth to bottom of the well and depth to groundwater, taking photographs of the well, and inspecting the well with a down-hole camera if necessary. If it is concluded that SW04-PZM001 is not suitable for sampling, the nearest soil boring (A4-019-SB) will be added as an additional piezometer location.

All groundwater samples will be analyzed for TCL-VOCs, TCL-SVOCs, Dissolved TAL-Metals, Oil & Grease, hexavalent chromium, and cyanide. In addition, groundwater samples associated with the Waste Oil Tank (A4-007-PZ) will also be analyzed for TPH-DRO and TPH-GRO. Analytical methods, sample containers, preservatives, and holding times for the sample analyses are listed in the QAPP Worksheet 19 & 30—Sample Containers, Preservation, and Holding Times.

ARM will check each piezometer for the presence of LPH using an oil-water interface probe, in accordance with methods referenced in the QAPP Worksheet 21—Field SOPs (SOP No. 19 – Depth to Groundwater and NAPL Measurements. All piezometers will also be surveyed to obtain groundwater elevation data. The elevation data from these piezometers will be used to create a groundwater contour map indicating groundwater flow direction.

Once each PVC piezometer has been sampled, surveyed and/or checked for LPH, it will be emptied, removed and discarded. The boreholes will then be abandoned in accordance with Maryland abandonment standards as stated in COMAR 26.04.04.34 through 36.

3.5 Sample Documentation

3.5.1 Sample Numbering

Samples will be numbered in accordance with the QAPP Appendix C—Data Management Plan.

3.5.2 Sample Labels & Chain-of-Custody Forms

Samples will be labeled and recorded on the Chain-of-Custody form in accordance with methods referenced in the QAPP Worksheet 26 & 27—Sample Handling, Custody and Disposal.

3.6 Laboratory Analysis

EAG has contracted PACE of Greensburg, Pennsylvania to perform the laboratory analysis for this project. All sample analyses to be performed are listed in **Appendix C**. The samples will be submitted for analysis with a standard turnaround time (approximately 5 work days). The specific list of compounds and analytes that the soil and groundwater samples will be analyzed for, as well as the quantitation limits and project action limits, is provided in Worksheet 15 – Project Action Limits and Laboratory-Specific Detection/Quantitation Limits.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

All soil and groundwater samples will be collected using dedicated equipment including new soil core liners and polyethylene tubing. Each cooler temperature will be measured and documented by the laboratory upon receipt.

Quality control (QC) samples are collected during field studies for various purposes, among which are to isolate site effects (control samples), to define background conditions (background sample), and to evaluate field/laboratory variability (spikes and blanks, trip blanks, duplicates, etc.).

The following QC samples will be submitted for analysis to support the data validation:

- Trip Blank – at a rate of one per day
  - Soil – VOCs only
  - Water - VOCs only
- Blind Field Duplicate – at a rate of one duplicate per twenty samples
  - Soil - VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, Oil & Grease (O&G), PCBs, Hexavalent Chromium, Cyanide
  - Water - VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, O&G, Hexavalent Chromium, and Cyanide
- Matrix Spike/Matrix Spike Duplicate – at a rate of one per twenty samples
  - Soil - VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, O&G, PCBs, Hexavalent Chromium, Cyanide
  - Water - VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, O&G, Hexavalent Chromium, and Cyanide
- Field Blank and Equipment Blank
  - Soil - VOC, SVOC, Metals, TPH-DRO, TPH-GRO, O&G, Hexavalent Chromium, Cyanide
  - Water - VOCs, SVOCs, Metals, TPH-DRO, TPH-GRO, O&G, Hexavalent Chromium, and Cyanide

The QC samples will be collected and analyzed in accordance with the QAPP Worksheet 12—Measurement Performance Criteria, Worksheet 20—Field Quality Control and Worksheet 28—Analytical Quality Control and Corrective Action.

5.0 MANAGEMENT OF INVESTIGATION-DERIVED WASTE

All investigation derived waste (IDW) procedures will be carried out in accordance with methods referenced in the QAPP Worksheet 21—Field SOPs (SOP No. 5 – Investigation-Derived Wastes Management).

6.0 DATA VALIDATION

All data validation procedures will be carried out in accordance with the QAPP Worksheet 34—Data Verification and Validation Inputs, Worksheet 35- Data Verification Procedures and Worksheet 36-Data Validation Procedures.

7.0 REPORTING

Following the receipt of all analytical results from "Area A Parcel A4", ARM will prepare a Phase II Site Investigation Report that will document the sample collection procedures and supporting rationale, and present and interpret the analytical results. All results will be presented in tabular and graphical formats as appropriate to best summarize the data for future use. The sample results will be compared against relevant criteria such as the MDE Generic Numeric Cleanup Standards and the EPA Regional Screening Levels, considering appropriate land use factors and institutional controls, to identify contaminants and exposure pathways of potential concern. ARM will also present recommendations for any additional site investigation activities if warranted.

8.0 SCHEDULE

The activities below are planned so that they may be completed within six months of agency approval of this Work Plan. In addition, the investigation report will be submitted to the regulatory authorities within two months of completion of the field investigation in accordance with these approximate timeframes:

- the sample collection activities will take approximately four (4) weeks to complete (including mobilization activities) once approval of the work plan is received;
- the soil and groundwater sample analysis, data validation and review is expected to require an additional six (6) weeks to complete; and
- the preparation of the investigation report, including an internal Quality Assurance Review cycle, will require another four (4) weeks.

FIGURES

ARM Group Inc.
Earth Resource Engineers and Consultants

0 375 750 1,500 Feet

- Site Boundary
- Area A Boundaries
- Area B Boundaries
- Private Property

Sparrows Point
Area A and Area B Parcels

September 17, 2015

EnviroAnalytics Group	Sparrows Point Terminal
Area A: Project 150298M Area B: Project 150300M	Baltimore County, MD

Figure 1

ARM Group Inc.
Earth Resource Engineers and Consultants

0 375 750 1,500 Feet

Site Boundary
Area A Boundaries
Area B Boundaries
Land
Marsh
Water

Approximate Shoreline in 1916
September 17, 2015

Adapted from Figure 2-5 of the Description of Current Conditions Report prepared by Rust Environmental and Infrastructure, dated January 1998

EnviroAnalytics Group

Area A: Project 150298M
Area B: Project 150300M

Sparrows Point Terminal

Baltimore County, MD

Figure 2

A4-009-SB
A4-010-SB
A4-008-SB
A4-025-SB
A4-007-SB
A4-018-SB
A4-017-SB
Parcel A6
A4-020-SB
A4-028-SB
A4-019-SB
A4-006-SB
A4-005-SB
A4-023-SB
Parcel A4
A4-026-SB
A4-015-SB
A4-024-SB
A4-027-SB
A4-021-SB
A4-004-SB
A4-001-SB
AOC O
A4-002-SB
A4-003-SB
SWMU 49
A4-014-SB
A4-022-SB
A4-016-SB
Parcel B6
A4-011-SB
A4-013-SB
Parcel B14
A4-012-SB
Parcel A1
Parcel B8

Areas With Engineered Barriers:

New Cold Mill Complex:
788,432 square feet (18.1 acres)
64.3% of Area With Engineered Barriers

Parking/Roads:
437,776 square feet (10.0 acres)
35.7% of Area With Engineered Barriers

Area Without Engineered Barriers:

1,446,653 square feet (33.2 acres)

Parcel A4 Proposed Sample Locations
Locations of SWMUs, AOCs, and Facility Areas

October 29, 2015

EnviroAnalytics Group
ARM Project 150298M

Sparrows Point Terminal
Baltimore County, MD

Figure 3

Proposed Boring
Completed Sub-Slab Gas (Appendix B)
A4 Boundary

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200
Feet

BETHLEHEM BOULEVARD

A4-009-SB
A4-010-SB
A4-008-SB
A4-007-SB
A4-025-SB
A4-018-SB
PIPE STORAGE
A4-017-SB
Parcel A6
A4-020-SB
A4-028-SB
A4-019-SB
A4-006-SB
A4-005-SB
A4-023-SB
Parcel A4
A4-026-SB
A4-015-SB
A4-024-SB
A4-027-SB
A4-021-SB
MATCH LINE DWG. 5049
A4-004-SB
A4-002-SB
A4-001-SB
A4-003-SB
A4-014-SB
A4-022-SB
A4-016-SB
Parcel B6
A4-011-SB
A4-013-SB
Parcel B14
A4-012-SB
Parcel A1
Parcel B8

Areas With Engineered Barriers:

New Cold Mill Complex:
788,432 square feet (18.1 acres)
64.3% of Area With Engineered Barriers

Parking/Roads:
437,776 square feet (10.0 acres)
35.7% of Area With Engineered Barriers

Area Without Engineered Barriers:

1,446,653 square feet (33.2 acres)

Parcel A4 Proposed Sample Locations
Historical Site Drawings—5000 Set

October 29, 2015

EnviroAnalytics Group
ARM Project 150298M

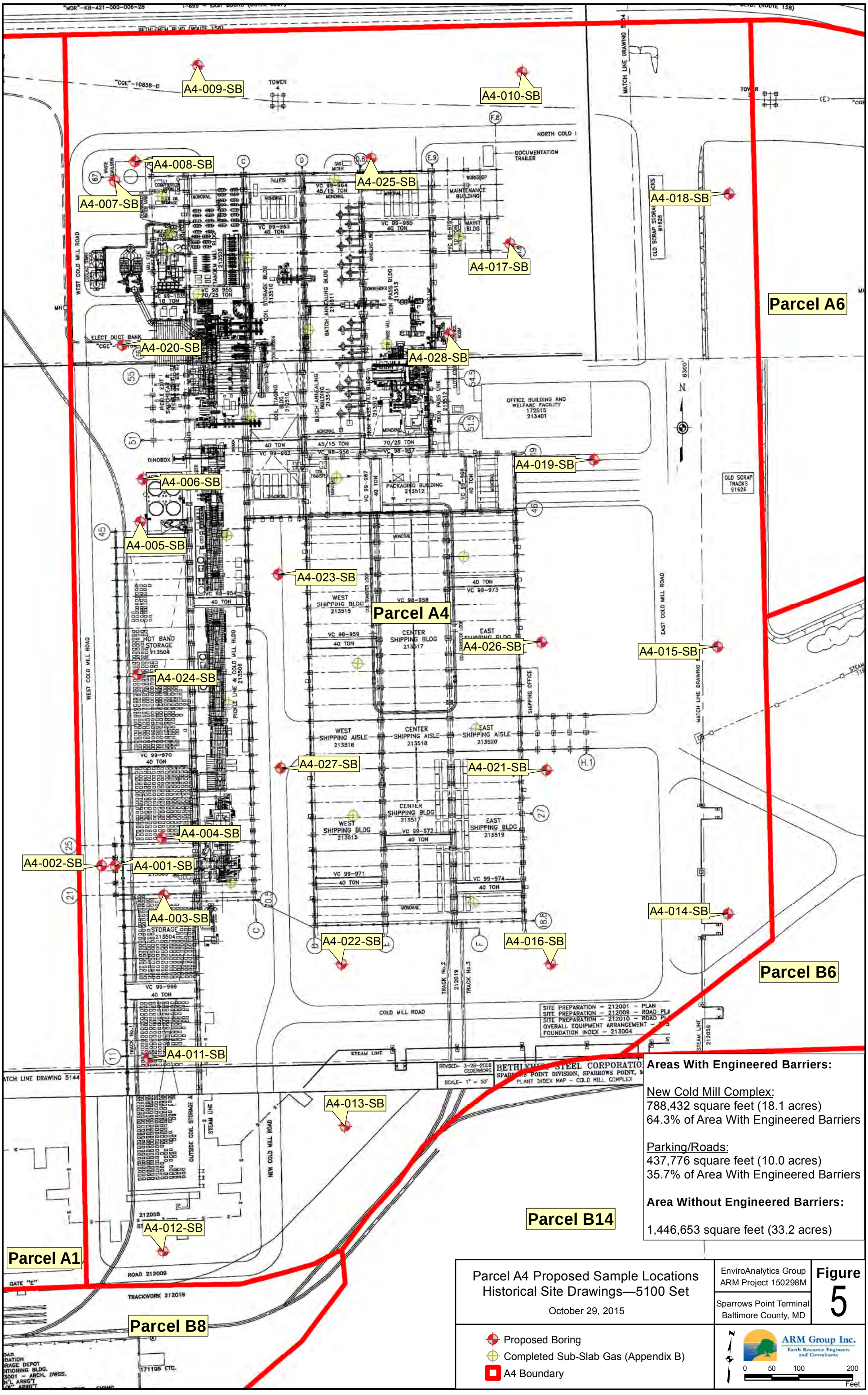
Sparrows Point Terminal
Baltimore County, MD

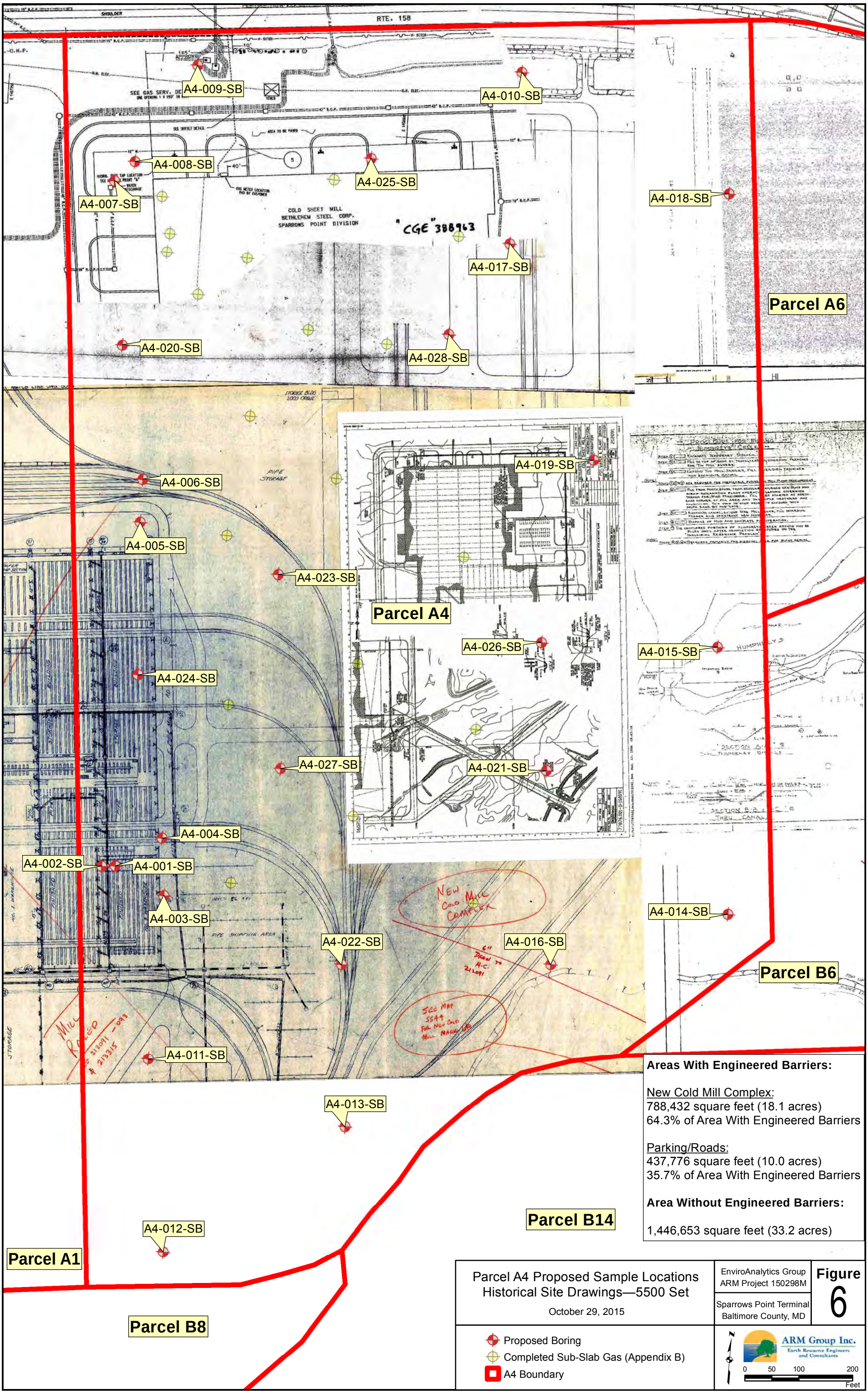
Figure 4

Proposed Boring
Completed Sub-Slab Gas (Appendix B)
A4 Boundary

ARM Group Inc.
Earth Resource Engineers and Consultants

0 50 100 200
Feet


A4-009-SB
A4-010-SB
A4-008-SB
A4-007-SB
A4-025-SB
A4-018-SB
A4-017-SB
A4-020-SB
A4-028-SB
A4-019-SB
A4-006-SB
A4-005-SB
A4-023-SB
A4-026-SB
A4-015-SB
A4-024-SB
A4-027-SB
A4-021-SB
A4-004-SB
A4-002-SB
A4-001-SB
A4-003-SB
A4-022-SB
A4-016-SB
A4-014-SB
A4-011-SB
A4-013-SB
A4-012-SB
Parcel A6
Parcel A4
Parcel B6
Parcel B14
Parcel A1
Parcel B8
Areas With Engineered Barriers:
New Cold Mill Complex:
788,432 square feet (18.1 acres)
64.3% of Area With Engineered Barriers
Parking/Roads:
437,776 square feet (10.0 acres)
35.7% of Area With Engineered Barriers
Area Without Engineered Barriers:
1,446,653 square feet (33.2 acres)
Parcel A4 Proposed Sample Locations
Historical Site Drawings—5100 Set
October 29, 2015
EnviroAnalytics Group
ARM Project 150298M
Sparrows Point Terminal
Baltimore County, MD
Figure
5
Proposed Boring
Completed Sub-Slab Gas (Appendix B)
A4 Boundary
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet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A4-028-SB
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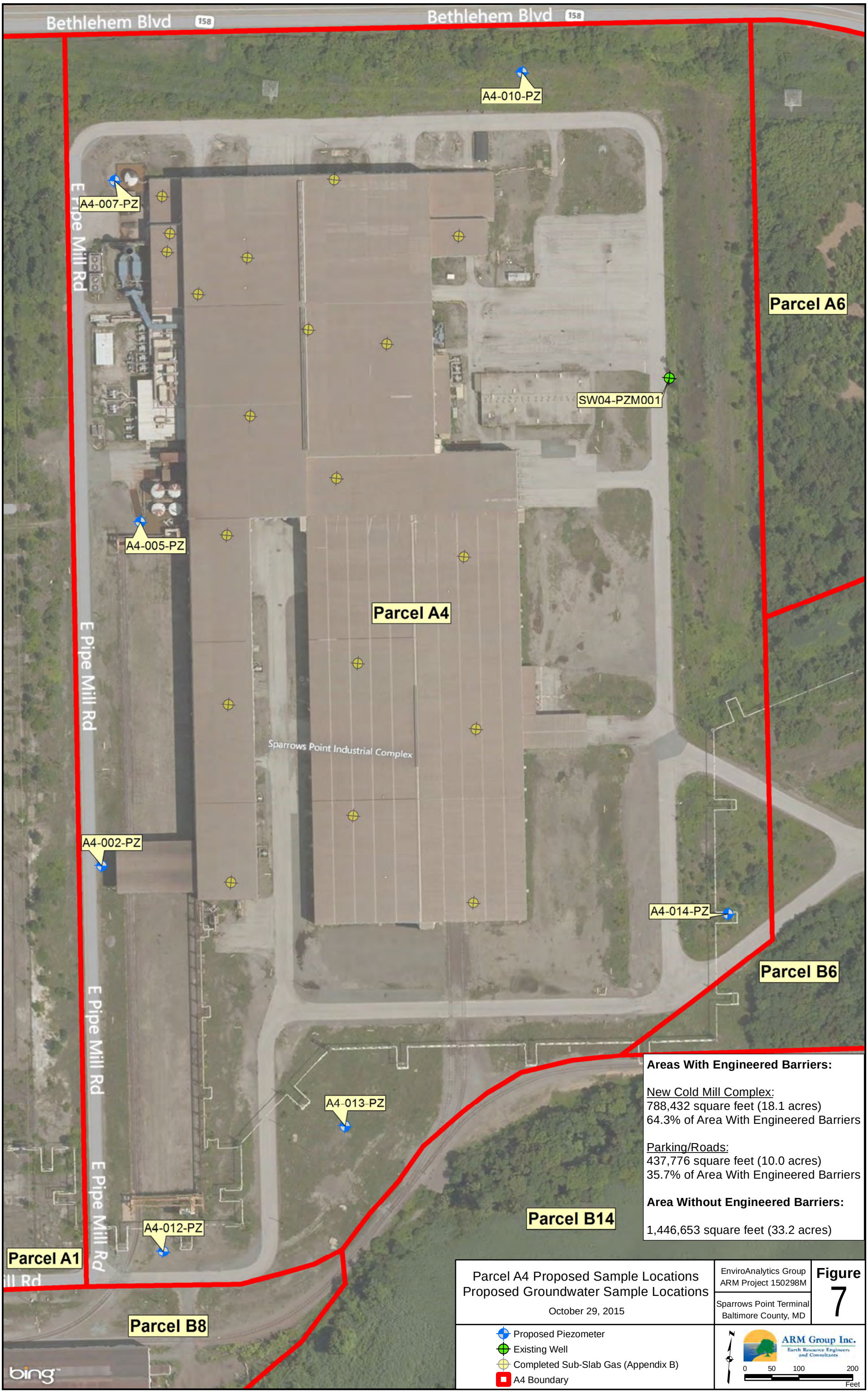
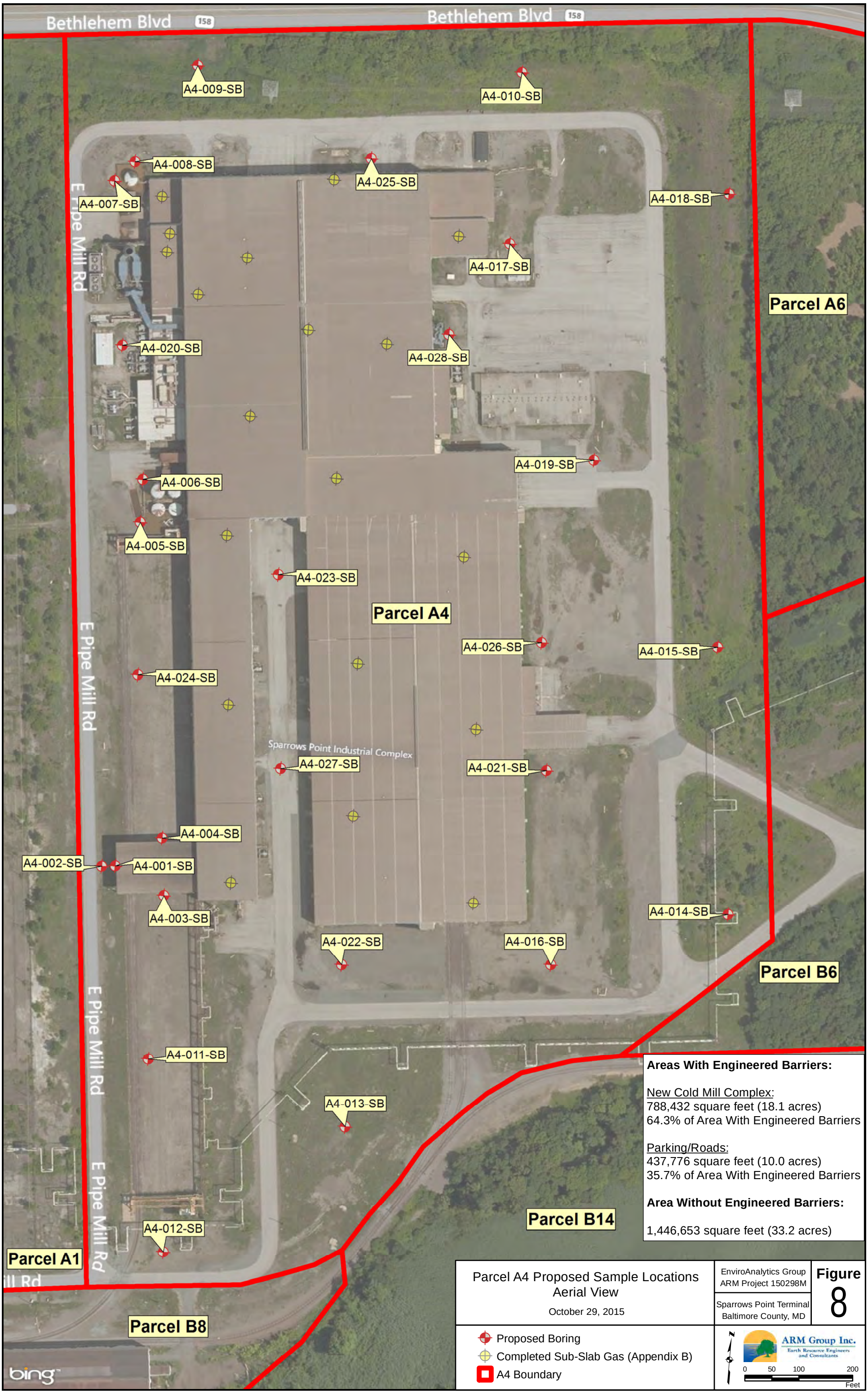
A4-019-SB
A4-005-SB
A4-023-SB
Parcel A4
A4-026-SB
A4-015-SB
A4-024-SB
A4-027-SB
A4-021-SB
A4-004-SB
A4-002-SB
A4-001-SB
A4-014-SB
A4-003-SB
A4-022-SB
A4-016-SB
Parcel B6
A4-011-SB
A4-013-SB
Areas With Engineered Barriers:
New Cold Mill Complex:
788,432 square feet (18.1 acres)
64.3% of Area With Engineered Barriers
Parking/Roads:
437,776 square feet (10.0 acres)
35.7% of Area With Engineered Barriers
Area Without Engineered Barriers:
1,446,653 square feet (33.2 acres)
A4-012-SB
Parcel B14
Parcel A1
Parcel B8
Parcel A4 Proposed Sample Locations
Historical Site Drawings—5500 Set
October 29, 2015
EnviroAnalytics Group
ARM Project 150298M
Sparrows Point Terminal
Baltimore County, MD
Figure
6
Proposed Boring
Completed Sub-Slab Gas (Appendix B)
A4 Boundary
ARM Group Inc.
Earth Resource Engineers and Consultants
0 50 100 200
Feet


Bethlehem Blvd
158
Bethlehem Blvd
158
A4-010-PZ
A4-007-PZ
E Pipe Mill Rd
Parcel A6
SW04-PZM001
A4-005-PZ
Parcel A4
Sparrows Point Industrial Complex
A4-002-PZ
A4-014-PZ
Parcel B6
A4-013-PZ
E Pipe Mill Rd
E Pipe Mill Rd
A4-012-PZ
Parcel B14
Parcel A1
Parcel B8
bing
Areas With Engineered Barriers:
New Cold Mill Complex:
788,432 square feet (18.1 acres)
64.3% of Area With Engineered Barriers
Parking/Roads:
437,776 square feet (10.0 acres)
35.7% of Area With Engineered Barriers
Area Without Engineered Barriers:
1,446,653 square feet (33.2 acres)
Parcel A4 Proposed Sample Locations
Proposed Groundwater Sample Locations
October 29, 2015
EnviroAnalytics Group
ARM Project 150298M
Sparrows Point Terminal
Baltimore County, MD
Figure
7
Proposed Piezometer
Existing Well
Completed Sub-Slab Gas (Appendix B)
A4 Boundary
ARM Group Inc.
Earth Resource Engineers and Consultants
0
50
100
200
Feet


Bethlehem Blvd
158
Bethlehem Blvd
158
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A4-010-SB
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A4-018-SB
E Pipe Mill Rd
A4-017-SB
Parcel A6
A4-020-SB
A4-028-SB
A4-019-SB
A4-006-SB
A4-005-SB
A4-023-SB
Parcel A4
A4-026-SB
A4-015-SB
A4-024-SB
Sparrows Point Industrial Complex
A4-027-SB
A4-021-SB
A4-004-SB
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A4-001-SB
A4-003-SB
A4-014-SB
A4-022-SB
A4-016-SB
Parcel B6
A4-011-SB
A4-013-SB
Areas With Engineered Barriers:
New Cold Mill Complex:
788,432 square feet (18.1 acres)
64.3% of Area With Engineered Barriers
Parking/Roads:
437,776 square feet (10.0 acres)
35.7% of Area With Engineered Barriers
Area Without Engineered Barriers:
1,446,653 square feet (33.2 acres)
A4-012-SB
Parcel B14
Parcel A1
Parcel B8
bing
Parcel A4 Proposed Sample Locations
Aerial View
October 29, 2015
EnviroAnalytics Group
ARM Project 150298M
Sparrows Point Terminal
Baltimore County, MD
Figure
8
Proposed Boring
Completed Sub-Slab Gas (Appendix B)
A4 Boundary
ARM Group Inc.
Earth Resource Engineers and Consultants
0
50
100
200
Feet

Appendix A

Parcel A4 Historical Well Data
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Well		Chemical Analyte	CAS #	Detection Limit	Units	Project Action Limit (PAL)	Result
Shallow Zone	SW04-PZM001	Sulfate	14808-79-8	25	mg/L	No PAL	330
	SW04-PZM001	Chloride	16887-00-6	5	mg/L	No PAL	170
	SW04-PZM001	Bicarbonate	71-52-3	1	mg/L	No PAL	17
	SW04-PZM001	Iron	7439-89-6	0.1	mg/L	14	0.1 U
	SW04-PZM001	Magnesium	7439-95-4	0.1	mg/L	No PAL	5.8
	SW04-PZM001	Manganese	7439-96-5	0.01	mg/L	0.43	0.23
	SW04-PZM001	Potassium	7440-09-7	0.1	mg/L	No PAL	15
	SW04-PZM001	Sodium	7440-23-5	0.5	mg/L	No PAL	110
	SW04-PZM001	Calcium	7440-70-2	0.5	mg/L	No PAL	150
	SW04-PZM001	Total dissolved solids (TDS)	TDS	10	mg/L	No PAL	850
Intermediate Zone	SW04-PZM030	Sulfate	14808-79-8	1	mg/L	No PAL	4.8
	SW04-PZM030	Chloride	16887-00-6	10	mg/L	No PAL	330
	SW04-PZM030	Bicarbonate	71-52-3	1	mg/L	No PAL	5
	SW04-PZM030	Iron	7439-89-6	0.1	mg/L	14	100
	SW04-PZM030	Magnesium	7439-95-4	0.1	mg/L	No PAL	18
	SW04-PZM030	Manganese	7439-96-5	0.01	mg/L	0.43	3
	SW04-PZM030	Potassium	7440-09-7	0.1	mg/L	No PAL	3.2
	SW04-PZM030	Sodium	7440-23-5	0.5	mg/L	No PAL	100
	SW04-PZM030	Calcium	7440-70-2	0.5	mg/L	No PAL	31
	SW04-PZM030	Total dissolved solids (TDS)	TDS	10	mg/L	No PAL	580
Lower Zone	SW04-PZM056	Sulfate	14808-79-8	10	mg/L	No PAL	290
	SW04-PZM056	Chloride	16887-00-6	50	mg/L	No PAL	2300
	SW04-PZM056	Bicarbonate	71-52-3	1	mg/L	No PAL	50
	SW04-PZM056	Iron	7439-89-6	0.1	mg/L	14	260
	SW04-PZM056	Magnesium	7439-95-4	0.1	mg/L	No PAL	120
	SW04-PZM056	Manganese	7439-96-5	0.01	mg/L	0.43	4.9
	SW04-PZM056	Potassium	7440-09-7	0.1	mg/L	No PAL	40
	SW04-PZM056	Sodium	7440-23-5	2.5	mg/L	No PAL	1100
	SW04-PZM056	Calcium	7440-70-2	0.5	mg/L	No PAL	78
	SW04-PZM056	Total dissolved solids (TDS)	TDS	40	mg/L	No PAL	3900

Samples collected from SW04-PZM030 on 12/19/2000, samples collected from SW04-PZM001 and SW04-PZM056 on 12/11/2000.

Highlighted values indicate PAL exceedances

Appendix B

ARM Group Inc.
Earth Resource Engineers and Consultants

April 13, 2015

Ms. Barbara Brown
Project Coordinator
Maryland Department of the Environment
1800 Washington Boulevard.
Baltimore, Maryland 21230-1719

Re: Building Occupancy Assessment
New Cold Mill Complex
Sparrows Point Terminal Property
Sparrows Point, Maryland
ARM Project M14152

Dear Ms. Brown:

ARM Group, Inc. (ARM), on behalf of EnviroAnalytics Group (EAG), recently completed a Building Occupancy Assessment (BOA) of the New Cold Mill Complex (NCMC) located on the Sparrows Point Terminal, LLC (SPT) property, in Sparrows Point, Maryland. The BOA was completed in accordance with the MDE-approved Work Plan dated March 10, 2015. As SPT is seeking to put the NCMC back into commercial use, the BOA was performed to verify that the current conditions within and below the NCMC would not pose a potential unacceptable risk to commercial workers occupying the NCMC.

The NCMC is located south of Bethlehem Boulevard on the northwest portion of the Sparrows Point Terminal property (the Site). The southeastern portion of the building consists of primarily warehouse space, while the remainder of the building, aside from a small area used as office space, was used for the production of light, flat-rolled sheet steel. The area immediately surrounding the building is paved with asphalt or concrete. The anticipated use of the NCMC would be warehouse/manufacturing/logistics with workers utilizing the warehouse and office space. The exterior of the building would be used only for worker parking and truck traffic.

Background

The fully-automated NCMC produced light, flat-rolled sheet steel from hot-rolled steel; which was supplied from Sparrows Point's hot strip mill. The cold-rolled products from Sparrows Point were used in containers, tubing, machinery, storage tanks, automotive parts, metal furniture, electrical lighting equipment and hardware.

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voice: (410) 290-7775 • fax: (410) 290-7776 • e-mail: info@armgroup.net

The NCMC, which replaced the old cold mill, housed an in-line continuous pickler, which cleaned steel prior to rolling. The pickler was linked to a sheet steel cold reduction section that consisted of a five-stand tandem mill. Additionally, the NCMC contained a hydrogen batch annealing facility, a combination skin pass mill and tension leveling line, a coil build-up and inspection line, a packaging line, cranes, storage areas and offices.

According to the Phase I Environmental Site Assessment (ESA) prepared by Weaver Boos Consultants, dated May 19, 2014, no recognized environmental conditions were identified directly associated with the NCMC. Based on conversations with Weaver Boos consultants, while petroleum products in metal secondary containment and petroleum/chemical storage containers were observed, they and their secondary containment appeared to be in good condition during their site visit and were therefore not identified as recognized environmental conditions.

As part of the Work Plan development process, ARM and EAG conducted a walkthrough inspection of the NCMC on February 13, 2015. During the walk through inspection ARM observed the NCMC to be inactive, and the equipment within the NCMC being decommissioned and prepared for removal from the property.

The following observations of petroleum use were made during the inspection:

- An oil skimmer associated with the cooling water sumps was present along the northern wall of the complex;
- an air compressor room was present in the northwest corner of the building with oil stained floors and floor drains;
- a bulk oil storage room, located south of the compressor room, contained two large tanks surrounded by concrete containment; and
- multiple collection trenches and depressed floor areas throughout the NCMC were noted to contain what appeared to be oil or hydraulic fluid.

Areas of interest observed during the walkthrough and subsequently targeted by the sub-slab soil gas sampling, are provided on **Figure 1** (attached), and the sub-slab soil gas sample locations are provided on **Figure 2** (attached).

Soil Gas Investigation

To determine if historical on-site activities have negatively impacted the soil or groundwater beneath the NCMC, and to determine if there is a potentially unacceptable risk associated with the vapor intrusion to indoor air risk pathway, a total of 19 sub-slab soil gas samples were

collected utilizing temporary soil gas monitoring probes at each of the following locations (which are also provided on **Figure 2**):

- one sample from within the Oil Compressor Room;
- one sample from within the Bulk Oil Storage Room;
- one sample adjacent to the oil skimmer associated with the cooling water sumps along the northern wall of the complex;
- multiple samples associated with the collection trenches and depressed floor areas observed throughout the NCMC where oil or hydraulic fluid were noted; and
- multiple samples throughout the remainder of the building; which were collected to provide an overall sample density of one sample per 40,000 square feet.

To facilitate the collection of each sub-slab soil gas sample, a core-drill was used to create a pilot-hole approximately three-inches in diameter that extended through the concrete floor. The borehole was then extended through the subgrade and into the soil to a final depth of at least eight inches below the bottom of the concrete floor slab. A six inch soil gas implant, constructed of double woven stainless steel wire screen, was then attached to an appropriate length of polyethylene tubing and lowered to the bottom of the borehole. Once the implant and tubing were installed, the tubing was capped with a three-way valve, and clean sand was added around the implant to create a permeable layer that extended at least two inches above the implant. Bentonite was then added and hydrated to create a seal above the sand pack that extended to the surface. Once installed, each sub-slab soil gas monitoring probe was allowed to equilibrate for at least 24 hours.

Prior to sampling, a syringe was attached to the three-way valve and three purge volumes of air were removed. After the probe had been purged of any ambient air, an evacuated stainless steel canister (summa canisters) with a flow restrictor set for a 24-hour intake time was attached to the tubing. The soil gas sample was then collected over a period of twenty-four (24) hours. At the completion of the sampling period, the valve of the summa canister was closed, and an identification tag was attached to the canister. The probes were then removed, the borehole filled, and the surface repaired.

Laboratory Analysis

EAG contracted Pace Analytical Services, Inc. (PACE) of Greensburg, Pennsylvania to perform the laboratory analysis for this project. The sub-slab soil gas samples were analyzed for Volatile Organic Compounds (VOCs) via USEPA Method TO-15. All sub-slab soil gas samples that were submitted to the laboratory were accompanied by a Chain of Custody (CoC) form.

The laboratory results for the detected compounds have been summarized on **Table 1** (attached), and compared to the MDE Tier 1 and Tier 2 Commercial Target Soil Gas Levels provided on "Table 2 – Commercial Ambient Air" from the MDE's Vapor Intrusion Fact Sheet (September 2012). The laboratory reports showing results for all analyses have been included as **Attachment 1**.

Data Validation

The data provided in this report has not undergone a full EPA level 2B verification/validation review. Once the Data Validation Report (DVR) is provided to ARM, this report will be appended**.**

Summary of Results

As provided on **Table 1**:

- there were no exceedances of the MDE's Tier 1 or Tier 2 Commercial Target Soil Gas Levels identified in any of the sub-slab soil gas samples submitted for analysis;
- detectable but insignificant levels of petroleum hydrocarbon vapors (e.g. BTEX) were identified in each sample submitted for analysis; and
- detectable but insignificant levels of acetone, 2-butanone (MEK), carbon disulfide and chloroform, which are all common laboratory contaminants, were identified in each sample submitted for analysis.

Conclusions

The objective of this Building Occupancy Assessment (BOA) was to evaluate the potential for current conditions within and below the New Cold Mill Complex (NCMC) to cause an unacceptable risk to commercial workers occupying the NCMC. The anticipated use of the NCMC would be warehouse/manufacturing/logistics with workers utilizing the warehouse space and office space. The exterior of the building would be used only for worker parking and truck traffic.

Areas outside of the building to be used by commercial workers for parking, and ingress and egress to the building are paved with asphalt and concrete. Therefore, direct contact with the soil outside of the building, and potential exposure by dermal contact or incidental ingestion or by inhalation of vapors in an excavation, are not pathways of concern.

The building is served by public water and there is no groundwater use on site. Therefore, exposure to groundwater is not a potential concern.

Compounds identified in the sub-slab soil gas samples collected from the locations identified on **Figure 1** were all below the MDE's Tier 1 and Tier 2 Commercial Target Soil Gas Levels; therefore, there is not an unacceptable risk to the health of a commercial worker.

As no unacceptable risk to human health was identified during this BOA, the current conditions within and below the NCMC would not pose a potential unacceptable risk to commercial workers.

We therefore believe the building is suitable for immediate occupancy.

If you have any questions or require additional information please do not hesitate to contact the undersigned at 410-290-7775. Thank you very much.

Respectfully Submitted,

ARM Group Inc.

Eric S. Magdar
Senior Geologist

Attachments: Figure 1
Figure 2
Table 1
Attachment 1

cc: Andrew Fan, EPA Region III

FIGURES

Figure 1	New Cold Mill Complex Site Drawings March 30, 2015	EnviroAnalytics Group Building Occupancy Assessment	Project No.: M14152 designed: ESM	ARM Group Inc. Earth Resource Engineers and Consultants
		Sparrows Point Baltimore County, MD	checked: ESM drawn: SCK	

Figure 2	New Cold Mill Complex Sub-Slab Soil Gas Sample Locations March 30, 2015	EnviroAnalytics Group Building Occupancy Assessment	Project No.: M14152 designed ESM checked ESM drawn SCK	ARM Group Inc. Earth Resource Engineers and Consultants
		Sparrows Point Baltimore County, MD		

TABLES

Building Occupancy Assessment - New Cold Mill Complex

Sub-Slab Soil Gas - Detection and Exceedance Report

Samples Collected - March 20, 2015

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA100-SG*					
2-Butanone (MEK)	3.80	µg/m3	2,200,000	No	11,000,000	No
Acetone	33.00	µg/m3	14,000,000	No	70,000,000	No
Benzene	3.70	µg/m3	1,600	No	8,000	No
Bromodichloromethane	1.80	µg/m3	340	No	1,700	No
Carbon disulfide	31.80	µg/m3	310,000	No	1,550,000	No
Chloroform	13.30	µg/m3	540	No	2,700	No
Ethylbenzene	1.60	µg/m3	5,000	No	25,000	No
m&p-xylene	5.60	µg/m3	44,000	No	220,000	No
o-xylene	2.30	µg/m3	44,000	No	220,000	No
Styrene	1.10	µg/m3	440,000	No	2,200,000	No
Toluene	8.40	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA101-SG*					
2-Butanone (MEK)	4.10	µg/m3	2,200,000	No	11,000,000	No
Acetone	52.30	µg/m3	14,000,000	No	70,000,000	No
Benzene	3.60	µg/m3	1,600	No	8,000	No
Bromodichloromethane	1.90	µg/m3	340	No	1,700	No
Carbon disulfide	28.40	µg/m3	310,000	No	1,550,000	No
Chloroform	23.30	µg/m3	540	No	2,700	No
m&p-xylene	3.80	µg/m3	44,000	No	220,000	No
o-xylene	1.60	µg/m3	44,000	No	220,000	No
Toluene	6.00	µg/m3	2,200,000	No	11,000,000	No
Sample:	*AA102-SG*					
2-Butanone (MEK)	3.30	µg/m3	2,200,000	No	11,000,000	No
Acetone	33.00	µg/m3	14,000,000	No	70,000,000	No
Benzene	1.60	µg/m3	1,600	No	8,000	No
Carbon disulfide	4.60	µg/m3	310,000	No	1,550,000	No
Chloroform	15.30	µg/m3	540	No	2,700	No
m&p-xylene	4.30	µg/m3	44,000	No	220,000	No
o-xylene	1.80	µg/m3	44,000	No	220,000	No
Toluene	5.20	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA103-SG*					
2-Butanone (MEK)	3.00	µg/m3	2,200,000	No	11,000,000	No
Acetone	38.60	µg/m3	14,000,000	No	70,000,000	No
Benzene	1.00	µg/m3	1,600	No	8,000	No
Carbon disulfide	8.50	µg/m3	310,000	No	1,550,000	No
Chloroform	3.60	µg/m3	540	No	2,700	No
m&p-xylene	3.50	µg/m3	44,000	No	220,000	No
o-xylene	1.60	µg/m3	44,000	No	220,000	No
Toluene	3.70	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA104-SG*					
1,1-Dichloroethane	5.40	µg/m3	7,700	No	38,500	No
2-Butanone (MEK)	4.30	µg/m3	2,200,000	No	11,000,000	No
Acetone	33.70	µg/m3	14,000,000	No	70,000,000	No
Benzene	8.90	µg/m3	1,600	No	8,000	No
Carbon disulfide	174.00	µg/m3	310,000	No	1,550,000	No
Chloroethane	1.50	µg/m3	4,400,000	No	22,000,000	No
Chloroform	54.70	µg/m3	540	No	2,700	No
Chloromethane	10.90	µg/m3	40,000	No	200,000	No
Ethylbenzene	2.60	µg/m3	5,000	No	25,000	No
m&p-xylene	9.20	µg/m3	44,000	No	220,000	No
o-xylene	3.50	µg/m3	44,000	No	220,000	No
Toluene	9.30	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA105-SG*					
2-Butanone (MEK)	4.20	µg/m3	2,200,000	No	11,000,000	No
Acetone	91.50	µg/m3	14,000,000	No	70,000,000	No
Benzene	7.10	µg/m3	1,600	No	8,000	No
Bromodichloromethane	3.50	µg/m3	340	No	1,700	No
Carbon disulfide	21.20	µg/m3	310,000	No	1,550,000	No
Chloroform	49.10	µg/m3	540	No	2,700	No
Ethylbenzene	1.70	µg/m3	5,000	No	25,000	No
m&p-xylene	7.00	µg/m3	44,000	No	220,000	No
o-xylene	2.70	µg/m3	44,000	No	220,000	No
Toluene	14.20	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA106-SG*					
2-Butanone (MEK)	3.30	µg/m3	2,200,000	No	11,000,000	No
Acetone	25.40	µg/m3	14,000,000	No	70,000,000	No
Benzene	1.80	µg/m3	1,600	No	8,000	No
Bromodichloromethane	2.50	µg/m3	340	No	1,700	No
Carbon disulfide	16.20	µg/m3	310,000	No	1,550,000	No
Chloroform	24.90	µg/m3	540	No	2,700	No
Ethylbenzene	1.70	µg/m3	5,000	No	25,000	No
m&p-xylene	6.50	µg/m3	44,000	No	220,000	No
o-xylene	2.60	µg/m3	44,000	No	220,000	No
Toluene	6.90	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA107-SG*					
2-Butanone (MEK)	2.10	µg/m3	2,200,000	No	11,000,000	No
Acetone	40.70	µg/m3	14,000,000	No	70,000,000	No
Benzene	1.70	µg/m3	1,600	No	8,000	No
Carbon disulfide	20.30	µg/m3	310,000	No	1,550,000	No
Chloroform	21.50	µg/m3	540	No	2,700	No
Ethylbenzene	1.40	µg/m3	5,000	No	25,000	No
m&p-xylene	5.50	µg/m3	44,000	No	220,000	No
o-xylene	2.30	µg/m3	44,000	No	220,000	No
Toluene	7.20	µg/m3	2,200,000	No	11,000,000	No
Sample:	*AA108-SG*					
2-Butanone (MEK)	3.70	µg/m3	2,200,000	No	11,000,000	No
Acetone	44.20	µg/m3	14,000,000	No	70,000,000	No
Benzene	1.40	µg/m3	1,600	No	8,000	No
Carbon disulfide	8.60	µg/m3	310,000	No	1,550,000	No
Chloroform	13.00	µg/m3	540	No	2,700	No
Ethylbenzene	1.60	µg/m3	5,000	No	25,000	No
m&p-xylene	6.90	µg/m3	44,000	No	220,000	No
o-xylene	2.90	µg/m3	44,000	No	220,000	No
Toluene	5.50	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA90-SG*					
2-Butanone (MEK)	8.30	µg/m3	2,200,000	No	11,000,000	No
Acetone	72.50	µg/m3	14,000,000	No	70,000,000	No
Benzene	1.70	µg/m3	1,600	No	8,000	No
Carbon disulfide	7.20	µg/m3	310,000	No	1,550,000	No
Chloroform	15.80	µg/m3	540	No	2,700	No
Toluene	5.90	µg/m3	2,200,000	No	11,000,000	No
Sample:	*AA91-SG*					
2-Butanone (MEK)	5.50	µg/m3	2,200,000	No	11,000,000	No
Acetone	58.70	µg/m3	14,000,000	No	70,000,000	No
Benzene	5.80	µg/m3	1,600	No	8,000	No
Bromodichloromethane	6.00	µg/m3	340	No	1,700	No
Bromomethane	1.20	µg/m3	2,200	No	11,000	No
Carbon disulfide	138.00	µg/m3	310,000	No	1,550,000	No
Chloroform	143.00	µg/m3	540	No	2,700	No
Chloromethane	1.60	µg/m3	40,000	No	200,000	No
Ethylbenzene	1.20	µg/m3	5,000	No	25,000	No
m&p-xylene	4.50	µg/m3	44,000	No	220,000	No
o-xylene	1.90	µg/m3	44,000	No	220,000	No
Toluene	6.60	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA92-SG*					
2-Butanone (MEK)	5.10	µg/m3	2,200,000	No	11,000,000	No
Acetone	48.20	µg/m3	14,000,000	No	70,000,000	No
Benzene	2.60	µg/m3	1,600	No	8,000	No
Bromodichloromethane	6.80	µg/m3	340	No	1,700	No
Carbon disulfide	19.60	µg/m3	310,000	No	1,550,000	No
Chloroform	124.00	µg/m3	540	No	2,700	No
Ethylbenzene	1.30	µg/m3	5,000	No	25,000	No
m&p-xylene	4.80	µg/m3	44,000	No	220,000	No
o-xylene	2.10	µg/m3	44,000	No	220,000	No
Toluene	6.10	µg/m3	2,200,000	No	11,000,000	No
Sample:	*AA93-SG*					
2-Butanone (MEK)	2.20	µg/m3	2,200,000	No	11,000,000	No
Acetone	17.50	µg/m3	14,000,000	No	70,000,000	No
Benzene	0.52	µg/m3	1,600	No	8,000	No
Carbon disulfide	9.40	µg/m3	310,000	No	1,550,000	No
Chloroform	2.90	µg/m3	540	No	2,700	No
Toluene	1.40	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA94-SG*					
2-Butanone (MEK)	5.60	µg/m3	2,200,000	No	11,000,000	No
Acetone	55.60	µg/m3	14,000,000	No	70,000,000	No
Benzene	4.80	µg/m3	1,600	No	8,000	No
Bromodichloromethane	5.00	µg/m3	340	No	1,700	No
Carbon disulfide	197.00	µg/m3	310,000	No	1,550,000	No
Chloroform	139.00	µg/m3	540	No	2,700	No
Chloromethane	1.90	µg/m3	40,000	No	200,000	No
Ethylbenzene	1.30	µg/m3	5,000	No	25,000	No
m&p-xylene	4.90	µg/m3	44,000	No	220,000	No
o-xylene	2.20	µg/m3	44,000	No	220,000	No
Toluene	6.10	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA95-SG*					
2-Butanone (MEK)	9.10	µg/m3	2,200,000	No	11,000,000	No
Acetone	117.00	µg/m3	14,000,000	No	70,000,000	No
Benzene	2.00	µg/m3	1,600	No	8,000	No
Bromodichloromethane	4.40	µg/m3	340	No	1,700	No
Carbon disulfide	52.00	µg/m3	310,000	No	1,550,000	No
Chloroform	99.30	µg/m3	540	No	2,700	No
Ethylbenzene	1.20	µg/m3	5,000	No	25,000	No
m&p-xylene	4.20	µg/m3	44,000	No	220,000	No
o-xylene	1.20	µg/m3	44,000	No	220,000	No
Toluene	4.60	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA96-SG*					
2-Butanone (MEK)	4.10	µg/m3	2,200,000	No	11,000,000	No
Acetone	44.80	µg/m3	14,000,000	No	70,000,000	No
Benzene	3.20	µg/m3	1,600	No	8,000	No
Bromodichloromethane	2.20	µg/m3	340	No	1,700	No
Carbon disulfide	22.80	µg/m3	310,000	No	1,550,000	No
Chloroform	40.80	µg/m3	540	No	2,700	No
m&p-xylene	4.20	µg/m3	44,000	No	220,000	No
o-xylene	1.70	µg/m3	44,000	No	220,000	No
Toluene	8.60	µg/m3	2,200,000	No	11,000,000	No
Sample:	*AA97-SG*					
2-Butanone (MEK)	5.80	µg/m3	2,200,000	No	11,000,000	No
Acetone	49.60	µg/m3	14,000,000	No	70,000,000	No
Benzene	3.50	µg/m3	1,600	No	8,000	No
Carbon disulfide	157.00	µg/m3	310,000	No	1,550,000	No
Chloroform	97.20	µg/m3	540	No	2,700	No
Ethylbenzene	1.40	µg/m3	5,000	No	25,000	No
m&p-xylene	4.80	µg/m3	44,000	No	220,000	No
o-xylene	2.00	µg/m3	44,000	No	220,000	No
Toluene	6.40	µg/m3	2,200,000	No	11,000,000	No

Parameter	Result	Unit	MDE Tier I	Exceeds Tier I?	MDE Tier II	Exceeds Tier II?
Sample:	*AA98-SG*					
2-Butanone (MEK)	56.20	µg/m3	2,200,000	No	11,000,000	No
Acetone	188.00	µg/m3	14,000,000	No	70,000,000	No
Benzene	2.50	µg/m3	1,600	No	8,000	No
Carbon disulfide	9.40	µg/m3	310,000	No	1,550,000	No
Chloroform	23.60	µg/m3	540	No	2,700	No
Toluene	55.70	µg/m3	2,200,000	No	11,000,000	No
Sample:	*AA99-SG*					
2-Butanone (MEK)	5.00	µg/m3	2,200,000	No	11,000,000	No
Acetone	39.40	µg/m3	14,000,000	No	70,000,000	No
Benzene	3.60	µg/m3	1,600	No	8,000	No
Bromodichloromethane	3.00	µg/m3	340	No	1,700	No
Carbon disulfide	4.60	µg/m3	310,000	No	1,550,000	No
Chloroform	66.00	µg/m3	540	No	2,700	No
m&p-xylene	4.30	µg/m3	44,000	No	220,000	No
o-xylene	1.90	µg/m3	44,000	No	220,000	No
Toluene	5.30	µg/m3	2,200,000	No	11,000,000	No

ATTACHMENT 1

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

April 10, 2015

James Calenda
Environmental Liability Transfer
1430 Sparrows Point Blvd
Sparrows Point, MD 21219

RE: Project: NCM BOA
Pace Project No.: 10300341

Dear James Calenda:
Enclosed are the analytical results for sample(s) received by the laboratory on March 23, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This project was revised to match desired VOC list, per client's request. -NB3 4/1/15

This project was revised to include EDB to the final report

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Nathan Boberg
nathan.boberg@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
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Minneapolis, MN 55414
(612)607-1700

CERTIFICATIONS

Project: NCM BOA
Pace Project No.: 10300341

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

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SAMPLE SUMMARY

Project: NCM BOA
Pace Project No.: 10300341

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10300341001	**AA108-SG**	Air	03/20/15 09:35	03/23/15 08:50
10300341002	**AA106-SG**	Air	03/20/15 09:37	03/23/15 08:50
10300341003	**AA107-SG**	Air	03/20/15 09:38	03/23/15 08:50
10300341004	**AA105-SG**	Air	03/20/15 09:39	03/23/15 08:50
10300341005	**AA104-SG**	Air	03/20/15 09:41	03/23/15 08:50
10300341006	**AA100-SG**	Air	03/20/15 09:43	03/23/15 08:50
10300341007	**AA97-SG**	Air	03/20/15 09:45	03/23/15 08:50
10300341008	**AA98-SG**	Air	03/20/15 09:46	03/23/15 08:50
10300341009	**AA92-SG**	Air	03/20/15 09:47	03/23/15 08:50
10300341010	**AA91-SG**	Air	03/20/15 09:49	03/23/15 08:50
10300341011	**AA90-SG**	Air	03/20/15 09:50	03/23/15 08:50
10300341012	**AA93-SG**	Air	03/20/15 09:51	03/23/15 08:50
10300341013	**AA94-SG**	Air	03/20/15 09:51	03/23/15 08:50
10300341014	**AA96-SG**	Air	03/20/15 09:52	03/23/15 08:50
10300341015	**AA99-SG**	Air	03/20/15 09:53	03/23/15 08:50
10300341016	**AA101-SG**	Air	03/20/15 09:54	03/23/15 08:50
10300341017	**AA102-SG**	Air	03/20/15 09:56	03/23/15 08:50
10300341018	**AA103-SG**	Air	03/20/15 09:57	03/23/15 08:50
10300341019	**AA95-SG**	Air	03/21/15 11:30	03/23/15 08:50

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
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SAMPLE ANALYTE COUNT

Project: NCM BOA
Pace Project No.: 10300341

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10300341001	**AA108-SG**	TO-15	MLS	37	PASI-M
10300341002	**AA106-SG**	TO-15	MLS	37	PASI-M
10300341003	**AA107-SG**	TO-15	MLS	37	PASI-M
10300341004	**AA105-SG**	TO-15	MLS	37	PASI-M
10300341005	**AA104-SG**	TO-15	MLS	37	PASI-M
10300341006	**AA100-SG**	TO-15	MLS	37	PASI-M
10300341007	**AA97-SG**	TO-15	MLS	37	PASI-M
10300341008	**AA98-SG**	TO-15	MLS	37	PASI-M
10300341009	**AA92-SG**	TO-15	MLS	37	PASI-M
10300341010	**AA91-SG**	TO-15	MLS	37	PASI-M
10300341011	**AA90-SG**	TO-15	MLS	37	PASI-M
10300341012	**AA93-SG**	TO-15	MLS	37	PASI-M
10300341013	**AA94-SG**	TO-15	MLS	37	PASI-M
10300341014	**AA96-SG**	TO-15	MLS	37	PASI-M
10300341015	**AA99-SG**	TO-15	MLS	37	PASI-M
10300341016	**AA101-SG**	TO-15	MLS	37	PASI-M
10300341017	**AA102-SG**	TO-15	MLS	37	PASI-M
10300341018	**AA103-SG**	TO-15	MLS	37	PASI-M
10300341019	**AA95-SG**	TO-15	MLS	37	PASI-M

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: NCM BOA
Pace Project No.: 10300341

Method: **TO-15**
Description: TO15 MSV AIR
Client: Enviro Analytics Group
Date: April 10, 2015

General Information:
19 samples were analyzed for TO-15. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

QC Batch: AIR/22835

IQ: The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

- AA108-SG (Lab ID: 10300341001)
- AA93-SG (Lab ID: 10300341012)

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.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: AIR/22835

R1: RPD value was outside control limits.

- DUP (Lab ID: 1926218)
  - Acetone

Additional Comments:

Analyte Comments:

QC Batch: AIR/22835

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- AA105-SG (Lab ID: 10300341004)
  - Acetone
- AA95-SG (Lab ID: 10300341019)
  - Acetone

Pace Analytical Services, Inc.
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PROJECT NARRATIVE

Project: NCM BOA
Pace Project No.: 10300341

Method: **TO-15**
Description: TO15 MSV AIR
Client: Enviro Analytics Group
Date: April 10, 2015

Analyte Comments:

QC Batch: AIR/22835

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- DUP (Lab ID: 1926218)
  - Carbon disulfide
  - Acetone

This data package has been reviewed for quality and completeness and is approved for release.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA108-SG **Lab ID: 10300341001** Collected: 03/20/15 09:35 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**44.2**	ug/m3	3.5	1.44		03/25/15 15:34	67-64-1	
Benzene	**1.4**	ug/m3	0.47	1.44		03/25/15 15:34	71-43-2	
Bromodichloromethane	**1.2J**	ug/m3	2.0	1.44		03/25/15 15:34	75-27-4	
Bromoform	**<0.47**	ug/m3	7.6	1.44		03/25/15 15:34	75-25-2	
Bromomethane	**<0.39**	ug/m3	1.1	1.44		03/25/15 15:34	74-83-9	
2-Butanone (MEK)	**3.7**	ug/m3	0.86	1.44		03/25/15 15:34	78-93-3	
Carbon disulfide	**8.6**	ug/m3	0.91	1.44		03/25/15 15:34	75-15-0	
Carbon tetrachloride	**<0.46**	ug/m3	0.92	1.44		03/25/15 15:34	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.4	1.44		03/25/15 15:34	108-90-7	
Chloroethane	**<0.23**	ug/m3	0.78	1.44		03/25/15 15:34	75-00-3	
Chloroform	**13.0**	ug/m3	0.71	1.44		03/25/15 15:34	67-66-3	
Chloromethane	**<0.28**	ug/m3	0.60	1.44		03/25/15 15:34	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.5	1.44		03/25/15 15:34	124-48-1	
1,2-Dibromoethane (EDB)	**<0.34**	ug/m3	2.2	1.44		03/25/15 15:34	106-93-4	
1,1-Dichloroethane	**<0.20**	ug/m3	1.2	1.44		03/25/15 15:34	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.59	1.44		03/25/15 15:34	107-06-2	
1,1-Dichloroethene	**<0.15**	ug/m3	1.2	1.44		03/25/15 15:34	75-35-4	
cis-1,2-Dichloroethene	**<0.28**	ug/m3	2.9	1.44		03/25/15 15:34	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.2	1.44		03/25/15 15:34	156-60-5	
1,2-Dichloropropane	**<0.22**	ug/m3	1.4	1.44		03/25/15 15:34	78-87-5	
cis-1,3-Dichloropropene	**<0.20**	ug/m3	1.3	1.44		03/25/15 15:34	10061-01-5	
trans-1,3-Dichloropropene	**<0.22**	ug/m3	1.3	1.44		03/25/15 15:34	10061-02-6	
Ethylbenzene	**1.6**	ug/m3	1.3	1.44		03/25/15 15:34	100-41-4	
Isopropylbenzene (Cumene)	**<0.72**	ug/m3	3.6	1.44		03/25/15 15:34	98-82-8	
Methylene Chloride	**<0.33**	ug/m3	5.1	1.44		03/25/15 15:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.25**	ug/m3	3.0	1.44		03/25/15 15:34	108-10-1	
Methyl-tert-butyl ether	**<0.13**	ug/m3	1.1	1.44		03/25/15 15:34	1634-04-4	
Styrene	**0.95J**	ug/m3	1.3	1.44		03/25/15 15:34	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.34**	ug/m3	1.0	1.44		03/25/15 15:34	79-34-5	
Tetrachloroethene	**<0.27**	ug/m3	0.99	1.44		03/25/15 15:34	127-18-4	
Toluene	**5.5**	ug/m3	1.1	1.44		03/25/15 15:34	108-88-3	
1,1,1-Trichloroethane	**<0.20**	ug/m3	1.0	1.44		03/25/15 15:34	71-55-6	
1,1,2-Trichloroethane	**<0.35**	ug/m3	0.80	1.44		03/25/15 15:34	79-00-5	
Trichloroethene	**<0.26**	ug/m3	0.79	1.44		03/25/15 15:34	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.37	1.44		03/25/15 15:34	75-01-4	
m&p-Xylene	**6.9**	ug/m3	2.5	1.44		03/25/15 15:34	179601-23-1	
o-Xylene	**2.9**	ug/m3	1.3	1.44		03/25/15 15:34	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA106-SG **Lab ID: 10300341002** Collected: 03/20/15 09:37 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**25.4**	ug/m3	3.4	1.39		03/25/15 16:02	67-64-1	
Benzene	**1.8**	ug/m3	0.45	1.39		03/25/15 16:02	71-43-2	
Bromodichloromethane	**2.5**	ug/m3	1.9	1.39		03/25/15 16:02	75-27-4	
Bromoform	**<0.45**	ug/m3	7.3	1.39		03/25/15 16:02	75-25-2	
Bromomethane	**<0.38**	ug/m3	1.1	1.39		03/25/15 16:02	74-83-9	
2-Butanone (MEK)	**3.3**	ug/m3	0.83	1.39		03/25/15 16:02	78-93-3	
Carbon disulfide	**16.2**	ug/m3	0.88	1.39		03/25/15 16:02	75-15-0	
Carbon tetrachloride	**<0.44**	ug/m3	0.89	1.39		03/25/15 16:02	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.3	1.39		03/25/15 16:02	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.75	1.39		03/25/15 16:02	75-00-3	
Chloroform	**24.9**	ug/m3	0.69	1.39		03/25/15 16:02	67-66-3	
Chloromethane	**<0.27**	ug/m3	0.58	1.39		03/25/15 16:02	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.4	1.39		03/25/15 16:02	124-48-1	
1,2-Dibromoethane (EDB)	**<0.33**	ug/m3	2.2	1.39		03/25/15 16:02	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.39		03/25/15 16:02	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.57	1.39		03/25/15 16:02	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.39		03/25/15 16:02	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/m3	2.8	1.39		03/25/15 16:02	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.1	1.39		03/25/15 16:02	156-60-5	
1,2-Dichloropropane	**<0.21**	ug/m3	1.3	1.39		03/25/15 16:02	78-87-5	
cis-1,3-Dichloropropene	**<0.19**	ug/m3	1.3	1.39		03/25/15 16:02	10061-01-5	
trans-1,3-Dichloropropene	**<0.21**	ug/m3	1.3	1.39		03/25/15 16:02	10061-02-6	
Ethylbenzene	**1.7**	ug/m3	1.2	1.39		03/25/15 16:02	100-41-4	
Isopropylbenzene (Cumene)	**<0.70**	ug/m3	3.5	1.39		03/25/15 16:02	98-82-8	
Methylene Chloride	**1.8J**	ug/m3	4.9	1.39		03/25/15 16:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.24**	ug/m3	2.9	1.39		03/25/15 16:02	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	1.0	1.39		03/25/15 16:02	1634-04-4	
Styrene	**<0.19**	ug/m3	1.2	1.39		03/25/15 16:02	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.32**	ug/m3	0.97	1.39		03/25/15 16:02	79-34-5	
Tetrachloroethene	**<0.26**	ug/m3	0.96	1.39		03/25/15 16:02	127-18-4	
Toluene	**6.9**	ug/m3	1.1	1.39		03/25/15 16:02	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.97	1.39		03/25/15 16:02	71-55-6	
1,1,2-Trichloroethane	**<0.34**	ug/m3	0.77	1.39		03/25/15 16:02	79-00-5	
Trichloroethene	**<0.25**	ug/m3	0.76	1.39		03/25/15 16:02	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.36	1.39		03/25/15 16:02	75-01-4	
m&p-Xylene	**6.5**	ug/m3	2.4	1.39		03/25/15 16:02	179601-23-1	
o-Xylene	**2.6**	ug/m3	1.2	1.39		03/25/15 16:02	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA107-SG **Lab ID: 10300341003** Collected: 03/20/15 09:38 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**40.7**	ug/m3	3.5	1.44		03/25/15 16:30	67-64-1	
Benzene	**1.7**	ug/m3	0.47	1.44		03/25/15 16:30	71-43-2	
Bromodichloromethane	**1.6J**	ug/m3	2.0	1.44		03/25/15 16:30	75-27-4	
Bromoform	**<0.47**	ug/m3	7.6	1.44		03/25/15 16:30	75-25-2	
Bromomethane	**<0.39**	ug/m3	1.1	1.44		03/25/15 16:30	74-83-9	
2-Butanone (MEK)	**2.1**	ug/m3	0.86	1.44		03/25/15 16:30	78-93-3	
Carbon disulfide	**20.3**	ug/m3	0.91	1.44		03/25/15 16:30	75-15-0	
Carbon tetrachloride	**<0.46**	ug/m3	0.92	1.44		03/25/15 16:30	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.4	1.44		03/25/15 16:30	108-90-7	
Chloroethane	**<0.23**	ug/m3	0.78	1.44		03/25/15 16:30	75-00-3	
Chloroform	**21.5**	ug/m3	0.71	1.44		03/25/15 16:30	67-66-3	
Chloromethane	**0.37J**	ug/m3	0.60	1.44		03/25/15 16:30	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.5	1.44		03/25/15 16:30	124-48-1	
1,2-Dibromoethane (EDB)	**<0.34**	ug/m3	2.2	1.44		03/25/15 16:30	106-93-4	
1,1-Dichloroethane	**<0.20**	ug/m3	1.2	1.44		03/25/15 16:30	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.59	1.44		03/25/15 16:30	107-06-2	
1,1-Dichloroethene	**<0.15**	ug/m3	1.2	1.44		03/25/15 16:30	75-35-4	
cis-1,2-Dichloroethene	**<0.28**	ug/m3	2.9	1.44		03/25/15 16:30	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.2	1.44		03/25/15 16:30	156-60-5	
1,2-Dichloropropane	**<0.22**	ug/m3	1.4	1.44		03/25/15 16:30	78-87-5	
cis-1,3-Dichloropropene	**<0.20**	ug/m3	1.3	1.44		03/25/15 16:30	10061-01-5	
trans-1,3-Dichloropropene	**<0.22**	ug/m3	1.3	1.44		03/25/15 16:30	10061-02-6	
Ethylbenzene	**1.4**	ug/m3	1.3	1.44		03/25/15 16:30	100-41-4	
Isopropylbenzene (Cumene)	**<0.72**	ug/m3	3.6	1.44		03/25/15 16:30	98-82-8	
Methylene Chloride	**<0.33**	ug/m3	5.1	1.44		03/25/15 16:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.25**	ug/m3	3.0	1.44		03/25/15 16:30	108-10-1	
Methyl-tert-butyl ether	**<0.13**	ug/m3	1.1	1.44		03/25/15 16:30	1634-04-4	
Styrene	**0.89J**	ug/m3	1.3	1.44		03/25/15 16:30	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.34**	ug/m3	1.0	1.44		03/25/15 16:30	79-34-5	
Tetrachloroethene	**<0.27**	ug/m3	0.99	1.44		03/25/15 16:30	127-18-4	
Toluene	**7.2**	ug/m3	1.1	1.44		03/25/15 16:30	108-88-3	
1,1,1-Trichloroethane	**<0.20**	ug/m3	1.0	1.44		03/25/15 16:30	71-55-6	
1,1,2-Trichloroethane	**<0.35**	ug/m3	0.80	1.44		03/25/15 16:30	79-00-5	
Trichloroethene	**<0.26**	ug/m3	0.79	1.44		03/25/15 16:30	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.37	1.44		03/25/15 16:30	75-01-4	
m&p-Xylene	**5.5**	ug/m3	2.5	1.44		03/25/15 16:30	179601-23-1	
o-Xylene	**2.3**	ug/m3	1.3	1.44		03/25/15 16:30	95-47-6	

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA105-SG **Lab ID: 10300341004** Collected: 03/20/15 09:39 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**91.5**	ug/m3	3.2	1.34		03/25/15 16:57	67-64-1	E
Benzene	**7.1**	ug/m3	0.44	1.34		03/25/15 16:57	71-43-2	
Bromodichloromethane	**3.5**	ug/m3	1.8	1.34		03/25/15 16:57	75-27-4	
Bromoform	**<0.43**	ug/m3	7.0	1.34		03/25/15 16:57	75-25-2	
Bromomethane	**<0.36**	ug/m3	1.1	1.34		03/25/15 16:57	74-83-9	
2-Butanone (MEK)	**4.2**	ug/m3	0.80	1.34		03/25/15 16:57	78-93-3	
Carbon disulfide	**21.2**	ug/m3	0.84	1.34		03/25/15 16:57	75-15-0	
Carbon tetrachloride	**<0.43**	ug/m3	0.86	1.34		03/25/15 16:57	56-23-5	
Chlorobenzene	**<0.14**	ug/m3	1.3	1.34		03/25/15 16:57	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.72	1.34		03/25/15 16:57	75-00-3	
Chloroform	**49.1**	ug/m3	0.66	1.34		03/25/15 16:57	67-66-3	
Chloromethane	**0.36J**	ug/m3	0.56	1.34		03/25/15 16:57	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.3	1.34		03/25/15 16:57	124-48-1	
1,2-Dibromoethane (EDB)	**<0.31**	ug/m3	2.1	1.34		03/25/15 16:57	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.34		03/25/15 16:57	75-34-3	
1,2-Dichloroethane	**<0.16**	ug/m3	0.55	1.34		03/25/15 16:57	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.34		03/25/15 16:57	75-35-4	
cis-1,2-Dichloroethene	**<0.26**	ug/m3	2.7	1.34		03/25/15 16:57	156-59-2	
trans-1,2-Dichloroethene	**<0.22**	ug/m3	1.1	1.34		03/25/15 16:57	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/m3	1.3	1.34		03/25/15 16:57	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/m3	1.2	1.34		03/25/15 16:57	10061-01-5	
trans-1,3-Dichloropropene	**<0.20**	ug/m3	1.2	1.34		03/25/15 16:57	10061-02-6	
Ethylbenzene	**1.7**	ug/m3	1.2	1.34		03/25/15 16:57	100-41-4	
Isopropylbenzene (Cumene)	**<0.67**	ug/m3	3.4	1.34		03/25/15 16:57	98-82-8	
Methylene Chloride	**1.1J**	ug/m3	4.7	1.34		03/25/15 16:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.23**	ug/m3	2.8	1.34		03/25/15 16:57	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	0.98	1.34		03/25/15 16:57	1634-04-4	
Styrene	**0.85J**	ug/m3	1.2	1.34		03/25/15 16:57	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.31**	ug/m3	0.94	1.34		03/25/15 16:57	79-34-5	
Tetrachloroethene	**<0.25**	ug/m3	0.92	1.34		03/25/15 16:57	127-18-4	
Toluene	**14.2**	ug/m3	1.0	1.34		03/25/15 16:57	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.94	1.34		03/25/15 16:57	71-55-6	
1,1,2-Trichloroethane	**<0.33**	ug/m3	0.74	1.34		03/25/15 16:57	79-00-5	
Trichloroethene	**<0.24**	ug/m3	0.73	1.34		03/25/15 16:57	79-01-6	
Vinyl chloride	**<0.12**	ug/m3	0.35	1.34		03/25/15 16:57	75-01-4	
m&p-Xylene	**7.0**	ug/m3	2.4	1.34		03/25/15 16:57	179601-23-1	
o-Xylene	**2.7**	ug/m3	1.2	1.34		03/25/15 16:57	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA104-SG **Lab ID: 10300341005** Collected: 03/20/15 09:41 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**33.7**	ug/m3	3.4	1.39		03/25/15 17:26	67-64-1	
Benzene	**8.9**	ug/m3	0.45	1.39		03/25/15 17:26	71-43-2	
Bromodichloromethane	**1.5J**	ug/m3	1.9	1.39		03/25/15 17:26	75-27-4	
Bromoform	**<0.45**	ug/m3	7.3	1.39		03/25/15 17:26	75-25-2	
Bromomethane	**<0.38**	ug/m3	1.1	1.39		03/25/15 17:26	74-83-9	
2-Butanone (MEK)	**4.3**	ug/m3	0.83	1.39		03/25/15 17:26	78-93-3	
Carbon disulfide	**174**	ug/m3	17.5	27.8		03/27/15 09:01	75-15-0	
Carbon tetrachloride	**<0.44**	ug/m3	0.89	1.39		03/25/15 17:26	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.3	1.39		03/25/15 17:26	108-90-7	
Chloroethane	**1.5**	ug/m3	0.75	1.39		03/25/15 17:26	75-00-3	
Chloroform	**54.7**	ug/m3	0.69	1.39		03/25/15 17:26	67-66-3	
Chloromethane	**10.9**	ug/m3	0.58	1.39		03/25/15 17:26	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.4	1.39		03/25/15 17:26	124-48-1	
1,2-Dibromoethane (EDB)	**<0.33**	ug/m3	2.2	1.39		03/25/15 17:26	106-93-4	
1,1-Dichloroethane	**5.4**	ug/m3	1.1	1.39		03/25/15 17:26	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.57	1.39		03/25/15 17:26	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.39		03/25/15 17:26	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/m3	2.8	1.39		03/25/15 17:26	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.1	1.39		03/25/15 17:26	156-60-5	
1,2-Dichloropropane	**<0.21**	ug/m3	1.3	1.39		03/25/15 17:26	78-87-5	
cis-1,3-Dichloropropene	**<0.19**	ug/m3	1.3	1.39		03/25/15 17:26	10061-01-5	
trans-1,3-Dichloropropene	**<0.21**	ug/m3	1.3	1.39		03/25/15 17:26	10061-02-6	
Ethylbenzene	**2.6**	ug/m3	1.2	1.39		03/25/15 17:26	100-41-4	
Isopropylbenzene (Cumene)	**<0.70**	ug/m3	3.5	1.39		03/25/15 17:26	98-82-8	
Methylene Chloride	**3.5J**	ug/m3	4.9	1.39		03/25/15 17:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	**1.0J**	ug/m3	2.9	1.39		03/25/15 17:26	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	1.0	1.39		03/25/15 17:26	1634-04-4	
Styrene	**0.94J**	ug/m3	1.2	1.39		03/25/15 17:26	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.32**	ug/m3	0.97	1.39		03/25/15 17:26	79-34-5	
Tetrachloroethene	**0.71J**	ug/m3	0.96	1.39		03/25/15 17:26	127-18-4	
Toluene	**9.3**	ug/m3	1.1	1.39		03/25/15 17:26	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.97	1.39		03/25/15 17:26	71-55-6	
1,1,2-Trichloroethane	**<0.34**	ug/m3	0.77	1.39		03/25/15 17:26	79-00-5	
Trichloroethene	**<0.25**	ug/m3	0.76	1.39		03/25/15 17:26	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.36	1.39		03/25/15 17:26	75-01-4	
m&p-Xylene	**9.2**	ug/m3	2.4	1.39		03/25/15 17:26	179601-23-1	
o-Xylene	**3.5**	ug/m3	1.2	1.39		03/25/15 17:26	95-47-6	

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA100-SG **Lab ID: 10300341006** Collected: 03/20/15 09:43 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**33.0**	ug/m3	3.0	1.26		03/25/15 17:53	67-64-1	
Benzene	**3.7**	ug/m3	0.41	1.26		03/25/15 17:53	71-43-2	
Bromodichloromethane	**1.8**	ug/m3	1.7	1.26		03/25/15 17:53	75-27-4	
Bromoform	**<0.41**	ug/m3	6.6	1.26		03/25/15 17:53	75-25-2	
Bromomethane	**<0.34**	ug/m3	1.0	1.26		03/25/15 17:53	74-83-9	
2-Butanone (MEK)	**3.8**	ug/m3	0.76	1.26		03/25/15 17:53	78-93-3	
Carbon disulfide	**31.8**	ug/m3	0.79	1.26		03/25/15 17:53	75-15-0	
Carbon tetrachloride	**<0.40**	ug/m3	0.81	1.26		03/25/15 17:53	56-23-5	
Chlorobenzene	**<0.13**	ug/m3	1.2	1.26		03/25/15 17:53	108-90-7	
Chloroethane	**<0.20**	ug/m3	0.68	1.26		03/25/15 17:53	75-00-3	
Chloroform	**13.3**	ug/m3	0.62	1.26		03/25/15 17:53	67-66-3	
Chloromethane	**<0.24**	ug/m3	0.53	1.26		03/25/15 17:53	74-87-3	
Dibromochloromethane	**<1.1**	ug/m3	2.2	1.26		03/25/15 17:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.29**	ug/m3	2.0	1.26		03/25/15 17:53	106-93-4	
1,1-Dichloroethane	**<0.18**	ug/m3	1.0	1.26		03/25/15 17:53	75-34-3	
1,2-Dichloroethane	**<0.15**	ug/m3	0.52	1.26		03/25/15 17:53	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/m3	1.0	1.26		03/25/15 17:53	75-35-4	
cis-1,2-Dichloroethene	**<0.25**	ug/m3	2.5	1.26		03/25/15 17:53	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/m3	1.0	1.26		03/25/15 17:53	156-60-5	
1,2-Dichloropropane	**<0.19**	ug/m3	1.2	1.26		03/25/15 17:53	78-87-5	
cis-1,3-Dichloropropene	**<0.17**	ug/m3	1.2	1.26		03/25/15 17:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.19**	ug/m3	1.2	1.26		03/25/15 17:53	10061-02-6	
Ethylbenzene	**1.6**	ug/m3	1.1	1.26		03/25/15 17:53	100-41-4	
Isopropylbenzene (Cumene)	**<0.63**	ug/m3	3.2	1.26		03/25/15 17:53	98-82-8	
Methylene Chloride	**1.7J**	ug/m3	4.4	1.26		03/25/15 17:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**0.52J**	ug/m3	2.6	1.26		03/25/15 17:53	108-10-1	
Methyl-tert-butyl ether	**<0.11**	ug/m3	0.92	1.26		03/25/15 17:53	1634-04-4	
Styrene	**1.1**	ug/m3	1.1	1.26		03/25/15 17:53	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.29**	ug/m3	0.88	1.26		03/25/15 17:53	79-34-5	
Tetrachloroethene	**<0.24**	ug/m3	0.87	1.26		03/25/15 17:53	127-18-4	
Toluene	**8.4**	ug/m3	0.97	1.26		03/25/15 17:53	108-88-3	
1,1,1-Trichloroethane	**<0.18**	ug/m3	0.88	1.26		03/25/15 17:53	71-55-6	
1,1,2-Trichloroethane	**<0.31**	ug/m3	0.70	1.26		03/25/15 17:53	79-00-5	
Trichloroethene	**<0.22**	ug/m3	0.69	1.26		03/25/15 17:53	79-01-6	
Vinyl chloride	**<0.12**	ug/m3	0.33	1.26		03/25/15 17:53	75-01-4	
m&p-Xylene	**5.6**	ug/m3	2.2	1.26		03/25/15 17:53	179601-23-1	
o-Xylene	**2.3**	ug/m3	1.1	1.26		03/25/15 17:53	95-47-6	

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA97-SG **Lab ID: 10300341007** Collected: 03/20/15 09:45 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**49.6**	ug/m3	33.6	13.9		03/27/15 10:11	67-64-1	
Benzene	**3.5**	ug/m3	0.45	1.39		03/25/15 18:21	71-43-2	
Bromodichloromethane	**1.9J**	ug/m3	1.9	1.39		03/25/15 18:21	75-27-4	
Bromoform	**<0.45**	ug/m3	7.3	1.39		03/25/15 18:21	75-25-2	
Bromomethane	**0.58J**	ug/m3	1.1	1.39		03/25/15 18:21	74-83-9	
2-Butanone (MEK)	**5.8**	ug/m3	0.83	1.39		03/25/15 18:21	78-93-3	
Carbon disulfide	**157**	ug/m3	8.8	13.9		03/27/15 10:11	75-15-0	
Carbon tetrachloride	**<0.44**	ug/m3	0.89	1.39		03/25/15 18:21	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.3	1.39		03/25/15 18:21	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.75	1.39		03/25/15 18:21	75-00-3	
Chloroform	**97.2**	ug/m3	0.69	1.39		03/25/15 18:21	67-66-3	
Chloromethane	**<0.27**	ug/m3	0.58	1.39		03/25/15 18:21	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.4	1.39		03/25/15 18:21	124-48-1	
1,2-Dibromoethane (EDB)	**<0.33**	ug/m3	2.2	1.39		03/25/15 18:21	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.39		03/25/15 18:21	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.57	1.39		03/25/15 18:21	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.39		03/25/15 18:21	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/m3	2.8	1.39		03/25/15 18:21	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.1	1.39		03/25/15 18:21	156-60-5	
1,2-Dichloropropane	**<0.21**	ug/m3	1.3	1.39		03/25/15 18:21	78-87-5	
cis-1,3-Dichloropropene	**<0.19**	ug/m3	1.3	1.39		03/25/15 18:21	10061-01-5	
trans-1,3-Dichloropropene	**<0.21**	ug/m3	1.3	1.39		03/25/15 18:21	10061-02-6	
Ethylbenzene	**1.4**	ug/m3	1.2	1.39		03/25/15 18:21	100-41-4	
Isopropylbenzene (Cumene)	**<0.70**	ug/m3	3.5	1.39		03/25/15 18:21	98-82-8	
Methylene Chloride	**1.8J**	ug/m3	4.9	1.39		03/25/15 18:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.24**	ug/m3	2.9	1.39		03/25/15 18:21	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	1.0	1.39		03/25/15 18:21	1634-04-4	
Styrene	**0.84J**	ug/m3	1.2	1.39		03/25/15 18:21	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.32**	ug/m3	0.97	1.39		03/25/15 18:21	79-34-5	
Tetrachloroethene	**<0.26**	ug/m3	0.96	1.39		03/25/15 18:21	127-18-4	
Toluene	**6.4**	ug/m3	1.1	1.39		03/25/15 18:21	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.97	1.39		03/25/15 18:21	71-55-6	
1,1,2-Trichloroethane	**<0.34**	ug/m3	0.77	1.39		03/25/15 18:21	79-00-5	
Trichloroethene	**<0.25**	ug/m3	0.76	1.39		03/25/15 18:21	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.36	1.39		03/25/15 18:21	75-01-4	
m&p-Xylene	**4.8**	ug/m3	2.4	1.39		03/25/15 18:21	179601-23-1	
o-Xylene	**2.0**	ug/m3	1.2	1.39		03/25/15 18:21	95-47-6	

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA98-SG **Lab ID: 10300341008** Collected: 03/20/15 09:46 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**188**	ug/m3	8.9	3.67		03/25/15 19:20	67-64-1	
Benzene	**2.5**	ug/m3	1.2	3.67		03/25/15 19:20	71-43-2	
Bromodichloromethane	**<0.67**	ug/m3	5.0	3.67		03/25/15 19:20	75-27-4	
Bromoform	**<1.2**	ug/m3	19.3	3.67		03/25/15 19:20	75-25-2	
Bromomethane	**<0.99**	ug/m3	2.9	3.67		03/25/15 19:20	74-83-9	
2-Butanone (MEK)	**56.2**	ug/m3	2.2	3.67		03/25/15 19:20	78-93-3	
Carbon disulfide	**9.4**	ug/m3	2.3	3.67		03/25/15 19:20	75-15-0	
Carbon tetrachloride	**<1.2**	ug/m3	2.3	3.67		03/25/15 19:20	56-23-5	
Chlorobenzene	**<0.39**	ug/m3	3.4	3.67		03/25/15 19:20	108-90-7	
Chloroethane	**<0.59**	ug/m3	2.0	3.67		03/25/15 19:20	75-00-3	
Chloroform	**23.6**	ug/m3	1.8	3.67		03/25/15 19:20	67-66-3	
Chloromethane	**<0.70**	ug/m3	1.5	3.67		03/25/15 19:20	74-87-3	
Dibromochloromethane	**<3.2**	ug/m3	6.3	3.67		03/25/15 19:20	124-48-1	
1,2-Dibromoethane (EDB)	**<0.86**	ug/m3	5.7	3.67		03/25/15 19:20	106-93-4	
1,1-Dichloroethane	**<0.51**	ug/m3	3.0	3.67		03/25/15 19:20	75-34-3	
1,2-Dichloroethane	**<0.44**	ug/m3	1.5	3.67		03/25/15 19:20	107-06-2	
1,1-Dichloroethene	**<0.38**	ug/m3	3.0	3.67		03/25/15 19:20	75-35-4	
cis-1,2-Dichloroethene	**<0.72**	ug/m3	7.4	3.67		03/25/15 19:20	156-59-2	
trans-1,2-Dichloroethene	**<0.60**	ug/m3	3.0	3.67		03/25/15 19:20	156-60-5	
1,2-Dichloropropane	**<0.56**	ug/m3	3.4	3.67		03/25/15 19:20	78-87-5	
cis-1,3-Dichloropropene	**<0.50**	ug/m3	3.4	3.67		03/25/15 19:20	10061-01-5	
trans-1,3-Dichloropropene	**<0.55**	ug/m3	3.4	3.67		03/25/15 19:20	10061-02-6	
Ethylbenzene	**1.8J**	ug/m3	3.2	3.67		03/25/15 19:20	100-41-4	
Isopropylbenzene (Cumene)	**<1.8**	ug/m3	9.2	3.67		03/25/15 19:20	98-82-8	
Methylene Chloride	**6.6J**	ug/m3	13.0	3.67		03/25/15 19:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	**4.5J**	ug/m3	7.6	3.67		03/25/15 19:20	108-10-1	
Methyl-tert-butyl ether	**<0.33**	ug/m3	2.7	3.67		03/25/15 19:20	1634-04-4	
Styrene	**<0.50**	ug/m3	3.2	3.67		03/25/15 19:20	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.86**	ug/m3	2.6	3.67		03/25/15 19:20	79-34-5	
Tetrachloroethene	**<0.69**	ug/m3	2.5	3.67		03/25/15 19:20	127-18-4	
Toluene	**55.7**	ug/m3	2.8	3.67		03/25/15 19:20	108-88-3	
1,1,1-Trichloroethane	**<0.51**	ug/m3	2.6	3.67		03/25/15 19:20	71-55-6	
1,1,2-Trichloroethane	**<0.89**	ug/m3	2.0	3.67		03/25/15 19:20	79-00-5	
Trichloroethene	**<0.65**	ug/m3	2.0	3.67		03/25/15 19:20	79-01-6	
Vinyl chloride	**<0.34**	ug/m3	0.95	3.67		03/25/15 19:20	75-01-4	
m&p-Xylene	**6.4J**	ug/m3	6.5	3.67		03/25/15 19:20	179601-23-1	
o-Xylene	**2.6J**	ug/m3	3.2	3.67		03/25/15 19:20	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA92-SG **Lab ID: 10300341009** Collected: 03/20/15 09:47 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**48.2**	ug/m3	3.0	1.26		03/25/15 20:21	67-64-1	
Benzene	**2.6**	ug/m3	0.41	1.26		03/25/15 20:21	71-43-2	
Bromodichloromethane	**6.8**	ug/m3	1.7	1.26		03/25/15 20:21	75-27-4	
Bromoform	**<0.41**	ug/m3	6.6	1.26		03/25/15 20:21	75-25-2	
Bromomethane	**<0.34**	ug/m3	1.0	1.26		03/25/15 20:21	74-83-9	
2-Butanone (MEK)	**5.1**	ug/m3	0.76	1.26		03/25/15 20:21	78-93-3	
Carbon disulfide	**19.6**	ug/m3	0.79	1.26		03/25/15 20:21	75-15-0	
Carbon tetrachloride	**<0.40**	ug/m3	0.81	1.26		03/25/15 20:21	56-23-5	
Chlorobenzene	**<0.13**	ug/m3	1.2	1.26		03/25/15 20:21	108-90-7	
Chloroethane	**<0.20**	ug/m3	0.68	1.26		03/25/15 20:21	75-00-3	
Chloroform	**124**	ug/m3	0.62	1.26		03/25/15 20:21	67-66-3	
Chloromethane	**0.42J**	ug/m3	0.53	1.26		03/25/15 20:21	74-87-3	
Dibromochloromethane	**<1.1**	ug/m3	2.2	1.26		03/25/15 20:21	124-48-1	
1,2-Dibromoethane (EDB)	**<0.29**	ug/m3	2.0	1.26		03/25/15 20:21	106-93-4	
1,1-Dichloroethane	**<0.18**	ug/m3	1.0	1.26		03/25/15 20:21	75-34-3	
1,2-Dichloroethane	**<0.15**	ug/m3	0.52	1.26		03/25/15 20:21	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/m3	1.0	1.26		03/25/15 20:21	75-35-4	
cis-1,2-Dichloroethene	**<0.25**	ug/m3	2.5	1.26		03/25/15 20:21	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/m3	1.0	1.26		03/25/15 20:21	156-60-5	
1,2-Dichloropropane	**<0.19**	ug/m3	1.2	1.26		03/25/15 20:21	78-87-5	
cis-1,3-Dichloropropene	**<0.17**	ug/m3	1.2	1.26		03/25/15 20:21	10061-01-5	
trans-1,3-Dichloropropene	**<0.19**	ug/m3	1.2	1.26		03/25/15 20:21	10061-02-6	
Ethylbenzene	**1.3**	ug/m3	1.1	1.26		03/25/15 20:21	100-41-4	
Isopropylbenzene (Cumene)	**<0.63**	ug/m3	3.2	1.26		03/25/15 20:21	98-82-8	
Methylene Chloride	**1.7J**	ug/m3	4.4	1.26		03/25/15 20:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.22**	ug/m3	2.6	1.26		03/25/15 20:21	108-10-1	
Methyl-tert-butyl ether	**<0.11**	ug/m3	0.92	1.26		03/25/15 20:21	1634-04-4	
Styrene	**0.80J**	ug/m3	1.1	1.26		03/25/15 20:21	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.29**	ug/m3	0.88	1.26		03/25/15 20:21	79-34-5	
Tetrachloroethene	**<0.24**	ug/m3	0.87	1.26		03/25/15 20:21	127-18-4	
Toluene	**6.1**	ug/m3	0.97	1.26		03/25/15 20:21	108-88-3	
1,1,1-Trichloroethane	**<0.18**	ug/m3	0.88	1.26		03/25/15 20:21	71-55-6	
1,1,2-Trichloroethane	**<0.31**	ug/m3	0.70	1.26		03/25/15 20:21	79-00-5	
Trichloroethene	**<0.22**	ug/m3	0.69	1.26		03/25/15 20:21	79-01-6	
Vinyl chloride	**<0.12**	ug/m3	0.33	1.26		03/25/15 20:21	75-01-4	
m&p-Xylene	**4.8**	ug/m3	2.2	1.26		03/25/15 20:21	179601-23-1	
o-Xylene	**2.1**	ug/m3	1.1	1.26		03/25/15 20:21	95-47-6	

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA91-SG **Lab ID: 10300341010** Collected: 03/20/15 09:49 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**58.7**	ug/m3	3.0	1.26		03/25/15 20:54	67-64-1	
Benzene	**5.8**	ug/m3	0.41	1.26		03/25/15 20:54	71-43-2	
Bromodichloromethane	**6.0**	ug/m3	1.7	1.26		03/25/15 20:54	75-27-4	
Bromoform	**<0.41**	ug/m3	6.6	1.26		03/25/15 20:54	75-25-2	
Bromomethane	**1.2**	ug/m3	1.0	1.26		03/25/15 20:54	74-83-9	
2-Butanone (MEK)	**5.5**	ug/m3	0.76	1.26		03/25/15 20:54	78-93-3	
Carbon disulfide	**138**	ug/m3	7.9	12.61		03/27/15 09:48	75-15-0	
Carbon tetrachloride	**0.73J**	ug/m3	0.81	1.26		03/25/15 20:54	56-23-5	
Chlorobenzene	**<0.13**	ug/m3	1.2	1.26		03/25/15 20:54	108-90-7	
Chloroethane	**<0.20**	ug/m3	0.68	1.26		03/25/15 20:54	75-00-3	
Chloroform	**143**	ug/m3	6.3	12.61		03/27/15 09:48	67-66-3	
Chloromethane	**1.6**	ug/m3	0.53	1.26		03/25/15 20:54	74-87-3	
Dibromochloromethane	**<1.1**	ug/m3	2.2	1.26		03/25/15 20:54	124-48-1	
1,2-Dibromoethane (EDB)	**<0.29**	ug/m3	2.0	1.26		03/25/15 20:54	106-93-4	
1,1-Dichloroethane	**<0.18**	ug/m3	1.0	1.26		03/25/15 20:54	75-34-3	
1,2-Dichloroethane	**<0.15**	ug/m3	0.52	1.26		03/25/15 20:54	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/m3	1.0	1.26		03/25/15 20:54	75-35-4	
cis-1,2-Dichloroethene	**<0.25**	ug/m3	2.5	1.26		03/25/15 20:54	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/m3	1.0	1.26		03/25/15 20:54	156-60-5	
1,2-Dichloropropane	**<0.19**	ug/m3	1.2	1.26		03/25/15 20:54	78-87-5	
cis-1,3-Dichloropropene	**<0.17**	ug/m3	1.2	1.26		03/25/15 20:54	10061-01-5	
trans-1,3-Dichloropropene	**<0.19**	ug/m3	1.2	1.26		03/25/15 20:54	10061-02-6	
Ethylbenzene	**1.2**	ug/m3	1.1	1.26		03/25/15 20:54	100-41-4	
Isopropylbenzene (Cumene)	**<0.63**	ug/m3	3.2	1.26		03/25/15 20:54	98-82-8	
Methylene Chloride	**1.6J**	ug/m3	4.4	1.26		03/25/15 20:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.22**	ug/m3	2.6	1.26		03/25/15 20:54	108-10-1	
Methyl-tert-butyl ether	**<0.11**	ug/m3	0.92	1.26		03/25/15 20:54	1634-04-4	
Styrene	**0.82J**	ug/m3	1.1	1.26		03/25/15 20:54	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.29**	ug/m3	0.88	1.26		03/25/15 20:54	79-34-5	
Tetrachloroethene	**<0.24**	ug/m3	0.87	1.26		03/25/15 20:54	127-18-4	
Toluene	**6.6**	ug/m3	0.97	1.26		03/25/15 20:54	108-88-3	
1,1,1-Trichloroethane	**<0.18**	ug/m3	0.88	1.26		03/25/15 20:54	71-55-6	
1,1,2-Trichloroethane	**<0.31**	ug/m3	0.70	1.26		03/25/15 20:54	79-00-5	
Trichloroethene	**<0.22**	ug/m3	0.69	1.26		03/25/15 20:54	79-01-6	
Vinyl chloride	**<0.12**	ug/m3	0.33	1.26		03/25/15 20:54	75-01-4	
m&p-Xylene	**4.5**	ug/m3	2.2	1.26		03/25/15 20:54	179601-23-1	
o-Xylene	**1.9**	ug/m3	1.1	1.26		03/25/15 20:54	95-47-6	

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA90-SG **Lab ID: 10300341011** Collected: 03/20/15 09:50 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**72.5**	ug/m3	9.8	4.04		03/25/15 21:26	67-64-1	
Benzene	**1.7**	ug/m3	1.3	4.04		03/25/15 21:26	71-43-2	
Bromodichloromethane	**<0.74**	ug/m3	5.5	4.04		03/25/15 21:26	75-27-4	
Bromoform	**<1.3**	ug/m3	21.2	4.04		03/25/15 21:26	75-25-2	
Bromomethane	**<1.1**	ug/m3	3.2	4.04		03/25/15 21:26	74-83-9	
2-Butanone (MEK)	**8.3**	ug/m3	2.4	4.04		03/25/15 21:26	78-93-3	
Carbon disulfide	**7.2**	ug/m3	2.5	4.04		03/25/15 21:26	75-15-0	
Carbon tetrachloride	**<1.3**	ug/m3	2.6	4.04		03/25/15 21:26	56-23-5	
Chlorobenzene	**<0.43**	ug/m3	3.8	4.04		03/25/15 21:26	108-90-7	
Chloroethane	**<0.65**	ug/m3	2.2	4.04		03/25/15 21:26	75-00-3	
Chloroform	**15.8**	ug/m3	2.0	4.04		03/25/15 21:26	67-66-3	
Chloromethane	**<0.78**	ug/m3	1.7	4.04		03/25/15 21:26	74-87-3	
Dibromochloromethane	**<3.5**	ug/m3	7.0	4.04		03/25/15 21:26	124-48-1	
1,2-Dibromoethane (EDB)	**<0.95**	ug/m3	6.3	4.04		03/25/15 21:26	106-93-4	
1,1-Dichloroethane	**<0.57**	ug/m3	3.3	4.04		03/25/15 21:26	75-34-3	
1,2-Dichloroethane	**<0.48**	ug/m3	1.7	4.04		03/25/15 21:26	107-06-2	
1,1-Dichloroethene	**<0.42**	ug/m3	3.3	4.04		03/25/15 21:26	75-35-4	
cis-1,2-Dichloroethene	**<0.79**	ug/m3	8.1	4.04		03/25/15 21:26	156-59-2	
trans-1,2-Dichloroethene	**<0.66**	ug/m3	3.3	4.04		03/25/15 21:26	156-60-5	
1,2-Dichloropropane	**<0.61**	ug/m3	3.8	4.04		03/25/15 21:26	78-87-5	
cis-1,3-Dichloropropene	**<0.55**	ug/m3	3.7	4.04		03/25/15 21:26	10061-01-5	
trans-1,3-Dichloropropene	**<0.61**	ug/m3	3.7	4.04		03/25/15 21:26	10061-02-6	
Ethylbenzene	**<0.72**	ug/m3	3.6	4.04		03/25/15 21:26	100-41-4	
Isopropylbenzene (Cumene)	**<2.0**	ug/m3	10.1	4.04		03/25/15 21:26	98-82-8	
Methylene Chloride	**4.3J**	ug/m3	14.3	4.04		03/25/15 21:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.69**	ug/m3	8.4	4.04		03/25/15 21:26	108-10-1	
Methyl-tert-butyl ether	**<0.36**	ug/m3	2.9	4.04		03/25/15 21:26	1634-04-4	
Styrene	**<0.55**	ug/m3	3.5	4.04		03/25/15 21:26	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.94**	ug/m3	2.8	4.04		03/25/15 21:26	79-34-5	
Tetrachloroethene	**<0.76**	ug/m3	2.8	4.04		03/25/15 21:26	127-18-4	
Toluene	**5.9**	ug/m3	3.1	4.04		03/25/15 21:26	108-88-3	
1,1,1-Trichloroethane	**<0.56**	ug/m3	2.8	4.04		03/25/15 21:26	71-55-6	
1,1,2-Trichloroethane	**<0.98**	ug/m3	2.2	4.04		03/25/15 21:26	79-00-5	
Trichloroethene	**<0.72**	ug/m3	2.2	4.04		03/25/15 21:26	79-01-6	
Vinyl chloride	**<0.38**	ug/m3	1.1	4.04		03/25/15 21:26	75-01-4	
m&p-Xylene	**3.9J**	ug/m3	7.1	4.04		03/25/15 21:26	179601-23-1	
o-Xylene	**1.9J**	ug/m3	3.6	4.04		03/25/15 21:26	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA93-SG **Lab ID: 10300341012** Collected: 03/20/15 09:51 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**17.5**	ug/m3	3.4	1.39		03/25/15 21:59	67-64-1	
Benzene	**0.52**	ug/m3	0.45	1.39		03/25/15 21:59	71-43-2	
Bromodichloromethane	**<0.25**	ug/m3	1.9	1.39		03/25/15 21:59	75-27-4	
Bromoform	**<0.45**	ug/m3	7.3	1.39		03/25/15 21:59	75-25-2	
Bromomethane	**<0.38**	ug/m3	1.1	1.39		03/25/15 21:59	74-83-9	
2-Butanone (MEK)	**2.2**	ug/m3	0.83	1.39		03/25/15 21:59	78-93-3	
Carbon disulfide	**9.4**	ug/m3	0.88	1.39		03/25/15 21:59	75-15-0	
Carbon tetrachloride	**<0.44**	ug/m3	0.89	1.39		03/25/15 21:59	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.3	1.39		03/25/15 21:59	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.75	1.39		03/25/15 21:59	75-00-3	
Chloroform	**2.9**	ug/m3	0.69	1.39		03/25/15 21:59	67-66-3	
Chloromethane	**<0.27**	ug/m3	0.58	1.39		03/25/15 21:59	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.4	1.39		03/25/15 21:59	124-48-1	
1,2-Dibromoethane (EDB)	**<0.33**	ug/m3	2.2	1.39		03/25/15 21:59	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.39		03/25/15 21:59	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.57	1.39		03/25/15 21:59	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.39		03/25/15 21:59	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/m3	2.8	1.39		03/25/15 21:59	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.1	1.39		03/25/15 21:59	156-60-5	
1,2-Dichloropropane	**<0.21**	ug/m3	1.3	1.39		03/25/15 21:59	78-87-5	
cis-1,3-Dichloropropene	**<0.19**	ug/m3	1.3	1.39		03/25/15 21:59	10061-01-5	
trans-1,3-Dichloropropene	**<0.21**	ug/m3	1.3	1.39		03/25/15 21:59	10061-02-6	
Ethylbenzene	**<0.25**	ug/m3	1.2	1.39		03/25/15 21:59	100-41-4	
Isopropylbenzene (Cumene)	**<0.70**	ug/m3	3.5	1.39		03/25/15 21:59	98-82-8	
Methylene Chloride	**<0.32**	ug/m3	4.9	1.39		03/25/15 21:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.24**	ug/m3	2.9	1.39		03/25/15 21:59	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	1.0	1.39		03/25/15 21:59	1634-04-4	
Styrene	**<0.19**	ug/m3	1.2	1.39		03/25/15 21:59	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.32**	ug/m3	0.97	1.39		03/25/15 21:59	79-34-5	
Tetrachloroethene	**<0.26**	ug/m3	0.96	1.39		03/25/15 21:59	127-18-4	
Toluene	**1.4**	ug/m3	1.1	1.39		03/25/15 21:59	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.97	1.39		03/25/15 21:59	71-55-6	
1,1,2-Trichloroethane	**<0.34**	ug/m3	0.77	1.39		03/25/15 21:59	79-00-5	
Trichloroethene	**<0.25**	ug/m3	0.76	1.39		03/25/15 21:59	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.36	1.39		03/25/15 21:59	75-01-4	
m&p-Xylene	**0.87J**	ug/m3	2.4	1.39		03/25/15 21:59	179601-23-1	
o-Xylene	**<0.61**	ug/m3	1.2	1.39		03/25/15 21:59	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA94-SG **Lab ID: 10300341013** Collected: 03/20/15 09:51 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**55.6**	ug/m3	3.4	1.39		03/25/15 22:29	67-64-1	
Benzene	**4.8**	ug/m3	0.45	1.39		03/25/15 22:29	71-43-2	
Bromodichloromethane	**5.0**	ug/m3	1.9	1.39		03/25/15 22:29	75-27-4	
Bromoform	**<0.45**	ug/m3	7.3	1.39		03/25/15 22:29	75-25-2	
Bromomethane	**<0.38**	ug/m3	1.1	1.39		03/25/15 22:29	74-83-9	
2-Butanone (MEK)	**5.6**	ug/m3	0.83	1.39		03/25/15 22:29	78-93-3	
Carbon disulfide	**197**	ug/m3	8.8	13.9		03/27/15 09:24	75-15-0	
Carbon tetrachloride	**0.56J**	ug/m3	0.89	1.39		03/25/15 22:29	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.3	1.39		03/25/15 22:29	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.75	1.39		03/25/15 22:29	75-00-3	
Chloroform	**139**	ug/m3	6.9	13.9		03/27/15 09:24	67-66-3	
Chloromethane	**1.9**	ug/m3	0.58	1.39		03/25/15 22:29	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.4	1.39		03/25/15 22:29	124-48-1	
1,2-Dibromoethane (EDB)	**<0.33**	ug/m3	2.2	1.39		03/25/15 22:29	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.39		03/25/15 22:29	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.57	1.39		03/25/15 22:29	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.39		03/25/15 22:29	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/m3	2.8	1.39		03/25/15 22:29	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.1	1.39		03/25/15 22:29	156-60-5	
1,2-Dichloropropane	**<0.21**	ug/m3	1.3	1.39		03/25/15 22:29	78-87-5	
cis-1,3-Dichloropropene	**<0.19**	ug/m3	1.3	1.39		03/25/15 22:29	10061-01-5	
trans-1,3-Dichloropropene	**<0.21**	ug/m3	1.3	1.39		03/25/15 22:29	10061-02-6	
Ethylbenzene	**1.3**	ug/m3	1.2	1.39		03/25/15 22:29	100-41-4	
Isopropylbenzene (Cumene)	**<0.70**	ug/m3	3.5	1.39		03/25/15 22:29	98-82-8	
Methylene Chloride	**1.7J**	ug/m3	4.9	1.39		03/25/15 22:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.24**	ug/m3	2.9	1.39		03/25/15 22:29	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	1.0	1.39		03/25/15 22:29	1634-04-4	
Styrene	**0.90J**	ug/m3	1.2	1.39		03/25/15 22:29	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.32**	ug/m3	0.97	1.39		03/25/15 22:29	79-34-5	
Tetrachloroethene	**<0.26**	ug/m3	0.96	1.39		03/25/15 22:29	127-18-4	
Toluene	**6.1**	ug/m3	1.1	1.39		03/25/15 22:29	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.97	1.39		03/25/15 22:29	71-55-6	
1,1,2-Trichloroethane	**<0.34**	ug/m3	0.77	1.39		03/25/15 22:29	79-00-5	
Trichloroethene	**<0.25**	ug/m3	0.76	1.39		03/25/15 22:29	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.36	1.39		03/25/15 22:29	75-01-4	
m&p-Xylene	**4.9**	ug/m3	2.4	1.39		03/25/15 22:29	179601-23-1	
o-Xylene	**2.2**	ug/m3	1.2	1.39		03/25/15 22:29	95-47-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA96-SG **Lab ID: 10300341014** Collected: 03/20/15 09:52 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**44.8**	ug/m3	3.6	1.49		03/25/15 23:01	67-64-1	
Benzene	**3.2**	ug/m3	0.48	1.49		03/25/15 23:01	71-43-2	
Bromodichloromethane	**2.2**	ug/m3	2.0	1.49		03/25/15 23:01	75-27-4	
Bromoform	**<0.48**	ug/m3	7.8	1.49		03/25/15 23:01	75-25-2	
Bromomethane	**<0.40**	ug/m3	1.2	1.49		03/25/15 23:01	74-83-9	
2-Butanone (MEK)	**4.1**	ug/m3	0.89	1.49		03/25/15 23:01	78-93-3	
Carbon disulfide	**22.8**	ug/m3	0.94	1.49		03/25/15 23:01	75-15-0	
Carbon tetrachloride	**<0.48**	ug/m3	0.95	1.49		03/25/15 23:01	56-23-5	
Chlorobenzene	**<0.16**	ug/m3	1.4	1.49		03/25/15 23:01	108-90-7	
Chloroethane	**<0.24**	ug/m3	0.80	1.49		03/25/15 23:01	75-00-3	
Chloroform	**40.8**	ug/m3	0.74	1.49		03/25/15 23:01	67-66-3	
Chloromethane	**<0.29**	ug/m3	0.63	1.49		03/25/15 23:01	74-87-3	
Dibromochloromethane	**<1.3**	ug/m3	2.6	1.49		03/25/15 23:01	124-48-1	
1,2-Dibromoethane (EDB)	**<0.35**	ug/m3	2.3	1.49		03/25/15 23:01	106-93-4	
1,1-Dichloroethane	**<0.21**	ug/m3	1.2	1.49		03/25/15 23:01	75-34-3	
1,2-Dichloroethane	**<0.18**	ug/m3	0.61	1.49		03/25/15 23:01	107-06-2	
1,1-Dichloroethene	**<0.15**	ug/m3	1.2	1.49		03/25/15 23:01	75-35-4	
cis-1,2-Dichloroethene	**<0.29**	ug/m3	3.0	1.49		03/25/15 23:01	156-59-2	
trans-1,2-Dichloroethene	**<0.24**	ug/m3	1.2	1.49		03/25/15 23:01	156-60-5	
1,2-Dichloropropane	**<0.23**	ug/m3	1.4	1.49		03/25/15 23:01	78-87-5	
cis-1,3-Dichloropropene	**<0.20**	ug/m3	1.4	1.49		03/25/15 23:01	10061-01-5	
trans-1,3-Dichloropropene	**<0.22**	ug/m3	1.4	1.49		03/25/15 23:01	10061-02-6	
Ethylbenzene	**1.2J**	ug/m3	1.3	1.49		03/25/15 23:01	100-41-4	
Isopropylbenzene (Cumene)	**<0.74**	ug/m3	3.7	1.49		03/25/15 23:01	98-82-8	
Methylene Chloride	**2.8J**	ug/m3	5.3	1.49		03/25/15 23:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.25**	ug/m3	3.1	1.49		03/25/15 23:01	108-10-1	
Methyl-tert-butyl ether	**<0.13**	ug/m3	1.1	1.49		03/25/15 23:01	1634-04-4	
Styrene	**0.91J**	ug/m3	1.3	1.49		03/25/15 23:01	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.35**	ug/m3	1.0	1.49		03/25/15 23:01	79-34-5	
Tetrachloroethene	**<0.28**	ug/m3	1.0	1.49		03/25/15 23:01	127-18-4	
Toluene	**8.6**	ug/m3	1.1	1.49		03/25/15 23:01	108-88-3	
1,1,1-Trichloroethane	**<0.21**	ug/m3	1.0	1.49		03/25/15 23:01	71-55-6	
1,1,2-Trichloroethane	**<0.36**	ug/m3	0.83	1.49		03/25/15 23:01	79-00-5	
Trichloroethene	**<0.27**	ug/m3	0.81	1.49		03/25/15 23:01	79-01-6	
Vinyl chloride	**<0.14**	ug/m3	0.39	1.49		03/25/15 23:01	75-01-4	
m&p-Xylene	**4.2**	ug/m3	2.6	1.49		03/25/15 23:01	179601-23-1	
o-Xylene	**1.7**	ug/m3	1.3	1.49		03/25/15 23:01	95-47-6	

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ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA99-SG **Lab ID: 10300341015** Collected: 03/20/15 09:53 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**39.4**	ug/m3	3.4	1.39		03/25/15 23:29	67-64-1	
Benzene	**3.6**	ug/m3	0.45	1.39		03/25/15 23:29	71-43-2	
Bromodichloromethane	**3.0**	ug/m3	1.9	1.39		03/25/15 23:29	75-27-4	
Bromoform	**<0.45**	ug/m3	7.3	1.39		03/25/15 23:29	75-25-2	
Bromomethane	**<0.38**	ug/m3	1.1	1.39		03/25/15 23:29	74-83-9	
2-Butanone (MEK)	**5.0**	ug/m3	0.83	1.39		03/25/15 23:29	78-93-3	
Carbon disulfide	**4.6**	ug/m3	0.88	1.39		03/25/15 23:29	75-15-0	
Carbon tetrachloride	**<0.44**	ug/m3	0.89	1.39		03/25/15 23:29	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.3	1.39		03/25/15 23:29	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.75	1.39		03/25/15 23:29	75-00-3	
Chloroform	**66.0**	ug/m3	0.69	1.39		03/25/15 23:29	67-66-3	
Chloromethane	**<0.27**	ug/m3	0.58	1.39		03/25/15 23:29	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.4	1.39		03/25/15 23:29	124-48-1	
1,2-Dibromoethane (EDB)	**<0.33**	ug/m3	2.2	1.39		03/25/15 23:29	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.39		03/25/15 23:29	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.57	1.39		03/25/15 23:29	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.39		03/25/15 23:29	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/m3	2.8	1.39		03/25/15 23:29	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.1	1.39		03/25/15 23:29	156-60-5	
1,2-Dichloropropane	**<0.21**	ug/m3	1.3	1.39		03/25/15 23:29	78-87-5	
cis-1,3-Dichloropropene	**<0.19**	ug/m3	1.3	1.39		03/25/15 23:29	10061-01-5	
trans-1,3-Dichloropropene	**<0.21**	ug/m3	1.3	1.39		03/25/15 23:29	10061-02-6	
Ethylbenzene	**1.1J**	ug/m3	1.2	1.39		03/25/15 23:29	100-41-4	
Isopropylbenzene (Cumene)	**<0.70**	ug/m3	3.5	1.39		03/25/15 23:29	98-82-8	
Methylene Chloride	**<0.32**	ug/m3	4.9	1.39		03/25/15 23:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.24**	ug/m3	2.9	1.39		03/25/15 23:29	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	1.0	1.39		03/25/15 23:29	1634-04-4	
Styrene	**0.82J**	ug/m3	1.2	1.39		03/25/15 23:29	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.32**	ug/m3	0.97	1.39		03/25/15 23:29	79-34-5	
Tetrachloroethene	**<0.26**	ug/m3	0.96	1.39		03/25/15 23:29	127-18-4	
Toluene	**5.3**	ug/m3	1.1	1.39		03/25/15 23:29	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.97	1.39		03/25/15 23:29	71-55-6	
1,1,2-Trichloroethane	**<0.34**	ug/m3	0.77	1.39		03/25/15 23:29	79-00-5	
Trichloroethene	**<0.25**	ug/m3	0.76	1.39		03/25/15 23:29	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.36	1.39		03/25/15 23:29	75-01-4	
m&p-Xylene	**4.3**	ug/m3	2.4	1.39		03/25/15 23:29	179601-23-1	
o-Xylene	**1.9**	ug/m3	1.2	1.39		03/25/15 23:29	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA101-SG **Lab ID: 10300341016** Collected: 03/20/15 09:54 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**52.3**	ug/m3	3.2	1.34		03/25/15 23:57	67-64-1	
Benzene	**3.6**	ug/m3	0.44	1.34		03/25/15 23:57	71-43-2	
Bromodichloromethane	**1.9**	ug/m3	1.8	1.34		03/25/15 23:57	75-27-4	
Bromoform	**<0.43**	ug/m3	7.0	1.34		03/25/15 23:57	75-25-2	
Bromomethane	**<0.36**	ug/m3	1.1	1.34		03/25/15 23:57	74-83-9	
2-Butanone (MEK)	**4.1**	ug/m3	0.80	1.34		03/25/15 23:57	78-93-3	
Carbon disulfide	**28.4**	ug/m3	0.84	1.34		03/25/15 23:57	75-15-0	
Carbon tetrachloride	**<0.43**	ug/m3	0.86	1.34		03/25/15 23:57	56-23-5	
Chlorobenzene	**<0.14**	ug/m3	1.3	1.34		03/25/15 23:57	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.72	1.34		03/25/15 23:57	75-00-3	
Chloroform	**23.3**	ug/m3	0.66	1.34		03/25/15 23:57	67-66-3	
Chloromethane	**<0.26**	ug/m3	0.56	1.34		03/25/15 23:57	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.3	1.34		03/25/15 23:57	124-48-1	
1,2-Dibromoethane (EDB)	**<0.31**	ug/m3	2.1	1.34		03/25/15 23:57	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.34		03/25/15 23:57	75-34-3	
1,2-Dichloroethane	**<0.16**	ug/m3	0.55	1.34		03/25/15 23:57	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.34		03/25/15 23:57	75-35-4	
cis-1,2-Dichloroethene	**<0.26**	ug/m3	2.7	1.34		03/25/15 23:57	156-59-2	
trans-1,2-Dichloroethene	**<0.22**	ug/m3	1.1	1.34		03/25/15 23:57	156-60-5	
1,2-Dichloropropane	**<0.20**	ug/m3	1.3	1.34		03/25/15 23:57	78-87-5	
cis-1,3-Dichloropropene	**<0.18**	ug/m3	1.2	1.34		03/25/15 23:57	10061-01-5	
trans-1,3-Dichloropropene	**<0.20**	ug/m3	1.2	1.34		03/25/15 23:57	10061-02-6	
Ethylbenzene	**1.0J**	ug/m3	1.2	1.34		03/25/15 23:57	100-41-4	
Isopropylbenzene (Cumene)	**<0.67**	ug/m3	3.4	1.34		03/25/15 23:57	98-82-8	
Methylene Chloride	**<0.31**	ug/m3	4.7	1.34		03/25/15 23:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.23**	ug/m3	2.8	1.34		03/25/15 23:57	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	0.98	1.34		03/25/15 23:57	1634-04-4	
Styrene	**0.77J**	ug/m3	1.2	1.34		03/25/15 23:57	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.31**	ug/m3	0.94	1.34		03/25/15 23:57	79-34-5	
Tetrachloroethene	**<0.25**	ug/m3	0.92	1.34		03/25/15 23:57	127-18-4	
Toluene	**6.0**	ug/m3	1.0	1.34		03/25/15 23:57	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.94	1.34		03/25/15 23:57	71-55-6	
1,1,2-Trichloroethane	**<0.33**	ug/m3	0.74	1.34		03/25/15 23:57	79-00-5	
Trichloroethene	**<0.24**	ug/m3	0.73	1.34		03/25/15 23:57	79-01-6	
Vinyl chloride	**<0.12**	ug/m3	0.35	1.34		03/25/15 23:57	75-01-4	
m&p-Xylene	**3.8**	ug/m3	2.4	1.34		03/25/15 23:57	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.2	1.34		03/25/15 23:57	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA102-SG **Lab ID: 10300341017** Collected: 03/20/15 09:56 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**33.0**	ug/m3	3.4	1.39		03/26/15 00:25	67-64-1	
Benzene	**1.6**	ug/m3	0.45	1.39		03/26/15 00:25	71-43-2	
Bromodichloromethane	**0.96J**	ug/m3	1.9	1.39		03/26/15 00:25	75-27-4	
Bromoform	**<0.45**	ug/m3	7.3	1.39		03/26/15 00:25	75-25-2	
Bromomethane	**<0.38**	ug/m3	1.1	1.39		03/26/15 00:25	74-83-9	
2-Butanone (MEK)	**3.3**	ug/m3	0.83	1.39		03/26/15 00:25	78-93-3	
Carbon disulfide	**4.6**	ug/m3	0.88	1.39		03/26/15 00:25	75-15-0	
Carbon tetrachloride	**<0.44**	ug/m3	0.89	1.39		03/26/15 00:25	56-23-5	
Chlorobenzene	**<0.15**	ug/m3	1.3	1.39		03/26/15 00:25	108-90-7	
Chloroethane	**<0.22**	ug/m3	0.75	1.39		03/26/15 00:25	75-00-3	
Chloroform	**15.3**	ug/m3	0.69	1.39		03/26/15 00:25	67-66-3	
Chloromethane	**<0.27**	ug/m3	0.58	1.39		03/26/15 00:25	74-87-3	
Dibromochloromethane	**<1.2**	ug/m3	2.4	1.39		03/26/15 00:25	124-48-1	
1,2-Dibromoethane (EDB)	**<0.33**	ug/m3	2.2	1.39		03/26/15 00:25	106-93-4	
1,1-Dichloroethane	**<0.19**	ug/m3	1.1	1.39		03/26/15 00:25	75-34-3	
1,2-Dichloroethane	**<0.17**	ug/m3	0.57	1.39		03/26/15 00:25	107-06-2	
1,1-Dichloroethene	**<0.14**	ug/m3	1.1	1.39		03/26/15 00:25	75-35-4	
cis-1,2-Dichloroethene	**<0.27**	ug/m3	2.8	1.39		03/26/15 00:25	156-59-2	
trans-1,2-Dichloroethene	**<0.23**	ug/m3	1.1	1.39		03/26/15 00:25	156-60-5	
1,2-Dichloropropane	**<0.21**	ug/m3	1.3	1.39		03/26/15 00:25	78-87-5	
cis-1,3-Dichloropropene	**<0.19**	ug/m3	1.3	1.39		03/26/15 00:25	10061-01-5	
trans-1,3-Dichloropropene	**<0.21**	ug/m3	1.3	1.39		03/26/15 00:25	10061-02-6	
Ethylbenzene	**1.1J**	ug/m3	1.2	1.39		03/26/15 00:25	100-41-4	
Isopropylbenzene (Cumene)	**<0.70**	ug/m3	3.5	1.39		03/26/15 00:25	98-82-8	
Methylene Chloride	**<0.32**	ug/m3	4.9	1.39		03/26/15 00:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.24**	ug/m3	2.9	1.39		03/26/15 00:25	108-10-1	
Methyl-tert-butyl ether	**<0.12**	ug/m3	1.0	1.39		03/26/15 00:25	1634-04-4	
Styrene	**0.82J**	ug/m3	1.2	1.39		03/26/15 00:25	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.32**	ug/m3	0.97	1.39		03/26/15 00:25	79-34-5	
Tetrachloroethene	**<0.26**	ug/m3	0.96	1.39		03/26/15 00:25	127-18-4	
Toluene	**5.2**	ug/m3	1.1	1.39		03/26/15 00:25	108-88-3	
1,1,1-Trichloroethane	**<0.19**	ug/m3	0.97	1.39		03/26/15 00:25	71-55-6	
1,1,2-Trichloroethane	**<0.34**	ug/m3	0.77	1.39		03/26/15 00:25	79-00-5	
Trichloroethene	**<0.25**	ug/m3	0.76	1.39		03/26/15 00:25	79-01-6	
Vinyl chloride	**<0.13**	ug/m3	0.36	1.39		03/26/15 00:25	75-01-4	
m&p-Xylene	**4.3**	ug/m3	2.4	1.39		03/26/15 00:25	179601-23-1	
o-Xylene	**1.8**	ug/m3	1.2	1.39		03/26/15 00:25	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA103-SG **Lab ID: 10300341018** Collected: 03/20/15 09:57 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**38.6**	ug/m3	3.0	1.26		03/26/15 00:53	67-64-1	
Benzene	**1.0**	ug/m3	0.41	1.26		03/26/15 00:53	71-43-2	
Bromodichloromethane	**<0.23**	ug/m3	1.7	1.26		03/26/15 00:53	75-27-4	
Bromoform	**<0.41**	ug/m3	6.6	1.26		03/26/15 00:53	75-25-2	
Bromomethane	**<0.34**	ug/m3	1.0	1.26		03/26/15 00:53	74-83-9	
2-Butanone (MEK)	**3.0**	ug/m3	0.76	1.26		03/26/15 00:53	78-93-3	
Carbon disulfide	**8.5**	ug/m3	0.79	1.26		03/26/15 00:53	75-15-0	
Carbon tetrachloride	**<0.40**	ug/m3	0.81	1.26		03/26/15 00:53	56-23-5	
Chlorobenzene	**<0.13**	ug/m3	1.2	1.26		03/26/15 00:53	108-90-7	
Chloroethane	**<0.20**	ug/m3	0.68	1.26		03/26/15 00:53	75-00-3	
Chloroform	**3.6**	ug/m3	0.62	1.26		03/26/15 00:53	67-66-3	
Chloromethane	**<0.24**	ug/m3	0.53	1.26		03/26/15 00:53	74-87-3	
Dibromochloromethane	**<1.1**	ug/m3	2.2	1.26		03/26/15 00:53	124-48-1	
1,2-Dibromoethane (EDB)	**<0.29**	ug/m3	2.0	1.26		03/26/15 00:53	106-93-4	
1,1-Dichloroethane	**<0.18**	ug/m3	1.0	1.26		03/26/15 00:53	75-34-3	
1,2-Dichloroethane	**<0.15**	ug/m3	0.52	1.26		03/26/15 00:53	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/m3	1.0	1.26		03/26/15 00:53	75-35-4	
cis-1,2-Dichloroethene	**<0.25**	ug/m3	2.5	1.26		03/26/15 00:53	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/m3	1.0	1.26		03/26/15 00:53	156-60-5	
1,2-Dichloropropane	**<0.19**	ug/m3	1.2	1.26		03/26/15 00:53	78-87-5	
cis-1,3-Dichloropropene	**<0.17**	ug/m3	1.2	1.26		03/26/15 00:53	10061-01-5	
trans-1,3-Dichloropropene	**<0.19**	ug/m3	1.2	1.26		03/26/15 00:53	10061-02-6	
Ethylbenzene	**0.99J**	ug/m3	1.1	1.26		03/26/15 00:53	100-41-4	
Isopropylbenzene (Cumene)	**<0.63**	ug/m3	3.2	1.26		03/26/15 00:53	98-82-8	
Methylene Chloride	**<0.29**	ug/m3	4.4	1.26		03/26/15 00:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.22**	ug/m3	2.6	1.26		03/26/15 00:53	108-10-1	
Methyl-tert-butyl ether	**<0.11**	ug/m3	0.92	1.26		03/26/15 00:53	1634-04-4	
Styrene	**0.75J**	ug/m3	1.1	1.26		03/26/15 00:53	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.29**	ug/m3	0.88	1.26		03/26/15 00:53	79-34-5	
Tetrachloroethene	**<0.24**	ug/m3	0.87	1.26		03/26/15 00:53	127-18-4	
Toluene	**3.7**	ug/m3	0.97	1.26		03/26/15 00:53	108-88-3	
1,1,1-Trichloroethane	**<0.18**	ug/m3	0.88	1.26		03/26/15 00:53	71-55-6	
1,1,2-Trichloroethane	**<0.31**	ug/m3	0.70	1.26		03/26/15 00:53	79-00-5	
Trichloroethene	**<0.22**	ug/m3	0.69	1.26		03/26/15 00:53	79-01-6	
Vinyl chloride	**<0.12**	ug/m3	0.33	1.26		03/26/15 00:53	75-01-4	
m&p-Xylene	**3.5**	ug/m3	2.2	1.26		03/26/15 00:53	179601-23-1	
o-Xylene	**1.6**	ug/m3	1.1	1.26		03/26/15 00:53	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

ANALYTICAL RESULTS

Project: NCM BOA
Pace Project No.: 10300341

Sample: AA95-SG **Lab ID: 10300341019** Collected: 03/21/15 11:30 Received: 03/23/15 08:50 Matrix: Air

Parameters	Results	Units	PQL	DF	Prepared	Analyzed	CAS No.	Qual
TO15 MSV AIR	Analytical Method: TO-15							
Acetone	**117**	ug/m3	3.0	1.26		03/26/15 01:20	67-64-1	E
Benzene	**2.0**	ug/m3	0.41	1.26		03/26/15 01:20	71-43-2	
Bromodichloromethane	**4.4**	ug/m3	1.7	1.26		03/26/15 01:20	75-27-4	
Bromoform	**<0.41**	ug/m3	6.6	1.26		03/26/15 01:20	75-25-2	
Bromomethane	**<0.34**	ug/m3	1.0	1.26		03/26/15 01:20	74-83-9	
2-Butanone (MEK)	**9.1**	ug/m3	0.76	1.26		03/26/15 01:20	78-93-3	
Carbon disulfide	**52.0**	ug/m3	0.79	1.26		03/26/15 01:20	75-15-0	
Carbon tetrachloride	**<0.40**	ug/m3	0.81	1.26		03/26/15 01:20	56-23-5	
Chlorobenzene	**<0.13**	ug/m3	1.2	1.26		03/26/15 01:20	108-90-7	
Chloroethane	**<0.20**	ug/m3	0.68	1.26		03/26/15 01:20	75-00-3	
Chloroform	**99.3**	ug/m3	0.62	1.26		03/26/15 01:20	67-66-3	
Chloromethane	**<0.24**	ug/m3	0.53	1.26		03/26/15 01:20	74-87-3	
Dibromochloromethane	**<1.1**	ug/m3	2.2	1.26		03/26/15 01:20	124-48-1	
1,2-Dibromoethane (EDB)	**<0.29**	ug/m3	2.0	1.26		03/26/15 01:20	106-93-4	
1,1-Dichloroethane	**<0.18**	ug/m3	1.0	1.26		03/26/15 01:20	75-34-3	
1,2-Dichloroethane	**<0.15**	ug/m3	0.52	1.26		03/26/15 01:20	107-06-2	
1,1-Dichloroethene	**<0.13**	ug/m3	1.0	1.26		03/26/15 01:20	75-35-4	
cis-1,2-Dichloroethene	**<0.25**	ug/m3	2.5	1.26		03/26/15 01:20	156-59-2	
trans-1,2-Dichloroethene	**<0.21**	ug/m3	1.0	1.26		03/26/15 01:20	156-60-5	
1,2-Dichloropropane	**<0.19**	ug/m3	1.2	1.26		03/26/15 01:20	78-87-5	
cis-1,3-Dichloropropene	**<0.17**	ug/m3	1.2	1.26		03/26/15 01:20	10061-01-5	
trans-1,3-Dichloropropene	**<0.19**	ug/m3	1.2	1.26		03/26/15 01:20	10061-02-6	
Ethylbenzene	**1.2**	ug/m3	1.1	1.26		03/26/15 01:20	100-41-4	
Isopropylbenzene (Cumene)	**<0.63**	ug/m3	3.2	1.26		03/26/15 01:20	98-82-8	
Methylene Chloride	**1.0J**	ug/m3	4.4	1.26		03/26/15 01:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	**<0.22**	ug/m3	2.6	1.26		03/26/15 01:20	108-10-1	
Methyl-tert-butyl ether	**<0.11**	ug/m3	0.92	1.26		03/26/15 01:20	1634-04-4	
Styrene	**0.71J**	ug/m3	1.1	1.26		03/26/15 01:20	100-42-5	
1,1,2,2-Tetrachloroethane	**<0.29**	ug/m3	0.88	1.26		03/26/15 01:20	79-34-5	
Tetrachloroethene	**<0.24**	ug/m3	0.87	1.26		03/26/15 01:20	127-18-4	
Toluene	**4.6**	ug/m3	0.97	1.26		03/26/15 01:20	108-88-3	
1,1,1-Trichloroethane	**<0.18**	ug/m3	0.88	1.26		03/26/15 01:20	71-55-6	
1,1,2-Trichloroethane	**<0.31**	ug/m3	0.70	1.26		03/26/15 01:20	79-00-5	
Trichloroethene	**<0.22**	ug/m3	0.69	1.26		03/26/15 01:20	79-01-6	
Vinyl chloride	**<0.12**	ug/m3	0.33	1.26		03/26/15 01:20	75-01-4	
m&p-Xylene	**4.2**	ug/m3	2.2	1.26		03/26/15 01:20	179601-23-1	
o-Xylene	**1.2**	ug/m3	1.1	1.26		03/26/15 01:20	95-47-6	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: NCM BOA
Pace Project No.: 10300341

QC Batch: AIR/22835 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: TO15 MSV AIR Low Level
Associated Lab Samples: 10300341001, 10300341002, 10300341003, 10300341004, 10300341005, 10300341006, 10300341007, 10300341008, 10300341009, 10300341010, 10300341011, 10300341012, 10300341013, 10300341014, 10300341015, 10300341016, 10300341017, 10300341018, 10300341019

METHOD BLANK: 1925412 Matrix: Air
Associated Lab Samples: 10300341001, 10300341002, 10300341003, 10300341004, 10300341005, 10300341006, 10300341007, 10300341008, 10300341009, 10300341010, 10300341011, 10300341012, 10300341013, 10300341014, 10300341015, 10300341016, 10300341017, 10300341018, 10300341019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.14	0.70	03/25/15 15:00	
1,1,2,2-Tetrachloroethane	ug/m3	<0.23	0.70	03/25/15 15:00	
1,1,2-Trichloroethane	ug/m3	<0.24	0.56	03/25/15 15:00	
1,1-Dichloroethane	ug/m3	<0.14	0.82	03/25/15 15:00	
1,1-Dichloroethene	ug/m3	<0.10	0.81	03/25/15 15:00	
1,2-Dibromoethane (EDB)	ug/m3	<0.23	1.6	03/25/15 15:00	
1,2-Dichloroethane	ug/m3	<0.12	0.41	03/25/15 15:00	
1,2-Dichloropropane	ug/m3	<0.15	0.94	03/25/15 15:00	
2-Butanone (MEK)	ug/m3	<0.27	0.60	03/25/15 15:00	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.17	2.1	03/25/15 15:00	
Acetone	ug/m3	<1.2	2.4	03/25/15 15:00	
Benzene	ug/m3	<0.12	0.32	03/25/15 15:00	
Bromodichloromethane	ug/m3	<0.18	1.4	03/25/15 15:00	
Bromoform	ug/m3	<0.32	5.3	03/25/15 15:00	
Bromomethane	ug/m3	<0.27	0.79	03/25/15 15:00	
Carbon disulfide	ug/m3	<0.072	0.63	03/25/15 15:00	
Carbon tetrachloride	ug/m3	<0.32	0.64	03/25/15 15:00	
Chlorobenzene	ug/m3	<0.11	0.94	03/25/15 15:00	
Chloroethane	ug/m3	<0.16	0.54	03/25/15 15:00	
Chloroform	ug/m3	<0.18	0.50	03/25/15 15:00	
Chloromethane	ug/m3	<0.19	0.42	03/25/15 15:00	
cis-1,2-Dichloroethene	ug/m3	<0.20	2.0	03/25/15 15:00	
cis-1,3-Dichloropropene	ug/m3	<0.14	0.92	03/25/15 15:00	
Dibromochloromethane	ug/m3	<0.87	1.7	03/25/15 15:00	
Ethylbenzene	ug/m3	<0.18	0.88	03/25/15 15:00	
Isopropylbenzene (Cumene)	ug/m3	<0.50	2.5	03/25/15 15:00	
m&p-Xylene	ug/m3	<0.14	1.8	03/25/15 15:00	
Methyl-tert-butyl ether	ug/m3	<0.089	0.73	03/25/15 15:00	
Methylene Chloride	ug/m3	<0.23	3.5	03/25/15 15:00	
o-Xylene	ug/m3	<0.44	0.88	03/25/15 15:00	
Styrene	ug/m3	<0.14	0.87	03/25/15 15:00	
Tetrachloroethene	ug/m3	<0.19	0.69	03/25/15 15:00	
Toluene	ug/m3	<0.14	0.77	03/25/15 15:00	
trans-1,2-Dichloroethene	ug/m3	<0.16	0.81	03/25/15 15:00	
trans-1,3-Dichloropropene	ug/m3	<0.15	0.92	03/25/15 15:00	
Trichloroethene	ug/m3	<0.18	0.55	03/25/15 15:00	
Vinyl chloride	ug/m3	<0.093	0.26	03/25/15 15:00	

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, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: NCM BOA
Pace Project No.: 10300341

LABORATORY CONTROL SAMPLE: 1925413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/m3	55.5	57.6	104	72-140	
1,1,2,2-Tetrachloroethane	ug/m3	69.8	78.3	112	68-137	
1,1,2-Trichloroethane	ug/m3	55.5	54.7	98	66-138	
1,1-Dichloroethane	ug/m3	41.2	34.0	83	68-137	
1,1-Dichloroethene	ug/m3	40.3	33.5	83	73-138	
1,2-Dibromoethane (EDB)	ug/m3	78.1	101	129	75-132	
1,2-Dichloroethane	ug/m3	41.2	37.6	91	73-139	
1,2-Dichloropropane	ug/m3	47	52.1	111	70-130	
2-Butanone (MEK)	ug/m3	30	24.5	82	67-131	
4-Methyl-2-pentanone (MIBK)	ug/m3	41.7	51.1	123	68-134	
Acetone	ug/m3	24.2	21.9	90	63-144	
Benzene	ug/m3	32.5	30.2	93	64-139	
Bromodichloromethane	ug/m3	68.2	79.1	116	75-134	
Bromoform	ug/m3	105	117	112	72-130	
Bromomethane	ug/m3	39.5	30.8	78	71-132	
Carbon disulfide	ug/m3	31.7	26.2	83	56-139	
Carbon tetrachloride	ug/m3	64	73.8	115	75-150	
Chlorobenzene	ug/m3	46.8	45.9	98	71-132	
Chloroethane	ug/m3	26.8	21.5	80	71-129	
Chloroform	ug/m3	49.7	46.9	94	73-136	
Chloromethane	ug/m3	21	16.2	77	52-143	
cis-1,2-Dichloroethene	ug/m3	40.3	37.0	92	64-137	
cis-1,3-Dichloropropene	ug/m3	46.2	46.5	101	75-128	
Dibromochloromethane	ug/m3	86.6	99.1	114	75-136	
Ethylbenzene	ug/m3	44.2	52.6	119	71-136	
Isopropylbenzene (Cumene)	ug/m3	50	59.0	118	72-139	
m&p-Xylene	ug/m3	88.3	104	118	71-134	
Methyl-tert-butyl ether	ug/m3	36.7	34.2	93	73-134	
Methylene Chloride	ug/m3	35.3	27.4	78	64-130	
o-Xylene	ug/m3	44.2	51.5	117	75-134	
Styrene	ug/m3	43.3	45.2	104	75-133	
Tetrachloroethene	ug/m3	69	73.7	107	66-137	
Toluene	ug/m3	38.3	36.8	96	70-129	
trans-1,2-Dichloroethene	ug/m3	40.3	33.2	82	61-140	
trans-1,3-Dichloropropene	ug/m3	46.2	46.6	101	75-134	
Trichloroethene	ug/m3	54.6	49.5	91	70-134	
Vinyl chloride	ug/m3	26	19.9	77	72-129	

SAMPLE DUPLICATE: 1926218

Parameter	Units	10300341007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/m3	<0.19	<0.19		25	
1,1,2,2-Tetrachloroethane	ug/m3	<0.32	<0.32		25	
1,1,2-Trichloroethane	ug/m3	<0.34	<0.34		25	
1,1-Dichloroethane	ug/m3	<0.19	<0.19		25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA

Project: NCM BOA
Pace Project No.: 10300341

SAMPLE DUPLICATE: 1926218

Parameter	Units	10300341007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/m3	<0.14	<0.14		25	
1,2-Dibromoethane (EDB)	ug/m3	<0.33	<0.33		25	
1,2-Dichloroethane	ug/m3	<0.17	<0.17		25	
1,2-Dichloropropane	ug/m3	<0.21	<0.21		25	
2-Butanone (MEK)	ug/m3	5.8	5.3	9	25	
4-Methyl-2-pentanone (MIBK)	ug/m3	<0.24	<0.24		25	
Acetone	ug/m3	49.6	88.7	57	25	E,R1
Benzene	ug/m3	3.5	3.4	4	25	
Bromodichloromethane	ug/m3	1.9J	1.8J		25	
Bromoform	ug/m3	<0.45	<0.45		25	
Bromomethane	ug/m3	0.58J	0.56J		25	
Carbon disulfide	ug/m3	157	170	8	25	E
Carbon tetrachloride	ug/m3	<0.44	<0.44		25	
Chlorobenzene	ug/m3	<0.15	<0.15		25	
Chloroethane	ug/m3	<0.22	<0.22		25	
Chloroform	ug/m3	97.2	93.5	4	25	
Chloromethane	ug/m3	<0.27	<0.27		25	
cis-1,2-Dichloroethene	ug/m3	<0.27	<0.27		25	
cis-1,3-Dichloropropene	ug/m3	<0.19	<0.19		25	
Dibromochloromethane	ug/m3	<1.2	<1.2		25	
Ethylbenzene	ug/m3	1.4	1.4	3	25	
Isopropylbenzene (Cumene)	ug/m3	<0.70	<0.70		25	
m&p-Xylene	ug/m3	4.8	5.0	4	25	
Methyl-tert-butyl ether	ug/m3	<0.12	<0.12		25	
Methylene Chloride	ug/m3	1.8J	1.8J		25	
o-Xylene	ug/m3	2.0	2.2	7	25	
Styrene	ug/m3	0.84J	0.86J		25	
Tetrachloroethene	ug/m3	<0.26	<0.26		25	
Toluene	ug/m3	6.4	6.2	3	25	
trans-1,2-Dichloroethene	ug/m3	<0.23	<0.23		25	
trans-1,3-Dichloropropene	ug/m3	<0.21	<0.21		25	
Trichloroethene	ug/m3	<0.25	<0.25		25	
Vinyl chloride	ug/m3	<0.13	<0.13		25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALIFIERS

Project: NCM BOA
Pace Project No.: 10300341

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.

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.

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.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

SAMPLE QUALIFIERS

Sample: 10300341001

[1]	The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

Sample: 10300341012

[1]	The internal standard recoveries associated with this sample exceed the lower control limit. The reported results should be considered estimated values.

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
R1	RPD value was outside control limits.

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NCM BOA
Pace Project No.: 10300341

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10300341001	**AA108-SG**	TO-15	AIR/22835		
10300341002	**AA106-SG**	TO-15	AIR/22835		
10300341003	**AA107-SG**	TO-15	AIR/22835		
10300341004	**AA105-SG**	TO-15	AIR/22835		
10300341005	**AA104-SG**	TO-15	AIR/22835		
10300341006	**AA100-SG**	TO-15	AIR/22835		
10300341007	**AA97-SG**	TO-15	AIR/22835		
10300341008	**AA98-SG**	TO-15	AIR/22835		
10300341009	**AA92-SG**	TO-15	AIR/22835		
10300341010	**AA91-SG**	TO-15	AIR/22835		
10300341011	**AA90-SG**	TO-15	AIR/22835		
10300341012	**AA93-SG**	TO-15	AIR/22835		
10300341013	**AA94-SG**	TO-15	AIR/22835		
10300341014	**AA96-SG**	TO-15	AIR/22835		
10300341015	**AA99-SG**	TO-15	AIR/22835		
10300341016	**AA101-SG**	TO-15	AIR/22835		
10300341017	**AA102-SG**	TO-15	AIR/22835		
10300341018	**AA103-SG**	TO-15	AIR/22835		
10300341019	**AA95-SG**	TO-15	AIR/22835		

1030341

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

14389

Section A Required Client Information:

Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: jcalenda@enviroanalyticsgroup.com
Phone: 314-620-3056 Fax:
Requested Due Date/TAT: 3 Day

Section B Required Project Information:

Report To: James Calenda
Copy To:
Purchase Order No.: EAG-SPT-2527
Project Name: NCM BOA
Project Number:

Section C Invoice Information:

Attention: Laura Sargent
Company Name: EnviroAnalytics Group
Address: 1650 Des Peres Rd, Suite 303 St. Louis, MO 63131
Pace Quote Reference: 00018597
Pace Project Manager/Sales Rep.: Rachael Christner
Pace Profile #:

Program: UST | Superfund | Emissions | Clean Air Act | Voluntary Clean Up | Dry Clean | RCRA | Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

'Section D Required Client Information

AIR SAMPLE ID
Sample IDs MUST BE UNIQUE

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	COLLECTED COMPOSITE START END/GRAB TIME	COLLECTED COMPOSITE - DATE	COLLECTED COMPOSITE - TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: PM10	3C- Fixed Gas (%)	TO-3	TO-3M (Methane)	TO-4 (PCBs)	TO-13 (PAH)	TO-14	TO-15	TO15 Short List*	Pace Lab ID
1	AA108-SG			3-19-15	9:35	3-20-15	9:35	-30	-4	2390								X			001
2	AA106-SG				9:37		9:37	-30	-4	1486											002
3	AA107-SG				9:38		9:38	-30	-4	0657											003
4	AA105-SG				9:39		9:39	-30	-4	0399											004
5	AA104-SG				9:41		9:41	-28	-3	570											005
6	AA100-SG				9:43		9:43	-26	-2	1289											006
7	AA97-SG				9:45		9:45	-30	-3	2742											007
8	AA98-SG				9:46		9:46	-27	-20	0839											008
9	AA92-SG				9:47		9:47	-30	-1	682											009
10	AA91-SG				9:49		9:49	-28	-1	2808											010
11	AA90-SG				9:50		9:50	-29	-21	2702											011
12	AA93-SG				9:51		9:51	-30	-4	859											012

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Stew Kabis/EAG	3/21/15	12:45	[signature] Pace	32315	0850

SAMPLE CONDITIONS

	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
AmB	(N)	Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N
		Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Stew Kabis
SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 3-21-15

ORIGINAL

1030341

Pace Analytical®
www.pacelabs.com

AIR: CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

14388

Section A Required Client Information:

Company: EnviroAnalytics Group
Address: 1430 Sparrows Point Blvd
Sparrows Point, MD 21219
Email To: jcalenda@enviroanalyticsgroup.com
Phone: 314-620-3056 Fax:
Requested Due Date/TAT: 3-Day

Section B Required Project Information:

Report To: James Calenda
Copy To:
Purchase Order No.: EAG-SPT-2527
Project Name: NCM BOA
Project Number:

Section C Invoice Information:

Attention: Laura Sargent
Company Name: EnviroAnalytics Group
Address: 1650 Des Peres Rd, Suite 303 St. Louis, MO 63131
Pace Quote Reference: 00018597
Pace Project Manager/Sales Rep.: Rachael Christner
Pace Profile #:

Program: UST Superfund Emissions Clean Air Act Voluntary Clean Up Dry Clean RCRA Other

Location of Sampling by State:

Reporting Units: ug/m³ mg/m³ PPBV PPMV Other

Report Level II. III. IV. Other

'Section D Required Client Information

Valid Media Codes

MEDIA	CODE
Tedlar Bag	TB
1 Liter Summa Can	1LC
6 Liter Summa Can	6LC
Low Volume Puff	LVP
High Volume Puff	HVP
Other	PM10

ITEM #	AIR SAMPLE ID (Sample IDs MUST BE UNIQUE)	MEDIA CODE	PID Reading (Client only)	COLLECTED COMPOSITE START END/GRAB DATE	COLLECTED COMPOSITE START END/GRAB TIME	COLLECTED COMPOSITE - DATE	COLLECTED COMPOSITE - TIME	Canister Pressure (Initial Field - psig)	Canister Pressure (Final Field - psig)	Summa Can Number	Flow Control Number	Method: TO-15	Pace Lab ID
1	AA94-SG			3-19-15	9:51	3-20	9:51	-30	-4	2094		X	013
2	AA96-SG			3-19-15	9:52	3-20	9:52	-30	-6	955			014
3	AA99-SG			3-19-15	9:53	3-20	9:53	-28	-1.5	2335			015
4	AA101-SG			3-19-15	9:54	3-20	9:54	-30	-2	2749			016
5	AA102-SG			3-19-15	9:56	3-20	9:56	-30	-4	1666			017
6	AA103-SG			3-19-15	9:57	3-20	9:57	-30	-1	963			018
7	AA95-SG			3-20-15	11:30	3-21-15	11:30	-28	-4	1046			019
8													
9													
10													
11													
12													

Comments :

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Stew Kabis/EAG	3-21-15	12:45	[signature] Pace	32315	0850

SAMPLE CONDITIONS

Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
Amb	(Y) N	(Y) N	(Y) N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Stew Kabis

SIGNATURE of SAMPLER: [signature] DATE Signed (MM / DD / YY): 3-21-15

ORIGINAL

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414 Air Technical Phone: 612.607.6386

Pace Analytical	Document Name: **SCUR Exceptions Form**	Document Revised: 16Apr2012 Page 1 of 1
	Document No.: **F-MN-L-220-Rev.00**	Issuing Authority: Pace Minnesota Quality Office

Workorder #: _____

Issue	Sample ID	Container Type/#
6322 3807 7425		
6322 3807 7447		
6322 3807 7458		
6322 3807 7414		
6322 3807 7436		

Pace Analytical®	Document Name: Air Sample Condition Upon Receipt	Document Revised: 26Dec2013 Page 1 of 1
	Document No.: F-MN-A-106-rev.09	Issuing Authority: Pace Minnesota Quality Office

Air Sample Condition Upon Receipt

Client Name: enviro Analytics Group

Project #: WO# : 10300341

10300341

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: on other sheet

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No **Seals Intact?** ☐ Yes ☒ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ Foam ☐ None ☐ Other: **Temp Blank rec:** ☐ Yes ☒ No

Temp. (TO17 and TO13 samples only) (°C): **Corrected Temp (°C):** **Thermom. Used:** ☐ B88A912167504 ☐ B88A9132521491 ☐ 72337080 ☐ 80512447

Temp should be above freezing to 6°C **Correction Factor:** **Date & Initials of Person Examining Contents:** 3/23/15

Type of ice Received ☐ Blue ☐ Wet ☒ None

				Comments:
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 and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☒ Yes	☐ No	☐ N/A	7. 3 day
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Media: air can				11.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12.

Samples Received:

Canisters		Flow Controllers		Stand Alone G	
Sample Number	Can ID	Sample Number	Can ID	Sample Number	Can ID
108	2390	0146	90	2702	0745
106	1486	1052	93	0859	0279
107	0657	0376	94	2094	0437
105	0399	0752	96	0955	0743
104	0570	1046	99	2335	0892
100	1289	0069	101	2749	0742
97	2742	0389	102	1666	0210
98	0839	0313	103	0963	0306
92	0682	0094	95	1046	0543
91	2808	0599			

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:** 3/23/15

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)

Appendix C

Parcel A4 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 1 - Soil Sampling Summary

Source Area/ Description	REC & Finding/ SWMU/AOC	Figure or Drawing of Reference	Rationale	Number of Locations	Sample Locations	Boring Depth	Sample Depth	Analytical Parameters: Soil Samples
Pipe Mill Trenches/Sump	SWMU 49	DCC Figure 3-1	The Pipe Mill Trenches/Sumps were identified as a unit associated with piping designed to transport process wastewater from the Pipe Mill to the Tin Mill Canal Discharge Pipes and ultimately to the TMC. This unit was dismantled in 1983 and no longer discharges to the TMC.	2	A4-001 and A4-002	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, O&G, PCBs (0-1')
Hydraulic Oil Storage Area	AOC O	DCC Figure 3-1	AOC O was described as containing approximately 30 drums containing non-hazardous, water-based hydraulic oil stored outside on soil and gravel. During a 1997 site inspection, the area contained no drums and was overgrown with vegetation and general debris.	2	A4-003 and A4-004	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, O&G, PCBs (0-1'), DRO/GRO
Acid Storage Tanks		Drawing 5149	Investigate potential impacts related to acid storage tanks.	2	A4-005 and A4-006	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, O&G, PCBs (0-1')
Waste Oil Tank		Drawing 5154	Investigate potential impacts from waste oil tank.	2	A4-007 and A4-008	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, O&G, PCBs (0-1'), DRO/GRO
Parcel A4 Coverage			Investigate potential impacts related to historical activities.	20	A4-009 through A4-028	Total depth of 20 feet or groundwater.	0-1', 4-5', 9-10' bgs. 4-5' interval may be adjusted in the field based on observations or field screening.	VOC, SVOC, Metals, O&G, PCBs (0-1')
			Total:	28				

Soil Borings Sampling Density Requirements (from **Worksheet 17 - Sampling Design and Rationale**)

No Engineered Barrier (16-40 acres): 1 boring per 1.5 acres with no less than 15 borings

Engineered Barrier (1-15 acres): 1 boring per 2 acres with no less than 2

No Engineered Barrier (33.3 acres) = **23 Samples**

Engineered Barrier - Paving/Buildings (28.1 acres)

Roads/Parking (10.0 acres) = **5 Samples**

Building Footprints (18.1 acres) = **N/A** (Covered by Soil Gas, see Appendix B)

VOCs - Volatile Organic Compounds (Target Compound List)

SVOCs - Semivolatile Organic Compounds (Target Compound List)

Metals - (Target Analyte List plus Hexavalent Chromium and Cyanide)

O&G - Oil and Grease

PCBs - Polychlorinated Biphenyls

DRO/GRO - Diesel Range Organics/Gasoline Range Organics

bgs - Below Ground Surface

Parcel A4 Sampling Plan Summary
Former Sparrows Point Steel Mill
Sparrows Point, Maryland

Table 2 - Groundwater Sampling Summary

Source Area/ Description	REC & Finding/ SWMU/AOC	Figure or Drawing of Reference	Condition of Existing Well	Number of Locations	Sample Locations	Boring Depth	Screen Interval	Analytical Parameters: Groundwater Samples†
Pipe Mill Trenches/Sump	SWMU 49	DCC Figure 3-1	*N/A*	1	A4-002	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, O&G, Dissolved Metals
Waste Oil Tank		Drawing 5154	*N/A*	1	A4-007	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, O&G, Dissolved Metals, DRO/GRO
Acid Storage Tanks		Drawing 5149	*N/A*	1	A4-005	Total depth of 7 feet below water table.	8 feet below water table to 3 feet above water table.	VOC, SVOC, O&G, Dissolved Metals
Parcel A4 Coverage			*N/A*	4	A4-010, A4-012 through A4-014	Total depth of 7 feet below water table.	7 feet below water table to 3 feet above water table.	VOC, SVOC, O&G, Dissolved Metals
Existing Groundwater Well			To be inspected prior to the start of parcel work.	1	SW04-PZM001	Total depth of 13 feet bgs.	13 feet to 3 feet bgs.	VOC, SVOC, O&G, Dissolved Metals
			Total:	8				

†Field measurements include pH, DO, ORP, conductivity, temperature.

APPENDIX D

Health and Safety Plan

Area A: Parcel A4
Sparrows Point Terminal, LLC
Sparrows Point, Maryland

Prepared for:
EnviroAnalytics Group
1650 Des Peres Road
Suite 230
Saint Louis, Missouri 63131

Prepared by:
ARM Group Inc.
9175 Guilford Road
Suite 310
Columbia, MD 21046

August 2015

ARM Project 150298M

Respectfully submitted,

Eric S. Magdar
Senior Geologist

T. Neil Peters
Vice President

TABLE OF CONTENTS

1.0 INTRODUCTION

This Health and Safety Plan (HASP) has been prepared for employees of ARM Group Inc. (ARM) to address personnel health and safety requirements for employees of ARM and its subcontractors to complete a Phase II investigation on a portion of the Sparrows Point Terminal, LLC property that has been designated as Parcel A4. The on-site activities shall include the following: collection of soil samples, installation and purging of temporary piezometers, and the collection of groundwater samples. ARM will comply with industry-standard health and safety protocol and Occupational Safety and Health Administration (OSHA) 29 CFR 1910.120 to prevent human exposure to volatile organic compounds (VOC), semi-volatile organic compounds (SVOC), petroleum hydrocarbons, polychlorinated biphenyls (PCB) and metals present in site soil and groundwater.

2.0 GENERAL INFORMATION

2.1 Site Description

Parcel A4, which is comprised of 62 acres of the approximately 3,100-acre former plant property, is located off of Sparrows Point Boulevard in Sparrows Point, Maryland. Parcel A4 is one of nine parcels that make up a larger area, known as Area A, of the Sparrows Point facility. Area A and its parcels are shown on **Figure 1.**

From the late 1800s until 2012, the Sparrows Point Terminal, LLC property was used for the production and manufacturing of steel. Iron and steel production operations and processes at the Site included raw material handling, coke production, sinter production, iron production, steel production, and semi-finished and finished product preparation. In 1970, it was the largest steel facility in the United States, producing hot and cold rolled sheets, coated materials, pipes, plates, and rod and wire. The steelmaking operations at the facility ceased in fall 2012.

2.2 Site Hazards

The following is a general description of the potential site hazards.

Chemical Hazards:

- VOCs, SVOCs, PCBs and petroleum hydrocarbons potentially present in soil and groundwater.

Explosive Hazards:

- VOC and petroleum hydrocarbon vapors in boreholes, piezometers and collection containers.

Physical Hazards:

- Slipping/tripping in work area
- Stress/fatigue from heat or cold temperatures
- Traffic
- Driving on steep slopes in off-road conditions
- Insect and animal bites
- Hand tools

Mechanical/Electrical Hazards:

- Underground utilities
- Heavy equipment (Geoprobe)
- Noise from heavy equipment operations
- Power tools

2.3 Utilities

Prior to initiating any subsurface investigations, all underground utilities will be cleared using the Miss Utility system. Additionally, EnviroAnalytics Group (EAG) will clear each proposed

boring with utility personnel currently working on the property. The ARM staff will be responsible for avoiding any above ground utilities while operating vehicles on the site.

2.4 Waste Management

A small quantity of investigation derived waste material will be generated as a result of the planned site work. These wastes will include decontamination water and soil cuttings. All soil cuttings will be returned to their respective borehole. Decon water will be containerized in steel 55-gallon drums for on-site treatment, off-site disposal or discharge to ground surface, pending the receipt of analytical results. Waste will also include used personnel protective equipment (PPE) and disposable sampling equipment that may contain some chemical residue. These materials will be collected and disposed of in a municipal waste dumpster, unless visibly affected. Based on information of the site subsurface conditions, no grossly contaminated material is expected to be generated. Should such waste be generated, the materials will be stored in a steel 55-gallon drum for subsequent off-site disposal.

2.5 Site Controls and Security

It is the responsibility of ARM staff to keep unauthorized personnel away from the work areas during site work. All equipment used at the site must be secured or taken off-site. Subsurface intrusions should be covered to reduce any hazard that may be posed. Traffic cones, caution tape, physical barriers, or other such means as necessary shall be used to ensure that no unauthorized work area entry occurs.

3.0 OPERATING PROCEDURES

3.1 Air Monitoring

Due to the nature of the site activities and materials potentially present at the site, no vapor hazards are expected. If discernable odors are noted, then work will be temporarily suspended and air monitoring will be initiated using a PID or explosive gas indicator. If sustained vapor concentrations are measured at or above action levels in the breathing zone, work will immediately cease until such time as appropriate action is established. This action may require the upgrade of PPE or reevaluation of the need to proceed.

3.2 Personnel Protection

Personnel health and safety protection shall follow the guidelines provided by this HASP. Modifications to the HASP may be made by the field supervisor with the approval of the ARM Project Manager on a day-to-day basis as conditions change, based on existing conditions. Any necessary revisions must be fully documented by the field supervisor to include the specifics and rationalizations for the change.

It is anticipated that a modified Level D will be appropriate for the anticipated site activities. PPE associated with this designated level of protection (Level D), as established by the USEPA, is listed in a later section. Equipment listed for this level should be available to all personnel.

PPE will be stored in a clean, dry environment prior to it usage. Disposable equipment shall remain, in as much as possible, its original manufacturer's packaging to ensure its integrity. PPE that is assigned to a specific end user is subject to inspection by the supervisor at any time.

3.2.1 Determination of Level of Protection Requirements

The appropriate level of personnel protection must be established on the basis of ambient air monitoring responses. Air monitoring action levels should be consistent with the primary compounds of concern as listed in Table 3-1 (below). Appropriate action should be taken if total organic vapor air concentrations are sustained at a concentration equal to or greater than the PEL listed on Table 3-1.

Substance	CAS #	OSHA PEL (ppm)	IDLH (ppm)
Benzene	71-43-2	10	500
Toluene	108-88-3	200	500
Ethyl benzene	100-41-4	100	800
Xylenes	1330-20-7	100	900
Naphthalene	91-20-3	10	250
Tetrachloroethylene	127-18-4	100	150
Trichloroethylene	79-01-6	100	1,000

Notes: ppm = parts per million, PEL = Permissible Exposure Limit,
STEL = Short Term Exposure Limit, IDLH = Immediately Dangerous to Life or Health

This criterion will be applicable to all activities unless specific protection requirement for a certain task are addressed separately. As previously stated, it is anticipated that a modified Level D will be appropriate for the anticipated site activities; which requires a regular worker uniform, steel-toed safety shoes, hardhat, safety glasses and long paints. Level D will be considered the minimum protection level for all work on-site.

Respiratory protection against dust must also be considered during site work, particularly on windy days. The usage of dust respirators (high efficiency particulate air [HEPA] filters) will be determined by site conditions and judgment of the field supervisor. Sprinklers may be used to control dust during work activities.

3.2.2 Dermal Protection

In general, dermal protection levels will correspond with the respiratory protection level in use during an activity as described in other sections. For most activities on the site, Level D dermal protection will be adequate. When work tasks are such that a higher level of personal protection is required, dermal protection may be upgraded to coated Tyvek (Saranex) or chemical-resistant rain suit or Tyvek. This determination will be made by the ARM Field Supervisor as required.

Chemical and abrasion-resistant outer gloves and inner chemical-resistant disposable gloves would be required in the work zone to provide adequate protection of hands and assist in preventing transfer of contaminants. As much of the investigation may require handling of possibly contaminated equipment, groundwater, or soil, chemical-resistant gloves should be required for all on-site work with these materials. Various operations, which require dexterity and do not necessitate the abrasion-resistant feature of outer gloves, could be performed with the inner gloves only, at the direction of the ARM Field Supervisor.

3.2.3 Eye Protection

Since many volatile contaminants are capable of penetrating skin tissues, the eyes provide a potential route of entry into the body. Typically, volatile organic vapors will be detected in the air-monitoring program. Dust and air-borne particulates will be monitored visually and nuisance dust standards will be applied. If exceeded, dust masks will be donned. Eye protection requirements must correspond to the respiratory protection level.

3.3 Task-Related Personnel Protection

At a minimum, all workers are required to wear long pants, steel toed shoes and a sleeved shirt at all times. Additional PPE will be required on a task-specific basis.

3.3.1 Installation of Geoprobe Soil Borings and Piezometers, Soil Logging and Soil Sampling Activities

All personnel should wear the following:

- Long pants and sleeved shirt/vest (high visibility)
- Steel toe safety boots
- Safety glasses with side shields
- Hearing protection
- Chemical resistant gloves

3.3.2 Groundwater Sampling

All personnel should wear the following:

- Long pants and sleeved shirt/vest (high visibility)
- Steel toe safety boots
- Safety glasses with side shields
- Chemical resistant gloves

3.4 Explosion Prevention

Due to the potential presence of flammable materials at the site, the following safety guidelines must be followed to prevent the possibility of explosion:

a. All monitoring equipment will be intrinsically safe or explosion-proof, if used in areas of possible explosive atmospheres.

b. A fire extinguisher, first-aid kit, and an eye wash station will be located at the site within a short distance of site work.

c. Any compressed gas cylinders or bottles will be stored safely as required by the OSHA regulations. In addition, metal barriers must be provided and installed between oxygen and acetylene bottles, extending above the height of the regulators. At the end of each work shift, regulators shall be removed and replaced with protective caps.

d. No explosives, whatsoever, shall be used or stored on the premises.

e. All cleaning fluids or solvents must be stored and transported in OSHA-approved safety containers.

f. Propane, butane, or other heavier-than-air gases shall not be transported onto or used on-site unless prior approval is obtained in writing from the Project Manager and the Facility Operator.

4.0 DECONTAMINATION PROCEDURES

Decontamination procedures will be used on some field tasks, but not all, completed at the site. All decontamination operations will be performed at the sampling location unless the level of PPE is upgraded. If the level of PPE is upgraded, all decontamination operations will be performed in a central decontamination area and supervised by the ARM Field Supervisor. If necessary, a decontamination corridor will be set up adjacent to the area and equipped with brushes, plastic bags, and drum storage. Disposable outerwear and contaminated disposable equipment will be collected and bagged for future disposal. The ARM Field Supervisor would be required to inspect PPE and clothing to determine if decontamination procedures were sufficient to allow passage into the staging area.

The following decontamination facilities, as a minimum, will be provided in the staging area:

a. Hand washing facilities

b. First-aid kit

c. Eye wash station

d. Fire extinguisher

Proper on-site decontamination procedures, the use of disposable outer clothing, and field wash of hands and face as soon as possible after leaving the decontamination corridor could effectively minimize the opportunity for skin contact with contaminants.

4.1 Personnel Decontamination Procedures

Decontamination procedures should be as follows:

Level D decontamination will consist of:

1. Potable water wash and potable water rinse of boots and outer gloves (if worn).

2. Bag or drum all visibly impacted disposable clothing.

3. Field wash of hands and face.

4.2 Equipment Decontamination

All equipment such as drilling and excavation equipment, tools, and pumps should be cleaned with potable water and a non-phosphate detergent (Liquinox), to prevent cross-contamination during the field effort and prior to equipment being taken from the site. Specific procedures for decontamination of field equipment would be established by the ARM Project Manager in order to prevent cross contamination by the drilling or sampling equipment.

Level D personnel protection is required during equipment decontamination.

5.0 EMERGENCY CONTINGENCY INFORMATION

Pertinent emergency telephone numbers are listed in Table 5-1. This information must be reviewed by and provided to all personnel prior to site entry.

Table 5-1
Emergency Telephone Numbers

Facility/Title	Telephone Number
Fire and Police	911
Ambulance	911
James Calenda, EnviroAnalytics Group	(314) 620-3056
Eric Magdar, ARM Manager	Office: (410) 290-7775 Cell: (301) 529-7140
Hospital – Johns Hopkins Bayview	(410) 550-0350

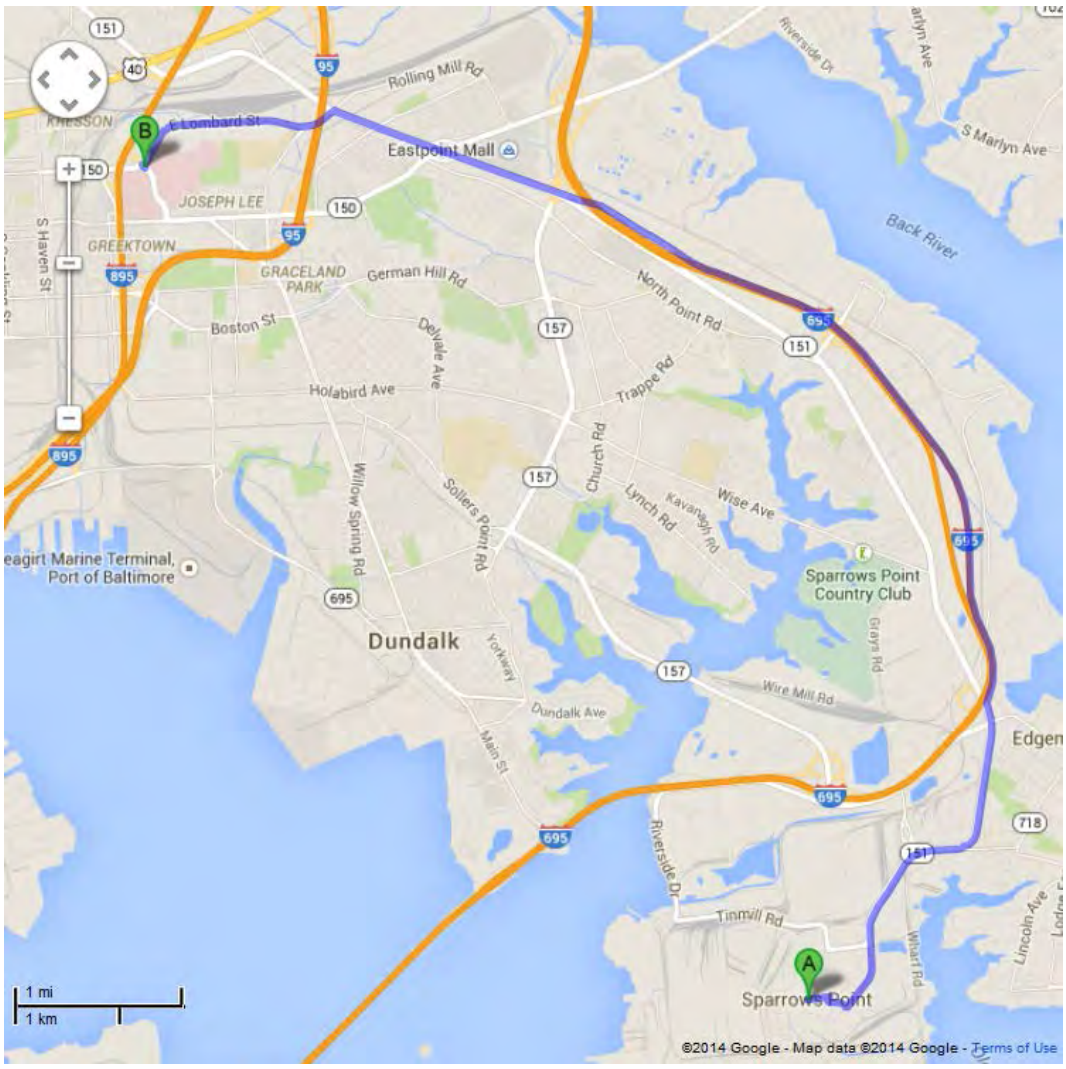
In the event of a fire or explosion, the site will be evacuated immediately and the appropriate emergency response groups notified. In the event of an environmental incident caused by spill or spread of contamination, personnel will attempt to contain the spread of contamination, if possible.

In the event of a personnel injury, emergency first aid would be applied on site by ARM as deemed necessary. The victim should be transported to the local medical facility if needed. The map to the hospital is provided below.

Hospital Route From Sparrows Point Terminal

Johns Hopkins Bayview
4940 Eastern Avenue
Baltimore, MD
(410) 550-0350

1. Start out going East on 7th Street.
2. Turn LEFT onto Sparrow Point Road.
3. Travel 1.4 miles and continue onto North Point Boulevard.
4. Travel 0.9 miles and turn slight right to merge onto I-695 North/Baltimore Beltway toward Essex.
5. Travel 3.4 miles and take EXIT 40 for MD-151/N. Pt. Blvd. N toward MD-150/East. Blvd W/Baltimore.
6. Travel 0.5 miles and merge onto MD-151 N/North Point Blvd.
7. Travel 2.0 miles and turn LEFT onto Kane Street.
8. Travel 0.2 miles and turn slight right onto E. Lombard Street.
9. Travel 1.2 miles and turn left onto Bayview Blvd.
10. Make a left at the emergency room of the hospital



6.0 ACKNOWLEDGEMENT OF PLAN

All site personnel are required to read and comply with the HASP. The following safety compliance affidavit should be signed and dated by each person directed to work on-site.

I have read this HASP and agree to conduct all on-site work in conformity with the requirements of the HASP. I acknowledge that failure to comply with the designated procedures in the HASP may lead to my removal from the site, and appropriate disciplinary actions by my employer.

Title and Company	Name	Signature	Date