ICOR LTD

August 25, 2017

Commonwealth of Virginia Department of Environmental Quality
Office of Remediation Programs
629 East Main Street
Richmond, Virginia 23219

Attention: Mr. Vincent Maiden, Brownfields Program Coordinator

Subject: **Final Site Characterization Report**, Former Robinson Terminal North Property, 500 and 501 North Union Street, Alexandria, Virginia

Reference: VRP Site No. 00673
VDEQ PC No. 2016-3090
ICOR Project No. 13-CI.001

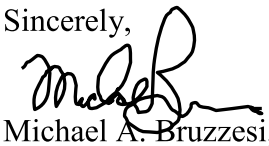
Dear Mr. Maiden:

Attached for your review is the *Final Site Characterization Report* (SCR) prepared by ICOR, Ltd. (ICOR) for the Former Robinson Terminal North property (herein referred to as the SITE) located at 500 and 501 North Union Street in Alexandria, Virginia. The SCR summarizes the recent and historical site characterization study (SCS) activities conducted by ICOR and others at the SITE to assess soil and groundwater quality and address Commonwealth of Virginia Department of Environmental Quality (VDEQ) mandates and requirements. To date, the VDEQ has assigned two Pollution Compliant Numbers (PC#s) to the SITE (PC#s 2006-3131 and 2016-3090). The PC#s are associated with suspect releases of petroleum from storage tanks. PC# 2006-3131 was closed by the VDEQ and PC# 2016-3090 remains open. The VDEQ mandated that a SCS be conducted to address the open PC#. The SITE was also entered into the VDEQ's Voluntary Remediation Program (VRP) in 2016 and was assigned VRP Number 00673. The SITE was entered into the VRP to address non-petroleum impacts, which are not typically addressed through the VDEQ's Petroleum Storage Tank Program (PSTP). The SCR was prepared to satisfy VRP and PSTP SCR requirements.

This Final version of the SCR addresses comments received by the VDEQ and City of Alexandria following their review of the Draft SCR prepared by ICOR, dated 10 April 2017.

If you have any questions concerning the Final SCR, please feel free to contact me at (703) 608-5969. Your expedited review of the Final SCR would be greatly appreciated.

Sincerely,



Michael A. Bruzzesi, CPG
Project Manager
VA CPG No. 2801 001428

Attachments
Final Site Characterization Report

cc: Mr. Russ Wheeler, Alexandria North Terminal, LLC
Mr. Jim Thornhill, McGuire Woods, LLP
Mr. Alexander Wardle, VDEQ PSTP
Mr. William Skrabak, City of Alexandria

ICOR LTD

August 25, 2017

Commonwealth of Virginia Department of Environmental Quality
Northern Regional Office: Petroleum Remediation
13901 Crown Court
Woodbridge, Virginia 22193

Attention: Mr. Alexander Wardle, Project Manager

Subject: **Final Site Characterization Report**, Former Robinson Terminal North Property, 500 and 501 North Union Street, Alexandria, Virginia

Reference: VRP Site No. 00673
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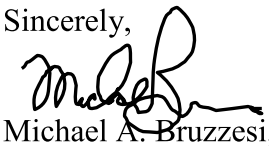
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Michael A. Bruzzesi, CPG
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Attachments
Final Site Characterization Report

cc: Mr. Russ Wheeler, Alexandria North Terminal, LLC
Mr. Jim Thornhill, McGuire Woods, LLP
Mr. Vince Maiden, VDEQ VRP
Mr. William Skrabak, City of Alexandria

FINAL SITE CHARACTERIZATION REPORT

FORMER ROBINSON TERMINAL NORTH PROPERTY
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VIRGINIA

VDEQ VRP# 00673
VDEQ PC# 2016-3090

Prepared for:

Commonwealth of Virginia Department of Environmental Quality
Office of Remediation Programs
629 East Main Street
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(804) 698-4021

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Prepared by:

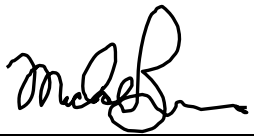
ICOR, Ltd.
PO Box 406
Middleburg, Virginia 20118
(703) 980-8515

ICOR Project No. 13-CI.01

AUGUST 25, 2017

SIGNATURE SHEET

This *Final Site Characterization Report* (SCR) for the Former Robinson Terminal North property located at 500 and 501 North Union Street in Alexandria, Virginia, was prepared by:



August 25, 2017

Michael A. Bruzzesi, CPG Date
Project Manager/Senior Geologist
VA CPG No. 2801 001428

The Final SCR was reviewed and approved for release by:



August 25, 2017

Ike L. Singh
Program Manager

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LIST OF ACRONYMS AND ABBREVIATIONS

ACP	Atlantic Coastal Plain
ANT	Alexandria North Terminal, LLC
ATGS	Alexandria Town Gas Site
AUL	activity and use limitation
Bogle	R.H. Bogle
BTEX	benzene, toluene, ethylbenzene, and total xylenes
City	City of Alexandria
COPC	constituent of potential concern
CSM	Conceptual Site Model
CTI	Columbia Technologies, Inc.
DO	dissolved oxygen
EC	electrical conductivity
ECD	electron captor detector
ECS	ECS Mid-Atlantic, LLC
EPA	United States Environmental Protection Agency
FID	flame-ionization detector
HC	hydraulic conductivity
HDPE	high-density polyethylene
Hpt	Hydraulic Profiling Tool
HSA	hollow stem auger
ICOR	ICOR, Ltd.
ID	inner diameter
MFG	manufactured gas plant
mg/kg	milligram per kilogram
mg/l	milligram per liter
MIP	Membrane Interface Probe system
MiHpt	combined MIP and Hpt
MTBE	methyl tertbutyl ether
O&G	oil and grease
ORP	oxygen reduction potential
PC#	Pollution Compliant number
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
PID	photo-ionization detector
PPL	Priority Pollutant List
PSTP	Petroleum Storage Tank Program
PVC	polyvinyl chloride
RA	Risk Assessment
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RL	analytical method reporting limit
SCR	Site Characterization Report
SCS	Site Characterization Study
SVOC	semi-VOC

TAL	Target Analyte List
TCE	trichloroethene
TCL	Target Compound List
TCLP	Toxic Characteristic Leaching Procedure
TEC	Total Environmental Concepts, Inc.
TOC	top of casing
TPH	total petroleum hydrocarbons
TPH-DRO	diesel range TPH
TPH-GRO	gasoline range TPH
ug/kg	microgram per kilogram
ug/l	microgram per liter
UST	underground storage tank
VDEQ	Commonwealth of Virginia Department of Environmental Quality
VDEQ-CWT	VDEQ construction worker in a trench groundwater contacted and not contacted
VDEQ-PDS	VDEQ general permit discharge standards for petroleum contaminated water
VDEQ-PSSS	VDEQ petroleum saturated soil standards
VDEQ-T2SCR	VDEQ Tier II screening concentrations for unrestricted (residential) land use
VDEQ-T3CDSG	VDEQ Tier III commercial deep soil gas screening level for inhalation of indoor air
VDEQ-T3CSL	VDEQ Tier III commercial groundwater screening level for restricted groundwater use commercial land use inhalation of indoor air
VDEQ-T3CSSG	VDEQ Tier III commercial sub-slab soil gas screening level for inhalation of indoor air
VDEQ-T3CW	VDEQ Tier III construction worker soil gas screening level for inhalation of air in a trench
VDEQ-T3RDSG	VDEQ Tier III residential deep soil gas screening level for inhalation of indoor air
VDEQ-T3RSL	VDEQ Tier III screening level for unrestricted (residential) land use inhalation of indoor air
VDEQ-T3RSSG	VDEQ Tier III residential sub-slab soil gas screening level for inhalation of indoor air
VDEQ-T3SCC	VDEQ Tier III screening concentration for restricted (commercial/industrial) land use
VDEQ-WQSFC	Water Quality Standard for fresh chronic
VDEQ-WQSOSW	VDEQ Water Quality Standard for other surface waters
VI	vapor intrusion
VOC	volatile organic compound
VRP	Voluntary Remediation Program
WP	Work Plan

1.0 INTRODUCTION

This report summarizes the Site Characterization Study (SCS) activities conducted by ICOR, Ltd. (ICOR) and others at the Former Robinson Terminal North property (herein referred to as the SITE) located at 500 and 501 North Union Street in Alexandria, Virginia. The most-recent activities were conducted on behalf of Alexandria North Terminal, LLC (ANT), a potential developer of the SITE, and were conducted to assess soil and groundwater quality and address Commonwealth of Virginia Department of Environmental Quality (VDEQ) mandates and requirements. Historical activities at the SITE and surrounding properties have resulted in impact to soil and groundwater underlying the SITE. To date, the VDEQ has assigned two Pollution Compliant numbers (PC#s) to the SITE (PC#s 2006-3131 and 2016-3090). The PC#s are associated with suspect releases of petroleum from storage tanks. PC# 2006-3131 has been closed by the VDEQ and PC# 2016-3090 remains open. The VDEQ mandated that a SCS be conducted to address the open PC#. The SITE was also entered into the VDEQ's Voluntary Remediation Program (VRP) in 2016 and was assigned VRP number 00673. The SITE was entered into the VRP to address non-petroleum impacts, which are not typically addressed through the VDEQ's Petroleum Storage Tank Program (PSTP). The Site Characterization Report (SCR) was prepared to satisfy PSTP and VRP SCR requirements.

This Final version of the SCR addresses comments received by the VDEQ and City of Alexandria (City) following their review of the Draft SCR prepared by ICOR, dated 10 April 2017.

The SITE is located in a mixed commercial and residential land use area and is currently improved with two vacant warehouses, small shed, railroad spur, paved parking lots, dock (pier), and landscaping. The proposed development of the SITE has not been finalized, but is anticipated to include construction of mixed residential, retail, and commercial use multi-story structures and will entail removal of most of the existing structures and features and mass grading and excavation. Based on the findings of past and recent environmental assessments, soil and groundwater beneath the SITE have been impacted by the past use of the SITE, which included bulk oil storage, fertilizer storage, coal storage, chemical mixing and manufacturing, and warehouse operations. Contributions from adjacent and nearby properties that were used in the past for fertilizer storage, city gas works, chemical manufacturing and mixing, and bulk oil storage are also suspected. Constituents of concern identified at elevated concentrations in soil, groundwater, and soil gas at the SITE include gasoline and diesel range total petroleum hydrocarbons (TPH-GRO and TPH-DRO, respectively), volatile organic compounds (VOCs), semi-VOCs (SVOCs), and metals.

The SCS activities conducted to date by ICOR and others include advancement of direct-sensing tooling to obtain real-time soil and groundwater data; advancement of test borings; installation of temporary and permanent groundwater monitoring wells; installation of soil gas sampling points; and collection of soil, groundwater, and soil gas samples for field screening and laboratory analysis. The SCS activities were conducted as detailed in ICOR's VDEQ-approved SCS Work Plan (WP). The SCS activities were conducted to evaluate the type, degree, and extent of soil and groundwater impacts and to evaluate general risks posed by the impacts to current and future site users. The findings of the SCS will be used to develop a remedial approach that allows for

successful development of the SITE and minimization of risks to human health and the environment. The history of the SITE and assessment activities and findings are summarized in the following sections.

2.0 SITE DESCRIPTION

The SITE is located at 500 and 501 North Union Street in Alexandria, Virginia, at the intersection of Oronoco Street and North Union Street. The SITE is comprised of two parcels, the 500 and 501 North Union Street parcels (herein referred to as the 500 and 501 Parcels, respectively), separated by North Union Street. The two parcels comprise approximately 3.2 acres of land. In past reports, the parcel addresses have also been listed as 1 and 101 Oronoco Street (corresponding to the 500 and 501 Parcels, respectively). A site location map is included as Figure 1. The SITE is situated in a mixed commercial and residential land use area. Adjacent property use is depicted on the aerial photograph included as Figure 2.

The SITE is currently improved with two 1-story, slab-on-grade brick, concrete, and steel warehouses (totaling approximately 91,800 square feet), a large concrete dock (pier), railroad spur, a small wood-frame shed (near the dock), gravel and asphalt and concrete-paved parking areas, and landscaping. The warehouses were constructed in 1966. The warehouse situated on the 500 Parcel is referred to as Warehouse #16. The warehouse situated on the 501 Parcel is referred to as Warehouse #10, #11, and #12. Three diesel underground storage tanks (USTs) were formerly buried on the northeastern portion of the 501 Parcel. The USTs were formerly used to store and dispense diesel fuel via two dispensers located on the east-central portion of the 501 Parcel (next to the small wood shed). The tanks were removed in 2016. A site plan depicting existing conditions is included as Figure 3.

Topography at SITE is relatively flat. The SITE is bound to the north by Pendleton Street and railroad tracks across which is Oronoco Bay Park, to the east and northeast by the Potomac River, to the south by Oronoco Street across which is Founders Park and a residential building, and to the west by Dalton Wharf Office Center and North Union Street.

3.0 PROPOSED DEVELOPMENT

The proposed development of the 500 and 501 Parcels has not been finalized, but is anticipated to include construction of mixed residential, retail, and commercial use multi-story structures. The new structures are anticipated to include one level of subsurface parking underlying the majority of each structure's footprint and will be constructed on poured-concrete foundations. Newly constructed buildings will overlie the majority of the parcels, with walkways, patios, and landscaping covering the remaining open spaces. Current plans for the parcels include raising the grade several feet across much of the parcels to allow for final elevations above the flood zone. Construction of the subsurface parking levels is anticipated to require excavation and removal of more than 8 feet of soil within the footprint of the subsurface levels.

Prior to development of the SITE, most of the existing structures and associated site improvements are expected to be razed and removed. Soil used to backfill and raise the grade of the parcels will be imported fill and/or soil generated during excavation at the SITE (assuming it is deemed acceptable by VDEQ standards for beneficial reuse). Most of the soil generated during excavation for the footers and subsurface parking levels is not expected to meet VDEQ reuse criteria and will likely require special handling and disposal or treatment; however, soil excavated from "clean" areas and/or found to meet VDEQ reuse requirements will be reused on or off site as backfill.

Based on groundwater measurement data obtained from the SITE, the subsurface parking levels and building footings will be constructed at depths situated near or several feet below the soil/groundwater interface (water table); thus, groundwater management during construction will likely be required. Groundwater management post-construction is not anticipated if the buildings are constructed on a water-tight foundation ("bath tub" type); however, if the buildings are designed to include a foundation dewatering system, long-term management of groundwater would be required. Groundwater management anticipated during construction includes dewatering and/or use of engineering controls (e.g., slurry wall, sheeting and shoring, mudmat, etc.). Groundwater generated during dewatering will likely require monitoring and potentially treatment before discharge to meet federal and state regulatory requirements.

4.0 BACKGROUND

The background information presented in this section and throughout this SCR was obtained from historical environmental and geotechnical reports. A list of the major reports is provided below.

- **Evaluation of Groundwater Contamination at the R.H. Bogle Company Property**, Alexandria, Virginia, prepared by Dames & Moore, dated July 29, 1976.

- **A Final Report of R.H. Bogle Chemical Company**, prepared by NUS Corporation Superfund Division, dated July 14, 1983.

- **Tier 3 Dioxin Screening Investigation Report (Potomac Estuary Fish and Sediment Results)**, R.H. Bogle Co., Alexandria, Virginia, prepared by United States Environmental Protection Agency (EPA), Region III, dated April 19, 1985.

- **Site Characterization Report**, Robinson Terminal, 1 Oronoco Street, Alexandria, Virginia, prepared by Total Environmental Concepts, Inc. (TEC), dated January 25, 2007.

- **Soil and Groundwater Testing**, Robinson Terminal Warehouses, 500 and 501 N. Union Street, Alexandria, Virginia, prepared by ECS Mid-Atlantic, LLC (ECS), dated February 8, 2008.

- **Preliminary Subsurface Exploration and Geotechnical Engineering Analysis**, Robinson Terminal at Alexandria Waterfront, City of Alexandria, Virginia, prepared by ECS, dated February 14, 2008.

- **Phase I Environmental Site Assessment**, Robinson Terminal North, Alexandria, Virginia, prepared by WSP Environment & Energy, dated March 20, 2013.

- **Subsurface Exploration and Geotechnical Engineering Analysis**, Robinson Terminal North, Alexandria, Virginia, prepared by ECS, dated November 14, 2014.

- **Limited Phase II Environmental Site Assessment**, Robinson Terminal North, 1 and 101 Oronoco Street, Alexandria, Virginia, prepared by ICOR, dated December 15, 2014.

- **Draft Site Review and Path Forward Report**, Alexandria Town Gas-Oronoco Outfall Site, Alexandria, Virginia, prepared by Cardno, dated March 5, 2015 (2015 Cardno Report).

- **UST Closure Report**, Former Robinson Terminal North, 501 N. Union Street, Alexandria, Virginia, prepared by ICOR, dated April 18, 2016.

A discussion of the assessments and assessment findings related to historical SITE and surrounding area use and soil and groundwater quality are discussed below. A detailed discussion of the assessment activities conducted to date and soil, groundwater, and soil gas quality at the SITE is provided in Sections 5.0 and 7.0, respectively.

4.1 Historical Site Use

Past site uses of concern at the 500 Parcel include bulk oil storage (1891-1941), fertilizer storage (1907-1912), chemical mixing plant operations (1941-1966), and warehouse operations (1966-2016). Historic maps depicting past SITE and surrounding area property use are included as Attachment 1. The VDEQ issued PC# 2016-3090 to this Parcel in relation to the past bulk storage of oil at the Parcel (discussed in further detail in Section 4.3). Past site uses of concern at the 501 Parcel include coal storage (1885-1891), fertilizer and acid plant (1902-1941), sulfuric acid plant (1941-1968), and warehouse operations (1968-2016). The VDEQ issued PC# 2006-3131 to this Parcel in relation to a suspected release of petroleum from USTs located on the Parcel (discussed in further detail in Section 4.3). The aforementioned past site operations included the storage and manufacturing of raw petroleum products and chemicals and generation of petroleum and chemical wastes.

4.2 Adjacent Property Use

Historic adjacent property uses of concern include fertilizer storage on the property to the south (1896-1912), city gas works and chemical manufacturing on the property to the southwest (1851-1959), and bulk oil storage (1891-1941) and chemical mixing plant operations (1941-1966) on the property to the west. Historic maps depicting past SITE and surrounding area property use are included as Attachment 1.

4.3 Bulk Petroleum Storage and Petroleum USTs

In November 2005, a release of diesel fuel was suspected from one of the three former 8,000-gallon diesel USTs located near the northeast corner of the 501 Parcel. The tanks were in use at the time of the suspected release. A release was suspected because a small volume of diesel fuel (12 ounces) was recovered from a tankfield monitoring well. Following the suspected release, all three of the tanks were precision (integrity) tested and all three were found to be sound. The VDEQ assigned the suspect release PC# 2006-3131 and requested that a SCS be performed.

In April 2006, TEC advanced 13 test borings (designated TEC-B1 through TEC-B13) adjacent to the USTs and fuel dispensers. Observations noted during test boring advancement are summarized on Table 1. Permanent monitoring wells were installed within seven of the borings (designated TEC-MW1 through TEC-MW7). The boring and well locations are depicted on Figure 4 and well construction information is provided on Table 2. During advancement of the borings, TEC collected soil samples for field and laboratory analysis. The soil samples were analyzed for TPH-GRO and TPH-DRO. TEC collected groundwater measurements from the wells, checked the wells for the presence of free product on two occasions, and collected groundwater samples for laboratory analysis from the wells on one occasion. Groundwater measurement data is provided on Table 3. The groundwater samples were analyzed for TPH-GRO, TPH-DRO, benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertbutyl ether (MTBE), and naphthalene.

TEC noted evidence of minor impact to soil during advancement of test borings TEC-B6 and TEC-B9 and the impacts appeared to be limited and localized. TPH-GRO and TPH-DRO were detected in soil samples collected from these borings at relatively low concentrations. A summary of the detections in soil are presented on Table 4A. Free product was not observed in the monitoring wells. MTBE was the only constituent detected in the groundwater samples and was detected at relatively low concentrations. A summary of the detections in groundwater are presented on Table 4B. Groundwater was encountered at depths ranging from approximately 6 to 8 feet below grade and groundwater flow was inferred to the east (towards the Potomac River) under both high and low tide conditions. TEC did not believe the limited and localized nature of impacts and relatively low detections of petroleum constituents in soil and groundwater warranted further assessment or cleanup and recommended “case closure” of PC# 2006-3131. The VDEQ concurred with TEC’s recommendation and closed PC# 2006-3131.

The three 8,000-gallon USTs were taken out of service in 2015. In March 2016, the three USTs were closed via excavation and removal. Minimal impacts were noted during removal of the tanks. Soil samples were collected for laboratory analysis from the tank excavations and were analyzed for TPH-DRO. TPH-DRO was detected in a few of the samples at relatively low concentrations. In conjunction with the tank removal, all of the existing wells situated adjacent to the tanks (wells TEC-MW1 through TEC-MW7) were inspected for the presence of free product with none noted. Groundwater samples were also collected for laboratory analysis from wells TEC-MW2, TEC-MW3, TEC-MW4, and TEC-MW5. The groundwater samples were analyzed for TPH-DRO, BTEX, MTBE, and naphthalene. TPH-DRO and naphthalene were detected in a few of the samples at relatively low concentrations. A summary of the detections in groundwater are presented on Table 7B. Based on conditions noted during tank removal and

relatively low concentrations of constituents detected in soil and groundwater samples collected during tank closure, ICOR did not believe that further assessment and/or corrective actions were warranted.

In 2016, the VDEQ issued PC# 2016-3090 in relation to the past bulk storage of oil at the 500 Parcel. The vast majority of the bulk storage facility appears to have been located on the adjacent properties west of the 500 Parcel (see maps dated 1896-1921 in Attachment 1) with most of the storage in large aboveground tanks. Past and recent assessments conducted at the 500 Parcel suggest the bulk of soil and groundwater underlying this parcel has been impacted by petroleum. Further assessment of the impacts was performed as part of the SCS, as mandated by the VDEQ.

Historical documents suggest USTs may be buried beneath the southeastern portion of the 500 Parcel; however, no evidence of USTs (e.g., fillports, manways, vent pipes, etc.) were observed in the area. If USTs are unearthed during future development, they will be properly closed via excavation and removal with notification and approval by the VDEQ.

4.4 Chemical Manufacturing and Storage

The R.H. Bogle (Bogle) chemical manufacturing facility occupied land immediately west of the SITE, and potentially a portion of the 500 Parcel, between the 1940s and late 1950s (see maps dated 1941 and 1959 in Attachment 1). Bogle reportedly mixed and stored sulfuric acids, fertilizers, and herbicides as part of its operations. The herbicides were used to control brush along railroad right of ways. Investigations ordered by the EPA and VDEQ in the 1970s revealed elevated levels of arsenic in soil, groundwater, and sediment. Impacts to soil and groundwater were interpreted to extend onto the western portion of the 500 Parcel. The last reported use of herbicides on the Bogle property was in 1968. The property immediately west of Parcel 500 is referred to as the Dalton Warf property. Studies of this property concluded the following:

- The majority of arsenic impacts occur within 15 feet of the surface.
- Artesian pressure in a deeper aquifer precludes downward movement of contaminants.
- The only significant movement of arsenic is due to soil erosion and surface water runoff.
- Most arsenic remaining in soil has probably become insoluble due to chemical reactions with soil constituents.
- The risks associated with impacts could be alleviated by developing the property using strict guidelines for architectural design and disturbance of soil during construction.

In 1978 the Dalton Warf property was sold and subsequently developed into commercial office townhouses. Prior to construction, the most heavily-impacted areas were “capped” with 18-inches of iron-rich clay to prevent arsenic migration. Restrictions placed on future site development and incorporated into property deeds excluded basements and swimming pools, imposed strict dust control during construction, and required placement of polyethylene around buried utility lines. According to the 2015 Cardno Report:

> The site is [sic] remains subject to a Consent Agreement with the U.S. EPA that states "no construction or ground disturbance shall be undertaken on the property prior to receipt by the Company (Development Resources, Inc.) or its successor interest of a written authorization from the City Manager… and… shall be conducted in accordance with any lawful procedures established by the City Manager…". The Consent Agreement also regulates the disposal of waste materials resulting from construction or ground disturbance on the property.

The EPA investigated the former Bogle property in 1985 for the presence of 2,3,7,8-TCDD (a dioxin). This type of dioxin was reportedly generated and used at the plant. None of the 38 soil samples collected by EPA (including two soil samples on the 500 Parcel) contained 2,3,7,8-TCDD above detectable levels. The EPA concluded that "There is no indication that there is a threat of human exposure to dioxin at those locations at levels above the level of concern for residential areas." Another dioxin concern noted was a potential release of dioxin from a railroad car containing dioxin-impacted water parked on the railroad spur of the SITE; however, impacts associated with this incident appear to have been investigated by the EPA and addressed with no further assessment or cleanup required. A 1985 newspaper report discussing sampling for dioxins at Bogle, of which the 500 Parcel was a part of at the time, reported only two detections which were in river sediments and were described as being "well below what the agency regards as hazardous."

Numerous assessment and cleanup activities have been conducted by the City and continue to be conducted in relation to the former coal gasification facility (referred to as the Alexandria Town Gas Site [ATGS] and manufactured gas plant [MFG]). The ATGS was located near the corner of North Lee and Oronoco Streets (southwest of the SITE) and manufactured gas for heating, cooking, and lighting from 1851 through 1946 (see maps dated 1885-1941 in Attachment 1). Section 1.3 entitled "Site History and Background" in 2015 Cardno Report provides the following history of the ATGS:

> Soil and groundwater beneath the site was impacted by coal tar residues originating from the former MGP which was owned and operated by the City from 1851 until 1930. The plant was then sold to a private company that later merged with Washington Gas. The plant continued to operate until it closed in 1947. Over the ensuing years, the site was gradually redeveloped into commercial warehouses and eventually the Lee Street Square office townhouses that remain today. The redevelopment of the surrounding area from its former industrial base to the current mixed commercial and residential community also occurred during the 1950s through the 1970s.
>
> As a part of its redevelopment of the Old Town area, the City installed a storm sewer pipeline beneath Oronoco Street in 1977. The 72-inch corrugated metal storm water pipe runs beneath the street and past the former MGP site on its way to the Potomac River where it discharges via the Oronoco outfall, located near the northeast corner of City-owned Founders Park. However, not long after the pipe was installed, coal tar residues were seen seeping from the river bottom off the outfall. The City's investigations found that the installation of the storm water pipeline had created a pathway linking the former MGP site with the river. In spite of the City's numerous efforts to stem the flow, coal tar

continued to migrate from the MGP site to the river via the pipeline under-bedding and through holes and cracks in the pipe that carried coal tar-laden groundwater into the storm sewer and on to the river. Dissolved phase and dense, non-aqueous phase liquids (DNAPL) emerged from seeps on the river bottom off Oronoco outfall. Over the next 35 years, the ongoing discharges impacted sediment off Oronoco outfall.

In 2000 the City entered the site in the VRP and installed a floating oil containment boom around the outfall to contain residues emerging from the seeps and to prevent their spread to other portions of the river. The installation of a cure in place liner inside the Oronoco pipeline between North Lee and North Union Streets in 2007 further slowed the migration of residues from the MGP. In 2013, the City installed a groundwater treatment system beneath Oronoco Street between North Union Street and the river to intercept and treat impacted groundwater as it migrates from the MGP site to the outfall. The system, which is comprised of a free product recovery vault, nine-point bio-sparge zone and a permeable reactive barrier, eliminates the discharges. Although an area of impacted sediments remains off the outfall, the upcoming sediment dredge and cap project will eliminate exposure pathways for human and ecological receptor populations.

Since 2003, the City has also actively recovered free product (coal tar) from the source area remaining beneath the northern edge of the former MGP site, adjacent to Oronoco Street. Although the City's subsurface investigation delineated an area of free product beneath the curb and sidewalk along the south edge of the street, most recovery largely comes from one of five purpose-designed wells installed in the City right of way. Additional product has been recovered from two monitoring wells installed in the 2004 Site Characterization.

The 2015 Cardno Report also discussed potential remedial approaches available for addressing the impacts associated with the former ATGS in Section 5.0 including:

Because of coal tar's characteristics (non-volatile, viscous highly adsorptive, and environmentally persistent), reducing concentrations in site media by meaningful levels beneath the entire impacted area is not feasible over the short term. Although the removal or even in-situ treatment of impacted materials is technically feasible, the constraints of maintaining the economic viability of impacted properties and avoiding community disruption would preclude undertaking this approach at a scale capable of reducing risks to acceptable levels. Intrusive remedial actions such as excavation and removal over a large enough area would require disrupting the current use of the properties and supporting infrastructure and incur economic losses to landowners, tenants and residents. Even many in-situ approaches to soil and groundwater treatment such as chemical oxidation or thermal treatment would likely create conditions requiring the temporary evacuation of overlying structures.

Instead, an acceptable level of risk reduction would be more effectively achieved by deploying a combination of institutional and engineering controls designed to mitigate risks without source removal. Because the City government has administrative authority it is in a position to impose land use controls needed to achieve risk reduction. Potential

controls include activity and use limitations (AULs) including deed restrictions, zoning, and permitting, as well as engineering controls.

Additional details may be found in the Cardno Report.

ICOR understands that further assessment is planned by the City to delineate impacts in soil, groundwater, and sediment and further cleanup and/or controls are planned to address these affected media. In the short term, dredging and removal of impacted sediments near the Oronoco Street outfall is planned.

Groundwater data collected during the assessment of the Bogle chemical manufacturing facility and ATGS suggests groundwater flow was historically and continues to be to the east and northeast, towards the Potomac River (and the SITE). According to the Cardno Report, the ATGS treatment system installed in 2013 is believed to intercept most of the remnant free product and impacted groundwater emanating from the ATGS. Prior to installation of the treatment system, migration of free product and impacted groundwater was not limited or controlled. Contaminants associated with the ATGS and identified in the 2015 Cardno Report include VOCs, SVOCs and PAHs.

4.5 Constituents of Potential Concern

Based on the findings of past assessments and past SITE and surrounding area use, COPCs include TPH-GRO, TPH-DRO, VOCs, SVOCs, pesticides, herbicides, polychlorinated biphenyls (PCBs), and metals. Although not considered a concern based on the findings of past environmental assessments (led by the EPA), further assessment of dioxin in soil was requested by the City (a stakeholder on this project). The dioxin sampling was conducted as detailed in ICOR's City-approved Addendum to the SCS WP (WP Addendum).

4.6 Regulatory Status

To date, the VDEQ has assigned two PC#s to the SITE (PC#s 2006-3131 and 2016-3090). As previously discussed, the PC#s are associated with suspect releases of petroleum from storage tanks. PC# 2006-3131 has been closed by the VDEQ and PC# 2016-3090 remains open. The VDEQ mandated that a SCS be conducted to address the open PC#. The SITE was also entered into the VRP in 2016 and was assigned VRP number 00673. The SITE was entered into the VRP to address non-petroleum impacts, not typically addressed through the PSTP. The SCS required to address VRP and PSTP mandates and requirements and additional assessment activities requested to address City concerns were conducted simultaneously, with the findings presented in this SCR.

5.0 SOIL, GROUNDWATER, AND SOIL GAS ASSESSMENT

This section details the soil, groundwater, and soil gas assessment activities conducted to date at the SITE by ICOR and others. The assessment activities conducted to date include advancement of direct-sensing tooling to obtain real-time soil and groundwater data; advancement of test

borings; installation of temporary and permanent groundwater monitoring wells; installation of soil gas sampling points; and collection of soil, groundwater, and soil gas samples for field screening and laboratory analysis. The most recent assessment activities were conducted as proposed in the SCS WP and SCS WP Addendum and were conducted under the direct supervision of a Commonwealth of Virginia Certified Professional Geologist. Photo-documentation of the recent assessment activities conducted by ICOR (between 2013 and 2016) is included as Attachment 2.

5.1 Delineation Using Real-Time Tooling

Numerous test borings have been advanced at the SITE over the years to assess soil and groundwater quality. To further delineate the horizontal and vertical extent of petroleum and VOC impacts to soil and groundwater and to better "target" soil and groundwater zones for collection of additional laboratory samples, direct-sensing tooling was advanced at 22 locations at the SITE (designated MiHpt-1 through MiHpt-22). The direct-sensing testing locations are depicted on Figure 4.

The tooling was advanced using a direct-push sampling rig and was used to collect soil and groundwater data for analysis in real-time. The tooling was advanced through holes cored in the concrete building slabs and parking lots. The tooling included a Membrane Interface Probe (MIP) and Hydraulic Profiling Tool (Hpt) system (combined referred to as MiHpt). The MIP was equipped with three different detectors. Soil and groundwater quality data collected with the MIPs tooling and analyzed in real-time included photo-ionization detector (PID), flame-ionization detector (FID), and electron captor detector (ECD) readings. The PID and FID are used to detect petroleum and VOC constituents and the ECD is used to detect chlorinated solvents. Higher PID, FID, and ECD readings generally correlate with more elevated constituent concentrations.

Potential constituent migration pathways collected with the Hpt tooling and analyzed in real-time included electrical conductivity (EC) and hydraulic conductivity (HC). EC data is used to determine soil type, with lower EC values associated with larger grain soils (sands and gravels) and higher EC values characteristic of finer grained soils (fine sand, silt, and clay). HC data is used to determine flow rate through soil and permeability of soil. The Hpt was used to evaluate potential constituent migration pathways by determining lithology and permeability.

The tooling and associated analytical software was provided by Columbia Technologies, Inc. (CTI). The data was reviewed in the field by an experienced CTI geochemist and downloaded as collected into a project database for review by the project team. Several of the borings were advanced adjacent to previous boring locations (ICOR-SB7, ICOR-SB8, and ICOR-SB10) to calibrate the equipment to available lithology and analytical data.

The tooling was advanced to refusal or minimum depth of 25 feet below grade. At locations where impacts of note were observed, the tooling was advanced deeper to fully delineate the vertical extent of impacts. As requested by the VDEQ, attempts were made to advance several of the MiHpt borings to a depth corresponding to the top of the marine clay (present at a depth of 40 feet below grade or deeper); however, a depth deep enough to encounter the marine clay was

only achieved at testing locations MiHpt-8, MiHpt-9, and MiHpt-11. Refusal of the tooling was experienced at the remaining five locations where this was attempted (MiHpt-5, MiHpt-13, MiHpt-15, MiHpt-16, and MiHpt-22). Test boring depths and observations noted during test boring advancement are summarized on Table 1.

A Laser Induced Fluorescence tool was also readily available during the real-time investigation to delineate petroleum free product if it was suspected during advancement of the MiHpt borings; however, no indications of free product was noted.

All reusable direct-push and downhole equipment that came into direct-contact with soil was constructed of steel and was properly decontaminated between boring locations. Wastes generated during advancement and decontamination of the tooling was contained in 55-gallon drums pending proper disposal.

At the conclusion of advancement, each borehole was properly abandoned by tremmie grouting from the bottom of boring to surface. The vertical elevation and horizontal location of each boring was surveyed by a Commonwealth of Virginia-licensed surveyor.

5.2 Soil Sampling

To date, more than 60 test borings have been advanced at the SITE for environmental assessment and/or geotechnical purposes. The boring locations are depicted on Figure 4. Soil quality was assessed through the collection of samples for visual inspection, field screening, and laboratory analysis and targeted soil in areas where impacts would most-likely be expected based on past and current SITE use and past adjacent and nearby property use. More than 100 soil samples were collected for laboratory analysis during advancement of the borings. Some of the most-recent samples collected for laboratory analysis targeted soil zones deemed impacted and worthy of further assessment based on the findings of the real-time delineation. A comprehensive list of the test borings, general test boring information, observations made during advancement, and types of samples collected is provided on Table 1.

The vast majority of the test borings were advanced using a direct-push sampling rig. The deeper borings advanced during the geotechnical investigations performed by ECS were advanced using a mobile drill rig fitted with hollow stem augers (HSAs). Test borings advanced by ICOR between 2013 and 2016 were advanced using a direct-push sampling rig and were advanced until the soil/groundwater interface (groundwater table) was encountered or refusal of the sampling equipment was experienced. The groundwater table was encountered at all test boring locations at depths ranging from approximately 5 to 10 feet below grade.

Soil samples were collected continuously during advancement of the TEC and ICOR test borings using acetate-lined barrel samplers. Soil samples were collected at 5 foot intervals during advancement of the ECS test borings. The soil samples were collected for lithologic characterization, visual inspection, field screening, and potential laboratory analysis. In general, bag samples were collected at 2 foot intervals from the soil cores for screening in the field with a PID. Field screening was performed to check for the presence of volatile organic vapors. Observations and field screening readings were recorded on boring logs. Copies of the boring

logs are included in Attachment 1. Observations of note such as odors and field screening readings are also summarized on Table 1.

Soil samples were collected for laboratory analysis from the surface (upper 1.5 feet of soil underlying bare site surface, concrete floor slabs, or pavement) and subsurface. The samples were collected from soil intervals exhibiting the highest degree of impact and depths suspected of being impacted based on the findings of the real-time assessment. The samples were also collected to provide good spatial coverage of the SITE and to delineate the vertical extent of impacts. All of ICOR's samples were grab samples. Each sample represented an approximately 1 foot interval of soil. The TEC samples are also believed to have been grab samples. Some of ECS's samples and samples collected by ICOR during ECS's most-recent geotechnical investigation are considered composite samples based on the large sample interval.

The samples collected by TEC and ECS were analyzed for some or all of the following: TPH-GRO, TPH-DRO, VOCs, pesticides, herbicides, PCBs, and metals. Samples collected by ICOR were analyzed for some or all of the following: TPH-GRO and TPH-DRO using EPA Method 8015C, Target Compound List (TCL) VOCs using EPA Method 8260B (with the most-recent samples collected in 2016 using TerraCore® samplers), TCL SVOCs using EPA Method 8270C, PCBs using EPA Method 8082, pesticides using EPA Method 8081B, herbicides using EPA Method 8151A, 2,3,7,8-TCDD using EPA Method 8290A, and Resource Conservation and Recovery Act (RCRA) or Priority Pollutant List (PPL) metals using EPA Method 6020A. Based on the type and concentration of metals detected, some of the samples were additionally analyzed for Toxic Characteristic Leaching Procedure (TCLP) RCRA metals using EPA Method 301A/6020A and chromium VI using EPA Method 7196A. A list of sampling depths and type of analysis performed on each sample are summarized on Table 1.

All direct-push equipment that came into direct-contact with soil was constructed of steel and was properly decontaminated between boring locations. Decontamination water generated during decontamination of the tooling was contained in 55-gallon drums and will be properly disposed.

Soil generated during advancement of the test borings prior to 2016 was used to backfill their respective borings at the conclusion of sampling. Soil generated during advancement of the 2016 borings, was placed in 55-gallon drums pending proper disposal. The 2016 boreholes were properly abandoned by tremmie grouting from the bottom of boring to surface. The vertical elevation and horizontal location of each boring was surveyed by a Commonwealth of Virginia-licensed surveyor.

5.3 Groundwater Sampling

Between April 2006 and September 2016, 8 temporary groundwater monitoring wells (installed at test boring locations ICOR-SB1, ICOR-SB5 through ICOR-SB9, and ICOR-SB12) and 17 permanent groundwater monitoring wells (designated TEC-MW1 through TEC-MW7, ECS-MW2, ECS-MW4, MiHpt-5, MiHpt-7, MiHpt-8, MiHpt-14, MiHpt-15, MiHpt-20, MiHpt-21, and MiHpt-22) were installed at the SITE. In addition, "deep" groundwater samples were collected from five locations (MiHpt-8, MiHpt-10, MiHpt-14, MiHpt-21, and MiHpt-22) using a

Screen Point sampler in 2016. The well locations were selected to assess areas where impacts would most-likely be expected based on past and current SITE use and past adjacent and nearby property use, provide good spatial coverage of the SITE, and target locations and zones deemed impacted and worthy of further assessment based on the findings of the real-time delineation. The well and deep groundwater sampling locations are depicted on Figure 4. Well construction information for the wells and Screen Points is provided on Table 2. Boring logs for the wells and Screen Points are included in Attachment 2.

Temporary Monitoring Well Construction and Sampling

The temporary wells installed in 2013 by ICOR were installed in boreholes advanced with a direct-push sampling rig. The wells were constructed of new, dedicated, and disposable 1-inch inner diameter (ID) polyvinyl chloride (PVC) well screens and casings. A 10-foot length of screen was used during the construction of the temporary wells. The well screen was positioned to straddle the soil/groundwater interface and was surrounded with sand filter pack.

Immediately after the wells were installed, they were developed and sampled. Prior to development and sampling, the groundwater level in each temporary well was allowed to stabilize and the depth to petroleum free product and groundwater was measured to the nearest 0.01 foot of the well's top of casing (TOC) using an electronic oil/water interface probe. The well measurements recorded are summarized on Table 3. Development and sampling was performed using a peristaltic pump fitted with new, dedicated, and disposable high-density polyethylene (HDPE) sample tubing. The sample tubing inlet was placed approximately 2 feet from the base of each well screen. Development consisted of purging a well until the purge water appeared relatively clear and free of suspended solids (based on a visual inspection). When the purge water appeared clear, a groundwater sample was collected. The groundwater samples were grab samples transferred directly from the discharge tubing to the sample containers. The samples were collected at a low flow rate (less than 250 milliliters per minute) to minimize agitation and aeration.

The groundwater samples were submitted to a qualified laboratory for analysis of some or all of the following: TPH-DRO and TPH-GRO using EPA Method 8015, TCL VOCs using EPA Method 8260B, TCL SVOCs using EPA Method 8270C, and total and dissolved PPL metals using EPA Method 6020A. Samples collected for dissolved metals analysis were filtered in the field. The type of analysis performed on each sample is summarized on Table 1.

All purge water generated during sampling was stored in a 55-gallon drum and was properly disposed. The temporary wells were removed shortly after groundwater samples were collected and the associated boreholes were backfilled to grade with their respective cuttings and bentonite.

Permanent Monitoring Well Construction and Sampling

The permanent wells installed by TEC in 2006 and ICOR in 2016 were installed in boreholes advanced with a direct-push sampling rig. The ECS wells were installed using a mobile drill rig fitted with HSAs. The TEC and ICOR wells were constructed of new, 1-inch ID PVC well screen and casing. A 10-foot length of well screen was used during the construction of the ICOR wells. The well screen was positioned to straddle the soil/groundwater interface and was

surrounded with sand filter pack. The filter pack was overlain with 2 feet of hydrated bentonite chips and the remaining void was backfilled with grout. The length of screen used and well construction details for the TEC and ECS wells is unknown. The TEC and ECS wells were completed with well caps and flush-mount manhole covers anchored in concrete pads. The ICOR wells were completed with well caps.

All wells installed by ICOR were properly developed before sampling. Development consisted of purging a well until the purge water appeared relatively clear and free of suspended solids (based on a visual inspection). Groundwater samples were collected for laboratory analysis from each permanent well on at least two occasions with the exception of some of the TEC wells. Two of the TEC wells, TEC-MW6 and TEC-MW-7, could not be located and may have been destroyed or covered with gravel during parking lot improvements.

Sampling conducted by ICOR was performed using a peristaltic pump fitted with new, dedicated, and disposable HDPE tubing. Before sampling each well, the depth to petroleum free product and groundwater was measured to the nearest 0.01 foot from the well's TOC using an oil/water interface probe. The well measurements recorded before sampling the wells are summarized on Table 2. The sample tubing inlet was placed at a depth corresponding to the center of each monitoring well's submerged screen interval. The samples were collected at a low flow rate (less than 250 milliliters per minute) to minimize agitation and aeration. Sampling was conducted in accordance with low-flow purging and sampling protocols recommended by the EPA.

The groundwater samples were collected after field parameters stabilized during purging. The following field parameters were monitored during purging: temperature, pH, specific conductivity, dissolved oxygen (DO), oxygen reduction potential (ORP), and turbidity. All of these parameters were measured using a multi-meter and low volume flow cell. Purging was considered complete when temperature, pH, specific conductivity, DO, ORP, and turbidity readings (an acceptable EPA, subset of parameters) stabilized for a minimum of three consecutive readings. It should be noted that several of the wells went dry during sampling. Samples were collected from wells that went dry after they were allowed to recharge.

The samples were transferred to appropriate sample containers directly from the discharge tubing and were grab samples. The shallow groundwater samples collected by TEC and ECS were analyzed for some or all of the following: TPH-GRO, TPH-DRO, BTEX, MTBE, naphthalene, VOCs, SVOCs, and metals. The shallow groundwater samples collected by ICOR were analyzed for some or all of the following: TPH-GRO and TPH-DRO using EPA Method 8015C, TCL VOCs using EPA Method 8260B, TCL SVOCs using EPA Method 8270C, PCBs using EPA Method 8082, pesticides using EPA Method 8081B, herbicides using EPA Method 8151A, and PPL metals using EPA Method 6020A. A type of analysis performed on each sample is provided on Table 1.

The water level meter and multi-meter were properly decontaminated between well locations. All purge water generated during development and sampling was stored in 55-gallon drums pending proper disposal.

The relative elevations of the permanent wells TOCs were surveyed by a Commonwealth of Virginia-licensed surveyor. The elevations are presented on Tables 1 and 2.

Deep Groundwater (Screen Point) Sampling

Deep groundwater samples were collected for laboratory analysis using a Screen Point sampler advanced to the target depth using a direct-push sampling rig. The Screen Point sampler is an approximately 3.5-foot stainless steel screen that is deployed (exposed) when the target depth is achieved. The Screen Points are reusable and were properly decontaminated between sampling locations.

Immediately after the Screen Points were installed, they were developed and sampled. Development and sampling was performed using a peristaltic pump fitted with new, dedicated, and disposable HDPE sample tubing. The sample tubing inlet was placed at the approximate center of the Screen Point. Development consisted of purging a Screen Point until the purge water appeared relatively clear and free of suspended solids (based on a visual inspection) or Screen Point went dry. When the purge water appeared clear or Screen Point went dry, a groundwater sample was collected. The groundwater samples were grab samples transferred directly from the discharge tubing to the sample containers. The samples were collected at a low flow rate (less than 100 milliliters per minute) to minimize agitation and aeration.

The deep groundwater samples were analyzed for analysis of some or all of the following: TPH-DRO and TPH-GRO using EPA Method 8015, TCL VOCs using EPA Method 8260B, TCL SVOCs using EPA Method 8270C, and TPH and oil and grease (O&G) using EPA Method 1664A. TPH and O&G analysis by EPA Method 1664A was performed to determine if the TPH detected may be attributable to naturally occurring plant and animal fats in soil and groundwater. A list of sampling depths and type of analysis for each deep sample are provided on Table 1.

All purge water generated during sampling was stored in a 55-gallon drum pending proper disposal. The Screen Points were removed shortly after groundwater samples were collected and the associated boreholes were properly abandoned by tremmie grouting from the bottom of boring to surface.

5.4 Soil Gas Sampling

To assess soil gas quality, ICOR collected four sub-slab soil gas samples from the 500 Parcel (designated SSG-1 through SSG-4) and four deep soil gas samples from the 501 Parcel (designated DSG-1 through DSG-4). The soil gas sampling locations are depicted on Figure 4. The samples were collected in December 2016. The soil gas samples were biased to locations where the highest degree of VOC impact was noted during the real-time tooling assessment and follow-up soil and groundwater sampling. Sub-slab sampling was selected for the 500 Parcel because the development of this parcel at the time of sampling was anticipated to be slab-on-grade construction. Current development plans for this parcel anticipate one level of subsurface parking. The type of soil gas sampling performed is not expected to have much bearing on the findings since the water table at this parcel and SITE in general is relatively shallow (ranges from approximately 5 to 10 feet below grade). Sampling protocols were consistent with those recommended in VRP guidance documents.

Sub-Slab Soil Gas Sampling
The sub-slab soil gas samples were collected directly under the existing warehouse building concrete floor slab. Each sample was collected from a Vapor Pin® installed within a 3/4-inch diameter corehole drilled through the concrete floor slab. A Vapor Pin® is a reusable stainless steel vapor point surrounded by new, dedicated, and disposable silicone tubing that is driven into a corehole. The silicone tubing provides an air-tight seal with the concrete. Each point was purged after installation and soil gas samples were collected from the points after an equilibration period of more than 24 hours. The soil gas samples were collected in Summa canisters over an 8-hour time period. The canisters were provided by a VDEQ-certified laboratory. The canisters were connected to the sampling points by new, dedicated, and disposable HDPE tubing. The sub-slab soil gas samples were analyzed for VOCs using EPA Method TO-15.

At the conclusion of sampling, each Vapor Pin® was removed and the resulting coreholes were restored with concrete sealer.

Deep Soil Gas Sampling
The deep soil gas samples were collected at depths ranging from 2 to 6.5 feet below grade (at depths corresponding to approximately 1 foot above the soil/groundwater interface or "wet" soil zones). The samples were collected from vapor points installed using a direct-push sampling rig. The vapor points consisted of new 0.5-foot stainless steel GeoProbe® soil gas sampling probes attached to new HDPE tubing lowered through borehole or rods to approximately 6-inches from the bottom of the borehole. The probe was surrounded by approximately 1.5 feet of sand filter pack (which included approximately 6-inches of filter pack above and below the probe). The remaining open borehole was backfilled with hydrated granular bentonite (approximately 1 foot) and bentonite grout to grade. The tubing inlet was fitted with a new cap.

Each point was purged after installation and soil gas samples were collected from the points after an equilibration period of more than 24 hours. The soil gas samples were collected in Summa canisters over an 8-hour time period. The canisters were provided by a VDEQ-certified laboratory. The canisters were connected to directly to the sample point tubing. The deep soil gas samples were analyzed for VOCs using EPA Method TO15.

At the conclusion of deep soil gas sampling, the tubing was fitted with a cap and left in place for future sampling should it be required.

6.0 SITE GEOLOGY AND HYDROGEOLOGY

Topography at SITE is relatively flat and the elevation of the SITE is approximately 9 feet above mean sea level. The closest surface water body to the SITE is the Potomac River which bounds the SITE to the east and northeast. SITE and area topography and the location of the above-referenced surface water body are depicted on Figure 1.

The SITE is located within the Atlantic Coastal Plain (ACP) physiographic province. The ACP physiographic province is characterized by a series of south-easterly dipping layers of relatively

consolidated sandy clay deposits, with lesser amounts of gravel. The ACP sediments are estimated to be approximately 250 feet thick and are underlain by the eastward continuation of crystalline bedrock of the Piedmont physiographic province. Portions of the SITE are underlain by Quaternary Age river terrace deposits, Cretaceous Age deposits of the Potomac Group, and fill. The Potomac Group deposits consist of interbedded layers of sand, silt, clay, and gravel.

Based on observations made during the historical and recent assessments, the upper 4 to 15 feet of the SITE is underlain by fill. The fill varied in composition, with sand, silt, clay, brick, asphalt, organics, wood, and gravel noted. Beneath the fill materials, alluvial soil characterized by interbedded and alternating layers of sand, silty sand, and sandy gravel with varying amounts of clay were encountered to a depth ranging from 45 to 55 feet below grade. Beneath the alluvial soil, marine clay of the Potomac Group was encountered and extended to the maximum explored depth of 80 feet below grade. The encountered soil was consistent with regional geology. Geologic information is summarized on boring logs included as Attachment 3. Geologic cross-sections generated from the boring logs are included as Figures 5-8.

Based on groundwater measurements obtained from monitoring wells and findings of historical studies, the depth to groundwater at the SITE ranges from approximately 5 to 10.5 feet below grade and groundwater flow is to the east-northeast towards the Potomac River. The Potomac River is tidally influenced; however, data collected during a past study did not suggest that tidal change has a significant effect of groundwater flow. Historical groundwater measurements obtained from the site wells are summarized on Table 3. Groundwater contours generated from the two most-recent groundwater sampling events (2016 and 2017) are depicted on Figure 14. It should be noted that a semi-confined, lower water-bearing zone was encountered beneath the 500 Parcel.

Groundwater is not currently used and is not proposed for use in the future as a potable drinking water or irrigation water supply at the SITE. Based on ICOR's past experience, groundwater in the City is not used or approved for use as a potable or irrigation water supply. Potable drinking water is provided to the SITE and surrounding area by the City. The City's potable water sources are surface water reservoirs.

7.0 SOIL, GROUNDWATER, AND SOIL GAS QUALITY

Soil, groundwater, and soil gas quality were assessed at the SITE through the collection of samples for visual inspection, field screening, and laboratory analysis and comparison of the analytical results to applicable VDEQ screening levels. The assessment activities conducted to date include advancement of direct-sensing tooling at 22 locations to obtain real-time soil and groundwater data, advancement of more than 60 test borings, installation of 8 temporary and 17 permanent groundwater monitoring wells, and installation of 4 sub-slab and 4 deep soil gas sampling points. The test boring, well, and soil gas sampling point locations are depicted on Figure 4. More than 100 soil, 48 groundwater, and 8 soil gas samples have been collected for laboratory analysis.

7.1 Real-Time Delineation

Direct-sensing tooling was advanced at 22 locations at the SITE (designated MiHpt-1 through MiHpt-22) to delineate the horizontal and vertical extent of petroleum and VOC impacts to soil and groundwater and to better "target" soil and groundwater zones for collection of additional laboratory samples. The tooling was advanced to depths ranging from 13 to 50 feet below grade, with refusal experienced at most locations.

The MiHpt was successfully used to identify soil and groundwater zones of concern, horizontally and vertically delineate soil and groundwater impacts, and identify lithology type and water-bearing zones. The findings of the real-time assessment are summarized in a report prepared by CTI included as Attachment 4. The MIPs data obtained during advancement of the tooling is provided on Table 1.

Profiles generated from the collected data are presented in the CTI report included as Attachment 4. Notable findings of the real-time assessment are summarized below.

- A clay unit, believed to be the marine clay of the Potomac Group, was encountered at depths ranging approximately 37 to 44 feet below grade.
- Good water-bearing zones were generally noted in the upper 25 feet of the site surface.
- Elevated PID readings were noted at testing locations MiHpt-7 (from 6.5-9 feet below grade), MiHpt-21 (from 7-11 feet below grade), and MiHpt-22 (from 5-5.5 and 8-30 feet below grade).
- Elevated FID readings suggesting the potential presence of petroleum-related VOCs were noted at testing locations MiHpt-6 (from 14.5-14.8 feet below grade), MiHpt-7 (from 6.5-9 and 10-11 feet below grade), MiHpt-8 (from 4-5, 7-7.25, 14-17, and 22-42 feet below grade), MiHpt-9 (from 20.5-35 feet below grade), Elevated PID and FID readings were noted at testing locations MiHpt-6 (from 14.5-14.8 feet below grade), MiHpt-7 (from 6.5-11 feet below grade), MiHpt-8 (from 4-7.25, 14-17, and 22-42 feet below grade), MiHpt-10 (from 10.5-11.5 and 23-26 feet below grade), MiHpt-13 (from 3-14 feet below grade), MiHpt-14 (from 10-16 feet below grade), MiHpt-18 (from 23-23.5 feet below grade), MiHpt-21 (from 7-11 feet below grade), and MiHpt-22 (from 5-5.5 and 8-30 feet below grade).
- Elevated ECD readings suggesting the potential presence of chlorinated solvent-type VOCs were noted at testing locations MiHpt-13 (from 3-22 feet below grade), MiHpt-14 (from 4-9 feet below grade), MiHpt-15 (from 13-25 feet below grade), and MiHpt-21 (from 7-10 feet below grade).

The data collected during the real-time assessment was used to select test boring and well locations, sample depths, and types of analysis.

7.2 Soil Quality

Based on field observations, the upper 4 to 15 feet of the SITE is underlain by fill comprised of some or all of the following: sand, silt, clay, brick, asphalt, organics, wood, and gravel. Beneath the fill materials, alluvial soil characterized by interbedded and alternating layers of sand, silty

sand, and sandy gravel with varying amounts of clay were encountered to a depth ranging from 45 to 55 feet below grade. Beneath the alluvial soil, marine clay of the Potomac Group was encountered and extended to the maximum explored depth of 80 feet below grade. Geologic information is summarized on boring logs included as Attachment 3. Geologic cross-sections generated from the boring logs are included as Figures 5 through 8.

Strong to faint petroleum and chemical odors and/or elevated PID readings were noted during advancement of test borings TEC-B6 (6.6-7.6 feet below grade), TEC-B9 (12-14 feet below grade), ICOR-SB2 (3-10 feet below grade), ICOR-SB3 (10-12 feet below grade), ICOR-SB6 (12-15 feet below grade), ICOR-SB7 (5-15 feet below grade), ICOR-SB8 (1-15 feet below grade), ICOR-SB9 (2-6 feet below grade), ICOR-SB7 (2.5-7 feet below grade), MiHpt-7 (5-8 feet below grade), MiHpt-8 (11.5-12 feet below grade), MiHpt-13 (4-5 feet below grade), MiHpt-19 (1-5 feet below grade), MiHpt-20 (13.5-15 feet below grade), MiHpt-21 (5-10 feet below grade), and MiHpt-22 (7-28.5 feet below grade). Observations made during advancement of the test borings is summarized on Table 1. Soil samples collected from the SITE were analyzed for some or all of the following analysis: TPH-GRO, TPH-DRO, TPH, O&G, TCL VOCs, TCL SVOCs, PCBs, pesticides, herbicides, the dioxin 2,3,7,8-TCDD, and RCRA and PPL metals. Based on the type and concentration of metals detected, some of the samples were additionally analyzed for TCLP RCRA metals and chromium VI. A list of sampling depths and type of analysis performed on each sample are provided on Table 1.

The soil analytical results are summarized on Tables 4A, 5A, 6A, 6B, and 6C. Copies of the laboratory reports of analysis for the ICOR samples collected in 2016 are included in Attachment 5. The soil analytical results were compared to the most-current VDEQ Tier II screening concentrations for unrestricted (residential) land use (VDEQ-T2SCRs) and VDEQ Tier III screening concentrations for restricted (commercial/industrial) land use (VDEQ-T3SCCs). TPH concentrations were compared to VDEQ petroleum saturated soil standards (VDEQ-PSSSs). It should be noted that VDEQ screening levels have not been developed for many of the target constituents detected.

TPH-GRO, TPH-DRO, 10 VOCs, 17 SVOCs, 1 PCB, 3 pesticides, 1 herbicides, 2,3,7,8-TCDD, and 12 metals were detected in the soil samples at concentrations above the analytical method reporting limit (RL). Four VOCs, 8 SVOCs, 2,3,7,8-TCDD, and 11 metals were detected at concentrations above VDEQ screening levels. Detections above VDEQ screening levels were noted in both surface and subsurface soil. No detections of TPH-GRO and TPH-DRO above VDEQ-PSSSs were noted. A list of the constituents detected above screening levels is detailed below.

Constituents Detected Above VDEQ-T2SCRs

- **Benzene** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B3 (from 8.5-10 feet below grade), ECS-B6 (from 5-6.5 feet below grade), ECS-B7 (from 5-6 feet below grade), MiHpt-10 (from 24.5-25.5 feet below grade), and MiHpt-22 (from 19-20 feet below grade).
- **Cyclohexane** detected above VDEQ-T2SCRs in the soil sample collected from test boring MiHpt-21 (from 9-10 feet below grade).

- **Naphthalene** (as a VOC and/or SVOC) detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B1 (from 2.5-4 and 8.5-10 feet below grade), ECS-B2 (from 13.5-15 feet below grade), ECS-B3 (from 13.5-15 feet below grade), ECS-B4 (from 13.5-15 and 23.5-25 feet below grade), ECS-B5 (from 33.5-35 feet below grade), ECS-B6 (from 18.5-20 feet below grade), ECS-B7 (from 5-6 feet below grade), MiHpt-10 (from 24.5-25.5 feet below grade), and MiHpt-22 (from 19-20 feet below grade).
- **Tetracholoroethene (PCE)** detected above VDEQ-T2SCRs in the soil samples collected from test boring MiHpt-21 (from 9-10 feet below grade).
- **Xylenes** detected above VDEQ-T2SCRs in soil samples collected from test boring MiHpt-21 (from 9-10 feet below grade) and MiHpt-22 (from 19-20 feet below grade).
- **Benzo(a)anthracene** detected above VDEQ-T2SCRs in the soil sample collected from test boring MiHpt-10 (from 24.5-25.5 feet below grade).
- **Benzo(a)pyrene** detected above VDEQ-T2SCRs in the soil sample collected from test boring MiHpt-10 (from 24.5-25.5 feet below grade).
- **Benzo(b)fluoranthene** detected above VDEQ-T2SCRs in the soil sample collected from test boring MiHpt-10 (from 24.5-25.5 feet below grade).
- **Dibenz(a,h)anthracene** detected above VDEQ-T2SCRs in the soil sample collected from test boring MiHpt-10 (from 24.5-25.5 feet below grade).
- **Dibenzofuran** detected above VDEQ-T2SCRs in the soil sample collected from test boring MiHpt-10 (from 24.5-25.5 feet below grade).
- **Indeno(1,2,3-c,d)pyrene** detected above VDEQ-T2SCRs in the soil sample collected from test boring MiHpt-10 (from 24.5-25.5 feet below grade).
- **Antimony** detected above VDEQ-T2SCRs in soil samples collected from test boring ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 feet below grade), MiHpt-17 (from 1-2 feet below grade), and MiHpt-20 (from 1.5-2.5 feet below grade).
- **Arsenic** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B1 (from 1-2.5 feet below grade), ECS-B2 (from 5-6.5 feet below grade), ECS-B5 (from 5-6.5 feet below grade), ECS-B6 (from 23.5-25 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ECS-B9 (from 2.5-10 feet below grade), ECS-B10 (from 4-10 feet below grade), ECS-B11 (from 5-10 feet below grade), ECS-B12 (from 5-10 feet below grade), ICOR-SB1 (from 1-2 and 4-6 feet below grade), ICOR-SB2 (from 3-4 feet below grade), ICOR-SB5 (from 6-7 feet below grade), ICOR-SB7 (from 7.5-8.5 feet below grade), ICOR-SB8 (from 2-3 and 7.5-8.5 feet below grade), ICOR-SB9 (from 4.5-5.5 feet below grade), ICOR-SB10 (from 2-3 and 5.5-6.5 feet below grade), ICOR-SB11 (from 5.5-6.5 feet below grade), ICOR-SB12 (from 6-7 feet below grade), ICOR-SB13 (from 5.5-6.5 feet below grade), MiHpt-3 (from 4-5 feet below grade), MiHpt-4 (from 1-2 and 4-5 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-12 (from 1-2 feet below grade), MiHpt-13 (from 1-2 and 4-5 feet below grade), MiHpt-14 (from 1-2 and 4-5 feet below grade), MiHpt-15 (from 1-2 and 4-5 feet below grade), MiHpt-16 (from 8-9 feet below grade), MiHpt-17 (from 1-2 and 4-5 feet below grade), MiHpt-18 (from 1-2 feet below grade), MiHpt-19 (from 1-2 and 4-5 feet below grade), MiHpt-20 (from 1.5-2.5 and 4-5 feet below grade), MiHpt-21 (from 4.5-5.5 feet below grade), and MiHpt-22 (from 1-2 and 4.5-5.5 feet below grade).
- **Cadmium** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B2 (from 5-6.5 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade),

ECS-B8 (from 2.5-4 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 feet below grade), and MiHpt-17 (from 1-2 feet below grade).

- **Chromium** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B1 (from 1-2.5 feet below grade), ECS-B2 (from 5-6.5 feet below grade), ECS-B5 (from 5-6.5 feet below grade), ECS-B6 (from 23.5-25 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ECS-B9 (from 2.5-10 feet below grade), ECS-B10 (from 4-10 feet below grade), ECS-B11 (from 5-10 feet below grade), ECS-B12 (from 5-10 feet below grade), ICOR-SB2 (from 3-4 feet below grade), ICOR-SB6 (from 2-2 feet below grade), ICOR-SB7 (from 7.5-8.5 feet below grade), ICOR-SB8 (from 2-3 and 7.5-8.5 feet below grade), ICOR-SB9 (from 4.5-5.5 feet below grade), ICOR-SB10 (from 2-3 and 5.5-6.5 feet below grade), ICOR-SB11 (from 5.5-6.5 feet below grade), ICOR-SB12 (from 6-7 feet below grade), ICOR-SB13 (from 5.5-6.5 feet below grade), MiHpt-3 (from 1-2 feet below grade), MiHpt-4 (from 1-2 feet below grade), MiHpt-6 (from 1-2 and 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 feet below grade), MiHpt-15 (from 1-2 feet below grade), MiHpt-17 (from 1-2 feet below grade), MiHpt-20 (from 1.5-2.5 feet below grade), and MiHpt-22 (from 1-2 feet below grade).
- **Copper** detected above VDEQ-T2SCRs in soil samples collected from test boring ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 and 4-5 feet below grade), MiHpt-17 (from 1-2 feet below grade), and MiHpt-20 (from 1.5-2.5 feet below grade).
- **Lead** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B2 (from 5-6.5 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ECS-B11 (from 5-10 feet below grade), ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 and 4-5 feet below grade), MiHpt-17 (from 1-2 feet below grade), and MiHpt-20 (from 1.5-2.5 feet below grade).
- **Mercury** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B2 (from 5-6.5 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ICOR-SB10 (from 2-3 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 and 4-5 feet below grade), MiHpt-17 (from 1-2 feet below grade), and MiHpt-20 (from 1.5-2.5 feet below grade).
- **Selenium** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B2 (from 5-6.5 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), and MiHpt-17 (from 1-2 feet below grade).
- **Silver** detected above VDEQ-T2SCRs in soil samples collected from test boring ECS-B2 (from 5-6.5 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ECS-B11 (from 5-10 feet below grade), ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 feet below grade), MiHpt-17 (from 1-2 feet below grade), and MiHpt-20 (from 1.5-2.5 feet below grade).
- **Thallium** detected above VDEQ-T2SCRs in soil samples collected from test boring ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), and MiHpt-14 (from 1-2 feet below grade).

- **Zinc** detected above VDEQ-T2SCRs in soil samples collected from test boring ICOR-SB6 (from 2-2 feet below grade), ICOR-SB10 (from 2-3 and 5.5-6.5 feet below grade), ICOR-SB12 (from 6-7 feet below grade), ICOR-SB13 (from 5.5-6.5 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 feet below grade), MiHpt-17 (from 1-2 feet below grade), and MiHpt-20 (from 1.5-2.5 feet below grade).

Constituents Detected Above VDEQ-T3SCCs

- **Benzo(a)pyrene** detected above VDEQ-T3SCCs in the soil sample collected from test boring MiHpt-10 (from 24.5-25.5 feet below grade).
- **2,3,7,8-TCDD** detected above VDEQ-T3SCCs in the soil sample collected from test boring MiHpt-19 (from 24.5-25.5 feet below grade).
- **Arsenic** detected above VDEQ-T3SCCs in soil samples collected from test boring ECS-B1 (from 1-2.5 feet below grade), ECS-B7 (from 1-2 and 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ECS-B11 (from 5-10 feet below grade), ICOR-SB7 (from 7.5-8.5 feet below grade), ICOR-SB8 (from 2-3 feet below grade), ICOR-SB10 (from 2-3 and 5.5-6.5 feet below grade), MiHpt-3 (from 4-5 feet below grade), MiHpt-4 (from 4-5 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-12 (from 1-2 feet below grade), MiHpt-13 (from 1-2 and 4-5 feet below grade), MiHpt-14 (from 1-2 and 4-5 feet below grade), MiHpt-15 (from 4-5 feet below grade), MiHpt-17 (from 1-2 feet below grade), MiHpt-19 (from 1-2 and 4-5 feet below grade), and MiHpt-22 (from 1-2 and 4.5-5.5 feet below grade).
- **Chromium** detected above VDEQ-T3SCCs in soil samples collected from test boring ECS-B1 (from 1-2.5 feet below grade), ECS-B2 (from 5-6.5 feet below grade), ECS-B5 (from 5-6.5 feet below grade), and ECS-B6 (from 23.5-25 feet below grade).
- **Copper** detected above VDEQ-T3SCCs in soil samples collected from test boring MiHpt-13 (from 1-2 feet below grade) and MiHpt-17 (from 1-2 feet below grade).
- **Lead** detected above VDEQ-T3SCCs in soil samples collected from test boring ECS-B7 (from 2.5-10 feet below grade), ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), and MiHpt-17 (from 1-2 feet below grade).
- **Mercury** detected above VDEQ-T3SCCs in soil samples collected from test boring ECS-B7 (from 2.5-10 feet below grade), ECS-B8 (from 2.5-4 feet below grade), ICOR-SB10 (from 2-3 feet below grade), MiHpt-13 (from 1-2 feet below grade), MiHpt-14 (from 1-2 and 4-5 feet below grade), and MiHpt-17 (from 1-2 feet below grade).
- **Thallium** detected above VDEQ-T3SCCs in soil samples collected from test boring ICOR-SB10 (from 2-3 feet below grade), MiHpt-6 (from 4-5 feet below grade), MiHpt-13 (from 1-2 feet below grade), and MiHpt-14 (from 1-2 feet below grade).

Two samples with elevated concentrations of RCRA metals were also analyzed for TCLP RCRA metals to evaluate the leachability of the metals and disposal characteristics. One of the samples that contained elevated concentrations of chromium was also analyzed for chromium VI. Chromium VI was not detected in the sample; thus, the type of chromium present at the SITE is likely chromium III (the least hazardous type).

Isoconcentration maps prepared from historical soil analytical data for TPH-GRO, TPH-DRO, benzene, naphthalene, and arsenic are included as Figures 9 through 13. With the exception of arsenic, the maps provide maximum concentrations of constituents for three soil intervals, 0-5, 5-10, and 10-15 feet below grade. Since most of the arsenic samples were collected within the upper 5 feet of soil underlying the SITE, the arsenic isoconcentration map only shows the maximum concentration detected within this interval.

The most significant impacts appear to be associated with VOCs, SVOCs, and metals and extend from the surface into the shallow subsurface (upper 10-20 feet). The more elevated levels were observed on the western and southern portions of the SITE. The impacts may be associated with the past use of the SITE for bulk oil storage, fertilizer storage, coal storage, chemical mixing and manufacturing, and/or warehouse operations. These areas also correspond to the SITE property boundaries with the majority of the former bulk storage and Bogle chemical manufacturing facility (western property boundary) and ATGS's Oronoco Street outfall treatment system (southern property boundary). The aforementioned off-site properties of concern are hydraulically upgradient of the SITE and have documented soil and groundwater impacts, some of which are at a higher degree and extent then noted at the SITE (e.g., arsenic impacts along the western property boundary); thus, the off-site properties may be a source and/or contributor to impacts noted at the SITE.

7.3 Groundwater Quality

Groundwater is present beneath the SITE at depths ranging from approximately 5 to 10.5 feet below grade. Groundwater measurement data collected from the SITE is provided on Table 3. Groundwater contours prepared from groundwater measurements collected during the September 2016 and February 2017 groundwater sampling events indicate groundwater flow is to the east-northeast (towards the Potomac River). A groundwater contour map is included as Figure 14. Groundwater is not believed to be tidally influenced.

Petroleum odors were noted during collection of groundwater samples from wells MiHpt-5, MiHpt-7, MiHpt-14, MiHpt-15, MiHpt-20, MiHpt-21, and MiHpt-22. Odors were not observed in the deep groundwater samples. Shallow and deep groundwater samples collected from the SITE were analyzed for some or all of the following analysis: TPH-GRO, TPH-DRO, TPH, O&G, TCL VOCs, TCL SVOCs, PCBs, pesticides, herbicides, and total and dissolved PPL metals. The historical groundwater analytical results are summarized on Tables 4B, 5B, and 7A-7D. Copies of the laboratory reports of analysis for the 2016 and 2017 sampling events are included in Attachment 5. The type of analysis performed on each sample is summarized on Table 1.

The groundwater analytical results were compared to the most-current VDEQ Tier III screening levels for unrestricted (residential) land use inhalation of indoor air (VDEQ-T3RSLs), restricted (commercial/industrial) land use inhalation of indoor air (VDEQ-T3CSLs), and Tier III construction worker in a trench, groundwater contacted and not contacted (VDEQ-T3CWTs). The most-recent analytical results were also compared to VDEQ Water Quality Standards for fresh chronic and other surface waters (VDEQ-WQSFCs and VDEQ-WQSOSWs, respectively) and VDEQ general permit discharge standards for petroleum contaminated water (VDEQ-PDSs).

It should be noted that VDEQ groundwater and surface water screening levels have not been developed for many of the target constituents detected.

Shallow Groundwater

PCBs and pesticides were not detected above RLs in the shallow groundwater samples. TPH-GRO, TPH-DRO, 12 VOCs, 16 SVOCs, 3 herbicides, and 11 metals were detected in the shallow groundwater samples at concentrations above the RL. TPH-GRO, 11 VOCs, 4 SVOCs, and 9 metals were detected at concentrations above VDEQ groundwater and/or surface water screening levels. A list of the constituents detected above screening levels is detailed below.

Constituents Detected Above VDEQ-T3RSLs

- **Chloroform** detected above VDEQ-T3RSLs in a groundwater sample collected from permanent well MiHpt-15.
- **Cyclohexane** detected above VDEQ-T3RSLs in groundwater samples collected from the temporary well installed at boring ICOR-SB8 and permanent wells ECS-MW2 and MiHpt-21.
- **Ethylbenzene** detected above VDEQ-T3RSLs in groundwater samples collected from the temporary well installed at boring ICOR-SB8 and permanent wells ECS-MW2, MiHpt-7, and MiHpt-21.
- **Methylcyclohexane** detected above VDEQ-T3RSLs in groundwater samples collected from the temporary well installed at boring ICOR-SB8 and permanent wells ECS-MW2 and MiHpt-21.
- **Naphthalene** (as a VOC and SVOC) detected above VDEQ-T3RSLs in groundwater samples collected from the temporary wells installed at borings ICOR-SB5, ICOR-SB6, and ICOR-SB8 and permanent wells ECS-MW2, MiHpt-5, MiHpt-7, MiHpt-8, MiHpt-14, MiHpt-15, MiHpt-21, and MiHpt-22.
- **PCE** detected above VDEQ-T3RSLs in groundwater samples collected from permanent well MiHpt-21.
- **Tricholoroethene (TCE)** detected above VDEQ-T3RSLs in groundwater samples collected from permanent well MiHpt-21.
- **Xylenes** detected above VDEQ-T3RSLs in groundwater samples collected from permanent wells MiHpt-5, MiHpt-7, and MiHpt-21.
- **Biphenyl (Diphenyl)** detected above VDEQ-T3RSLs in groundwater samples collected from the temporary well installed at boring ICOR-SB9 and permanent well MiHpt-7.
- **Mercury** detected above VDEQ-T3RSLs in groundwater samples collected from the temporary wells installed at borings ICOR-SB1, ICOR-SB5, and ICOR-SB9 and permanent well ECS-MW2.

Constituents Detected Above VDEQ-T3CSLs

- **Chloroform** detected above VDEQ-T3CSLs in a groundwater sample collected from permanent well MiHpt-15.
- **Cyclohexane** detected above VDEQ-T3CSLs in groundwater samples collected from the temporary well installed at boring ICOR-SB8 and permanent wells ECS-MW2 and MiHpt-21.

- **Ethylbenzene** detected above VDEQ-T3CSLs in groundwater samples collected from the temporary well installed at boring ICOR-SB8 and permanent wells ECS-MW2, MiHpt-7, and MiHpt-21.
- **Methylcyclohexane** detected above VDEQ-T3CSLs in groundwater samples collected from the temporary well installed at boring ICOR-SB8 and permanent wells ECS-MW2 and MiHpt-21.
- **Naphthalene** (as a VOC and SVOC) detected above VDEQ-T3CSLs in groundwater samples collected from the temporary wells installed at borings ICOR-SB5, ICOR-SB6, and ICOR-SB8 and permanent wells ECS-MW2, MiHpt-5, MiHpt-7, MiHpt-8, MiHpt-14, MiHpt-15, MiHpt-21, and MiHpt-22.
- **PCE** detected above VDEQ-T3CSLs in groundwater samples collected from permanent well MiHpt-21.
- **TCE** detected above VDEQ-T3CSLs in groundwater samples collected from permanent well MiHpt-21.
- **Xylenes** detected above VDEQ-T3CSLs in groundwater samples collected from permanent well MiHpt-21.
- **Mercury** detected above VDEQ-T3CSLs in groundwater samples collected from the temporary wells installed at borings ICOR-SB1 and ICOR-SB9 and permanent well ECS-MW2.

Constituents Detected Above VDEQ-CWTs

- **Benzene** detected above VDEQ-CWTs in groundwater samples collected from the temporary wells installed at borings ICOR-SB5, ICOR-SB6, and ICOR-SB8 and permanent wells ECS-MW2, MiHpt-5, MiHpt-7, MiHpt-14, MiHpt-21, and MiHpt-22.
- **Chloroform** detected above VDEQ-CWTs in a groundwater sample collected from permanent well MiHpt-15.
- **Ethylbenzene** detected above VDEQ-CWTs in groundwater samples collected from the temporary well installed at borings ICOR-SB8 and permanent wells MiHpt-7 and MiHpt-21.
- **Methylcyclohexane** detected above VDEQ-CWTs in groundwater samples collected from permanent well MiHpt-21.
- **Naphthalene** (as a VOC and SVOC) detected above VDEQ-CWTs in groundwater samples collected from the temporary wells installed at borings ICOR-SB5, ICOR-SB6, ICOR-SB8, and ICOR-SB9 and permanent wells ECS-MW2, MiHpt-5, MiHpt-7, MiHpt-8, MiHpt-14, MiHpt-15, MiHpt-21, and MiHpt-22.
- **PCE** detected above VDEQ-CWTs in groundwater samples collected from permanent well MiHpt-21.
- **TCE** detected above VDEQ-CWTs in groundwater samples collected from permanent well MiHpt-21.
- **Xylenes** detected above VDEQ-CWTs in groundwater samples collected from permanent wells ECS-MW2 and MiHpt-21.
- **Biphenyl (Diphenyl)** detected above VDEQ-CWTs in groundwater samples collected from the temporary well installed at boring ICOR-SB9.
- **Cadmium** detected above VDEQ-CWTs in a groundwater sample collected from permanent well MiHpt-5.

- **Chromium** detected above VDEQ-CWTs in groundwater samples collected from the temporary wells installed at borings ICOR-SB5 and ICOR-SB6 and permanent wells ECS-MW2 and MiHpt-5.
- **Copper** detected above VDEQ-CWTs in groundwater samples collected from permanent well MiHpt-5.

Constituents Detected Above VDEQ-PDSs

- **TPH-GRO** detected above VDEQ-PDSs in a groundwater sample collected from permanent well MiHpt-21.
- **Benzene** detected above VDEQ-PDSs in groundwater samples collected from permanent wells MiHpt-5, MiHpt-7, MiHpt-14, MiHpt-20, MiHpt-21, and MiHpt-22.
- **Ethylbenzene** detected above VDEQ-PDSs in groundwater samples collected from permanent wells MiHpt-5, MiHpt-7, MiHpt-14, MiHpt-21, and MiHpt-22.
- **Naphthalene** (as a VOC and SVOC) detected above VDEQ-PDSs in groundwater samples collected permanent wells MiHpt-5, MiHpt-7, MiHpt-8, MiHpt-14, and MiHpt-20.
- **PCE** detected above VDEQ-PDSs in groundwater samples collected from permanent well MiHpt-21.
- **Toluene** detected above VDEQ-PDSs in groundwater samples collected from permanent well MiHpt-21.
- **Tricholoroethene (TCE)** detected above VDEQ-PDSs in groundwater samples collected from permanent well MiHpt-21.
- **Xylenes** detected above VDEQ-PDSs in groundwater samples collected from permanent wells MiHpt-5 and MiHpt-7.
- **Lead** detected above VDEQ-PDSs in groundwater samples collected from permanent wells TEC-MW4, MiHpt-5, and MiHpt-8.

Constituents Detected Above VDEQ-WQSFCs

- **Pentachlorophenol** detected above VDEQ-WQSFCs in groundwater samples collected from permanent well MiHpt-21.
- **Arsenic** detected above VDEQ-WQSFCs in groundwater samples collected from permanent wells MiHpt-5, MiHpt-15, MiHpt-21, and MiHpt-22.
- **Cadmium** detected above VDEQ-WQSFCs in groundwater samples collected from permanent wells MiHpt-5, MiHpt-14, MiHpt-15, and MiHpt-20.
- **Chromium** detected above VDEQ-WQSFCs in groundwater samples collected from permanent well MiHpt-5.
- **Copper** detected above VDEQ-WQSFCs in groundwater samples collected from permanent wells TEC-MW4, MiHpt-5, MiHpt-8, MiHpt-14, MiHpt-15, and MiHpt-20.
- **Lead** detected above VDEQ-WQSFCs in groundwater samples collected from permanent wells TEC-MW4, MiHpt-5, and MiHpt-8.
- **Nickel** detected above VDEQ-WQSFCs in groundwater samples collected from permanent well MiHpt-5.
- **Selenium** detected above VDEQ-WQSFCs in groundwater samples collected from permanent wells MiHpt-5, MiHpt-15, and MiHpt-20.

- **Zinc** detected above VDEQ-WQSFCs in groundwater samples collected from permanent wells TEC-MW2, MiHpt-5, MiHpt-14, MiHpt-15, and MiHpt-20.

Constituents Detected Above VDEQ-*WQSOSWs*

- **Benzene** detected above VDEQ-WQSOSWs in groundwater samples collected from permanent well MiHpt-22.
- **PCE** detected above VDEQ-WQSOSWs in groundwater samples collected from permanent well MiHpt-21.
- **2,4-Dichlorophenol** detected above VDEQ-WQSOSWs in groundwater samples collected from permanent well MiHpt-21.
- **Thallium** detected above VDEQ-WQSOSWs in groundwater samples collected from permanent wells MiHpt-5, MiHpt-15, and MiHpt-20.
- **Zinc** detected above VDEQ-WQSOSWs in groundwater samples collected from permanent well MiHpt-5.

Deep Groundwater

TPH-GRO, TPH, and O&G were not detected above RLs in the deep groundwater samples. TPH-DRO, five VOCs, and two SVOCs were detected in the deep groundwater samples at concentrations above the RL. One VOC was detected at concentrations above VDEQ-T3RSLs. No detections above VDEQ-T3CSLs, VDEQ-CWLs, VDEQ-PDSs, VDEQ-WQSFCs, and VDEQ-WQSOSWs were noted. A list of the constituents detected above screening levels is detailed below.

Constituents Detected Above VDEQ-T3RSLs

- **Naphthalene** (as a VOC) detected above VDEQ-T3RSLs in a groundwater sample collected from Screen Point advanced at location MiHpt-10.

In general, the concentration of constituents detected in groundwater appears to be relatively stable and is concentrated in the shallow subsurface. Isoconcentration maps prepared from groundwater analytical data collected during the two most-recent permanent well sampling events for TPH-GRO, TPH-DRO, benzene, naphthalene, and arsenic (for shallow and deep groundwater if collected) are included as Figures 15 through 19.

The most significant impacts appear to be associated with VOCs, SVOCs, and metals. The more elevated levels were observed on the western and southern portions of the SITE. The impacts may be associated with the past use of the SITE for bulk oil storage, fertilizer storage, coal storage, chemical mixing and manufacturing, and/or warehouse operations. These areas also correspond to the SITE property boundaries with the majority of the former bulk storage and Bogle chemical manufacturing facility (western property boundary) and ATGS's Oronoco Street outfall treatment system (southern property boundary). The aforementioned off-site properties of concern are hydraulically upgradient of the SITE and have documented soil and groundwater impacts, some of which are at a higher degree and extent then noted at the SITE (e.g., arsenic impacts along the western property boundary); thus, the off-site properties may be a source and/or contributor to impacts noted at the SITE.

7.4 Soil Gas Quality

The sub-slab and deep soil gas analytical results are summarized on Tables 8 and 9, respectively. Copies of the laboratory reports of analysis are included in Attachment 5.

The sub-slab soil gas analytical results were compared to the most-current VDEQ Tier III residential and commercial sub-slab soil gas screening levels for inhalation of indoor air (VDEQ-T3RSSGs and VDEQ-T3CSSGs, respectively) and the deep soil gas samples were compared to the most-current VDEQ Tier III residential and commercial deep soil gas screening levels for inhalation of indoor air (VDEQ-T3RDSGs and VDEQ-T3CDSGs, respectively) and VDEQ Tier III construction worker soil gas screening levels for inhalation of air in a trench (VDEQ-T3CWs).

Sub-Slab Soil Gas
A total of 15 VOCs were detected above RLs in the sub-slab soil gas samples. None of the VOCs were detected at concentrations exceeding VDEQ-T3RSSGs and VDEQ-T3CSSGs.

Deep Soil Gas
A total of 20 VOCs were detected above RLs in the sub-slab soil gas samples. None of the VOCs were detected at concentrations exceeding VDEQ-T3RDSGs, VDEQ-T3CDSGs, and VDEQ-T3CWs.

The presence of VOCs in soil gas is likely associated with the volatilization of VOCs from soil and groundwater. The VOCs may be associated with the past use of the SITE for bulk oil storage, fertilizer storage, coal storage, chemical mixing and manufacturing, and/or warehouse operations. The highest concentrations of VOCs in soil gas were detected near the SITE's property boundary with the ATGS's Oronoco Street outfall treatment system (southern property boundary) The ATGS is located hydraulically upgradient of the SITE and has documented soil and groundwater impacts; thus, the ATGS may be a source and/or contributor to impacts noted at the SITE.

8.0 SENSITIVE RECEPTOR SURVEY

ICOR developed a Conceptual Site Model (CSM) that identifies potential receptors and potential pathways of exposure to these receptors under current land use (vacant property with limited access) and future land use (commercial, retail, residential, or mixed use) scenarios and during construction in order to complete the risk (exposure) assessment for purposes of 9 VAC 25-580-260. The CSM is included as Figure 20. The CSM details the following:

- **Primary Release Mechanism**. Identification of the primary mechanisms by which the SITE became or continues to be impacted. The impacts appear to be the result of past site operations, with significant contribution from past operations at adjacent and nearby properties. No release mechanisms currently exist.

- **Source Media**. Identification of the affected media that continues to be a source of impacts. Source media at the SITE appears to be limited to impacted surface and subsurface soil.
- **Migration Pathway**. Identification of potential pathways by which impacted media can lead to potential exposure. Potential pathways identified included surface water runoff, biological uptake, leaching, and volatilization and diffusion.
- **Exposure Media**. Identification of media that provides a potential pathway of exposure. Potential exposure media identified include surface water and sediment, plants and animals, groundwater, and vapor.
- **Exposure Routes**. Identification of the routes by which exposure to impacted media may occur. Exposure routes identified include ingestion, dermal contact, and inhalation.
- **Potential Receptors**. Identification of potential receptors that could be exposed under current land use, future land use, and during construction.

Current Site Use Scenario

ICOR believes that in the SITE's current use scenario, no potential pathways of exposure are complete. Potential receptors considered under this scenario include authorized site visitors and occasional workers and trespassers. ICOR's opinion is based on the following:

- All structures are currently vacant and access to the SITE is limited to authorized visitors and unauthorized access is restricted by fencing and locked building doors.

- Soil and groundwater impacts are limited and localized in extent and the vast majority of the SITE surface, including the areas where the highest degree of soil and groundwater impacts was identified, is covered by buildings (constructed on thick concrete slabs) or pavement limiting the potential for contact with impacted media. The surfaced areas also limit the potential for erosion, surface water runoff, formation of dusts, and VI.

- The potential for impacted groundwater to discharge into the nearby Potomac River exists; however, the concentrations of constituents detected in the wells located nearest to the shoreline contained COPCs at relatively low concentrations with the exception of the metals lead and zinc. Lead and zinc have relatively low mobility and are not expected to migrate readily or extensively. The potential risks to surface water will be further assessed through proposed follow-up groundwater sampling and modelling.

- The SITE is not used for agricultural purposes and ICOR is not aware of any sensitive animal species living on or using the SITE for any purpose.

- Groundwater is not used at the SITE or in the City as a potable or irrigation water source.

- The buildings are currently vacant and not used for any purpose limiting the potential for inhalation of vapors should VI occur. All utilities supplying the SITE have been disconnected. In addition, the soil gas analytical data does not suggest VOCs are present at concentrations presenting a VI risk.

ICOR also believes that the aforementioned conditions limit the risk to users of surrounding properties.

Future Site Use Scenario
ICOR believes that in the SITE's future use scenario, several potential pathways of exposure exist; however, the potential for exposure can be minimized through remediation, incorporation of engineering controls, and implementation of institutional controls. Potential receptors considered under this scenario include residents, site workers, and site visitors. Pathways of exposure that could potentially become complete include ingestion of and dermal contact with surface soil, surface water runoff, and sediment generated during erosion and inhalation of vapors via VI into newly constructed buildings and subsurface utility lines. Remediation, engineering controls, and institutional controls that may be applicable and that are expected to greatly minimize exposure risks are discussed in detail in Section 11.

ICOR believes that the proposed remediation, engineering controls, and institutional controls will also limit the risk to users of surrounding properties.

Construction Worker
If construction work involving excavation and/or disturbance or removal of existing site surfacing occurs, ICOR believes that several potential pathways of exposure exist or may become complete; however, the potential for exposure can be minimized through remediation, implementation of engineering controls, and development of safety and health procedures for workers working in and around impacted areas. The only potential receptor considered under this scenario is a construction worker. Pathways of exposure that could potentially become complete include ingestion of surface and subsurface soil, surface water runoff, sediment generated during erosion, and groundwater and inhalation of vapors via VI into open excavations and buildings under construction. Pathways of exposure likely to be considered complete include dermal contact with surface and subsurface soil, surface water runoff, sediment generated during erosion, and groundwater. Remediation, engineering controls, and institutional controls that may be applicable and that are expected to greatly minimize exposure risks are discussed in detail in Section 11.

Surrounding and Nearby Properties
Potential receptors at surrounding properties include residents at residential use properties, workers and visitors at surrounding commercial use properties, and visitors of Founders and Oronoco Bay Parks. It should be noted that the 501 Parcel is surrounded on all sides by roads or Potomac River. The 500 Parcel is surrounded by roads on its northern, eastern, and southern sides and commercial use property on its western side. The closest residential properties are located across the roads and commercial property to the northwest, west, and southwest. Adjacent property use is depicted on Figure 2.

The exposure risk to surrounding and nearby properties from SITE releases is anticipated to be minimal based on the following:

- Soil and groundwater impacts appear to be limited and localized in extent and the vast majority of the impacted media is covered by buildings (constructed on thick concrete slabs) or pavement limiting the potential for disturbance of and contact with the impacted media and potential for erosion, surface water runoff, and formation of dusts.

- The potential for impacted groundwater to discharge into the nearby Potomac River exists; however, the concentrations of constituents detected in the wells located nearest to the shoreline contained COPCs at relatively low concentrations with the exception of the metals lead and zinc. Lead and zinc have relatively low mobility and are not expected to migrate readily or extensively. The potential risks to surface water will be further assessed through proposed follow-up groundwater sampling and modelling.

- Based on groundwater measurement data obtained from SITE, groundwater flow is towards the east-northeast, away from surrounding properties of concern.

- Historical and recently collected data suggest that the properties bounding the SITE to the west and south are hydraulically upgradient of the SITE and the data does not indicate that they have been impacted by the SITE.

- Groundwater is not used in the City as a potable or irrigation water source.

ICOR believes that the proposed remediation, engineering controls, and institutional controls proposed under the future SITE land use scenario and that will be implemented should construction work occur at the SITE will limit the risk to users of surrounding properties.

9.0 HUMAN HEALTH RISK ASSESSMENT

The qualitative risk to human health in the SITE's current and proposed use scenario was evaluated by comparing the concentrations of detected constituents in the sampled media to applicable VDEQ screening levels and evaluating the likelihood that current land users (vacant property with limited access scenario) and future land users (under commercial, retail, residential, or mixed use scenario) would come into contact with impacted media. Target constituents were detected above screening levels; thus, a site-specific quantitative Risk Assessment (RA) should be prepared to confirm the below opinions and satisfy VRP guidance.

Soil

The soil analytical results were compared to the most-current VDEQ-T2SCRs and VDEQ-T3SCCs. It should be noted that VDEQ screening levels have not been developed for many of the target constituents detected. Four VOCs, 8 SVOCs, 2,3,7,8-TCDD, and 11 metals were detected in soil at concentrations above VDEQ screening levels. Detections above VDEQ screening levels were noted in both surface and subsurface soil.

In the SITE's current use scenario, no potential pathways of exposure by site users (visitors, occasional workers, and trespassers) to impacted soil exist. Soil impacts are limited and localized in extent and the vast majority of the SITE surface, including the areas where the highest degree of soil impacts was identified, is covered by buildings (constructed on thick concrete slabs) or pavement limiting the potential for contact with impacted soil. The surfaced areas also limit the potential for erosion, surface water runoff, and formation of dusts. Access to the SITE is also limited to authorized visitors and unauthorized access is restricted by fencing and locked building doors.

Under the SITE's future use scenario, several potential pathways of exposure to impacted soil by site users (residents, workers, and visitors) exist; however, the potential for exposure can be minimized through remediation, incorporation of engineering controls, and implementation of institutional controls. Exposure risks to construction workers can be minimized through development and implementation of health and safety procedures to address health and safety risks posed by the presence of impacted soil. Remediation, engineering controls, and institutional controls that may be applicable and that are expected to greatly minimize exposure risks are discussed in detail in Section 11.

The vast majority of impacted soil underlying the SITE, specifically the shallow soil that would pose a threat to future residents and site workers, is expected to be excavated, removed, and transported off site for disposal or treatment during development. The removal of the bulk of impacted soil is expected to greatly reduce human health risks for future use.

Groundwater

The groundwater analytical results were compared to the most-current VDEQ-T3RSLs, VDEQ-T3CSLs, and VDEQ-T3CWTs. The most-recent analytical results were also compared to VDEQ-PDSs, VDEQ-WQSFCs, and VDEQ-WQSOSWs. It should be noted that VDEQ screening levels have not been developed for many of the target constituents detected. Ten VOCs, 2 SVOCs, and 3 metals were detected at concentrations above VDEQ-T3RSLs, VDEQ-T3CSLs, and/or VDEQ-T3CWTs in shallow groundwater. One VOC was detected at concentrations above VDEQ-T3RSLs in deep groundwater. No detections above VDEQ-T3CSLs and VDEQ-CWLs in deep groundwater were noted. TPH-GRO, 8 VOCs, 3 SVOCs, and 9 metals were detected at concentrations above VDEQ-PDSs, VDEQ-WQSFCs, and/or VDEQ-WQSOSWs.

ICOR believes that in the SITE's current use and future use scenarios, no potential pathways of exposure by site users (visitors, occasional workers, and trespassers) to impacted groundwater exist. Groundwater is not currently used and will not be used in the future at the SITE or surrounding area for any purpose and the City restricts the use of groundwater for any purpose. Groundwater impacts are limited and localized in extent and the vast majority of the SITE surface, including the areas where the highest degree of groundwater impacts was identified, is currently covered by buildings (constructed on thick concrete slabs) or pavement limiting the potential for contact with impacted groundwater. Access to the SITE is also currently limited to authorized visitors and unauthorized access is restricted by fencing and locked building doors.

In the SITE's future use scenario, the potential for exposure can be minimized through remediation, incorporation of engineering controls, and implementation of institutional controls. Exposure risks to construction workers can be minimized through development and implementation of health and safety procedures to address health and safety risks posed by the presence of impacted groundwater. Remediation, engineering controls, and institutional controls that may be applicable and that are expected to greatly minimize exposure risks are discussed in detail in Section 11. Following development, the vast majority of the SITE surface will be covered by new structures, pavement, and hardscape limiting the potential to come into contact with impacted groundwater.

The removal of the bulk of impacted soil during development is expected to reduce the concentration of constituents in groundwater and greatly reduce human health risks for future use. In addition, excavation below the water table is anticipated during development, which will require dewatering. Dewatering efforts are expected to reduce constituent concentrations in groundwater and improve groundwater quality, resulting in a reduction of human health risks for future use.

Soil Gas (Vapor Intrusion)

The sub-slab soil gas analytical results were compared to the most-current VDEQ-T3RSSGs and VDEQ-T3CSSGs and the deep soil gas samples were compared to the most-current VDEQ-T3RDSGs, VDEQ-T3CDSGs, and VDEQ-T3CWs. VOCs were not detected in sub-slab and deep soil gas samples at concentrations exceeding VDEQ screening levels; thus, the risk posed to site current site users (visitors, occasional workers, and trespassers) appears to be minimal. Soil and groundwater impacts which are the source of potential vapors are limited and localized in extent and the vast majority of the SITE surface, including the areas where the highest degree of soil and groundwater impacts was identified, is currently covered by buildings (constructed on thick concrete slabs) or pavement limiting the potential for VI. All structures are currently vacant and ccess to the SITE is also currently limited to authorized visitors and unauthorized access is restricted by fencing and locked building doors.

In the SITE's future use scenario, the potential for exposure can be minimized through remediation, incorporation of engineering controls, and implementation of institutional controls. Exposure risks to construction workers can be minimized through development and implementation of health and safety procedures to address health and safety risks posed by the presence of impacted groundwater. Remediation, engineering controls, and institutional controls that may be applicable and that are expected to greatly minimize exposure risks are discussed in detail in Section 11. Following development, the vast majority of the SITE surface will be covered by new structures, pavement, and hardscape limiting the potential for VI. Newly constructed buildings will also include adequate vapor barriers and sub-slab depressurization systems, if warranted. The need for a sub-slab depressurization system will also be considered if the existing buildings will be re-occupied.

The removal of the bulk of impacted soil during development is expected to reduce the concentration of constituents in soil gas and greatly reduce human health risks for future use. In addition, excavation below the water table is anticipated during development resulting in implementation of dewatering. Dewatering efforts are expected to reduce constituent concentrations in groundwater and improve groundwater quality, resulting in a reduction of human health risks via associated VI for future use.

10.0 CONCLUSIONS

Based on the findings of the SCS, soil and groundwater beneath the SITE have been impacted by the past use of the SITE for bulk oil storage, fertilizer storage, coal storage, chemical mixing and manufacturing, and warehouse operations; however, contribution from adjacent and nearby

properties that were used in the past for fertilizer storage, city gas works, chemical manufacturing and mixing, and bulk oil storage is also suspected. Of most off-site concern, is the majority of the former bulk storage of fuel and Bogle chemical manufacturing facility which operated on adjacent property to the west and former ATGS and associated Oronoco Street outfall treatment system located nearby and adjacent to the SITE's southern property boundary. The aforementioned off-site properties are situated hydraulically upgradient of the SITE and have documented soil and groundwater impacts, some of which are at a higher degree and extent then noted at the SITE (e.g., arsenic impacts along the western property boundary).

Target constituents were detected in soil and groundwater above VDEQ screening levels for residential and commercial land use, construction workers, and surface water. The presence of impacted soil, groundwater, and soil gas warrants remediation, engineering controls, and institutional controls under proposed (future) land use scenario. Remediation and engineering controls do not appear necessary under the current land use scenario; however, further study is required and institutional controls may be warranted.

11.0 PROPOSED ENGINEERING AND INSTITUTIONAL CONTROLS AND REMEDIAL ACTIONS

ICOR believes the remedial actions and institutional and engineering controls listed below are warranted to address the impacted media and protect human health and the environment in the SITE's future land use scenario (commercial, retail, residential, or mixed use). Remediation and engineering controls do not appear necessary under the current land use scenario (vacant property with limited access); however, further study is required and institutional controls may be warranted. The type of study warranted and institutional controls that may be warranted are also discussed below.

11.1 Current Land Use

ICOR believes that in the SITE's current use scenario (vacant property with limited access), no remedial actions or engineering controls are warranted to protect human health and the environment. This should be confirmed through the preparation of a site-specific quantitative RA, which is required to satisfy VRP guidance.

It should be noted that institutional controls were not considered under the current use scenario because no change in land use or improvements to the SITE were considered; however, institutional controls in the form of restrictive covenants (also considered AULs) may be warranted. Applicable restrictive covenants include restricting the use of groundwater for any purpose, maintaining site surfacing, use of sub-slab depressurization or vapor mitigation systems as necessary to prevent VI, and implementation of health and safety procedures during future maintenance or construction work at the SITE (work that involves excavation and potential contact with impacted soil and/or groundwater). Regulatory notifications should also performed as required. The restrictive covenants should also provide guidance for handling and disposing of impacted soil and groundwater removed during maintenance or construction work. It should

be noted that the City already restricts the use of groundwater for any purpose. The institutional controls should be developed by a qualified environmental professional and counsel.

Regulatory notifications, soil and groundwater management, and/or engineering controls similar to those described in Section 11.2 may be warranted in the current use scenario if disturbance of the land surface becomes warranted.

Based upon the findings of the SCS and the results of the risk (exposure) assessment, active remediation of the historic release of petroleum on the SITE does not appear warranted based upon the current use of the SITE and surrounding area; thus, ICOR believes that current conditions at the SITE meet PSTP criteria for "Case Closure" of PC# 2016-3090. Further work is required to meet VRP criteria for issuance of a "Certification of Satisfactory Completion of Remediation" under the current use scenario.

11.2 Future Land Use

To address the impacted media, remnant site features, and exposure risks in the SITE's future land use scenario (commercial, retail, residential, or mixed use), ICOR recommends that the remedial activities listed below be conducted during construction, engineering controls be incorporated into building designs, and institutional controls be placed on the SITE. The remedial activities and engineering and institutional controls needed should be based on the findings of a site-specific quantitative RA prepared prior to the start of construction. The proposed remedial activities and engineering controls should be detailed in a Remedial Action Work Plan (RAWP). Additional soil and groundwater assessment should be conducted as warranted to further assess potential risks to construction workers, allow for proper management of soil and groundwater, and verify successful implementation of the remedial actions.

Assessment, remediation, and institutional and engineering controls should be developed and implemented in accordance with VRP guidelines and with VRP oversight, review, and approval. Further work and/or notifications may be required to also satisfy PSTP requirements and guidelines. In particular, a change in conditions and associated risks resulting from disturbance during development should be thoroughly evaluated (e.g., a change results in the potential for further migration of constituents or potential to impact other media). Any change in conditions or risk warranting further assessment and/or modification to proposed remedies should be identified and addressed.

Remedial Activities

- If remnant USTs are unearthed during future development, they should be properly closed via excavation and removal with notification and approval by the VDEQ.

- Impacted soil excavated and removed during construction and deemed not suitable for beneficial reuse on or off site should be properly manifested and disposed or treated at a facility permitted to accept the soil. The removal and transport of impacted soil should be conducted by qualified contractors. Confirmation soil samples should be collected before the start of construction and following excavation activities to confirm all

unacceptably impacted soil has been removed and to provide information on any residual impacts remaining in soil for development of engineering and institutional controls.

- If development plans include excavation and construction below the water table and groundwater dewatering is warranted, all water generated during dewatering should be characterized prior to discharge and treated if required to meet applicable federal, state, and local discharge requirements. All required federal, state, and local permits should also be obtained before discharge. Sampling and monitoring of the treatment and discharge and associated reporting should be conducted as required by overseeing regulatory agencies. System design and installation and system sampling, monitoring, and reporting should be conducted by qualified environmental professionals and contractors.

Engineering Controls

- To prevent vapors from migrating into newly constructed buildings, an adequate vapor barrier should be incorporated into the building designs. A sub-slab depressurization system may also be warranted and should be incorporated into the building designs if deemed necessary. The need for a sub-slab depressurization system should also be considered if the existing buildings will be re-occupied. The vapor barrier and sub-slab depressurization system should be designed by a qualified environmental professional.

- To limit the potential for exposure to impacted soil containing target constituents at elevated concentrations, over-excavation of areas not surfaced by impervious surfacing (e.g., buildings, pavement, hardscape, etc.) should be considered. ICOR suggests a minimum of 2 feet of impacted soil be over-excavated and replaced with fill originating from the SITE or imported. If on-site fill is used, the fill should meet VDEQ standards for beneficial reuse.

Institutional Controls

- To satisfy VRP requirements, two institutional controls, in the form of restrictive covenants, should be placed on the SITE. The first restrictive covenant should restrict the use of groundwater for any purpose. It should be noted that the City already restricts the use of groundwater for any purpose. The second restrictive covenant should detail health and safety procedures to be implemented during future maintenance or construction work at the SITE that involves excavation and potential contact with impacted soil and/or groundwater. The restriction should also provide guidance for handling and disposing of impacted soil and groundwater removed during maintenance or construction work. The third restriction would require impervious surfacing (e.g. buildings, pavement, hardscape, etc.) or minimum of 2 feet of soil meeting land use requirements in non-impervious surfaced areas post development to limit the potential for exposure to impacted soil. Finally, a restrictive covenant requiring maintenance of vapor barriers and operation and maintenance of sub-slab depressurization or vapor mitigation systems as necessary to prevent VI. The institutional controls should be developed by a qualified environmental professional and counsel.

Follow-up Assessment Activities

- Groundwater samples should be collected for laboratory analysis from select permanent wells on at least two additional occasions (separated by a minimum of 3 months) to obtain additional data for use in developing a RA and further assessing groundwater flow. Laboratory analysis should be limited to analytes detected at elevated concentrations during the previous sampling events (TPH-GRO, TPH-DRO, VOCs, SVOCs, and metals).

- Upon approval of the final building design, additional soil and groundwater samples should be collected as warranted to allow for better management of excavated soil and groundwater and construction worker health and safety. The follow-up assessment activities should be conducted by a qualified environmental contractor.

Construction Worker Health and Safety

- A construction worker Health and Safety Plan (H&SP) should be developed prior tothe start of construction to address health and safety risks posed by the presence of impacted soil and groundwater. The plan should be required reading for all site workers. The H&SP should be prepared by a qualified environmental professional.

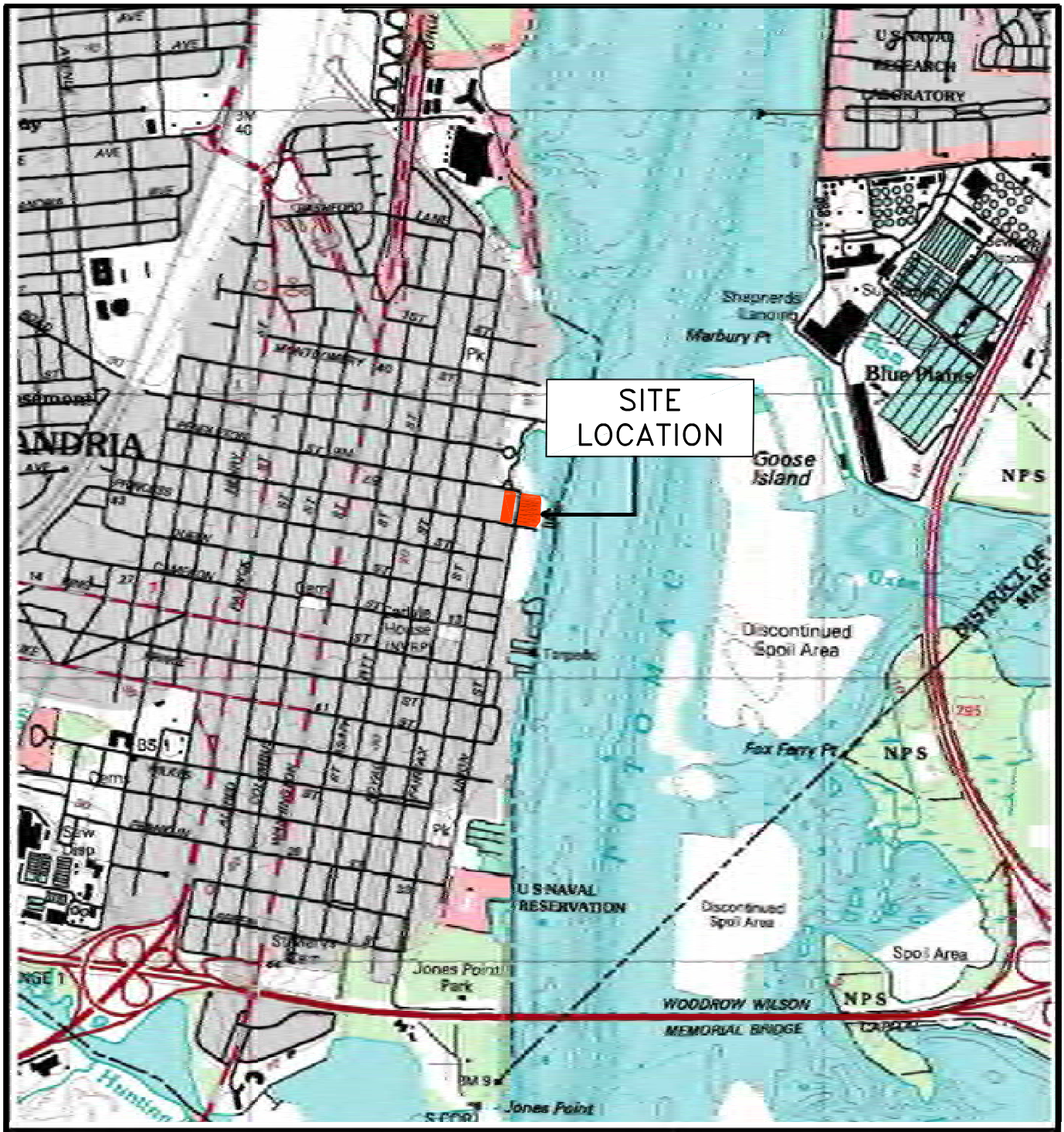
Planning and Reporting

- Analytical data collected during the SCS and proposed two additional well sampling events should be used to prepare a quantitative RA, further assess groundwater flow, and model the potential for migration of constituents in groundwater and potential for discharge to surface water. The RA should be prepared using applicable PSTP and VRP guidance and should be the basis for evaluating and selecting applicable engineering and institutional controls. The RA should be prepared by a qualified environmental professional.

- Prior to the start of development, a RAWP should be prepared. The RAWP provides a detailed description of the remedial actions, engineering controls, and institutional controls that will be implemented to address identified impacts and minimize risks to human health and the environment. The RAWP should be prepared by a qualified environmental contractor.

Upon completion of the RA, successful implementation of the recommended construction-related remedial actions, and completion of development incorporating the necessary engineering controls, ICOR believes that conditions at the SITE will meet VRP criteria for issuance of a "Certification of Satisfactory Completion of Remediation" which will be recorded along with the required Declaration of Restrictive Covenants. ICOR also believes that conditions will also meet PSTP criteria for "Case Closure" of PC# 2016-3090.

FIGURES



REFERENCE:
7.5 MINUTE SERIES TOPOGRAPHIC QUADRANGLE
ALEXANDRIA, VIRGINIA
PHOTOREVISED 1994 SCALE 1:24,000

SITE LOCATION

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 1

16-CI-001-RTN SCR01-SITE LOC.DWG – July 6, 2016



MICROSOFT CORPORATION 2016

0 125 250 500

SCALE IN FEET

AERIAL PHOTOGRAPH

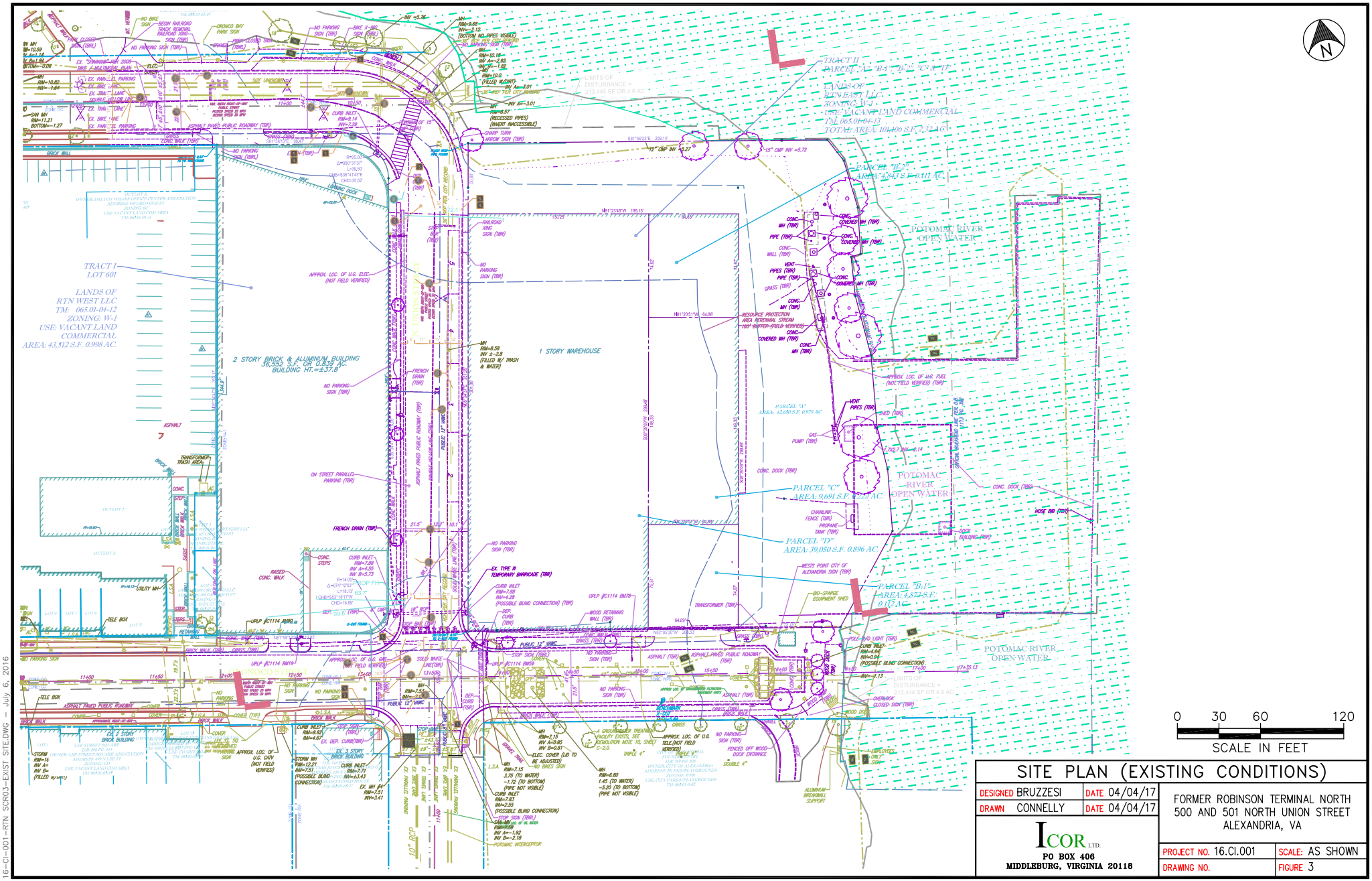
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

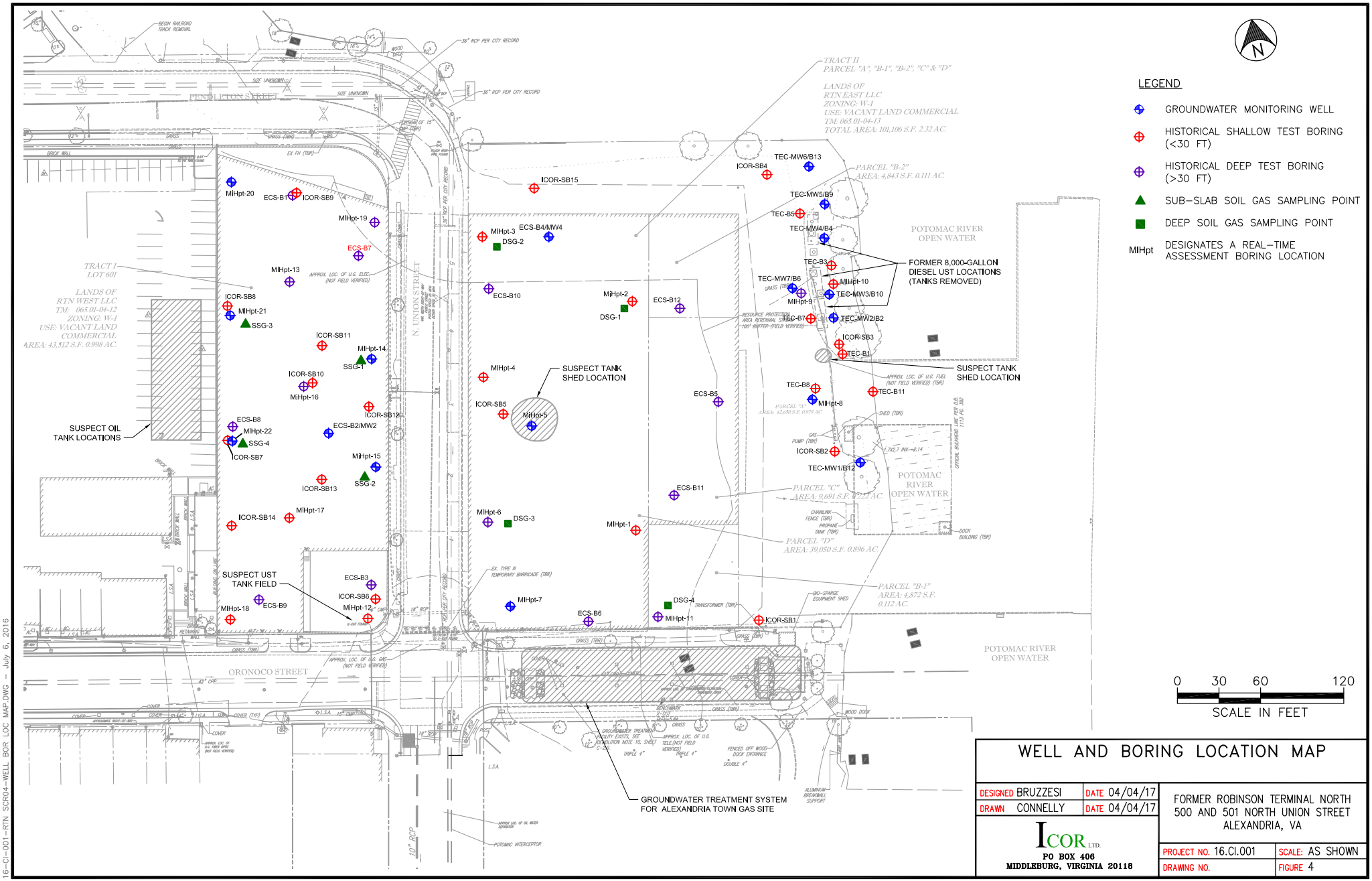
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FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 2

16-CI-001-RTN SCR02-AERIAL.DWG — July 6, 2016


TRACT II
PARCEL "A", "B-1", "B-2", "C" & "D"
LANDS OF
RTN BAY LLC
ZONING: W-1
USE: VACANT LAND COMMERCIAL
TM: 065.04-04-13
TOTAL AREA: 101,406 S.F. 2.328 AC.
PARCEL "B-2"
AREA: 4,843 S.F. 0.111 AC.
TRACT I
LOT 601
LANDS OF
RTN WEST LLC
TM: 065.01-04-12
ZONING: W-1
USE: VACANT LAND
COMMERCIAL
AREA: 43,512 S.F. 0.998 AC.
2 STORY BRICK & ALUMINUM BUILDING
36,165 S.F. OR 0.830 AC.
BUILDING HT.= ±37.8
1 STORY WAREHOUSE
POTOMAC RIVER
OPEN WATER
PARCEL "A"
AREA: 42,683 S.F. 0.979 AC.
PARCEL "C"
AREA: 9,691 S.F. 0.222 AC.
PARCEL "D"
AREA: 39,050 S.F. 0.896 AC.
PARCEL "B-1"
AREA: 4,872 S.F.
0.112 AC.
ASPHALT PAVED PUBLIC ROADWAY
FRENCH DRAIN (TBR)
CONC. DOCK (TBR)
CHAINLINK FENCE (TBR)
PROPANE TANK (TBR)
GAS PUMP (TBR)
VENT PIPES (TBR)
SHED (TBR)
HOSE BIB (TBR)
RESOURCE PROTECTION AREA PERENNIAL STREAM
100' BUFFER (FIELD VERIFIED)
APPROX. LOC. OF U.G. ELEC. (NOT FIELD VERIFIED)
APPROX. LOC. OF U.G. TELE. (NOT FIELD VERIFIED)
APPROX. LOC. OF U.G. FUEL (NOT FIELD VERIFIED) (TBR)
ON STREET PARALLEL PARKING (TBR)
NO PARKING SIGN (TBR)
EX. TYPE III TEMPORARY BARRICADE (TBR)
CURB INLET
RIM=7.88
INV A=4.55
INV B=5.73
(POSSIBLE BLIND CONNECTION) (TBR)
DEP. CURB (TBR)
UPLP #C1114 BMTB
WOOD RETAINING WALL (TBR)
BIO-SPARGE EQUIPMENT SHED
WESTS POINT CITY OF ALEXANDRIA SIGN (TBR)
TRANSFORMER (TBR)
POL-40 LIGHT (TBR)
CURB INLET
RIM=4.66
INV=0.94
(POSSIBLE BLIND CONNECTION)
INV=-1.13
OVERLOOK CLOSED SIGN (TBR)
FENCED OFF WOOD DOCK ENTRANCE
ALUMINUM BREAKWALL SUPPORT
EMPLOYEE ONLY SIGN (TBR)
SOLID WHITE (UNETBR)
SOLID YELLOW (UNETBR)
PUBLIC 12" VMRC
STOP SIGN (TBR)
RAISED CONC. WALK
CONC. STEPS
BRICK WALK (TBR)
GRASS (TBR)
TELE BOX
UTILITY MH
STORM MH
RIM=16
INV A=
INV B=
(FILLED W/WATER)
EX. 2 STORY BRICK BUILDING
EX. 1 STORY BRICK BUILDING
EX. MH #4
RIM=7.51
INV=3.41
EX. DEP. CURB (TBR)
EX. CURB INLET
RIM=8.82
INV=4.87
CURB INLET
RIM=12.21
INV=7.51
(POSSIBLE BLIND CONNECTION)
CURB INLET
RIM=7.71
INV=3.43
(POSSIBLE BLIND CONNECTION)
MH
RIM=7.15
3.75 (TO WATER)
1.72 (TO BOTTOM)
(PIPE NOT VISIBLE)
CURB INLET
RIM=7.83
INV=2.55
(POSSIBLE BLIND CONNECTION)
STOP SIGN (TBR)
RAMPWAY
INV A=-1.92
INV B=-2.19
POTOMAC INTERCEPTOR
MH
RIM=6.80
1.45 (TO WATER)
-5.20 (TO BOTTOM)
(PIPE NOT VISIBLE)
A GROUNDWATER TREATMENT FACILITY EXISTS, SEE DEMOLITION NOTE 10, SHEET C-2.0.
ELEC. COVER (LID TO BE ADJUSTED)
NO BIKES SIGN
APPROX. LOC. OF U.G. TELE.(NOT FIELD VERIFIED)
TRIPLE 4"
DOUBLE 4"
GRAVEL TRAIL
L.S.A.
EX. MH #3
RIM=7.52
INV=-2.08
PUBLIC 12" VMRC
EX. MH #2
RIM=7.15
INV=-1.92
PUBLIC 12" VMRC
EX. MH #1
RIM=9.68
INV=-2.12
(BOTTOM NO PIPES VISIBLE)
NO BIKES SIGN (TBR)
MH
RIM=10.18
INV A=-2.93
INV B=-1.92
MH
RIM=10.0
(FILLED W/DIRT)
INV A=-3.01
INV B=-3.01
MH
RIM=8.57
(RECESSED PIPES)
(INVERT INACCESSIBLE)
SHARP TURN MIRROR SIGN (TBR)
12" CMP INV ±5.27
15" CMP INV ±5.72
LIMITS OF DISTURBANCE = 219,448 SF OR 4.9 AC.
EX. SHANNON AVE 2008 BIKE & MULTIMODAL PLAN
EX. PARALLEL PARKING
EX. BIKE LANE
EX. TRAVEL LANE
DOUBLE YELLOW LINE
SIZE UNKNOWN
ASPHALT PAVED PUBLIC ROADWAY (TBR)
CONC. WALK (TBR)
BRICK WALL
LOADING DOCK
APPROX. LOC. OF U.G. ELEC. (NOT FIELD VERIFIED)
ASPHALT
TRANSFORMER TRASH AREA
CONC.
AC
BRICK WALK (TBR)
RETAINING WALL
UTILITY MH
TELE BOX
EX. 2 STORY BRICK BUILDING
STORM MH
RIM=16
INV A=
INV B=
(FILLED W/WATER)
APPROX. LOC. OF U.G. CATV (NOT FIELD VERIFIED)
ASPHALT PAVED PUBLIC ROADWAY
COVER (TYP)
LSA
BRICK WALK
EX. 2 STORY BRICK BUILDING
OWNER: LEE STREET SQUARE ASSOCIATION
ADDRESS: 499 LEE ST
ZONING: CD
USE: VACANT LAND COM AREA
TM: 065.01-05-17
OUTLOT A
OWNER: DALTON WHARF OFFICE CENTER ASSOCIATION
ADDRESS: 500 ORONOCO ST
ZONING: OC
USE: VACANT LAND COM AREA
TM: 065.01-09-11
OUTLOT 2
OUTLOT A
OUTLOT 1
LOT 1
LOT 2
LOT 3
LOT 4
LOT 5
LOT 6
LOT 7
LOT 8
LOT 9
LOT 10
LOT 11
LOT 12
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LOT 18
LOT 19
LOT 20
LOT



WELL AND BORING LOCATION MAP

DESIGNED	BRUZZESI	DATE	04/04/17
DRAWN	CONNELLY	DATE	04/04/17

ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 4

16-CI-001-RTN SCR04-WELL BOR LOC MAP.DWG – July 6, 2016



GEOLOGIC CROSS-SECTION LOCATIONS

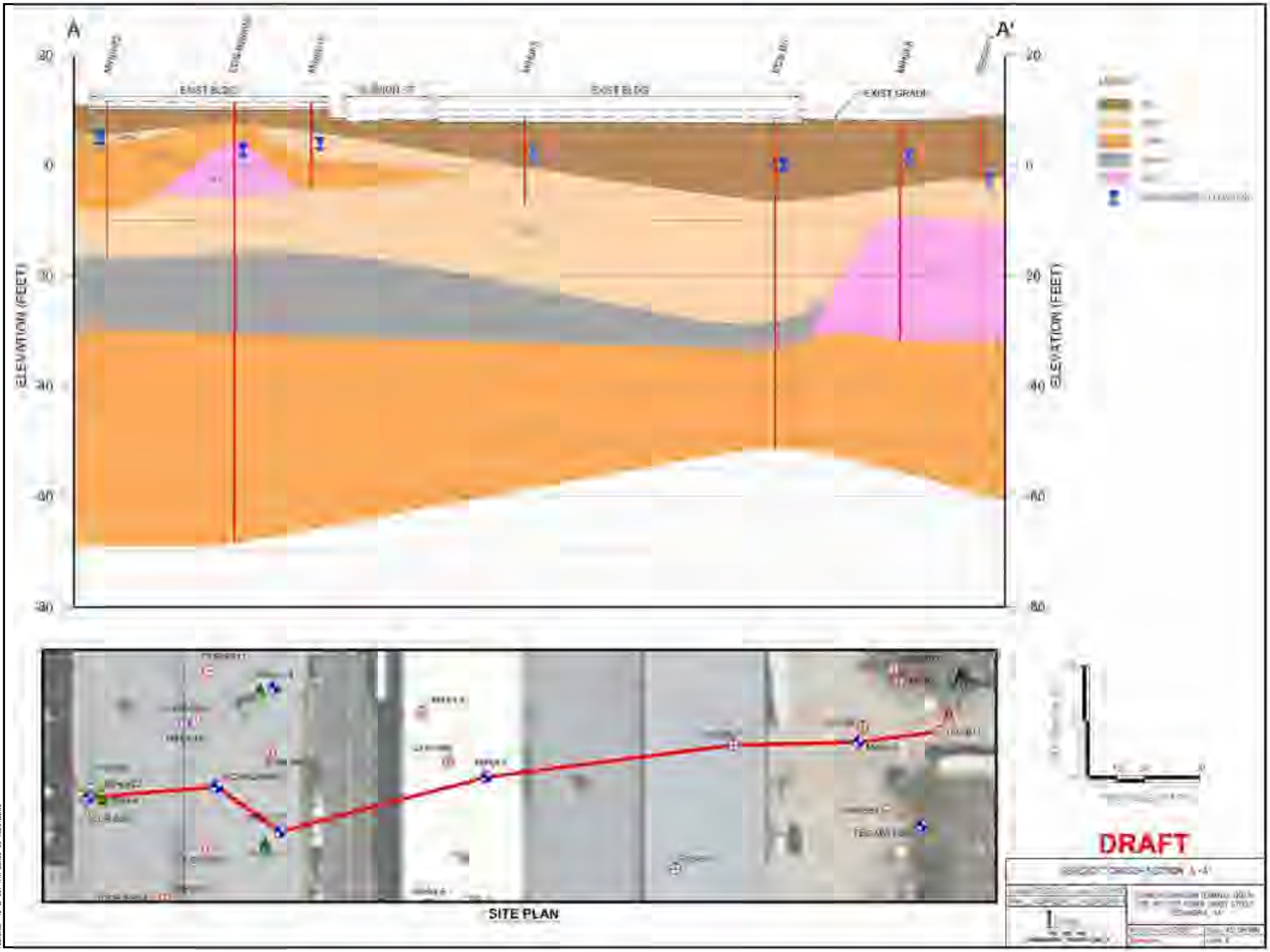
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

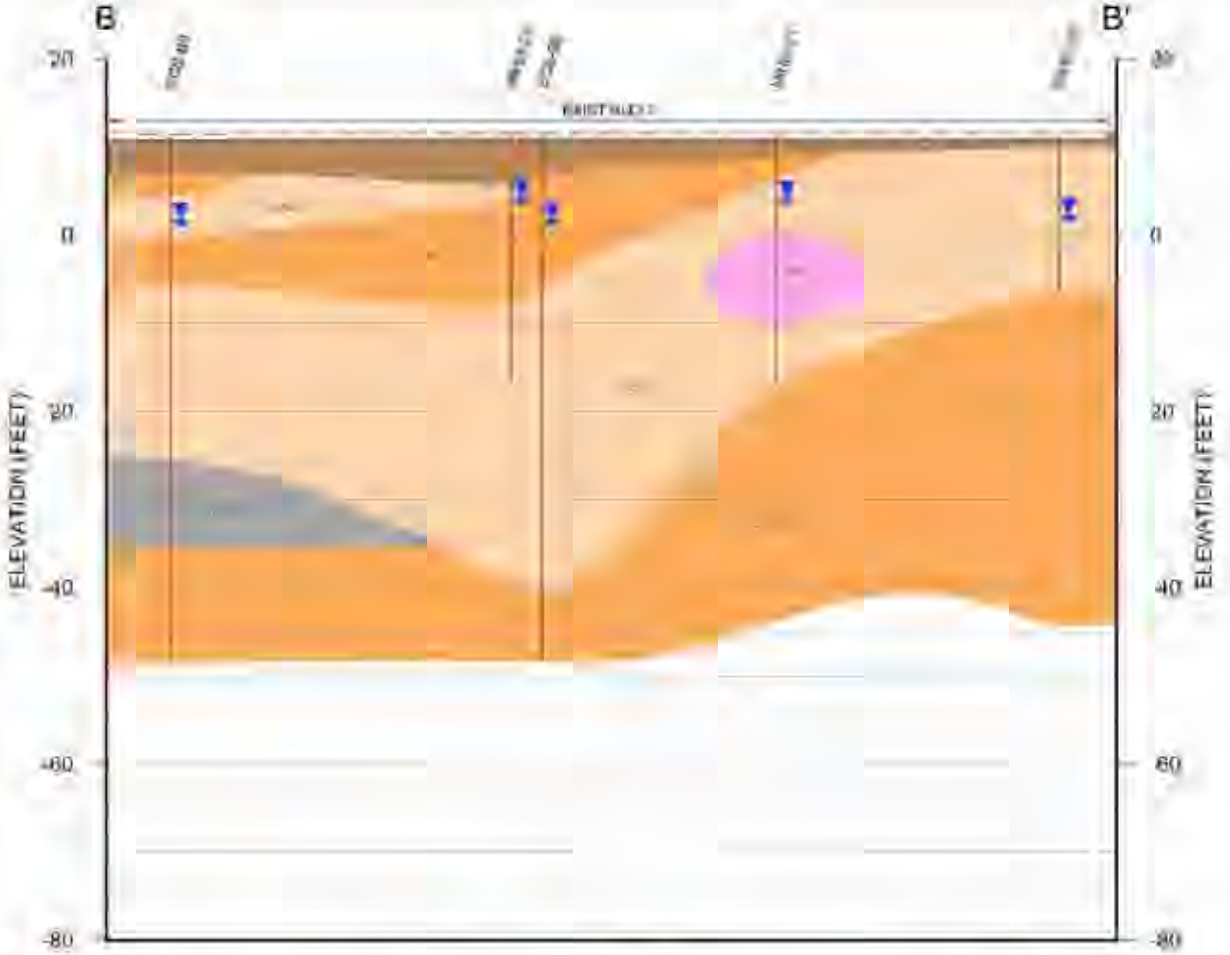
FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 5

16-CI-001-RTN SCR05-XSECT LOCS.DWG – July 6, 2016



Filename: 16-CI-001-RTN SCR06-09-XSECTS.DWG

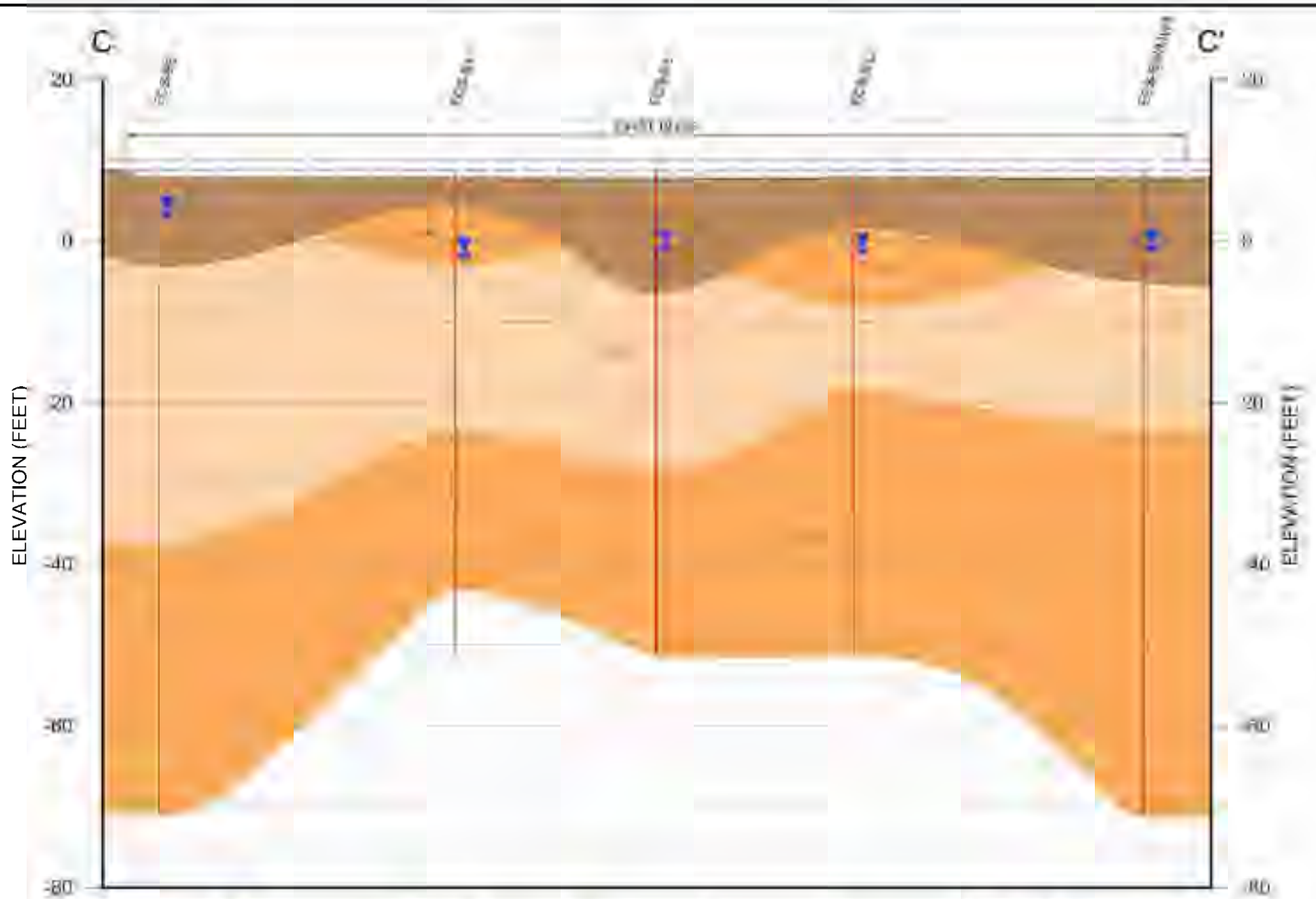




SITE PLAN

DRAFT

Filename: 16-CI-001-RTN SCR06-08-XSECTS.DWG

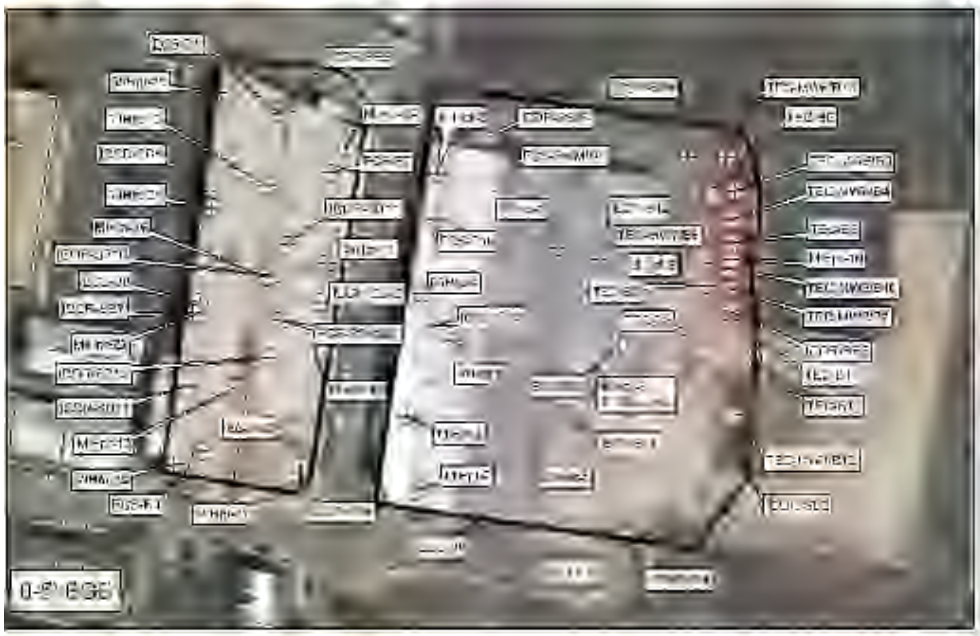




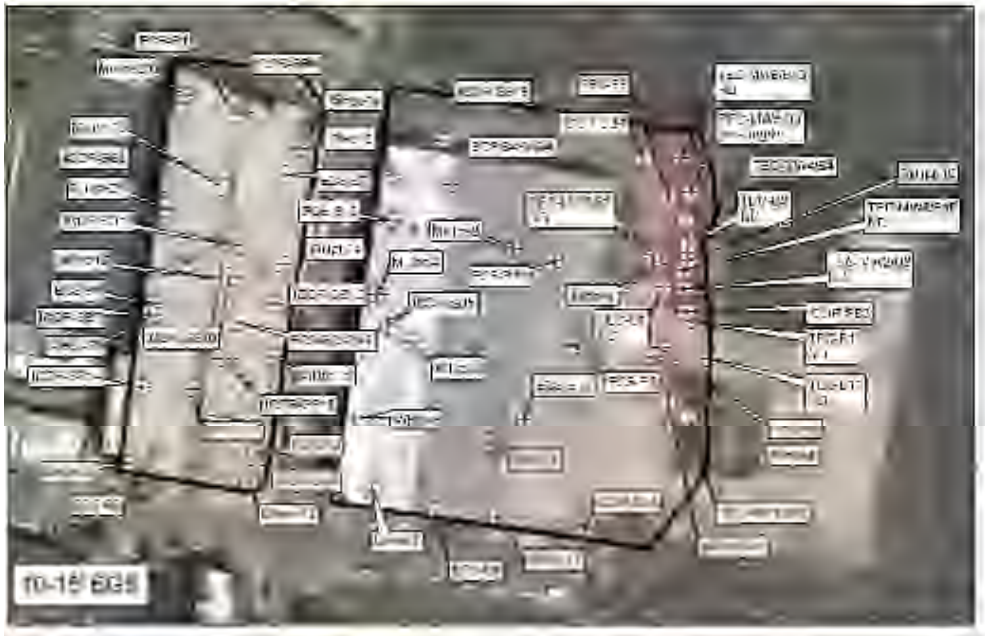
SITE PLAN

DRAFT

Filename: 16-CI-001-RTN SCR06-09-XSECTS.DWG







Legend

Site Property

Historical Soil Boring

Historical Groundwater Boring

Concentrations (TPH-GRO)

1,000 mg/kg

Notes:

0 50 100

HISTORIC TPH-GRO IN SOIL
ISOCONCENTRATION MAP

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

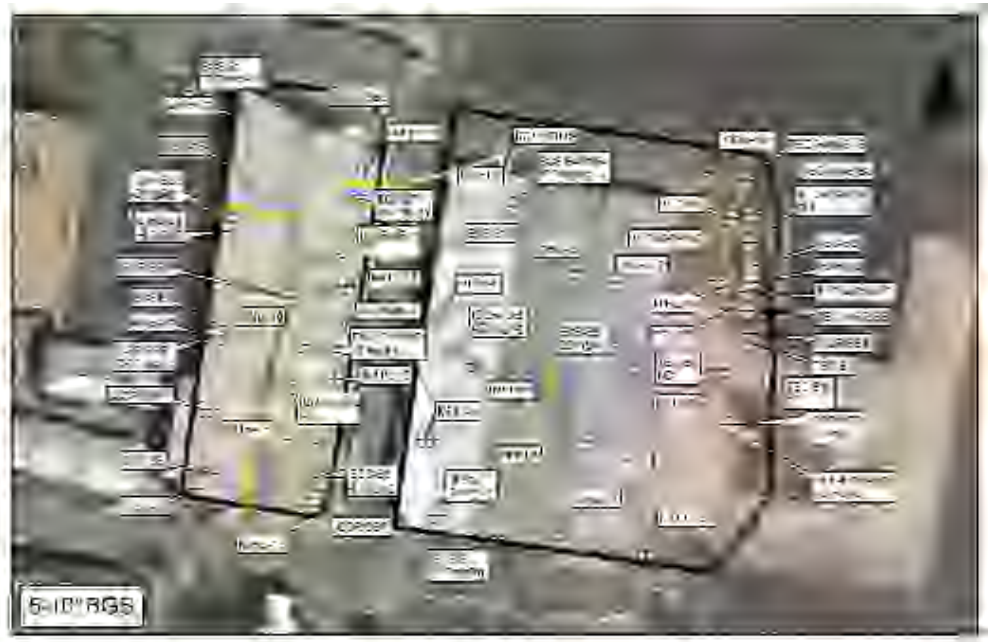
FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

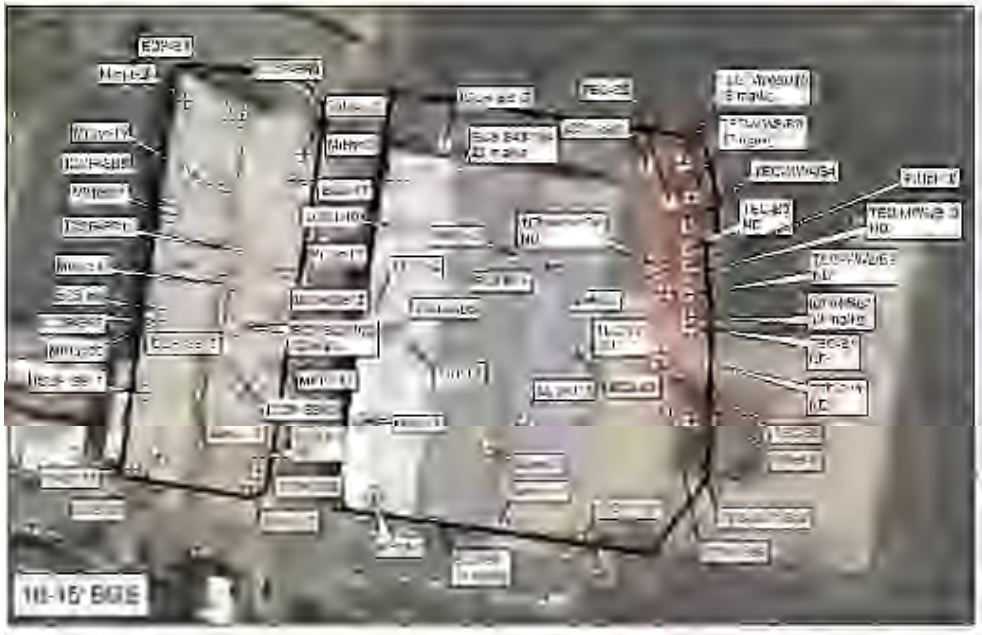
ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 9

16-CI-001-RTN SCR09-HIST TPH GRO SOIL.DWG - July 6, 2016







Legend

Site Property

Historical Shallow Test Boring

Historical Deep Test Boring

Isoconcentration (TPH-DRO)

Sample ID
TPH-DRO Concentration (mg/kg)

1000 mg/kg

220 mg/kg

40 mg/kg

Notes:
NC: Not Detect

0 30 60 120 Feet

HISTORIC TPH–DRO IN SOIL ISOCONCENTRATION MAP

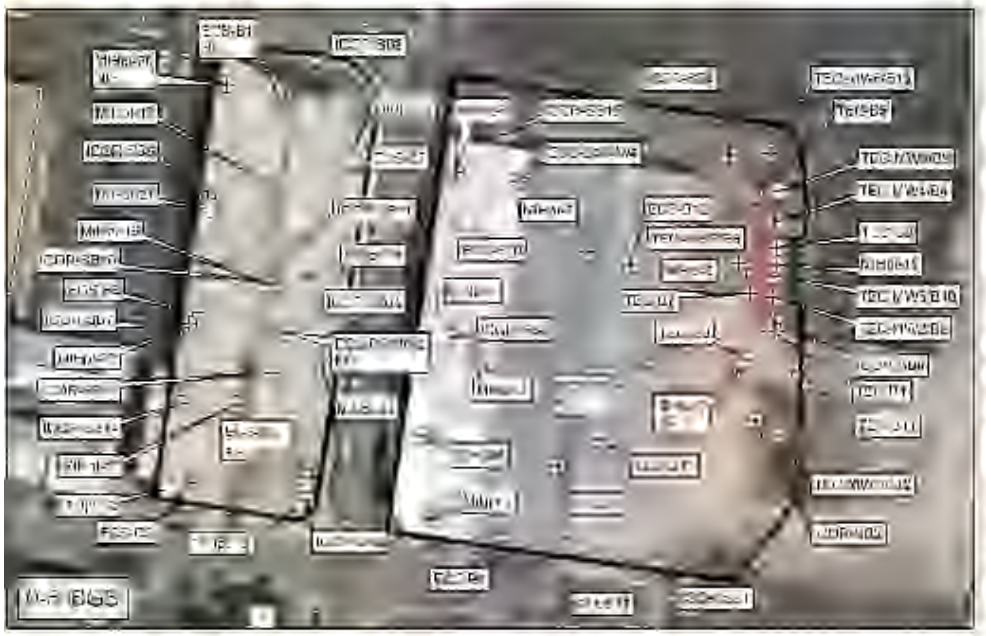
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

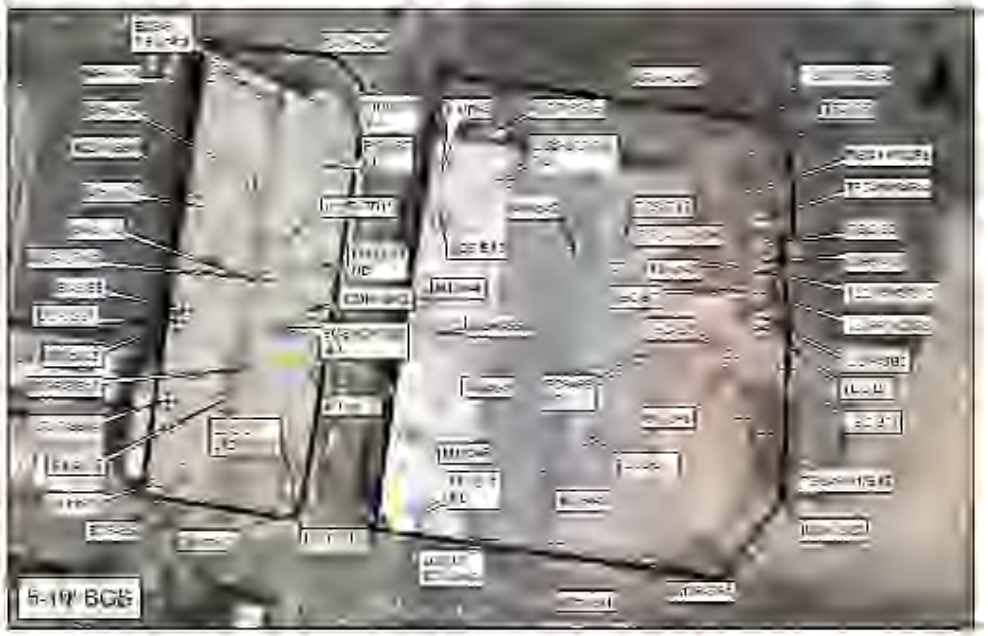
ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 10

16-CI-001-RTN_SCR10-HIST TPH DRO SOIL.DWG - July 6, 2016







Legend

Notes
ND - Non-Detect

0 50 100 200
Feet

HISTORIC BENZENE IN SOIL ISOCONCENTRATION MAP

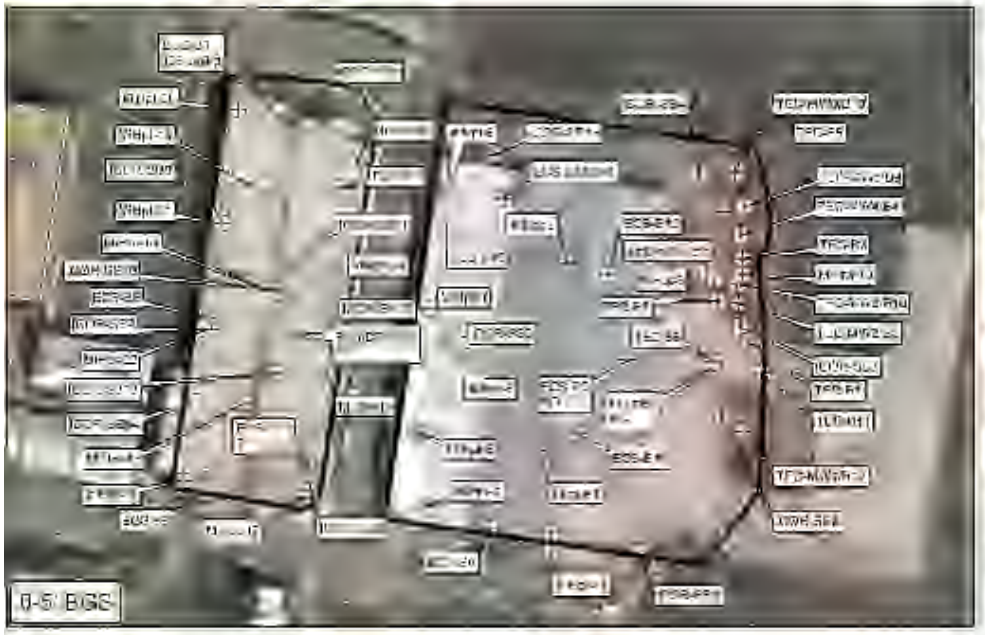
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

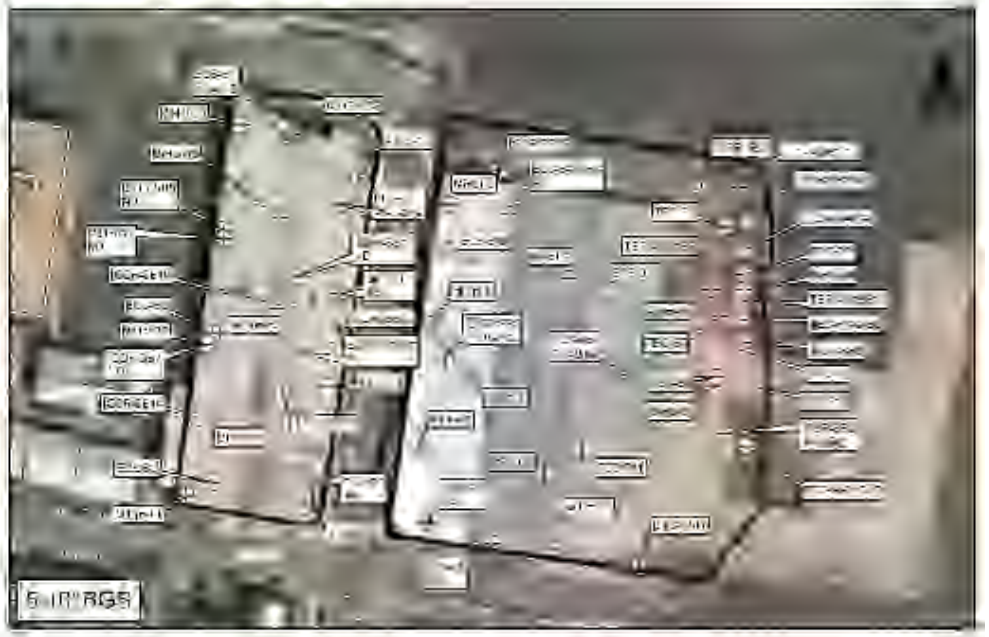
ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 11

16-CI-001-RTN SCR11-HIST BENZ SOIL.DWG – July 6, 2016







Legend

Site Property

Historical Shallow Soil Boring

Historical Deep Soil Boring

Isoconcentration (Naphthalene)

Notes:
NG = Non-Detect

HISTORIC NAPHTHALENE IN SOIL ISOCONCENTRATION MAP

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 12

16-CI-001-RTN_SCR12-HIST NAPH SOIL.DWG - July 6, 2016



HISTORIC ARSENIC IN SOIL ISOCONCENTRATION MAP

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 13

16-CI-001-RTN SCR13-HIST ARS SOIL.DWG – July 6, 2016



GROUNDWATER CONTOUR MAP (9/21/16 & 2/7/17)

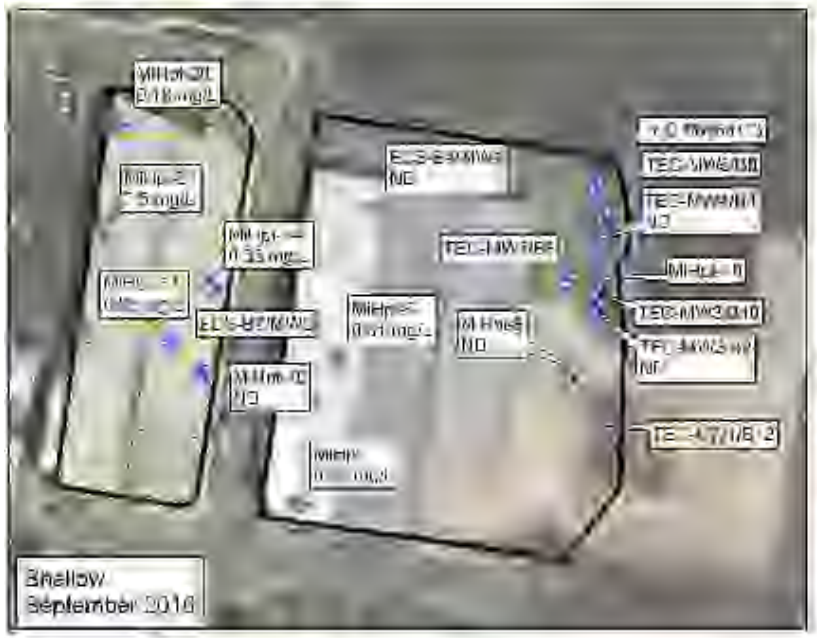
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

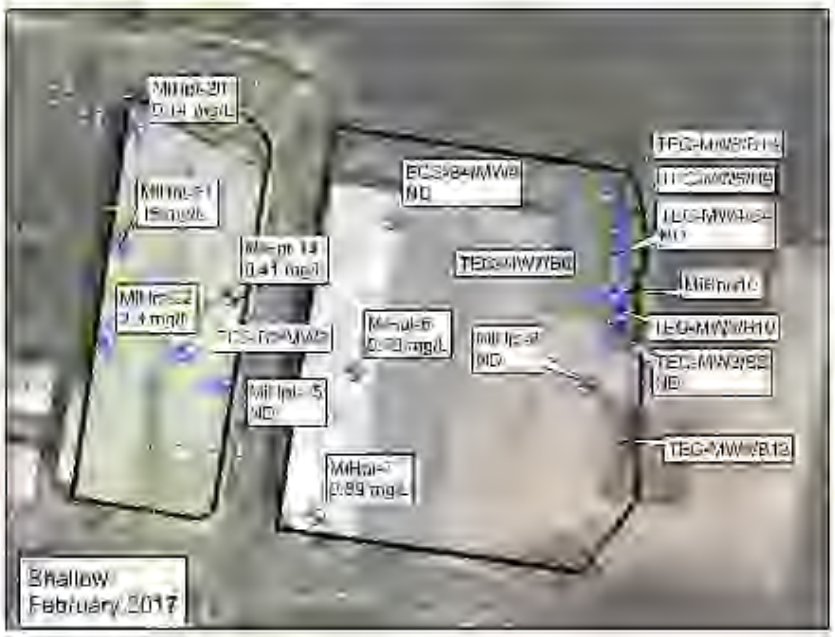
ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

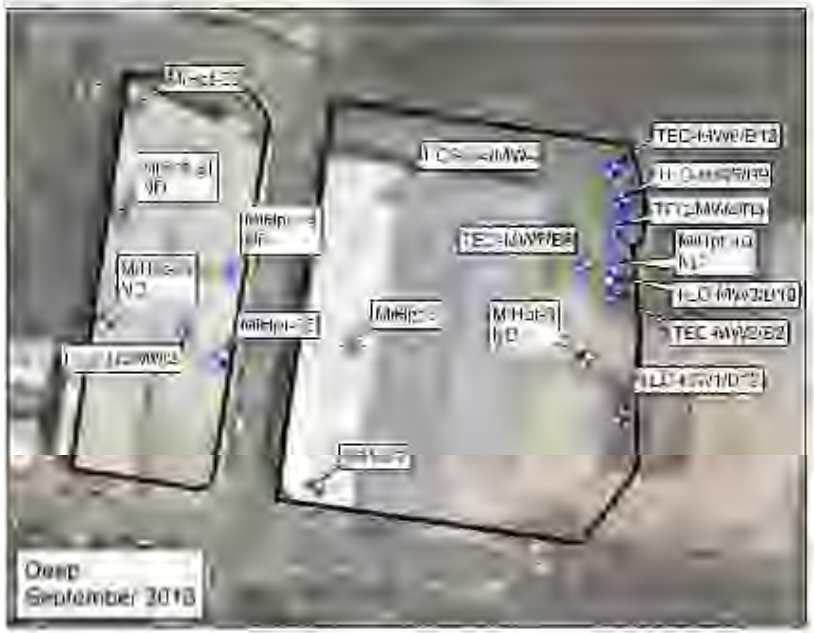
FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 14

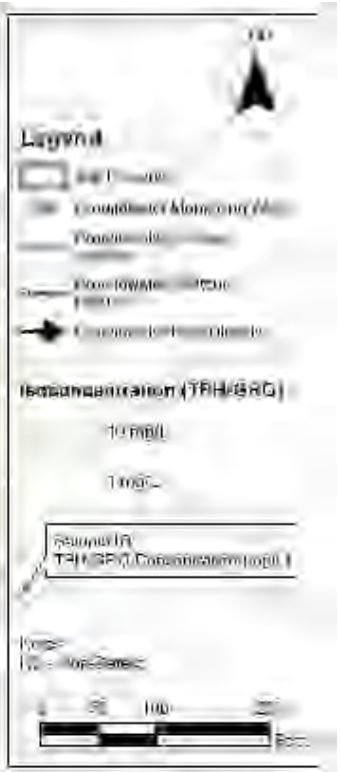
16-CI-001-RTN SCR14-GW CONT MAP.DWG – July 6, 2016











TPH–GRO IN GROUNDWATER ISOCONCENTRATION MAP (9/21/16 & 2/7/17)

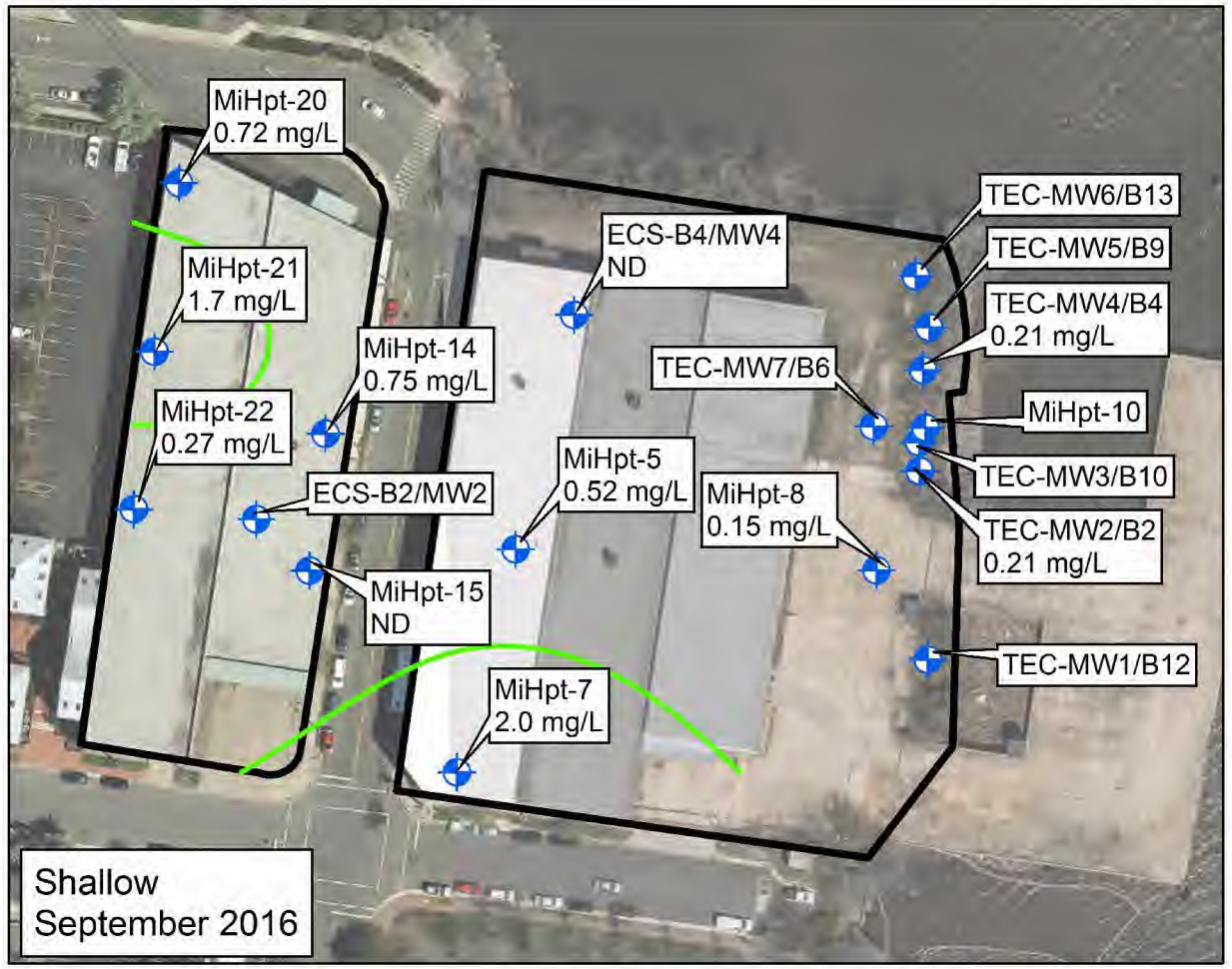
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

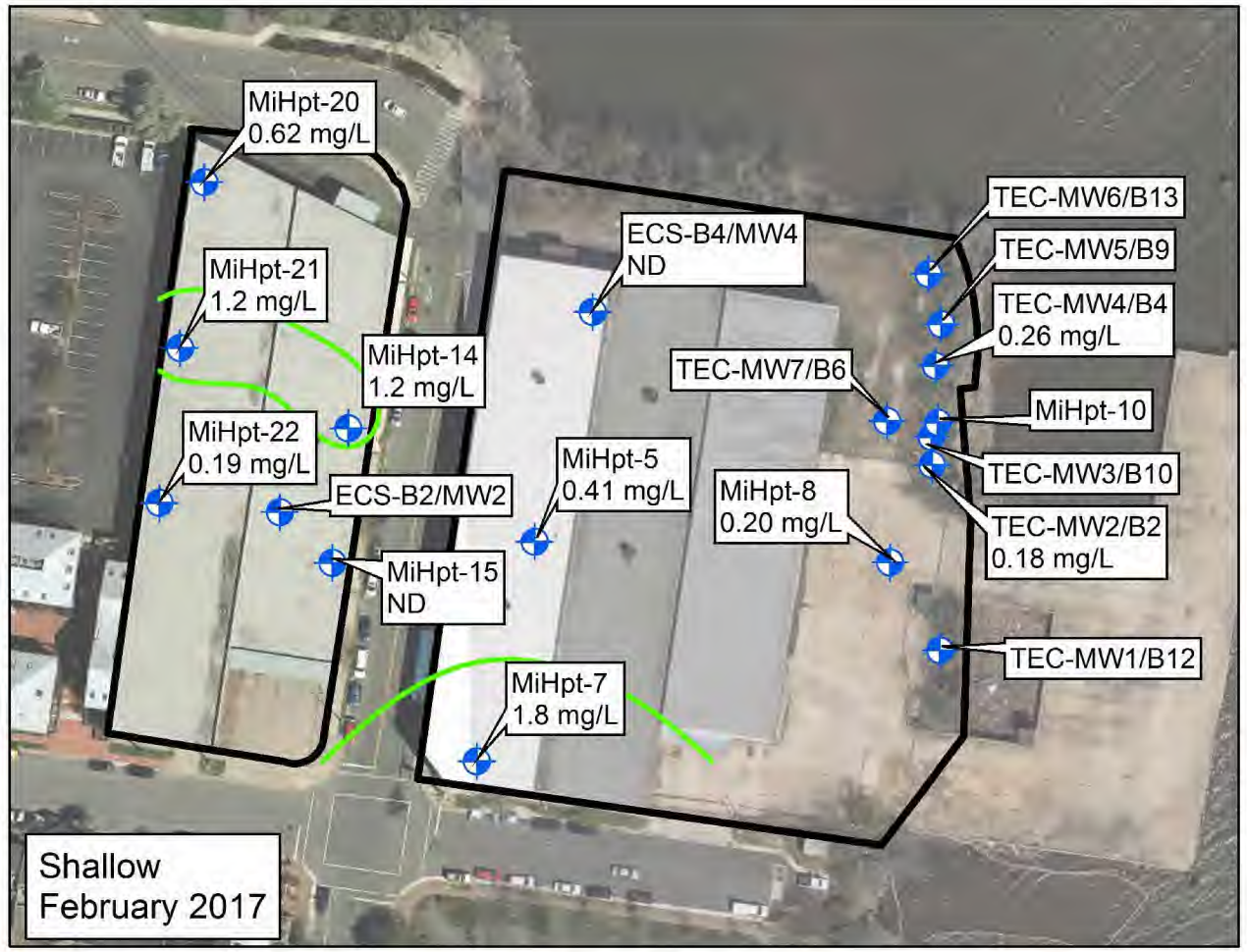
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MIDDLEBURG, VIRGINIA 20118

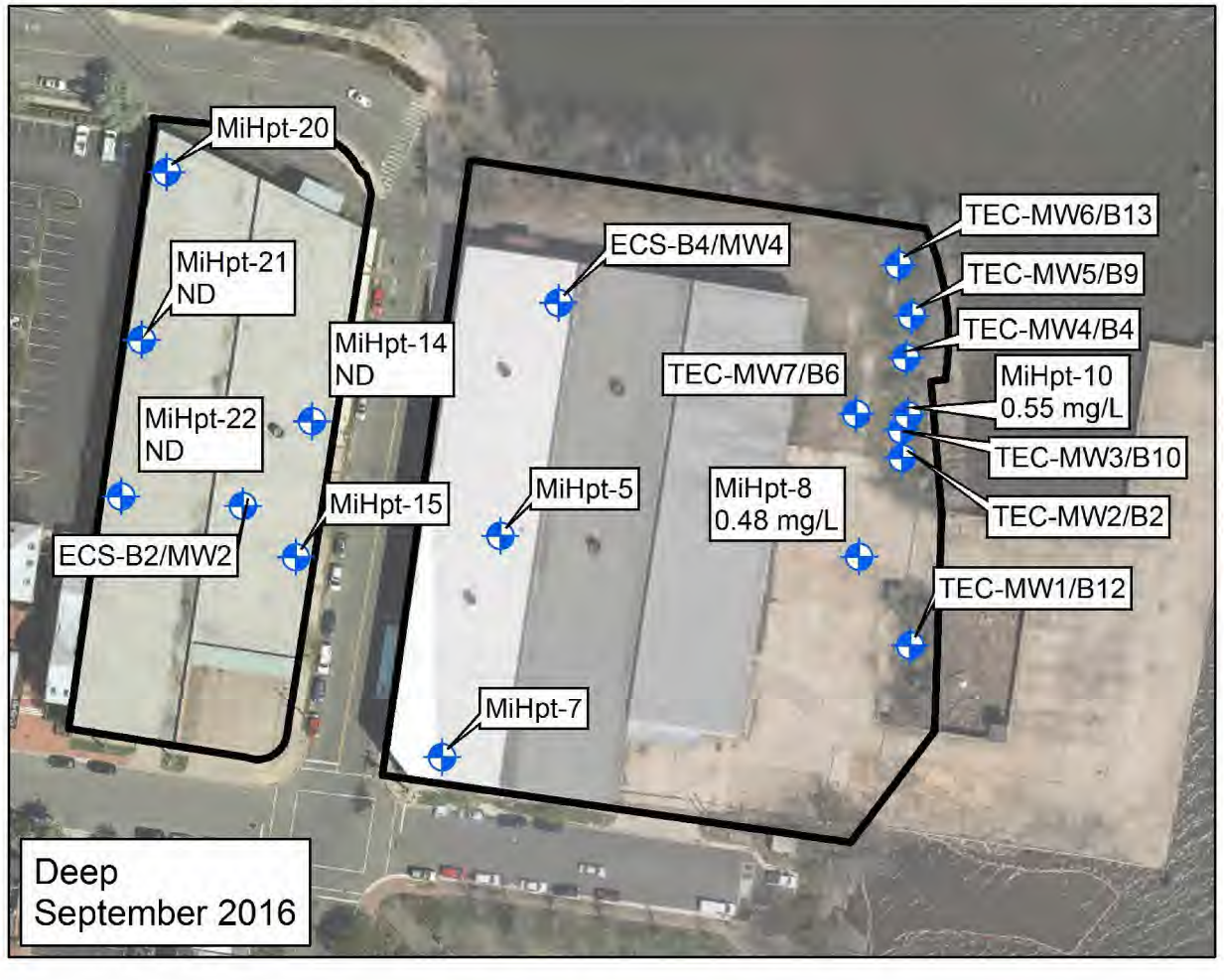
FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

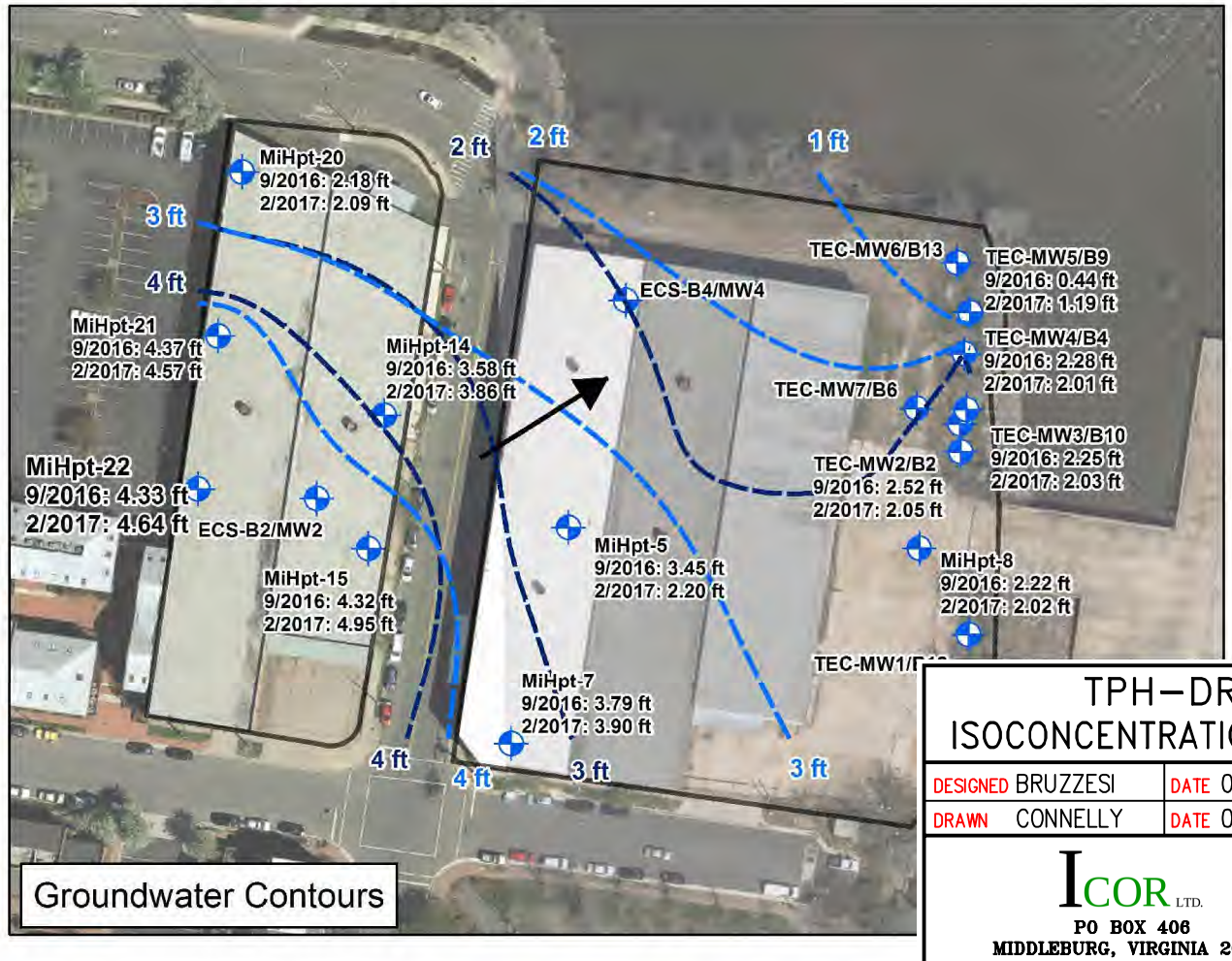
PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 15

16-CI-001-RTN_SCR15-TPH_GRO_GW.DWG – July 6, 2016









N

Legend

- Site Property
- Groundwater Monitoring Well
- Groundwater Contour (9/2016)
- Groundwater Contour (2/2017)
- Groundwater Flow Direction

Isoconcentration (TPH-DRO)

- 1 mg/L

Sample ID
TPH-DRO Concentration (mg/L)

Notes:
ND - Non-Detect

0 50 100 200
Feet

TPH–DRO IN GROUNDWATER ISOCONCENTRATION MAP (9/21/16 & 2/7/17)

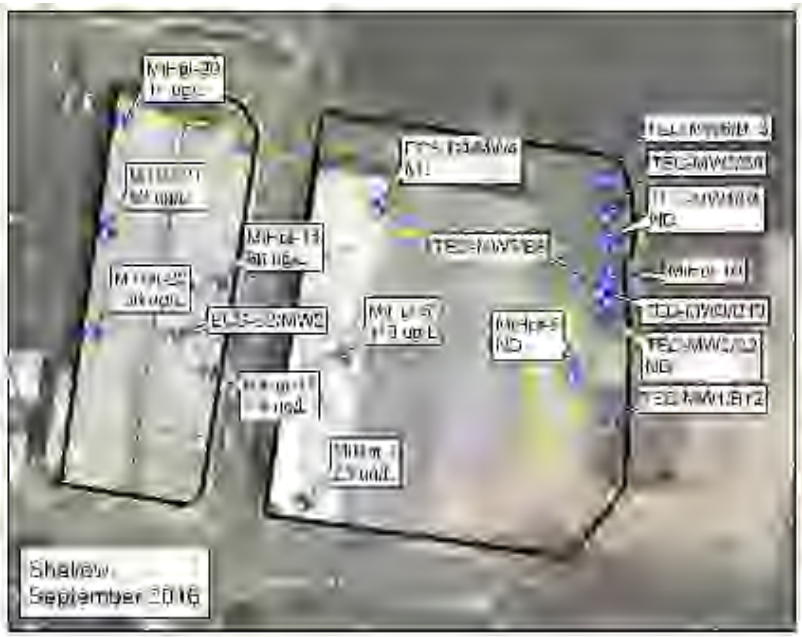
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

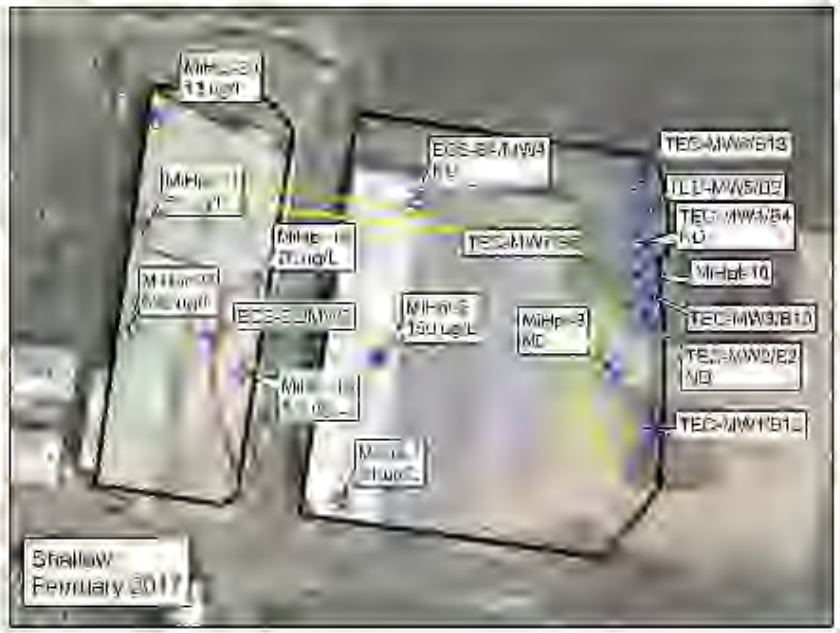
ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

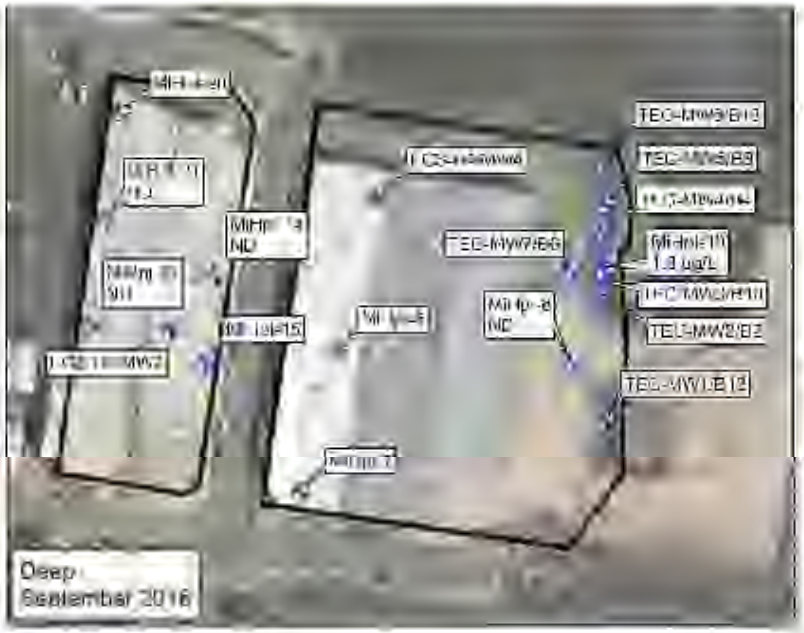
FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 16

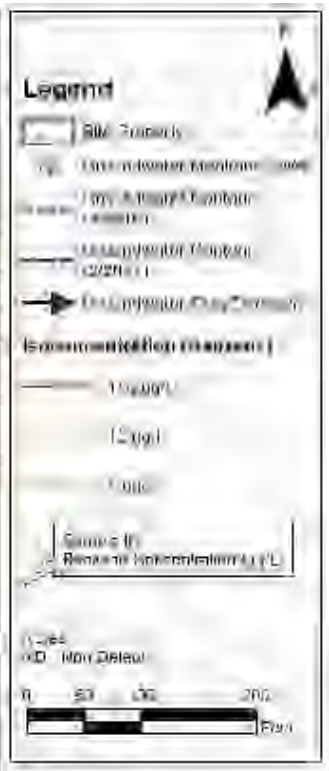
16-CI-001-RTN SCR16-TPH DRO GW.DWG — July 6, 2016











BENZENE IN GROUNDWATER ISOCONCENTRATION MAP (9/21/16 & 2/7/17)

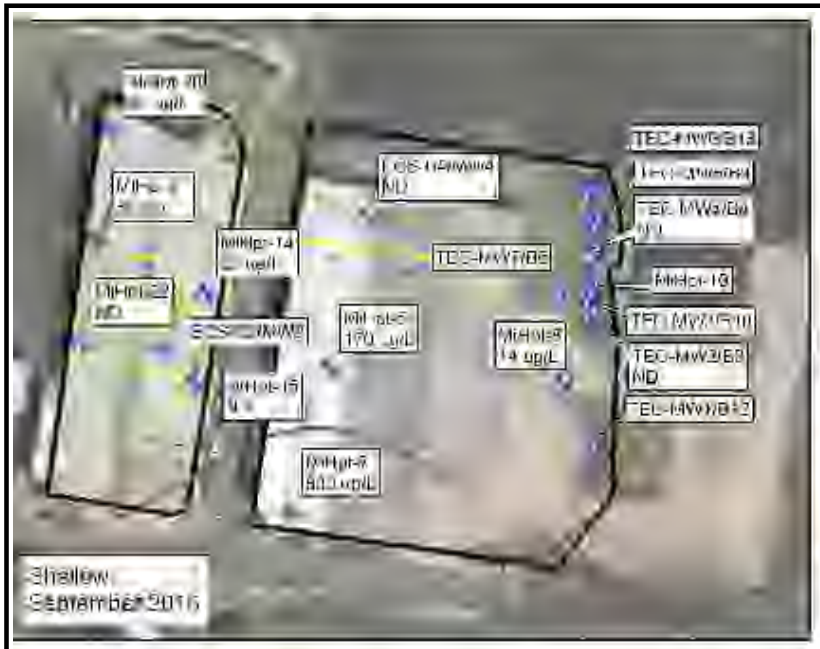
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

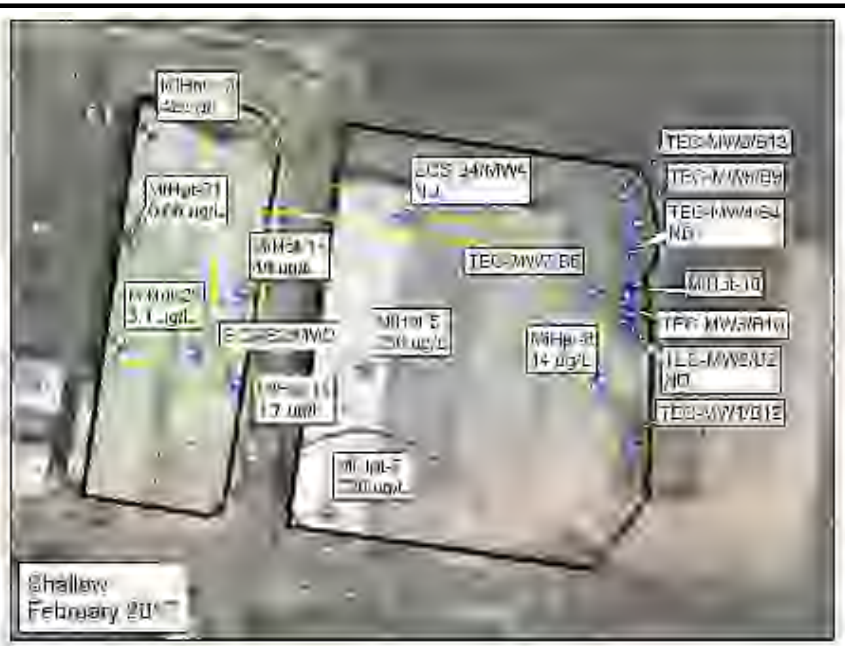
ICOR LTD.
PO BOX 406
MIDDLEBURG, VIRGINIA 20118

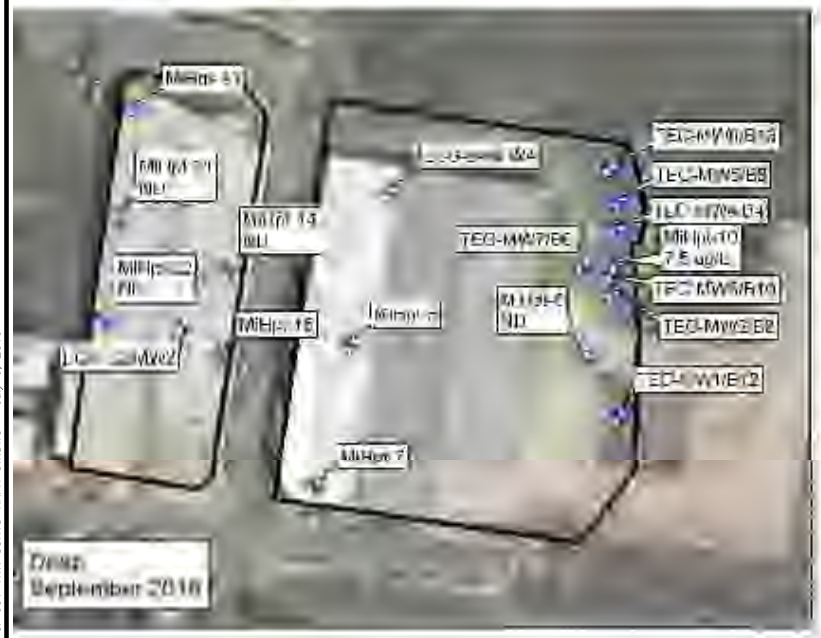
FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

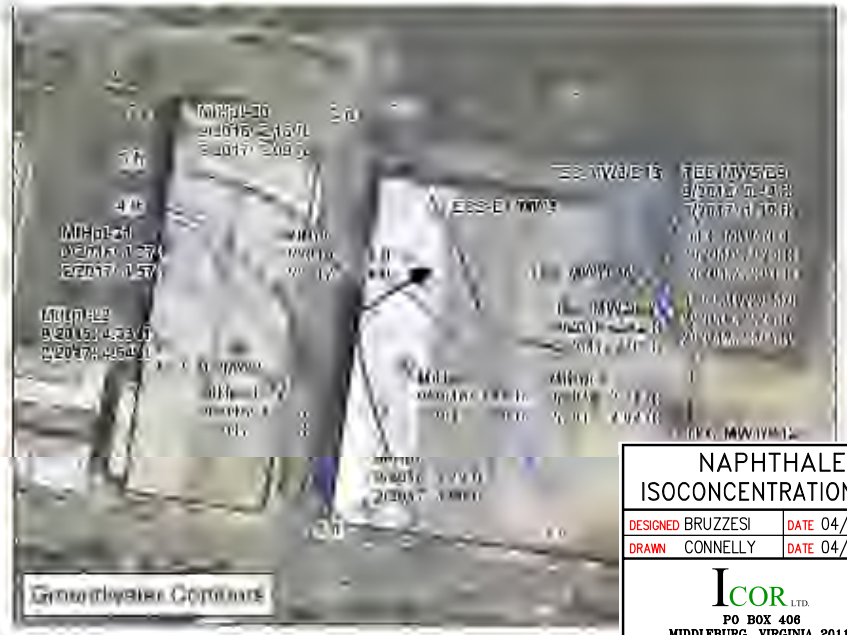
PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 17

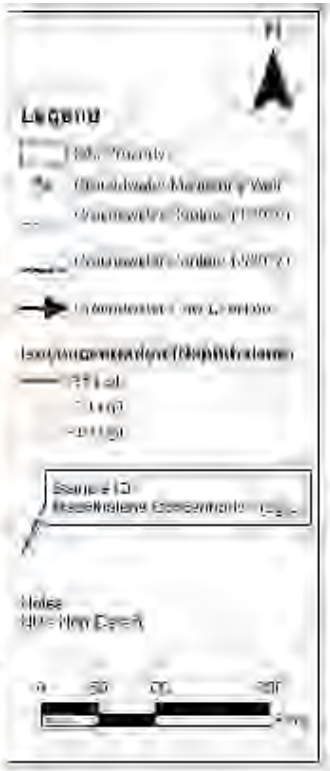
16-CI-001-RTN_SCR17-BENZENE_GW.DWG – July 6, 2016











NAPHTHALENE IN GROUNDWATER ISOCONCENTRATION MAP (9/21/16 & 2/7/17)

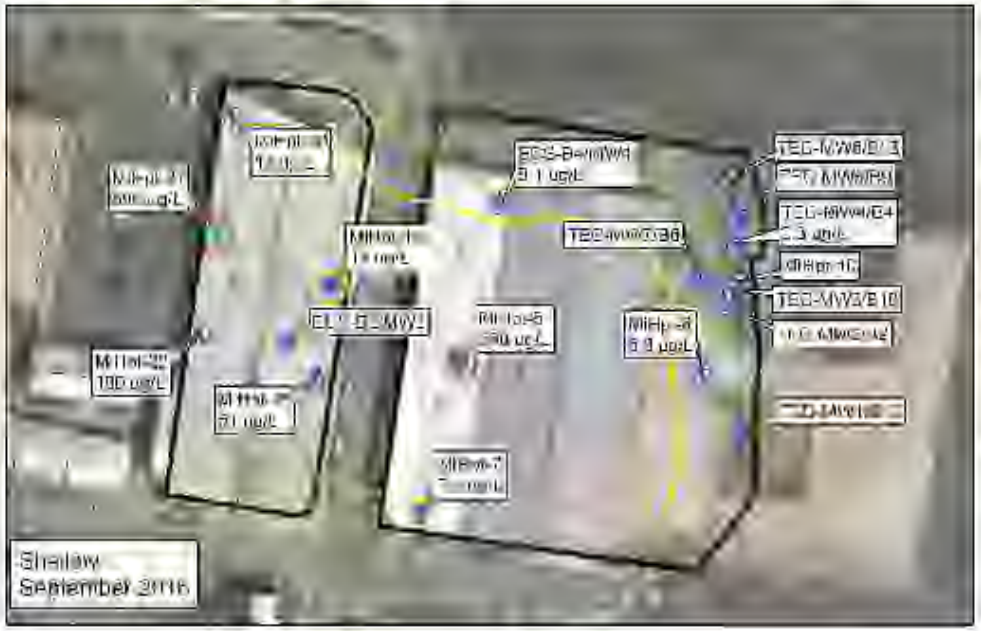
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

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FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 18

16-CI-001-RTN_SCR18-NAPH_GW.DWG -- July 6, 2016







Legend

- Site Property
- Groundwater Monitoring Well
- Groundwater Contour (9.20' ft)
- Groundwater Contour (5.20' ft)
- Groundwater Flow Direction

Isoconcentration (Arsenic)

- 500 ug/L
- 50 ug/L
- 5 ug/L

Sample ID
Arsenic Concentration (ug/L)

Notes:
ND - Non-Detect

0 50 100 200
Feet

ARSENIC IN GROUNDWATER ISOCONCENTRATION MAP

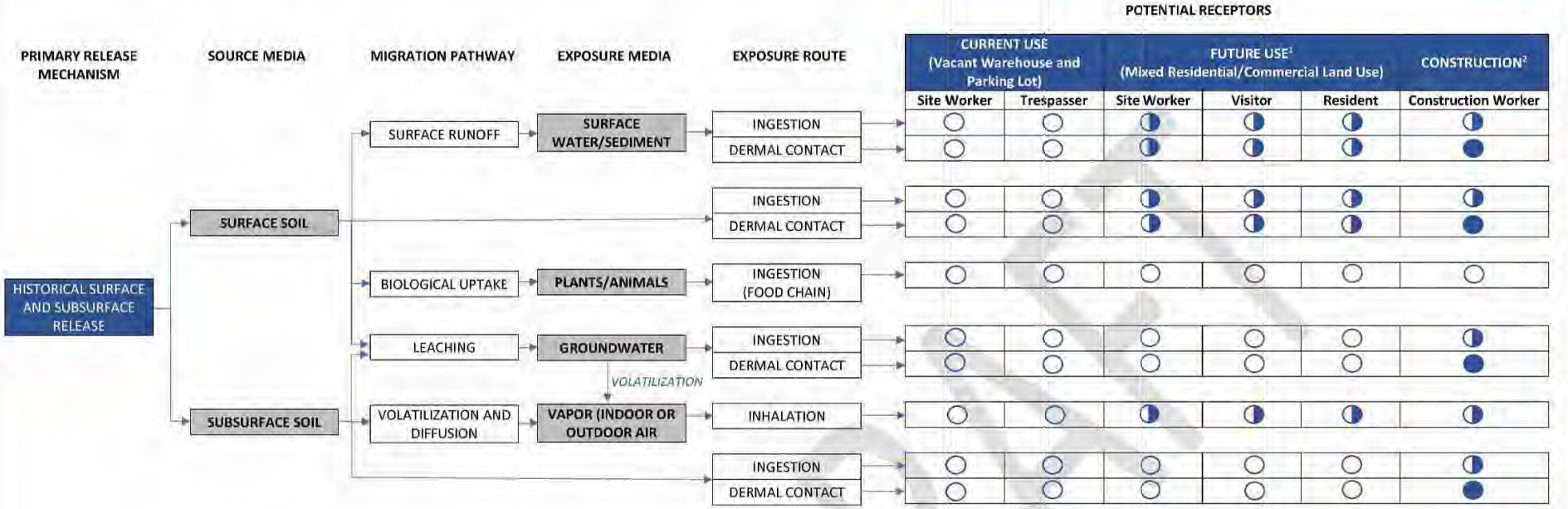
DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

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FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 19

16-CI-001-RTN_SCR19-ARS_GW.DWG - July 6, 2016



Note:

1. Identified pathways will be addressed via remedial actions, engineering controls, and/or institutional controls.
2. Identified pathways will be addressed via remedial actions, engineering controls, and/or establishment of health and safety controls.

CONCEPTUAL SITE MODEL

DESIGNED BRUZZESI	DATE 04/04/17
DRAWN CONNELLY	DATE 04/04/17

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FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

PROJECT NO. 16.CI.001	SCALE: AS SHOWN
DRAWING NO.	FIGURE 20

16-CI-001-RTN SCR20-CSM.DWG — July 6, 2016

TABLES

TABLE 1. TEST BORING SUMMARY

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Test Boring ID	Date Advanced	Maximum Depth Investigated (feet bgs)	Real-Time						Soil							Groundwater Information			Soil Gas Information		
			Date Advanced	Depth Advanced (feet bgs)	Indication of Free Product	Elevated PID Reading (feet bgs)	Elevated FID Reading (feet bgs)	Elevated ECD Reading (feet bgs)	Test Boring Depth (feet bgs)	Staining Observed (feet bgs)	Odors Noted (feet bgs)	PID Reading Range (in ppm)	Date Collected	Laboratory Sample Depth (feet bgs)	Soil Sample Laboratory Analysis	Date Collected	Approximate Depth to Groundwater (feet bgs)	Groundwater Sample Laboratory Analyses	Date Collected	Depth of Soil Gas Sampling (feet bgs)	Soil Gas Laboratory Analysis
TEC-B1	4/27/06	14.0	NA	NA	NA	NA	NA	NA	14.0	NO	NO	0.0 - 0.0	4/27/06	11.0 -12.0	TPH-GRO, TPH-	4/27/06	UKN	NO	NA	NA	NA
TEC-B2/MW2	4/27/06	14.0	NA	NA	NA	NA	NA	NA	14.0	NO	NO	0.0 - 0.0	4/27/06	12.0 -16.0	TPH-GRO, TPH-DRO	5/1/06	6.5	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
																3/30/16	UKN	TPH-DRO, BTEX, NAP, MTBE			
																9/21/16	2.5	TPH-GRO, TPH-DRO, VOCs, NAP			
TEC-B3	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	NO	0.0 - 0.0	4/27/06	11.0 -12.0	TPH-GRO, TPH-	4/27/06	UKN	NO	NA	NA	NA
TEC-B4/MW4	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	NO	0.0 - 1.4	4/27/06	9.0 - 10.0	TPH-GRO, TPH-DRO	5/1/06	7.0	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
																3/30/16	UKN	TPH-DRO, BTEX, NAP, MTBE			
																9/21/16	2.3	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB			
TEC-B5	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	NO	0.0 - 0.0	4/27/06	7.0 - 12.0	TPH-GRO, TPH-	NA	8.0	NA	NA	NA	NA
TEC-B6/MW7	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	6.6 - 7.6 (petroleum)	0.0 - 0.8	4/27/06	11.0 - 12.0	TPH-GRO, TPH-DRO	5/1/06	6.5	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
TEC-B7	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	NO	0.0 - 0.0	4/27/06	10.0 - 12.0	TPH-GRO, TPH-	NA	12.0	NA	NA	NA	NA
TEC-B8	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	NO	0.0 - 1.0	4/27/06	7.0 - 8.0	TPH-GRO, TPH-	NA	UKN	NA	NA	NA	NA
TEC-B9/MW5	4/27/06	16.0	NA	NA	NA	NA	NA	NA	16.0	NO	12.0 - 14.0 (petroleum)	0.0 - 49.2	4/27/06	12.0 -14.0	TPH-GRO, TPH-DRO	5/1/06	8.0	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
																3/30/16	UKN	TPH-DRO, BTEX, NAP, MTBE			
TEC-B10/MW3	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	NO	0.0 - 0.2	4/27/06	11.0 -12.0	TPH-GRO, TPH-DRO	5/1/06	7.0	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
																3/30/16	UKN	TPH-DRO, BTEX, NAP, MTBE			
TEC-B11	4/27/06	12.0	NA	NA	NA	NA	NA	NA	12.0	NO	NO	0.0 - 0.0	4/27/06	9.0 - 11.0	TPH-GRO, TPH-DRO	5/1/06	UKN	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
TEC-B12/MW1	4/27/06	10.0	NA	NA	NA	NA	NA	NA	10.0	NO	NO	0.0 - 0.0	4/27/06	7.0 - 8.0	TPH-GRO, TPH-DRO	5/1/06	6.5	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
TEC-B13/MW6	4/27/06	14.0	NA	NA	NA	NA	NA	NA	10.0	NO	NO	0.0 - 1.4	4/27/06	11.0 -12.0	TPH-GRO, TPH-DRO	5/1/06	6.0	TPH-GRO, TPH-DRO, BTEX, NAP, MTBE	NA	NA	NA
ECS-B1	12/19/07	60.0	NA	NA	NA	NA	NA	NA	60.0	UKN	UKN	UKN	12/19/07	1.0 - 2.5	RCRA Total Metals	NA	8.5	NA	NA	NA	NA
														2.5 - 4.0	TPH-DRO, VOCs						
														8.5 - 10.0	TPH-DRO, VOCs						
														18.5 - 20.0	TPH-DRO, VOCs						
ECS-B2/MW2	12/20/07	80.0	NA	NA	NA	NA	NA	NA	80.0	UKN	UKN	UKN	12/20/07	2.5 - 4.0	TPH-DRO, VOCs	1/4/08	8.5	TPH-DRO, VOCs, SVOCs, RCRA Total Metals	NA	NA	NA
														5.0 - 6.5	RCRA Total Metals	10/8/13	10.1	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total and Dissolved Metals			
														8.5 - 10.0	TPH-DRO, VOCs						
														13.5 - 15.0	TPH-DRO, VOCs						
ECS-B3	12/26/07	80.0	NA	NA	NA	NA	NA	NA	80.0	UKN	UKN	UKN	12/26/07	1.0 - 2.5	TPH-DRO, VOCs	NA	14.0	NA	NA	NA	NA
														2.5 - 4.0	Pesticides, PCBs, Herbicides						
														8.5 - 10.0	TPH-DRO, VOCs						
														13.5 - 15.0	TPH-DRO, VOCs						
														28.5 - 30.0	TPH-DRO, VOCs						
ECS-B4/MW4	12/27/07	80.0	NA	NA	NA	NA	NA	NA	80.0	UKN	UKN	UKN	12/27/07	5.0 - 6.5	TPH-DRO, VOCs	1/4/08	8.5	TPH-DRO, VOCs, SVOCs, RCRA Total Metals	NA	NA	NA
														13.5 - 15.0	TPH-DRO, VOCs	10/8/13	5.2	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total and Dissolved Metals			
														13.5 - 15.0	TPH-DRO, VOCs	9/21/16	5.8	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB			
														18.5 - 20.0	PEST, PCBs, HERB						
														23.5 - 25.0	TPH-DRO, VOCs						
														28.5 - 30.0	TPH-DRO, VOCs						

TABLE 1. TEST BORING SUMMARY

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Test Boring ID	Date Advanced	Maximum Depth Investigated (feet bgs)	Real-Time						Soil							Groundwater Information			Soil Gas Information		
			Date Advanced	Depth Advanced (feet bgs)	Indication of Free Product	Elevated PID Reading (feet bgs)	Elevated FID Reading (feet bgs)	Elevated ECD Reading (feet bgs)	Test Boring Depth (feet bgs)	Staining Observed (feet bgs)	Odors Noted (feet bgs)	PID Reading Range (in ppm)	Date Collected	Laboratory Sample Depth (feet bgs)	Soil Sample Laboratory Analysis	Date Collected	Approximate Depth to Groundwater (feet bgs)	Groundwater Sample Laboratory Analyses	Date Collected	Depth of Soil Gas Sampling (feet bgs)	Soil Gas Laboratory Analysis
ECS-B5	1/2/08	60.0	NA	NA	NA	NA	NA	NA	60.0	UKN	UKN	UKN	1/2/08	2.5 - 4.0	TPH-DRO, VOCs	NA	8.5	NA	NA	NA	NA
														5.0 - 6.5	RCRA Total Metals						
														8.5 - 10.0	TPH-DRO, VOCs						
														28.5 - 30.0	TPH-DRO, VOCs						
														33.5 - 35.0	TPH-DRO, VOCs						
ECS-B6	12/28/07	80.0	NA	NA	NA	NA	NA	NA	80.0	UKN	UKN	UKN	12/28/07	1.0 - 2.5	PEST, PCBs, HERB	NA	5.0	NA	NA	NA	NA
														5.0 - 6.5	TPH-DRO, VOCs						
														8.5 - 10.0	TPH-DRO, VOCs						
														13.5 - 15.0	TPH-DRO, VOCs						
														18.5 - 20.0	TPH-DRO, VOCs, PEST, PCBs, HERB						
														23.5 - 25.0	RCRA Total Metals						
														28.5 - 30.0	TPH-DRO, VOCs						
ICOR-SB1	10/8/13	13.5	NA	NA	NA	NA	NA	NA	13.5	NO	NO	0.0 - 0.0	NA	NA	NA	10/8/13	5.4	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total and Dissolved Metals	NA	NA	NA
ICOR-SB2	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	3.0 - 10.0 (oil and gasoline)	0.0 - 25.4	10/8/13	3.0 - 4.0	PPL Total Metals	NA	6.0	NA	NA	NA	NA
														5.0 - 6.0	TPH-GRO, TPH-DRO, TCL VOCs, TCL SVOCs						
ICOR-SB3	10/8/13 9/7/16	15.0	NA	NA	NA	NA	NA	NA	15.0	10.0 - 12.0 (oil)	10.0 - 12.0 (oil)	0.0 - 4.0	9/7/16	10.5 - 11.5	TPH-DRO, PCBs	NA	10.0	NA	NA	NA	NA
ICOR-SB4	10/8/13	10.0	NA	NA	NA	NA	NA	NA	10.0	NO	NO	0.0 - 0.0	NA	NA	NA	NA	9.0	NA	NA	NA	NA
ICOR-SB5	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	NO	0.0 - 0.0	10/8/13	6.0 - 7.0	TPH-GRO, TPH-DRO, TCL VOCs, TCL SVOCs, PPL Total Metals	10/8/13	9.9	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total and Dissolved Metals	NA	NA	NA
ICOR-SB6	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	12.0 - 15.0 (oil)	0.0 - 8.2	10/8/13	2.0 - 3.0	PPL Total Metals	10/8/13	10.5	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total and Dissolved Metals	NA	NA	NA
ICOR-SB7	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	5.0 - 15.0 (oil from 5.0 - 7.0 and oil and gasoline from 7.0 -15.0)	0.0 - 163.0	10/8/13	7.5 - 8.5	TPH-GRO, TPH-DRO, TCL VOCs, TCL SVOCs, PPL Total Metals	10/8/13	8.0	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total and Dissolved Metals	NA	NA	NA
ICOR-SB8	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	1.0 - 15.0 (oil and gasoline)	46.1 - >451.0	10/8/13	2.0 - 3.0	PPL Metals	10/8/13	8.1	TPH-GRO, TPH-DRO, VOCs, SVOCs	NA	NA	NA
														5.0 - 6.0	TPH-GRO, TPH-DRO, TCL VOCs, TCL SVOCs						
ICOR-SB9	10/8/13 9/7/16	17.0	NA	NA	NA	NA	NA	NA	17.0	NO	2.0 - 6.0 (oil)	0.0 - 2.8	9/7/16	4.0 - 5.0	PCBs	10/8/13	10.1	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total and Dissolved Metals	NA	NA	NA
													10/8/13	4.5 - 5.5	PPL Total Metals						
ICOR-SB10	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	NO	0.0 - 0.0	10/8/13	2.0 - 3.0	PPL Total Metals	NA	8.5	NA	NA	NA	NA
ICOR-SB11/DSG4	10/8/13	15.0	NA		NA	NA	NA	NA	15.0	NO	NO	0.0 - 0.0	10/8/13	5.5 - 6.5	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals	NA	9.1	NA	NA	NA	NA
ICOR-SB12	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	NO	0.0 - 0.0	10/8/13	6.0 - 7.0	PPL Metals	NA	10.0	NA	NA	NA	NA
ICOR-SB13	10/8/13	15.0	NA	NA	NA	NA	NA	NA	15.0	NO	NO	0.0 - 0.0	10/8/13	5.5 - 6.5	TPH-GRO, TPH-DRO, PPL Total Metals, Chromium VI	NA	9.0	NA	NA	NA	NA
ECS-B7	10/7/14 9/7/16	60.0	NA	NA	NA	NA	NA	NA	60.0	NO	2.5 - 7.0 (gasoline)	UKN	10/7/14	2.5 - 10.0	RCRA Total and TCLP Metals	NA	9.5	NA	NA	NA	NA
													9/7/16	1.0 - 2.0	PPL Total Metals, PEST, PCBs, HERB						
														5.0 - 6.0	TPH-GRO, TPH-DRO, VOCs, NAP						

TABLE 1. TEST BORING SUMMARY

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500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Test Boring ID	Date Advanced	Maximum Depth Investigated (feet bgs)	Real-Time						Soil							Groundwater Information			Soil Gas Information		
			Date Advanced	Depth Advanced (feet bgs)	Indication of Free Product	Elevated PID Reading (feet bgs)	Elevated FID Reading (feet bgs)	Elevated ECD Reading (feet bgs)	Test Boring Depth (feet bgs)	Staining Observed (feet bgs)	Odors Noted (feet bgs)	PID Reading Range (in ppm)	Date Collected	Laboratory Sample Depth (feet bgs)	Soil Sample Laboratory Analysis	Date Collected	Approximate Depth to Groundwater (feet bgs)	Groundwater Sample Laboratory Analyses	Date Collected	Depth of Soil Gas Sampling (feet bgs)	Soil Gas Laboratory Analysis
ECS-B8	10/6/14	60.0	NA	NA	NA	NA	NA	NA	60.0	NO	NO	UKN	10/6/14	2.5 - 4.0	RCRA Total and TCLP Metals	NA	9.0	NA	NA	NA	NA
ECS-B9	10/2/14	60.0	NA	NA	NA	NA	NA	NA	60.0	NO	NO	UKN	10/2/14	2.5 - 10.0	RCRA Total Metals	NA	9.5	NA	NA	NA	NA
ECS-B10	10/7/14	60.0	NA	NA	NA	NA	NA	NA	60.0	NO	NO	UKN	10/7/14	4.0 - 10.0	RCRA Total Metals	NA	7.5	NA	NA	NA	NA
ECS-B11	10/9/14	60.0	NA	NA	NA	NA	NA	NA	60.0	NO	NO	UKN	10/9/14	5.0 - 10.0	RCRA Total Metals	NA	9.5	NA	NA	NA	NA
ECS-B12	10/8/14	60.0	NA	NA	NA	NA	NA	NA	60.0	NO	NO	UKN	10/8/14	5.0 - 10.0	RCRA Total Metals	NA	9.5	NA	NA	NA	NA
MiHpt-1	6/23/16	25.00	6/23/16	25.00	NO	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	UKN	NA	NA	NA	NA
MiHpt-2/DSG-1	6/23/16	25.00	6/23/16	25.00	NO	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	UKN	NA	12/5/16	6.0 - 6.5	VOCs
MiHpt-3/DSG-2	6/23/16 9/6/16	25.15	6/23/16	25.15	NO	NO	NO	NO	5.0	NO	NO	0.0 - 0.0	9/6/16	1.0 - 2.0 4.0 - 5.0	PPL Total Metals Total AS	NA	UKN	NA	12/5/16	5.0 - 5.5	VOCs
MiHpt-4	6/23/16 9/6/16	24.95	6/23/16	24.95	NO	NO	NO	NO	5.0	NO	NO	0.0 - 0.0	9/6/16	1.0 - 2.0 4.0 - 5.0	PPL Total Metals Total AS	NA	UKN	NA	NA	NA	NA
MiHpt-5	6/23/16 9/7/16	28.25	6/23/16	28.25	NO	NO	NO	NO	16.0	NO	NO	0.0 - 0.0	9/7/16	1.0 - 2.0	Total AS	9/21/16	3.5	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB	NA	NA	NA
MiHpt-6/DSG-3	6/23/16 9/6/16	30.35	6/23/16	30.35	NO	NO	14.5 - 14.8	NO	5.0	NO	NO	0.0 - 0.0	9/6/16	1.0 - 2.0 4.0 - 5.0	PPL Total Metals PPL Total Metals	NA	NA	NA	12/5/16	3.5 - 4.0	VOCs
MiHpt-7	6/23/16 9/6/16	25.70	6/23/16	25.70	NO	6.5 - 9.0	6.5 - 9.0 and 10.0 - 11.0	NO	17.0	NO	5.0 - 8.0 (petro) 10.0 - 12.5 (swamp)	0.0 - 0.0	9/6/16	1.0 - 2.0 7.0 - 8.0	Total AS TPH-GRO, TPH-DRO, VOCs, NAP	9/21/16	3.8	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB	NA	NA	NA
MiHpt-8	6/24/16 9/6/16	50.05	6/24/16	50.05	NO	NO	4.0 - 5.0, 7.0 - 7.25, 14.0 - 17.0, and 22.0 - 42.0	NO	40.0	NO	1.0 - 40.0 (swamp) 11.5 - 12.0 (creosote)	0.0 - 0.0	9/6/16	4.0 - 5.0 37.8 - 38.8	TPH-GRO, TPH-DRO, VOCs, NAP TPH-GRO, TPH-DRO, VOCs, SVOCs	9/9/16 9/21/16	26.5 - 40.0 (Deep) 2.2	TPH-GRO, TPH-DRO, VOCs, SVOCs, OG+TPH TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB	NA	NA	NA
MiHpt-9 (TEC-B6/MW7)	6/24/16	44.90	6/24/16	44.90	NO	NO	20.5 - 35.0	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MiHpt-10 (TEC-B10/MW3)	6/24/16 9/6/16	25.95	6/24/16	25.95	NO	NO	10.5 - 11.5 and 23.0 - 26.0	NO	23.0 - 28.0 (discrete)	NO	NO	NA	9/6/16	24.5 - 25.5	TPH-GRO, TPH-DRO, VOCs, SVOCs	9/6/16	25.0 - 28.5 (Deep)	TPH-GRO, TPH-DRO, VOCs, SVOCs	NA	NA	NA
MiHpt-11/DSG-4	7/5/16	49.95	7/5/16	49.95	NO	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12/5/16	2.0 - 2.5	VOCs
MiHpt-12	7/6/16 9/7/16	21.95	7/6/16	21.95	NO	NO	NO	NO	2.0	NO	NO	0.0 - 0.0	9/7/16	1.0 - 2.0	Total AS	NA	NA	NA	NA	NA	NA
MiHpt-13	7/6/16 9/7/16	34.00	7/6/16	34.00	NO	NO	3.0 - 14.0	3.0 - 22.0	5.0	NO	4.0 - 5.0 (chemical)	0.0 - 0.0	9/7/16	1.0 - 2.0 4.0 - 5.0	PPL Total Metals Total AS				NA	NA	NA
MiHpt-14	7/6/16 9/8/16	25.10	7/6/16	25.10	NO	NO	10.0 - 16.0	4.0 - 9.0	28.5	NO	NO	0.0 - 0.0	9/8/16	1.0 - 2.0 4.0 - 5.0 5.0 - 6.0 25.0 - 26.0	PPL Total Metals, PEST, PCBs, HERB, Dioxin Total AS VOCs, NAP TPH-GRO, TPH-DRO, VOCs, SVOCs	9/8/16 9/21/16	25.0 - 28.5 (Deep) 3.6	TPH-GRO, TPH-DRO, VOCs, SVOCs, OG+TPH TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB	12/5/16	Sub-Slab	VOCs
MiHpt-15	7/7/16 9/8/16	32.05	7/7/16	32.05	NO	NO	NO	13.0 - 25.0	16.0	NO	NO	0.0 - 0.0	9/8/16	1.0 - 2.0 4.0 - 5.0	PPL Total Metals Total AS	9/21/16	4.3	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB	12/5/16	Sub-Slab	VOCs
MiHpt-16 (ECS-B2/MW2, ICOR-SB10)	7/7/16 9/8/16	30.05	7/7/16	30.05	NO	NO	NO	NO	15.0	NO	NO	0.0 - 0.0	9/8/16	1.0 - 2.0 4.0 - 5.0 8.0 - 9.0	PEST, PCBs, HERB, Dioxin PEST, PCBs, HERB Total As	NA	NA	NA	NA	NA	NA
MiHpt-17	7/7/16 9/7/16	26.05	7/7/16	26.05	NO	NO	NO	NO	5.0	NO	NO	0.0 - 0.0	9/7/16	1.0 - 2.0 4.0 - 5.0	PPL Total Metals Total AS	NA	NA	NA	NA	NA	NA
MiHpt-18	7/7/16 9/7/16	24.10	7/7/16	24.10	NO	NO	23.0 - 23.5	NO	5.0	NO	NO	0.0 - 0.0	9/7/16	1.0 - 2.0	Total AS	NA	NA	NA	NA	NA	NA
MiHpt-19	7/7/16 9/7/16	33.90	7/7/16	33.90	NO	NO	NO	NO	5.0	NO	1.0 - 5.0 (chemical)	0.0 - 0.4	9/7/16	1.0 - 2.0 4.0 - 5.0	Total AS, Dioxin Total AS				NA	NA	NA
MiHpt-20	7/7/16 9/8/16	13.05	7/7/16	13.05	NO	NO	NO	NO	18.0	NO	13.5 - 15.0 (chemical)	0.0 - 0.0	9/8/16	1.5 - 2.5 4.0 - 5.0	PPL Total Metals, PEST, PCBs, HERB, Dioxin Total AS	9/21/16	2.2	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB	NA	NA	NA

TABLE 1. TEST BORING SUMMARY

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Test Boring ID	Date Advanced	Maximum Depth Investigated (feet bgs)	Real-Time						Soil							Groundwater Information			Soil Gas Information		
			Date Advanced	Depth Advanced (feet bgs)	Indication of Free Product	Elevated PID Reading (feet bgs)	Elevated FID Reading (feet bgs)	Elevated ECD Reading (feet bgs)	Test Boring Depth (feet bgs)	Staining Observed (feet bgs)	Odors Noted (feet bgs)	PID Reading Range (in ppm)	Date Collected	Laboratory Sample Depth (feet bgs)	Soil Sample Laboratory Analysis	Date Collected	Approximate Depth to Groundwater (feet bgs)	Groundwater Sample Laboratory Analyses	Date Collected	Depth of Soil Gas Sampling (feet bgs)	Soil Gas Laboratory Analysis
MiHpt-21 (ICOR-SB8)	7/7/16 9/9/16	32.30	7/7/16	32.30	NO	7.0 - 11.0	7.0 - 11.0	7.0 - 10.0	28.5	NO	5.0 - 10.0 (gasoline)	0.0 - 10.5	9/9/16	1.0 - 2.0	PEST, PCBs, HERB	9/9/16	25.0 - 28.5 (Deep)	TPH-GRO, TPH-DRO, VOCs, SVOCs, FOG+TPH	12/5/16	Sub-Slab	VOCs
														4.5 - 5.5	Total AS, PEST, PCBs, HERB	9/21/16	4.4	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB			
														9.0 - 10.0	TPH-GRO, TPH-DRO, VOCs, NAP						
														24.0 - 25.0	TPH-GRO, TPH-DRO, VOCs, SVOCs						
MiHpt-22 (ECS-B8, ICOR-SB7)	7/7/16 9/9/16	30.90	7/7/16	30.90	NO	5.0 - 5.5 and 8.0 - 30.0	2.5 - 3.0, 5.0 - 5.5, and 8.0 - 30.0	NO	28.5	NO	7.0 - 7.5 (gasoline) 7.5 - 19.75 (gasoline and chemical) 19.75 - 28.5 (chemical)	0.0 - 287.0	9/9/16	1.0 - 2.0	PPL Total Metals, PEST, PCBs, HERB	9/9/16	25.0 - 28.5 (Deep)	TPH-GRO, TPH-DRO, VOCs, SVOCs, OG+TPH	12/5/16	Sub-Slab	VOCs
														4.0 - 5.0	Total AS, PEST, PCBs, HERB	9/21/16	4.3	TPH-GRO, TPH-DRO, VOCs, SVOCs, PPL Total Metals, PEST, PCBs, HERB			
														19.0 - 20.0	TPH-GRO, TPH-DRO, VOCs, NAP						
														24.0 - 25.0	TPH-GRO, TPH-DRO, VOCs, SVOCs						
ICOR-SB14	9/7/16	5.00	9/7/16	NA					5.0	NO	NO	0.0 - 0.0	9/7/16	1.0 - 2.0	Total AS	NA	NA	NA	NA	NA	NA
														4.0 - 5.0	Total AS						
ICOR-SB15	9/7/16	5.00	9/7/16	NA					5.0	NO	NO	0.0 - 0.0	9/7/16	1.0 - 2.0	Dioxin	NA	NA	NA	NA	NA	NA

NOTES:
PID = photo-ionization detector
FID = flame-ionization detector
ECD = electron captor detector
bsg = below surface grade
ppm = parts per million
NO = no indication of condition noted or observed
NA = not applicable
UKN = unknown, not reported
TPH-GRO = gasoline range total petroleum hydrocarbons
TPH-DRO = diesel range total petroleum hydrocarbons
BTEX = benzene, toluene, ethylbenzene, and total xylenes
NAP = naphthalene
MTBE = methyl t-butyl ether
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PEST = pesticides
HERB = herbicides
RCRA = Resource Conservation and Recovery Act
PPL = Priority Pollutant Metals
AS = arsenic
OG = oil and grease
Dioxin samples were only be analyzed for 2,3,7,8-TCDD
Yellow highlighting indicates observation of note
Blue highlighting designates a deep groundwater sample

TABLE 2. WELL CONSTRUCTION INFORMATION

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Well ID	Date Installed	Well Type	Well Diameter (inches ID)	Well Material	Total Depth (feet bgs)	Screen Interval (feet bgs)
TEC-MW1	4/27/06	PERM	1	PVC	10.0	UKN
TEC-MW2	4/27/06	PERM	1	PVC	16.0	UKN
TEC-MW3	UKN	PERM	1	PVC	UKN	UKN
TEC-MW4	4/27/06	PERM	1	PVC	12.0	UKN
TEC-MW5	4/27/06	PERM	1	PVC	16.0	UKN
TEC-MW6	4/28/06	PERM	1	PVC	16.0	UKN
TEC-MW7	4/27/06	PERM	1	PVC	12.0	UKN
ECS-MW2	12/20/07	PERM	1	PVC	UKN	UKN
ECS-MW4	12/27/07	PERM	1	PVC	UKN	UKN
ICOR-SB1	10/8/13	TEMP	1	PVC	13.5	3.5 - 13.5
ICOR-SB5	10/8/13	TEMP	1	PVC	14.0	4.0 - 14.0
ICOR-SB6	10/8/13	TEMP	1	PVC	13.0	3.0 - 13.0
ICOR-SB7	10/8/13	TEMP	1	PVC	13.0	3.0 - 13.0
ICOR-SB8	10/8/13	TEMP	1	PVC	13.5	3.5 - 13.5
ICOR-SB9	10/8/13	TEMP	1	PVC	18.0	8.0 - 18.0
ICOR-SB12	10/8/13	TEMP	1	PVC	14.0	4.0 - 14.0
MiHpt-5	9/7/16	PERM	1	PVC	16.0	6.0 - 16.0
MiHpt-7	9/6/16	PERM	1	PVC	17.0	7.0 - 17.0
MiHpt-8	9/6/16	PERM	1	PVC	20.0	10.0 - 20.0
MiHpt-8(D)	9/6/16	TEMP	0.5	SS	40.0	36.5 - 40.0
MiHpt-10(D)	9/7/16	TEMP	0.5	SS	28.5	25.0 - 28.5
MiHpt-14	9/8/16	PERM	1	PVC	16.0	6.0 - 16.0
MiHpt-14(D)	9/8/16	TEMP	0.5	SS	28.5	25.0 - 28.5
MiHpt-15	9/8/16	PERM	1	PVC	16.0	6.0 - 16.0
MiHpt-20	9/8/16	PERM	1	PVC	18.0	8.0 - 18.0
MiHpt-21	9/9/16	PERM	1	PVC	16.0	6.0 - 16.0
MiHpt-21(D)	9/9/16	TEMP	0.5	SS	28.5	25.0 - 28.5
MiHpt-22	9/9/16	PERM	1	PVC	16.0	6.0 - 16.0
MiHpt-22(D)	9/9/16	TEMP	0.5	SS	28.5	25.0 - 28.5

NOTES:
ID = inner diameter
bgs = below surface grade
UKN = unknown
NP = well not present
NM = not measured
PERM = permanent
TEMP = temporary

TABLE 3. GROUNDWATER MEASUREMENTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Well ID	Well TOC Elevation (feet)	Date	Total Well Depth (feet bgs)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet)
TEC-MW1	7.92	5/4/06	10.0	5.64	2.28
TEC-MW2	9.26	5/4/06	16.0	6.79	2.47
		9/21/16		6.74	2.52
		2/7/17		7.21	2.05
TEC-MW3	9.47	5/4/06	UKN	7.00	2.47
		9/21/16		7.22	2.25
		2/7/17		7.44	2.03
TEC-MW4	9.51	5/4/06	12.0	7.05	2.46
		9/21/16		7.23	2.28
		2/7/17		7.50	2.01
TEC-MW5	8.02	5/4/06	16.0	7.89	0.13
		9/21/16		7.58	0.44
		2/7/17		6.83	1.19
TEC-MW6	7.52	5/4/06	16.0	6.40	1.12
TEC-MW7	8.70	5/4/06	12.0	6.49	2.21
ECS-MW2	11.48	12/20/07	UKN	10.08	1.40
		9/21/16		6.97	4.51
		2/7/17		6.53	4.95
ECS-MW4	8.76	12/20/07	UKN	9.15	-0.39
		9/21/16		2.98	5.78
		2/7/17		3.38	5.38
ICOR-SB1	6.67	10/8/13	13.5	5.39	1.28
ICOR-SB5	8.89	10/8/13	14.0	9.89	-1.00
ICOR-SB6	8.25	10/8/13	13.0	10.51	-2.26
ICOR-SB7	11.61	10/8/13	13.0	8.01	3.60
ICOR-SB8	11.56	10/8/13	13.5	8.09	3.47
ICOR-SB9	11.60	10/8/13	18.0	10.06	1.54
ICOR-SB12	11.56	10/8/13	14.0	9.06	2.50
MiHpt-5	8.82	9/21/16	16.0	5.37	3.45
		2/7/17		6.62	2.20
MiHpt-7	8.97	9/21/16	17.0	5.18	3.79
		2/7/17		5.07	3.90
MiHpt-8	8.21	9/21/16	20.0	5.99	2.22
		2/7/17		6.19	2.02
MiHpt-14	11.48	9/21/16	16.0	7.90	3.58
		2/7/17		7.62	3.86
MiHpt-15	11.54	9/21/16	16.0	7.22	4.32
		2/7/17		6.59	4.95
MiHpt-20	11.59	9/21/16	18.0	9.41	2.18
		2/7/17		9.50	2.09
MiHpt-21	11.56	9/21/16	16.0	7.19	4.37
		2/7/17		6.99	4.57
MiHpt-22	11.63	9/21/16	16.0	7.30	4.33
		2/7/17		6.99	4.64

NOTES:
All survey data generated by a professional surveyor
TOC = top of casing
bgs = below ground surface
UKN = unknown

TABLE 4A. TEC SOIL ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	TEC-B1 (11-12)	TEC-B2 (12-16)	TEC-B3 (11-12)	TEC-B4 (9-10)	TEC-B6 (11-12)	TEC-B7 (10-12)	TEC-B8 (7-8)	TEC-B9 (12-14)	TEC-B10 (12-14)	TEC-B11 (9-11)	TEC-B12 (7-8)	TEC-B13 (11-12)
Date:					4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06
TPH																
TPH-GRO	mg/kg	**8300**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND	**0.62**	ND	ND	**0.62**	ND
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND	**17**	ND	ND	**17**	**19**

NOTES:
(11-12) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
mg/kg = milligrams per kilogram
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
ND = not detected above analytical method reporting limit
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 4B. TEC GROUNDWATER ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			TEC-MW1	TEC-MW2	TEC-MW3	TEC-MW4	TEC-MW5	TEC-MW6	TEC-MW7
				WTNC	WTC								
					Dermal Contact & Incidential Ingestion	Inhalation							
Date:							5/1/06	5/1/06	5/1/06	5/1/06	5/1/06	5/1/06	5/1/06
TPH													
TPH-GRO	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND
TPH-DRO	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND
VOCs													
Benzene	ug/L	**941**	**1240**	**1050**	**863**	**15**	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/L	**1920**	**8070**	**63100**	**35000**	**1020**	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	**27.6**	**27.6**	**3380**	**1410**	**61**	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ug/L	**492**	**2070**	**5940**	**11100**	**87.4**	ND	ND	ND	ND	ND	ND	ND
Methyl-t-butyl ether	ug/L	**1330**	**1970**	**397000**	**152000**	**585**	**2**	**2**	**1**	**67**	ND	ND	ND
Naphthalene	ug/L	**3.98**	**20.1**	**73.5**	**557**	**0.722**	ND	ND	ND	ND	ND	ND	ND

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwelath of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
ND = not detected above anaytical method reporting limit
Bold and right justification designates target compound was detected at a concentration above RL
Green highlighting designates target compound was detected at a concentration above the RL in at least 1 sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 5A. ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B1				ECS-B2				ECS-B3				
					(1-2.5)	(2.5-4)	(8.5-10)	(18.5-20)	(2.5-4)	(5-6.5)	(8.5-10)	(13.5-15)	(1-2.5)	(2.5-4)	(8.5-10)	(13.5-15)	(28.5-30)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH																	
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	**10200**	**7060**	ND	**56**	NA	**17**	**70**	**115**	NA	**40**	ND	**27**
VOCs																	
Benzene	ug/kg	**NE**	**97.7**	**5400**	NA	ND	**2.8**	ND	ND	NA	ND	**11**	**9.8**	NA	**5120**	ND	ND
2-Butanone (MEK)	ug/kg	**NE**	**1250**	**20000000**	NA	ND	ND	ND	ND	NA	**7.3**	ND	ND	NA	ND	ND	ND
n-Butylbenzene	ug/kg	**NE**	**14200**	**5100000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
sec-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
tert-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Carbon Disulfide	ug/kg	**NE**	**492**	**370000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Ethylbenzene	ug/kg	**NE**	**5400**	**27000**	NA	ND	ND	ND	ND	NA	ND	**17**	**8.6**	NA	ND	ND	ND
Isopropylbenzene (Cumene)	ug/kg	**NE**	**3410**	**110000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
p-Isopropyltoluene	ug/kg	**NE**	**NE**	**NE**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Methyl-t-butyl ether	ug/kg	**NE**	**41.7**	**220000**	NA	ND	ND	ND	ND	NA	ND	ND	**4.2**	NA	ND	**2.7**	**3.2**
Naphthalene	ug/kg	**NE**	**26.2**	**18000**	NA	**136**	**70**	ND	ND	NA	ND	**204**	**7.4**	NA	ND	**84**	ND
n-Propylbenzene	ug/kg	**NE**	**5360**	**2100000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Styrene	ug/kg	**NE**	**5600**	**3600000**	NA	ND	ND	ND	ND	NA	ND	ND	**4.2**	NA	ND	ND	ND
Toluene	ug/kg	**NE**	**31100**	**4500000**	NA	**7.7**	**13**	**3.4**	**4.2**	NA	**4.2**	**4.7**	**70**	NA	**196**	**5.6**	**2.7**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**115**	**26000**	NA	ND	**13**	ND	ND	NA	ND	**14**	**16**	NA	ND	**10**	ND
1,3,5-Trimethylbenzene	ug/kg	**NE**	**658**	**1000000**	NA	ND	**13**	ND	ND	NA	ND	**14**	**7.5**	NA	ND	**11**	ND
Total Xylenes	ug/kg	**NE**	**63000**	**270000**	NA	**3.4**	**14.1**	ND	ND	NA	ND	**16.3**	**58**	NA	ND	**11.1**	ND
RCRA Metals																	
Arsenic	mg/kg	**NE**	**3.4**	**30**	**4.3**	NA	NA	NA	NA	**1090**	NA	NA	NA	NA	NA	NA	NA
Barium	mg/kg	**NE**	**1500**	**19000**	**82.3**	NA	NA	NA	NA	**90.9**	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	**NE**	**7**	**80**	ND	NA	NA	NA	NA	**23.6**	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	**NE**	**0.29**	**63***	**16.3**	NA	NA	NA	NA	**17.5**	NA	NA	NA	NA	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	**14.9**	NA	NA	NA	NA	**297**	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	**NE**	**1**	**4.3**	ND	NA	NA	NA	NA	**75.1**	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/kg	**NE**	**5.1**	**510**	ND	NA	NA	NA	NA	**10.3**	NA	NA	NA	NA	NA	NA	NA
Silver	mg/kg	**NE**	**1.19**	**510**	ND	NA	NA	NA	NA	**1.41**	NA	NA	NA	NA	NA	NA	NA
Pesticides, PCBs, and Herbicides																	
Pesticides					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
PCBs					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Herbicides					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 5A. ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B4					ECS-B5				
					(5-6.5)	(13.5-15)	(18.5-20)	(23.5-25)	(28.5-30)	(2.5-4)	(5-6.5)	(8.5-10)	(28.5-30)	(33.5-35)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH														
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	**123**	**22**	NA	**22**	ND	**95**	NA	**20**	**58**	ND
VOCs														
Benzene	ug/kg	**NE**	**97.7**	**5400**	ND	**6.3**	NA	**4.6**	ND	ND	NA	ND	ND	**3.7**
2-Butanone (MEK)	ug/kg	**NE**	**1250**	**20000000**	ND	ND	NA	ND	ND	ND	NA	ND	**7.3**	ND
n-Butylbenzene	ug/kg	**NE**	**14200**	**5100000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
sec-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
tert-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Carbon Disulfide	ug/kg	**NE**	**492**	**370000**	ND	ND	NA	ND	ND	ND	NA	**3.3**	ND	**11**
Ethylbenzene	ug/kg	**NE**	**5400**	**27000**	**2.2**	**5.1**	NA	**4.9**	ND	ND	NA	ND	ND	**7**
Isopropylbenzene (Cumene)	ug/kg	**NE**	**3410**	**110000**	ND	ND	NA	**2.5**	ND	ND	NA	ND	ND	ND
p-Isopropyltoluene	ug/kg	**NE**	**NE**	**NE**	ND	ND	NA	ND	ND	ND	NA	**166**	**226**	**419**
Methyl-t-butyl ether	ug/kg	**NE**	**41.7**	**220000**	ND	ND	NA	**2.6**	ND	ND	NA	ND	ND	ND
Naphthalene	ug/kg	**NE**	**26.2**	**18000**	ND	**66**	NA	**155**	**4.9**	ND	NA	**14**	**5.9**	**27**
n-Propylbenzene	ug/kg	**NE**	**5360**	**2100000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Styrene	ug/kg	**NE**	**5600**	**3600000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Toluene	ug/kg	**NE**	**31100**	**4500000**	**16**	**11**	NA	**29**	ND	ND	NA	**4.5**	**5.7**	**8.4**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**115**	**26000**	**4.9**	**6.5**	NA	**12**	ND	**4**	NA	**11**	**9.8**	**9.3**
1,3,5-Trimethylbenzene	ug/kg	**NE**	**658**	**1000000**	**4.7**	**2.8**	NA	**5**	ND	ND	NA	**4.6**	**3.8**	**2.8**
Total Xylenes	ug/kg	**NE**	**63000**	**270000**	**12.2**	**9**	NA	**24.7**	ND	ND	NA	ND	**3.3**	**3.7**
RCRA Metals														
Arsenic	mg/kg	**NE**	**3.4**	**30**	NA	NA	NA	NA	NA	NA	**7**	NA	NA	NA
Barium	mg/kg	**NE**	**1500**	**19000**	NA	NA	NA	NA	NA	NA	**99.7**	NA	NA	NA
Cadmium	mg/kg	**NE**	**7**	**80**	NA	NA	NA	NA	NA	NA	**3.79**	NA	NA	NA
Chromium	mg/kg	**NE**	**0.29**	**63***	NA	NA	NA	NA	NA	NA	**25.8**	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	NA	NA	NA	NA	**11.5**	NA	NA	NA
Mercury	mg/kg	**NE**	**1**	**4.3**	NA	NA	NA	NA	NA	NA	**0.25**	NA	NA	NA
Selenium	mg/kg	**NE**	**5.1**	**510**	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Silver	mg/kg	**NE**	**1.19**	**510**	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Pesticides, PCBs, and Herbicides														
Pesticides					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
PCBs					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Herbicides					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 5A. ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B6						
					(1-2.5)	(5-6.5)	(8.5-10)	(13.5-15)	(18.5-20)	(23.5-25)	(28.5-30)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH											
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	**142**	**111**	**31**	**68**	NA	**33**
VOCs											
Benzene	ug/kg	**NE**	**97.7**	**5400**	NA	**977**	ND	**16**	ND	NA	ND
2-Butanone (MEK)	ug/kg	**NE**	**1250**	**20000000**	NA	ND	ND	ND	ND	NA	ND
n-Butylbenzene	ug/kg	**NE**	**14200**	**5100000**	NA	**366**	ND	**3.2**	ND	NA	**3.6**
sec-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	**26**	ND	NA	ND
tert-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	**11**	ND	NA	ND
Carbon Disulfide	ug/kg	**NE**	**492**	**370000**	NA	ND	ND	ND	ND	NA	ND
Ethylbenzene	ug/kg	**NE**	**5400**	**27000**	NA	**1360**	ND	**6.4**	ND	NA	ND
Isopropylbenzene (Cumene)	ug/kg	**NE**	**3410**	**110000**	NA	ND	ND	**8.4**	ND	NA	ND
p-Isopropyltoluene	ug/kg	**NE**	**NE**	**NE**	NA	**473**	ND	**3.8**	ND	NA	ND
Methyl-t-butyl ether	ug/kg	**NE**	**41.7**	**220000**	NA	ND	ND	ND	ND	NA	ND
Naphthalene	ug/kg	**NE**	**26.2**	**18000**	NA	ND	ND	**5.2**	**5500**	NA	ND
n-Propylbenzene	ug/kg	**NE**	**5360**	**2100000**	NA	ND	ND	**5.8**	ND	NA	**2.7**
Styrene	ug/kg	**NE**	**5600**	**3600000**	NA	ND	ND	ND	ND	NA	ND
Toluene	ug/kg	**NE**	**31100**	**4500000**	NA	**3800**	**238**	**36**	ND	NA	**2.9**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**115**	**26000**	NA	**1050**	ND	**18**	ND	NA	**19**
1,3,5-Trimethylbenzene	ug/kg	**NE**	**658**	**1000000**	NA	**1870**	ND	**11**	ND	NA	**9.8**
Total Xylenes	ug/kg	**NE**	**63000**	**270000**	NA	**4209**	**361**	**38**	ND	NA	**3.5**
RCRA Metals											
Arsenic	mg/kg	**NE**	**3.4**	**30**	NA	NA	NA	NA	NA	**6.6**	NA
Barium	mg/kg	**NE**	**1500**	**19000**	NA	NA	NA	NA	NA	**46**	NA
Cadmium	mg/kg	**NE**	**7**	**80**	NA	NA	NA	NA	NA	ND	NA
Chromium	mg/kg	**NE**	**0.29**	**63***	NA	NA	NA	NA	NA	**19.9**	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	NA	NA	NA	**39.5**	NA
Mercury	mg/kg	**NE**	**1**	**4.3**	NA	NA	NA	NA	NA	**0.06**	NA
Selenium	mg/kg	**NE**	**5.1**	**510**	NA	NA	NA	NA	NA	ND	NA
Silver	mg/kg	**NE**	**1.19**	**510**	NA	NA	NA	NA	NA	ND	NA
Pesticides, PCBs, and Herbicides											
Pesticides					ND	NA	NA	NA	ND	NA	NA
PCBs					ND	NA	NA	NA	ND	NA	NA
Herbicides					ND	NA	NA	NA	ND	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 5B. ECS GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			ECS-MW2	ECS-MW4
				WTNC	WTC			
					Dermal Contact & Incidential Ingestion	Inhalation		
Date:							1/4/08	1/4/08
TPH								
TPH-DRO	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	**2.87**	**0.99**
VOCs								
Benzene	ug/L	**941**	**1240**	**1050**	**863**	**15**	**60**	ND
Naphthalene	ug/L	**3.98**	**20.1**	**73.5**	**557**	**0.722**	ND	**8.6**
Total Xylenes	ug/L	**492**	**2070**	**5940**	**11100**	**87.4**	**3.1**	**4.2**
SVOCs								
Acenaphthene	ug/L	**NE**	**NE**	**NE**	**2870**	**NE**	ND	**17**
Acenaphthylene	ug/L	**NE**	**NE**	**NE**	**1460**	**NE**	ND	**10**
Dimethyl phthalate	ug/L	**NE**	**NE**	**NE**	**37500**	**NE**	**3.9**	ND
Fluorene	ug/L	**NE**	**NE**	**NE**	**4250**	**NE**	ND	**5.6**
2-Methylnaphthalene	ug/L	**NE**	**NE**	**NE**	**56.5**	**NE**	ND	**2.3**
Naphthalene	ug/L	**3.98**	**20.1**	**73.5**	**557**	**0.722**	ND	**8.3**
Phenanthrene	ug/L	**NE**	**NE**	**NE**	**1430**	**NE**	ND	**2.2**
Total RCRA Metals								
Arsenic	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	**0.020**	**0.009**
Barium	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	**0.129**	**0.581**
Cadmium	mg/L	**NE**	**NE**	**NE**	**36**	**NE**	**0.160**	ND
Chromium	mg/L	**NE**	**NE**	**NE**	**26.6**	**NE**	**0.015**	**0.048**
Lead	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	**0.044**	**0.112**
Mercury	mg/L	**0.067**	**0.281**	**5.59**	**NE**	**0.895**	ND	ND
Selenium	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	**0.005**	**0.002**
Silver	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	ND	ND

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
VOCs = volatile organic compounds
SVOCs = semi-VOCs
RCRA = Resource Conservation and Recovery Act
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwelath of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
ND = not detected above analytical method reporting limit
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 6A. ICOR 2013 SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ICOR-SB2(3-4)	ICOR-SB2(5-6)	ICOR-SB5(6-7)	ICOR-SB6(2-3)	ICOR-SB7(7.5-8.5)	ICOR-SB8(2-3)	ICOR-SB8(7.5-8.5)	ICOR-SB9(4.5-5.5)
Date:						10/8/13	10/8/13	10/8/13	10/8/13	10/8/13	10/8/13	10/8/13	10/8/13
TPH EPA 8015													
TPH-GRO	mg/kg		**8300**	**NE**	**NE**	NA	**1.2**	<0.11	NA	**240**	NA	**370**	NA
TPH-DRO	mg/kg		**11000**	**NE**	**NE**	NA	**77**	**420**	NA	**3800**	NA	**42**	NA
TCL VOCs EPA 8260B													
Acetone	ug/kg	67-64-1	**NE**	**2750**	**63000000**	NA	<23	<23	NA	<2200	NA	<2400	NA
Isopropylbenzene	ug/kg	98-82-8	**NE**	**3410**	**110000**	NA	**15**	<5.6	NA	<560	NA	<600	NA
Methylcyclohexane	ug/kg	108-87-2	**NE**	**NE**	**NE**	NA	**41**	<23	NA	<2200	NA	**16000**	NA
Naphthalene	ug/kg	91-20-3	**NE**	**26.2**	**18000**	NA	**14**	**7.4**	NA	<560	NA	<600	NA
TCL SVOCs EPA 8270C													
Fluoranthene	ug/kg	206-44-0	**NE**	**230000**	**2200000**	NA	**260**	<190	NA	<740	NA	<200	NA
Pyrene	ug/kg	129-00-0	**NE**	**65500**	**1700000**	NA	**210**	<190	NA	<740	NA	<200	NA
PPL Metals EPA 6020A													
Antimony	mg/kg	7440-36-0	**NE**	**3.1**	**41**	<2.4	NA	<2.1	<2.6	<2.8	<2.8	<2.2	<2.8
Arsenic	mg/kg	7440-38-2	**NE**	**3.4**	**30**	**2.8**	NA	**3.8**	**11**	**130**	**600**	**12**	**3.6**
Chromium	mg/kg	7440-47-3	**NE**	**0.29***	**63***	**20**	NA	<2.1	**26**	**11**	**22**	**12**	**10**
Copper	mg/kg	7440-50-8	**NE**	**310**	**4100**	**18**	NA	**4.6**	**200**	**7.6**	**18**	**5.0**	**12**
Lead	mg/kg	7439-92-1	**NE**	**270**	**800**	**15**	NA	**16**	**32**	**4.7**	**9.1**	**7.2**	**60**
Mercury	mg/kg	7439-97-6	**NE**	**0.94**	**4**	<0.095	NA	<0.084	<0.10	<0.11	<0.11	<0.089	**0.56**
Nickel	mg/kg	7440-02-0	**NE**	**39.1**	**2000**	**22**	NA	<2.1	**26**	**5.9**	**21**	**22**	**9.4**
Selenium	mg/kg	7782-49-2	**NE**	**5.1**	**510**	<2.4	NA	<2.1	<2.6	<2.8	<2.8	<2.2	<2.8
Silver	mg/kg	7440-22-4	**NE**	**1.19**	**510**	<2.4	NA	<2.1	<2.6	<2.8	<2.8	<2.2	<2.8
Thallium	mg/kg	7440-28-0	**NE**	**0.078**	**1**	<1.9	NA	<1.7	<2.1	<2.2	<2.2	<1.8	<2.2
Zinc	mg/kg	7440-66-6	**NE**	**584**	**31000**	**68**	NA	<8.4	**1100**	**33**	**63**	**37**	5000
Chromium VI EPA 7196A													
Chromium VI	mg/kg	18540-29-9	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA
TCLP RCRA Metals EPA 3010A/6020A													
Arsenic	ug/L	7440-38-2	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA
Lead	ug/L	7439-92-1	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
TCLP = Toxic Characteristic Leaching Procedure
RCRA = Resource Conservation and Recovery Act
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
NA = not analyzed
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
<1.0 = not detected above analytical method reporting limit (RL)
* = total chromium (chromium III and VI)
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6A. ICOR 2013 SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ICOR-SB10(2-3)	ICOR-SB10(5.5-6.5)	ICOR-SB11(5.5-6.5)	ICOR-SB12(6-7)	ICOR-SB13(5.5-6.5)
Date:						10/8/13	10/8/13	10/8/13	10/8/13	10/8/13
TPH EPA 8015										
TPH-GRO	mg/kg		**8300**	**NE**	**NE**	NA	NA	<0.12	NA	<0.12
TPH-DRO	mg/kg		**11000**	**NE**	**NE**	NA	NA	<4.8	NA	<5.1
TCL VOCs EPA 8260B										
Acetone	ug/kg	67-64-1	**NE**	**2750**	**63000000**	NA	NA	**77**	NA	NA
Isopropylbenzene	ug/kg	98-82-8	**NE**	**3410**	**110000**	NA	NA	<5.9	NA	NA
Methylcyclohexane	ug/kg	108-87-2	**NE**	**NE**	**NE**	NA	NA	<24	NA	NA
Naphthalene	ug/kg	91-20-3	**NE**	**26.2**	**18000**	NA	NA	<5.9	NA	NA
TCL SVOCs EPA 8270C										
Fluoranthene	ug/kg	206-44-0	**NE**	**230000**	**2200000**	NA	NA	<210	NA	NA
Pyrene	ug/kg	129-00-0	**NE**	**65500**	**1700000**	NA	NA	<210	NA	NA
PPL Metals EPA 6020A										
Antimony	mg/kg	7440-36-0	**NE**	**3.1**	**41**	**12**	<2.3	<3.0	<2.0	<2.8
Arsenic	mg/kg	7440-38-2	**NE**	**3.4**	**30**	**1300**	**190**	**3.9**	**3.1**	**9.9**
Chromium	mg/kg	7440-47-3	**NE**	**0.29***	**63***	**18**	**19**	**24**	**22**	**30**
Copper	mg/kg	7440-50-8	**NE**	**310**	**4100**	**1800**	**270**	**21**	**16**	**59**
Lead	mg/kg	7439-92-1	**NE**	**270**	**800**	**2200**	**10**	**12**	**14**	**17**
Mercury	mg/kg	7439-97-6	**NE**	**0.94**	**4**	**7.8**	**0.17**	**0.19**	**0.15**	**0.24**
Nickel	mg/kg	7440-02-0	**NE**	**39.1**	**2000**	**13**	**18**	**23**	**24**	**21**
Selenium	mg/kg	7782-49-2	**NE**	**5.1**	**510**	**8.2**	<2.3	<3.0	<2.0	<2.8
Silver	mg/kg	7440-22-4	**NE**	**1.19**	**510**	**15**	<2.3	<3.0	<2.0	<2.8
Thallium	mg/kg	7440-28-0	**NE**	**0.078**	**1**	**3.0**	<1.8	<2.4	<1.6	<2.2
Zinc	mg/kg	7440-66-6	**NE**	**584**	**31000**	**2100**	**620**	**61**	**1700**	**1700**
Chromium VI EPA 7196A										
Chromium VI	mg/kg	18540-29-9	**NE**	**NE**	**NE**	NA	NA	NA	NA	<0.97
TCLP RCRA Metals EPA 3010A/6020A										
Arsenic	ug/L	7440-38-2	**NE**	**NE**	**NE**	**1.4**	NA	NA	NA	NA
Lead	ug/L	7439-92-1	**NE**	**NE**	**NE**	**7.8**	NA	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
TCLP = Toxic Characteristic Leaching Procedure
RCRA = Resource Conservation and Recovery Act
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
NA = not analyzed
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
<1.0 = not detected above analytical method reporting limit (RL)
* = total chromium (chromium III and VI)
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6B. 2014 GEOTECHNICAL INVESTIGATION SOIL ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B7(2.5-10)	ECS-B8(2.5-4)	ECS-B9(2.5-10)	ECS-B10(4-10)	ECS-B11(5-10)	ECS-B12(5-10)
Date:					10/6/14	10/7/14	10/7/14	10/8/14	10/10/14	10/8/14
RCRA Metals EPA 6020A										
Arsenic	mg/kg	7440-38-2	**3.4**	**30**	**1600**	**1900**	**11**	**6.8**	**18**	**7.7**
Barium	mg/kg	7440-39-3	**1500**	**22000**	**320**	**190**	**81**	**170**	**140**	**81**
Cadmium	mg/kg	7440-43-9	**7**	**98**	**17**	**12**	<2.7	<2.6	<2.7	<2.9
Chromium	mg/kg	7440-47-3	**3***	**63***	**27**	**20**	**21**	**5.4**	**15**	**3.4**
Lead	mg/kg	7439-92-1	**270**	**800**	**1500**	**370**	**15**	**59**	**600**	**160**
Mercury	mg/kg	7439-97-6	**0.94**	**4**	**27**	**20**	<0.11	**0.18**	**0.23**	**0.27**
Selenium	mg/kg	7782-49-2	**5.1**	**580**	**10**	**6.0**	<2.7	<2.6	**3.2**	<2.9
Silver	mg/kg	7440-22-4	**1.58**	**580**	**12**	**2.8**	<2.7	<2.6	**5.9**	<2.9
TCLP RCRA Metals EPA 3010A/6020A										
Arsenic	ug/L	7440-38-2	**NE**	**NE**	**2.0**	**6.3**	NA	NA	NA	NA
Barium	ug/L	7440-39-3	**NE**	**NE**	<1.0	**1.0**	NA	NA	NA	NA
Cadmium	ug/L	7440-43-9	**NE**	**NE**	**0.063**	**0.070**	NA	NA	NA	NA
Chromium	ug/L	7440-47-3	**NE**	**NE**	<0.050	<0.050	NA	NA	NA	NA
Lead	ug/L	7439-92-1	**NE**	**NE**	**0.75**	<0.050	NA	NA	NA	NA
Mercury	ug/L	7439-97-6	**NE**	**NE**	<0.0020	<0.0020	NA	NA	NA	NA
Selenium	ug/L	7782-49-2	**NE**	**NE**	<0.050	<0.050	NA	NA	NA	NA
Silver	ug/L	7440-22-4	**NE**	**NE**	<0.050	<0.050	NA	NA	NA	NA

NOTES:
(2.5-4) = designates depth sample was collected below ground surface
TCLP = Toxic Characteristic Leaching Procedure
RCRA = Resource Conservation and Recovery Act
EPA 6020A = United States Environmental Protection Agency SW-846 analytical method
mg/kg = milligrams per kilogram
ug/L = micrograms per liter
NA = not analyzed
VDEQ-T2SCU = Commonwelath of Virginia Department of Environmental Quality (VDEQ) Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
<1.0 = not detected above analytical method reporting limit (RL)
* = total chromium (chromium III and VI)
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6C. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B7(1-2)	ECS-B7(5-6)	ICOR-SB3(10.5-11.5)	ICOR-SB9(4-5)	ICOR-SB14(1-2)	ICOR-SB14(4-5)	ICOR-SB15(1-2)	MiHpt-03(1-2)	MiHpt-03(4-5)	MiHpt-04(1-2)	MiHpt-04(4-5)	MiHpt-05(1-2)	MiHpt-06(1-2)	MiHpt-06(4-5)	MiHpt-07(1-2)	MiHpt-07(7-8)	MiHpt-08(4-5)
Sample Date:						9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/6/16	9/6/16	9/6/16	9/6/16	9/7/16	9/6/16	9/6/16	9/6/16	9/6/16	9/6/16
TPH 8015																						
TPH-GRO (C6-C10)	C6C10GRO	mg/kg	**8300**	**NE**	**NE**	NA	<0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1300**	**0.260**
TPH-DRO (C10-C28)	C10C28DRO	mg/kg	**11000**	**NE**	**NE**	NA	**100**	**13**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**59**	<12
TCL VOCs 8260B																						
Acetone	67-64-1	ug/kg	**NE**	**2750**	**63000000**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Cyclohexane	110-82-7	ug/kg	**NE**	**55500**	**2700000**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Ethylbenzene	100-41-4	ug/kg	**NE**	**39700**	**250000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Isopropylbenzene	98-82-8	ug/kg	**NE**	**3940**	**1100000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Methylcyclohexane	108-87-2	ug/kg	**NE**	**NE**	**NE**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Naphthalene	91-20-3	ug/kg	**NE**	**114**	**59000**	NA	**260**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Tetrachloroethene	127-18-4	ug/kg	**NE**	**80.7**	**39000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Toluene	108-88-3	ug/kg	**NE**	**31100**	**4700000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
m,p-Xylenes	108-38-3	ug/kg	**NE**	**914**	**240000**	NA	<11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<930	<8.6
o-Xylene	95-47-6	ug/kg	**NE**	**926**	**280000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
TCL SVOCs 8270C																						
2-Methylnaphthalene	91-57-6	ug/kg	**NE**	**1100**	**300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	ug/kg	**NE**	**32100**	**4500000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	ug/kg	**NE**	**354000**	**23000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	ug/kg	**NE**	**150**	**2900**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	ug/kg	**NE**	**170000**	**2300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	ug/kg	**NE**	**15000**	**290000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	ug/kg	**NE**	**150000**	**2900000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)Anthracene	53-70-3	ug/kg	**NE**	**150**	**2900**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	ug/kg	**NE**	**870**	**100000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	ug/kg	**NE**	**230000**	**3000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	ug/kg	**NE**	**31900**	**3000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-c,d)Pyrene	193-39-5	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	ug/kg	**NE**	**114**	**59000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	ug/kg	**NE**	**34900**	**2300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	ug/kg	**NE**	**90300**	**23000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs 8082																						
PCBs		mg/kg				<0.055	NA	<0.060	<0.058	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides 8081B																						
4,4-DDD	72-54-8	ug/kg	**NE**	**4370**	**96000**	**6.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4-DDE	72-55-9	ug/kg	**NE**	**16000**	**68000**	**15**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4-DDT	50-29-3	ug/kg	**NE**	**3600**	**52000**	**7.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides 8151A																						
2,4,5-T	93-76-5	ug/kg	**NE**	**NE**	**NE**	<22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxins 8290A																						
2,3,7,8-TCDD	1746-01-6	ng/kg	**NE**	**5.1**	**73**	NA	NA	NA	NA	NA	NA	**0.0670** JQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PPL Metals 6020A																						
Antimony	7440-36-0	mg/kg	**NE**	**3.1**	**41**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**17**	NA	NA	NA
Arsenic	7440-38-2	mg/kg	**NE**	**3.4**	**30**	**49**	NA	NA	NA	**9.1**	**9.2**	NA	**1.1**	**190**	**3.9**	**320**	**2.2**	**1.2**	**150**	**1.0**	NA	NA
Cadmium	7440-43-9	mg/kg	**NE**	**7**	**98**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	<2.5	NA	NA	NA
Chromium	7440-47-3	mg/kg	**NE**	**0.29***	**63***	**17**	NA	NA	NA	NA	NA	NA	**5.5**	NA	**4.0**	NA	NA	**8.1**	**11**	NA	NA	NA
Copper	7440-50-8	mg/kg	**NE**	**310**	**4100**	**39**	NA	NA	NA	NA	NA	NA	**4.2**	NA	**6.7**	NA	NA	**6.0**	**410**	NA	NA	NA
Lead	7439-92-1	mg/kg	**NE**	**270**	**800**	**160**	NA	NA	NA	NA	NA	NA	**22**	NA	**94**	NA	NA	**6.7**	**1800**	NA	NA	NA
Mercury	7439-97-6	mg/kg	**NE**	**0.94**	**4**	**1.3**	NA	NA	NA	NA	NA	NA	<0.10	NA	**0.094**	NA	NA	**0.12**	**0.47**	NA	NA	NA
Nickel	7440-02-0	mg/kg	**NE**	**39.1**	**2000**	**14**	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	**3.2**	**6.5**	NA	NA	NA
Selenium	7782-49-2	mg/kg	**NE**	**5.1**	**510**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**6.3**	NA	NA	NA
Silver	7440-22-4	mg/kg	**NE**	**1.19**	**510**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**3.3**	NA	NA	NA
Thallium	7440-28-0	mg/kg	**NE**	**0.078**	**1**	<2.0	NA	NA	NA	NA	NA	NA	<2.1	NA	<1.6	NA	NA	<2.0	**2.4**	NA	NA	NA
Zinc	7440-66-6	mg/kg	**NE**	**584**	**31000**	**130**	NA	NA	NA	NA	NA	NA	<10	NA	**16**	NA	NA	**15**	**370**	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
* = total chromium (chromium III and VI)
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6C. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	MiHpt-08(37.8-38.8)	MiHpt-10(24.5-25.5)	MiHpt-12(1-2)	MiHpt-13(1-2)	MiHpt-13(4-5)	MiHpt-14(1-2)	MiHpt-14(4-5)	MiHpt-14(5-6)	MiHpt-14(25-26)	MiHpt-15(1-2)	MiHpt-15(4-5)	MiHpt-16(1-2)	MiHpt-16(4-5)	MiHpt-16(8-9)	MiHpt-17(1-2)	MiHpt-17(4-5)	MiHpt-18(1-2)
Sample Date:						9/6/16	9/6/16	9/7/16	9/7/16	9/7/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/7/16	9/7/16	9/7/16
TPH 8015																						
TPH-GRO (C6-C10)	C6C10GRO	mg/kg	8300	NE	NE	**0.160**	**0.180**	NA	NA	NA	NA	NA	NA	<0.11	NA	NA	NA	NA	NA	NA	NA	NA
TPH-DRO (C10-C28)	C10C28DRO	mg/kg	11000	NE	NE	<15	**150**	NA	NA	NA	NA	NA	NA	<12	NA	NA	NA	NA	NA	NA	NA	NA
TCL VOCs 8260B																						
Acetone	67-64-1	ug/kg	NE	2750	63000000	**66**	**84**	NA	NA	NA	NA	NA	**45**	<20	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	110-82-7	ug/kg	NE	55500	2700000	<27	<27	NA	NA	NA	NA	NA	<19	<20	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	ug/kg	NE	39700	250000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	ug/kg	NE	3940	1100000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	ug/kg	NE	NE	NE	<27	<27	NA	NA	NA	NA	NA	<19	<20	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	ug/kg	NE	114	59000	<6.8	**10**	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	ug/kg	NE	80.7	39000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	ug/kg	NE	31100	4700000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	108-38-3	ug/kg	NE	914	240000	<14	<14	NA	NA	NA	NA	NA	<9.5	<10	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	ug/kg	NE	926	280000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
TCL SVOCs 8270C																						
2-Methylnaphthalene	91-57-6	ug/kg	NE	1100	300000	<250	**560**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	ug/kg	NE	32100	4500000	<250	**2300**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	ug/kg	NE	354000	23000000	<250	**3400**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	ug/kg	NE	1500	29000	<250	**5500**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	ug/kg	NE	150	2900	<250	**5200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	ug/kg	NE	1500	29000	<250	**3800**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	ug/kg	NE	170000	2300000	<250	**2700**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	ug/kg	NE	15000	290000	<250	**3500**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	ug/kg	NE	150000	2900000	<250	**4800**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)Anthracene	53-70-3	ug/kg	NE	150	2900	<250	**1200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	ug/kg	NE	870	100000	<250	**1200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	ug/kg	NE	230000	3000000	<250	**8700**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	ug/kg	NE	31900	3000000	<250	**2200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-c,d)Pyrene	193-39-5	ug/kg	NE	1500	29000	<250	**3100**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	ug/kg	NE	114	59000	<250	**570**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	ug/kg	NE	34900	2300000	<250	**8200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	ug/kg	NE	90300	23000000	<250	**7400**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
PCBs 8082																						
PCBs		mg/kg				NA	NA	NA	NA	NA	<0.056	NA	NA	NA	NA	NA	<0.059	<0.061	NA	NA	NA	NA
Pesticides 8081B																						
4,4-DDD	72-54-8	ug/kg	NE	4370	96000	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
4,4-DDE	72-55-9	ug/kg	NE	16000	68000	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
4,4-DDT	50-29-3	ug/kg	NE	3600	52000	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
Herbicides 8151A																						
2,4,5-T	93-76-5	ug/kg	NE	NE	NE	NA	NA	NA	NA	NA	<22	NA	NA	NA	NA	NA	<25	<25	NA	NA	NA	NA
Dioxins 8290A																						
2,3,7,8-TCDD	1746-01-6	ng/kg	NE	5.1	73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.115** J	NA	NA	NA	NA	NA
PPL Metals 6020A																						
Antimony	7440-36-0	mg/kg	NE	3.1	41	NA	NA	NA	**12**	NA	**18**	NA	NA	NA	<2.7	NA	NA	NA	NA	**14**	NA	NA
Arsenic	7440-38-2	mg/kg	NE	3.4	30	NA	NA	**400**	**810**	**32**	**730**	**93**	NA	NA	**9.6**	**1800**	NA	NA	**6.6**	**670**	**6.9**	**12**
Cadmium	7440-43-9	mg/kg	NE	7	98	NA	NA	NA	**17**	NA	**7.7**	NA	NA	NA	<2.7	NA	NA	NA	NA	**12**	NA	NA
Chromium	7440-47-3	mg/kg	NE	0.29*	63*	NA	NA	NA	**29**	NA	**16**	NA	NA	NA	**15**	NA	NA	NA	NA	**27**	NA	NA
Copper	7440-50-8	mg/kg	NE	310	4100	NA	NA	NA	**11000**	NA	**780**	NA	NA	NA	**35**	NA	NA	NA	NA	**6900**	NA	NA
Lead	7439-92-1	mg/kg	NE	270	800	NA	NA	NA	**1800**	NA	**380**	NA	NA	NA	**100**	NA	NA	NA	NA	**1500**	NA	NA
Mercury	7439-97-6	mg/kg	NE	0.94	4	NA	NA	NA	**26**	NA	**18**	NA	NA	NA	**0.61**	NA	NA	NA	NA	**20**	NA	NA
Nickel	7440-02-0	mg/kg	NE	39.1	2000	NA	NA	NA	**18**	NA	**12**	NA	NA	NA	**12**	NA	NA	NA	NA	**16**	NA	NA
Selenium	7782-49-2	mg/kg	NE	5.1	510	NA	NA	NA	**11**	NA	**5.0**	NA	NA	NA	<2.7	NA	NA	NA	NA	**12**	NA	NA
Silver	7440-22-4	mg/kg	NE	1.19	510	NA	NA	NA	**16**	NA	**2.3**	NA	NA	NA	<2.7	NA	NA	NA	NA	**16**	NA	NA
Thallium	7440-28-0	mg/kg	NE	0.078	1	NA	NA	NA	**6.5**	NA	**5.6**	NA	NA	NA	<2.2	NA	NA	NA	NA	<21	NA	NA
Zinc	7440-66-6	mg/kg	NE	584	31000	NA	NA	NA	**7200**	NA	**1300**	NA	NA	NA	**83**	NA	NA	NA	NA	**4300**	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
* = total chromium (chromium III and VI)
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6C. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	MiHpt-19(1-2)	MiHpt-19(4-5)	MiHpt-20(1.5-2.5)	MiHpt-20(4-5)	MiHpt-21(1-2)	MiHpt-21(4.5-5.5)	MiHpt-21(9-10)	MiHpt-21(24-25)	MiHpt-22(1-2)	MiHpt-22(4.5-5.5)	MiHpt-22(19-20)	MiHpt-22(24-25)
Sample Date:						9/7/16	9/7/16	9/8/16	9/8/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16
TPH 8015																	
TPH-GRO (C6-C10)	C6C10GRO	mg/kg	**8300**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	**760**	<0.12	NA	NA	**2.5**	<0.12
TPH-DRO (C10-C28)	C10C28DRO	mg/kg	**11000**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	**49**	<12	NA	NA	**71**	<12
TCL VOCs 8260B																	
Acetone	67-64-1	ug/kg	**NE**	**2750**	**63000000**	NA	NA	NA	NA	NA	NA	<1900	<21	NA	NA	<24000	<22
Cyclohexane	110-82-7	ug/kg	**NE**	**55500**	**2700000**	NA	NA	NA	NA	NA	NA	**190000**	<21	NA	NA	**35000**	<22
Ethylbenzene	100-41-4	ug/kg	**NE**	**39700**	**250000**	NA	NA	NA	NA	NA	NA	**8500**	<5.2	NA	NA	**15000**	<5.5
Isopropylbenzene	98-82-8	ug/kg	**NE**	**3940**	**1100000**	NA	NA	NA	NA	NA	NA	**1900**	<5.2	NA	NA	<6000	<5.5
Methylcyclohexane	108-87-2	ug/kg	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	**400000**	<21	NA	NA	**200000**	<22
Naphthalene	91-20-3	ug/kg	**NE**	**114**	**59000**	NA	NA	NA	NA	NA	NA	<490	<5.2	NA	NA	**46000**	<5.5
Tetrachloroethene	127-18-4	ug/kg	**NE**	**80.7**	**39000**	NA	NA	NA	NA	NA	NA	**3800**	<5.2	NA	NA	<6000	<5.5
Toluene	108-88-3	ug/kg	**NE**	**31100**	**4700000**	NA	NA	NA	NA	NA	NA	**990**	<5.2	NA	NA	<6000	<5.5
m,p-Xylenes	108-38-3	ug/kg	**NE**	**914**	**240000**	NA	NA	NA	NA	NA	NA	**14000**	<10	NA	NA	**18000**	<11
o-Xylene	95-47-6	ug/kg	**NE**	**926**	**280000**	NA	NA	NA	NA	NA	NA	**700**	<5.2	NA	NA	**7300**	<5.5
TCL SVOCs 8270C																	
2-Methylnaphthalene	91-57-6	ug/kg	**NE**	**1100**	**300000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Acenaphthene	83-32-9	ug/kg	**NE**	**32100**	**4500000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Anthracene	120-12-7	ug/kg	**NE**	**354000**	**23000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(a)anthracene	56-55-3	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(a)pyrene	50-32-8	ug/kg	**NE**	**150**	**2900**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(b)fluoranthene	205-99-2	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(g,h,i)perylene	191-24-2	ug/kg	**NE**	**170000**	**2300000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(k)fluoranthene	207-08-9	ug/kg	**NE**	**15000**	**290000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Chrysene	218-01-9	ug/kg	**NE**	**150000**	**2900000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Dibenz(a,h)Anthracene	53-70-3	ug/kg	**NE**	**150**	**2900**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Dibenzofuran	132-64-9	ug/kg	**NE**	**870**	**100000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Fluoranthene	206-44-0	ug/kg	**NE**	**230000**	**3000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Fluorene	86-73-7	ug/kg	**NE**	**31900**	**3000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Indeno(1,2,3-c,d)Pyrene	193-39-5	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Naphthalene	91-20-3	ug/kg	**NE**	**114**	**59000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Phenanthrene	85-01-8	ug/kg	**NE**	**34900**	**2300000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Pyrene	129-00-0	ug/kg	**NE**	**90300**	**23000000**	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
PCBs 8082																	
PCBs		mg/kg				NA	NA	<0.062	NA	<0.061	<0.060	NA	NA	<0.061	<0.059	NA	NA
Pesticides 8081B																	
4,4-DDD	72-54-8	ug/kg	**NE**	**4370**	**96000**	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
4,4-DDE	72-55-9	ug/kg	**NE**	**16000**	**68000**	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
4,4-DDT	50-29-3	ug/kg	**NE**	**3600**	**52000**	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
Herbicides 8151A																	
2,4,5-T	93-76-5	ug/kg	**NE**	**NE**	**NE**	NA	NA	<26	NA	**52**	**42**	NA	NA	<24	<23	NA	NA
Dioxins 8290A																	
2,3,7,8-TCDD	1746-01-6	ng/kg	**NE**	**5.1**	**73**	**12.4**	NA	**0.691** J	NA	NA	NA	NA	NA	NA	NA	NA	NA
PPL Metals 6020A																	
Antimony	7440-36-0	mg/kg	**NE**	**3.1**	**41**	NA	NA	**13**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Arsenic	7440-38-2	mg/kg	**NE**	**3.4**	**30**	**130**	**480**	**480**	**5.8**	NA	**7.7**	NA	NA	**2500**	**810**	NA	NA
Cadmium	7440-43-9	mg/kg	**NE**	**7**	**98**	NA	NA	**5.9**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Chromium	7440-47-3	mg/kg	**NE**	**0.29***	**63***	NA	NA	**21**	NA	NA	NA	NA	NA	**22**	NA	NA	NA
Copper	7440-50-8	mg/kg	**NE**	**310**	**4100**	NA	NA	**1400**	NA	NA	NA	NA	NA	**25**	NA	NA	NA
Lead	7439-92-1	mg/kg	**NE**	**270**	**800**	NA	NA	**690**	NA	NA	NA	NA	NA	**69**	NA	NA	NA
Mercury	7439-97-6	mg/kg	**NE**	**0.94**	**4**	NA	NA	**3.5**	NA	NA	NA	NA	NA	**0.26**	NA	NA	NA
Nickel	7440-02-0	mg/kg	**NE**	**39.1**	**2000**	NA	NA	**14**	NA	NA	NA	NA	NA	**22**	NA	NA	NA
Selenium	7782-49-2	mg/kg	**NE**	**5.1**	**510**	NA	NA	**4.4**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Silver	7440-22-4	mg/kg	**NE**	**1.19**	**510**	NA	NA	**4.5**	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Thallium	7440-28-0	mg/kg	**NE**	**0.078**	**1**	NA	NA	<2.1	NA	NA	NA	NA	NA	<2.1	NA	NA	NA
Zinc	7440-66-6	mg/kg	**NE**	**584**	**31000**	NA	NA	**2700**	NA	NA	NA	NA	NA	**79**	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
* = total chromium (chromium III and VI)
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 7A. ICOR 2013 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			ECS-MW2	ECS-MW4	ICOR-SB1(GW)	ICOR-SB5(GW)	ICOR-SB6(GW)	ICOR-SB7(GW)	ICOR-SB8(GW)	ICOR-SB9(GW)
					WTNC	WTC									
						Dermal Contact & Incidential Ingestion	Inhalation								
Date:								10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013
TPH EPA 8015															
TPH-GRO		mg/L	NE	NE	NE	NE	NE	2.8	<0.1	<0.1	0.25	0.21	0.18	11	0.25
TPH-DRO		mg/L	NE	NE	NE	NE	NE	0.91	0.15	0.17	0.30	0.11	0.16	0.93	0.77
TCL VOCs EPA 8260B															
Benzene	71-43-2	ug/L	941	1240	1050	863	15	160	<1.0	<1.0	49	50	1.7	57	7.4
Cyclohexane	110-82-7	ug/L	102	429	9780	NE	3420	150	<10	<10	<10	<10	<10	710	<10
Ethylbenzene	100-41-4	ug/L	27.6	27.6	3380	1410	61	47	<1.0	<1.0	15	7.7	<1.0	80	<1.0
Isopropylbenzene	98-82-8	ug/L	88.7	373	3450	6400	92.5	6.7	<1.0	<1.0	3.5	<1.0	1.2	<10	<1.0
Methylcyclohexane	108-87-2	ug/L	17.7	74.5	650	NE	624	230	<10	<10	<10	<10	<10	520	<10
Naphthalene	91-20-3	ug/L	3.98	20.1	73.5	557	0.722	73	<1.0	<1.0	29	27	<1.0	50	19
Toluene	108-88-3	ug/L	1920	8070	63100	35000	1020	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	16	1.7
m,p-Xylenes	108-38-3	ug/L	71.5	149	1330	5270	21.8	17	<2.0	<2.0	4.8	2.9	<2.0	76	<2.0
o-Xylene	95-47-6	ug/L	51.9	207	1830	5870	21.9	28	<1.0	<1.0	21	3.2	<1.0	<10	<1.0
TCL SVOCs EPA 8270C															
Acenaphthene	83-32-9	ug/L	NE	NE	NE	2870	NE	<11	17	7.2	<5.0	<5.0	<5.0	<11	27
Acenaphthylene	208-96-8	ug/L	NE	NE	NE	1460	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.5
Anthracene	120-12-7	ug/L	NE	NE	NE	7660	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	7.3
Biphenyl (Diphenyl)	92-52-4	ug/L	3.31	13.9	1800	1160	1.23	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	9.3
Carbazole	86-74-8	ug/L	NE	NE	NE	NE	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.7
Dibenzofuran	132-64-9	ug/L	NE	NE	NE	47.1	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	22
Fluoranthene	206-44-0	ug/L	NE	NE	NE	304	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	12
Fluorene	86-73-7	ug/L	NE	NE	NE	4250	NE	<11	5.9	<5.0	<5.0	<5.0	<5.0	<11	30
Naphthalene	91-20-3	ug/L	3.98	20.1	73.5	557	0.722	36	<5.0	<5.0	<5.0	8.4	<5.0	<11	13
Phenanthrene	85-01-8	ug/L	NE	NE	NE	1430	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	25
Pyrene	129-00-0	ug/L	NE	NE	NE	866	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.7
Total PPL Metals EPA 6020A															
Antimony	7440-36-0	ug/L	NE	NE	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	9.9
Arsenic	7440-38-2	ug/L	NE	NE	NE	NE	NE	95	38	120	480	400	15	NA	370
Beryllium	7440-41-7	ug/L	NE	NE	NE	NE	NE	26	<1.0	<1.0	60	1.8	<1.0	NA	<1.0
Cadmium	7440-43-9	ug/L	NE	NE	NE	36	NE	31	<1.0	13	32	6.7	<1.0	NA	2.5
Chromium	7440-47-3	ug/L	NE	NE	NE	26.6	NE	180	<1.0	24	270	39	3.7	NA	3.5
Copper	7440-50-8	ug/L	NE	NE	NE	24600	NE	3300	<1.0	700	2000	790	1.4	NA	150
Lead	7439-92-1	ug/L	NE	NE	NE	NE	NE	1100	14	530	610	290	3.2	NA	76
Mercury	7439-97-6	ug/L	0.067	0.281	5.59	NE	0.895	0.72	<0.20	0.38	0.26	<0.20	<0.20	NA	0.40
Nickel	7440-02-0	ug/L	NE	NE	NE	4750	NE	160	<1.0	38	1500	33	2.9	NA	6.6
Selenium	7782-49-2	ug/L	NE	NE	NE	3080	NE	<5.0	<1.0	3.7	5.8	7.6	<1.0	NA	<1.0
Silver	7440-22-4	ug/L	NE	NE	NE	469	NE	<1.0	<1.0	3.7	<1.0	<1.0	<1.0	NA	<1.0
Thallium	7440-28-0	ug/L	NE	NE	NE	24.6	NE	1.1	<1.0	1.0	1.0	<1.0	<1.0	NA	<1.0
Zinc	7440-66-6	ug/L	NE	NE	NE	220000	NE	19000	<20	6900	21000	1800	28	NA	8200

TABLE 7A. ICOR 2013 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			ECS-MW2	ECS-MW4	ICOR-SB1(GW)	ICOR-SB5(GW)	ICOR-SB6(GW)	ICOR-SB7(GW)	ICOR-SB8(GW)	ICOR-SB9(GW)
					WTNC	WTC									
						Dermal Contact & Incidential Ingestion	Inhalation								
Date:								10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013
Dissolved PPL Metals EPA 6020A															
Arsenic	7440-38-2	ug/L	**NE**	**NE**	**NE**	**NE**	**NE**	**1.4**	<1.0	**14**	**420**	**38**	**5.0**	NA	**25**
Beryllium	7440-41-7	ug/L	**NE**	**NE**	**NE**	**NE**	**NE**	<1.0	<1.0	<1.0	**32**	<1.0	<1.0	NA	<1.0
Cadmium	7440-43-9	ug/L	**NE**	**NE**	**NE**	**36**	**NE**	<1.0	<1.0	**6.4**	**39**	<1.0	<1.0	NA	<1.0
Chromium	7440-47-3	ug/L	**NE**	**NE**	**NE**	**26.6**	**NE**	<1.0	<1.0	<1.0	**250**	<1.0	<1.0	NA	<1.0
Copper	7440-50-8	ug/L	**NE**	**NE**	**NE**	**24600**	**NE**	<1.0	<1.0	**52**	**1000**	**3.0**	<1.0	NA	<1.0
Lead	7439-92-1	ug/L	**NE**	**NE**	**NE**	**NE**	**NE**	<1.0	<1.0	**2.9**	**820**	<1.0	<1.0	NA	<1.0
Mercury	7439-97-6	ug/L	**0.067**	**0.281**	**5.59**	**NE**	**0.895**	<0.20	<0.20	<0.20	**0.25**	<0.20	<0.20	NA	<0.20
Nickel	7440-02-0	ug/L	**NE**	**NE**	**NE**	**4750**	**NE**	**1.5**	<1.0	**24**	**1500**	**3.8**	<1.0	NA	**3.0**
Selenium	7782-49-2	ug/L	**NE**	**NE**	**NE**	**3080**	**NE**	<1.0	<1.0	**1.7**	**4.3**	**7.2**	<1.0	NA	<1.0
Zinc	7440-66-6	ug/L	**NE**	**NE**	**NE**	**220000**	**NE**	**130**	<20	**4200**	**23000**	**530**	<20	NA	**6400**

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
<1.0 = not detected above analytical method reporting limit (RL)
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 7B. GROUNDWATER ANALYTICAL RESULTS (OBTAINED DURING UST REMOVAL AND INCLUDES COMPARISON TO HISTORICAL DATA)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			VDEQ-WCS	TEC-MW2		TEC-MW3		TEC-MW4		TEC-MW5	
				WTNC	WTC										
					Dermal Contact & Incidential Ingestion	Inhalation									
Date:								5/1/06	3/30/16	5/1/06	3/30/16	5/1/06	3/30/16	5/1/06	3/30/16
TPH 8015															
TPH-DRO	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	ND	**0.29**	ND	**0.13**	ND	**0.75**	ND	<0.12
VOCs 8021B															
Benzene	ug/L	**941**	**941**	**1050**	**863**	**15**	**NE**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Toluene	ug/L	**1920**	**8070**	**63100**	**35000**	**1020**	**6000**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Ethylbenzene	ug/L	**27.6**	**27.6**	**3380**	**1410**	**61**	**2100**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
m,p-Xylenes	ug/L	**71.5**	**149**	**1330**	**5270**	**21.8**	**NE**	ND	<2.0	ND	<2.0	ND	<2.0	ND	<2.0
o-Xylenes	ug/L	**51.9**	**207**	**1830**	**5870**	**21.9**	**NE**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Total Xylenes	ug/L	**492**	**2070**	**5940**	**11100**	**87.4**	**NE**	ND	<2.0	ND	<2.0	ND	<2.0	ND	<2.0
Naphthalene	ug/L	**3.98**	**20.1**	**73.5**	**557**	**0.722**	**NE**	ND	**4.9**	ND	<1.0	ND	**4.3**	ND	<1.0

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
VDEQ-WQS = VDEQ water quality standards for contaminants of concern for other surface waters
ND of <0.12 = not detected above anaytical method reporting limit
Bold and center justification designates target compound was detected at a concentration above RL
Green highlighting designates target compound was detected at a concentration above the RL in at least 1 sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 7C. ICOR 2016 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			VDEQ-PDS	VDEQ-WQSFC	VDEQ-WQSOSW	TEC-MW2		TEC-MW4		ECS-MW4		MiHpt-05-GW		MiHpt-07-GW		MiHpt-08-GW		MiHpt-08-GW(37-40.5)	MiHpt-10-GW(25-28.5)	MiHpt-14-GW		MiHpt-14-GW(25-28.5)
					WTNC	WTC Dermal Contact & Incidental Ingestion	WTC Inhalation																				
Sample Date:											9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/6/16	9/8/16	9/21/16	2/7/17	9/8/16
TPH 8015																											
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	NE	NE	15	NE	NE	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.81	0.79	0.88	0.89	<0.1	<0.1	<0.1	<0.1	0.33	0.41	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	NE	NE	15	NE	NE	0.21	0.18	0.21	0.26	<0.10	<0.10	0.52	0.41	2.0	1.8	0.15	0.20	0.48	0.55	0.75	1.2	<0.10
TPH 1664																											
Oil & Grease (Total Recovered)	mg/L	OG_TR	NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.2	<2.4	NA	NA	<2.4
TPH	mg/L	TPH1664	NE	NE	NE	NE	NE	15	NE	NE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.2	<2.4	NA	NA	<2.4
TCL VOCs 8260B																											
2-Butanone (MEK)	ug/L	78-93-3	224000	941000	6260000	1330000	1660	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	40	<10	<10	<10	<10
Acetone	ug/L	67-64-1	2830000	11900000	54500000	754000	14100	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	81	38	<10	<10	<10
Benzene	ug/L	71-43-2	941	941	1050	863	15	12	NE	510	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	110	150	25	31	<1.0	<1.0	<1.0	1.3	66	70	<1.0
Chloroform	ug/L	67-66-3	27.3	35.5	2260	1720	22.8	80	NE	11000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	1.3	<1.0
Cyclohexane	ug/L	110-82-7	102	429	9780	NE	3420	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	27.6	27.6	3380	1410	61	4.3	NE	2100	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	26	14	61	57	<1.0	<1.0	<1.0	<1.0	5.4	7.4	<1.0
Isopropylbenzene	ug/L	98-82-8	88.7	373	3450	6400	92.5	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.5	4.4	12	13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	4500	19700	443000	1690000	651	15	NE	NE	2.5	2.8	<1.0	<1.0	3.7	4.7	<1.0	<1.0	1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.7
Methylcyclohexane	ug/L	108-87-2	17.7	74.5	650	NE	624	NE	NE	NE	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	3.98	20.1	73.5	557	0.722	8.9	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	170	250	830	720	14	14	<1.0	7.5	37	48	<1.0
Tetrachloroethene	ug/L	127-18-4	5.76	24.2	292	213	10.6	5	NE	33	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	1920	8070	63100	35000	1020	43	NE	6000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.4	1.0	3.7	2.7	<1.0	<1.0	<1.0	<1.0	5.6	5.6	<1.0
Trichloroethene	ug/L	79-01-6	1.24	2.18	19.3	52.7	0.484	5	NE	300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	71.5	149	1330	5270	21.8	33	NE	NE	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	12	18	32	30	<2.0	<2.0	<2.0	<2.0	2.8	4.5	<2.0
o-Xylene	ug/L	95-47-6	51.9	207	1830	5870	21.9	33	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	23	38	32	38	<1.0	<1.0	<1.0	<1.0	4.8	7.4	<1.0
TCL SVOCs 8270C																											
2,4,5-Trichlorophenol	ug/L	95-95-4	NE	NE	NE	8330	NE	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0
2,4-Dichlorophenol	ug/L	120-83-2	NE	NE	NE	1130	NE	NE	NE	290	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	13	<5.0	<5.0
2-Chlorophenol	ug/L	95-57-8	NE	NE	NE	7350	NE	NE	NE	150	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	ug/L	91-57-6	NE	NE	NE	61.5	NE	NE	NE	NE	NA	<0.50	<5.0	<0.50	<5.0	<0.50	16	1.9	40	28	<5.3	<0.50	<6.3	<5.0	<5.0	0.68	<5.0
Acenaphthene	ug/L	83-32-9	NE	NE	NE	2870	NE	NE	NE	990	NA	<0.50	<5.0	<0.50	<5.0	2.5	<5.3	1.0	36	38	<5.3	1.6	8.4	<5.0	12	8.5	<5.0
Acenaphthylene	ug/L	208-96-8	NE	NE	NE	1590	NE	NE	NE	NE	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	1.2	<5.3	<0.50	<6.3	<5.0	<5.0	<0.50	<5.0
Anthracene	ug/L	120-12-7	NE	NE	NE	7660	NE	NE	NE	40000	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	1.6	<5.3	<0.50	<6.3	<5.0	6.3	2.4	<5.0
Biphenyl (Diphenyl)	ug/L	92-52-4	3.31	13.9	1800	1160	1.23	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	7.0	7.1	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0
Carbazole	ug/L	86-74-8	NE	NE	NE	NE	NE	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	7.4	<5.0	<5.0
Dibenzofuran	ug/L	132-64-9	NE	NE	NE	51.2	NE	NE	NE	NE	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	13	7.2	<5.0
Fluoranthene	ug/L	206-44-0	NE	NE	NE	330	NE	NE	NE	140	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	<0.50	<5.3	<0.50	<6.3	<5.0	<5.0	1.9	<5.0
Fluorene	ug/L	86-73-7	NE	NE	NE	4250	NE	NE	NE	5300	NA	<0.50	<5.0	<0.50	<5.0	0.75	<5.3	1.1	8.2	9.5	<5.3	0.51	<6.3	<5.0	18	9.6	<5.0
Naphthalene	ug/L	91-20-3	3.98	20.1	73.5	557	0.722	8.9	NE	NE	NA	<0.50	<5.0	<0.50	<5.0	<0.50	83	47	200	170	<5.3	2.2	<6.3	<5.0	10	8.8	<5.0
Pentachlorophenol	ug/L	87-86-5	5500000	24000000	12400000000	103	962000	NE	6.7	30	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0
Phenanthrene	ug/L	85-01-8	NE	NE	NE	1430	NE	NE	NE	NE	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	8.7	8.8	<5.3	<0.50	8.9	<5.0	21	6.9	<5.0
Pyrene	ug/L	129-00-0	NE	NE	NE	941	NE	NE	NE	4000	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	<0.50	<5.3	<0.50	<6.3	<5.0	<5.0	1.3	<5.0
PCBs 8082																											
PCBs	ug/L										NA	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA
Pesticides 8081B																											
Pesticides	ug/L										NA	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA	ND
Herbicides 8151A																											
2,4,5-TP (Silvex)	ug/L	93-72-1	NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	<0.19	NA	<0.19	NA	<0.19	NA	<0.19	NA	<1.9	NA	NA	NA	4.4	NA	NA
Dicamba	ug/L	1918-00-9	NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	<0.19	NA	<0.19	NA	<0.19	NA	<0.19	NA	<1.9	NA	NA	NA	<1.9	NA	NA
MCPP	ug/L	93-65-2	NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	<190	NA	<190	NA	<190	NA	<190	NA	<1900	NA	NA	NA	<1900	NA	NA
PPL Metals 6020A																											
Antimony	ug/L	7440-36-0	NE	NE	NE	NE	NE	NE	NE	640	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0	<5.0	NA
Arsenic	ug/L	7440-38-2	NE	NE	NE	NE	NE	150	NE	NA	NA	8.5	2.3	8.0	9.1	12	560	290	7.5	7.4	6.3	3.7	NA	NA	12	19	NA
Beryllium	ug/L	7440-41-7	NE	NE	NE	NE	NE	NE	NE	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	22	89	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	NA
Cadmium	ug/L	7440-43-9	NE	NE	NE	36	NE	NE	1.1	NE	NA	<1.0	<1.0	<1.0	<1.0	<1.0	52	130	<1.0	<1.0	<1.0	<1.0	NA	NA	24	14	NA
Chromium	ug/L	7440-47-3	NE	NE	NE	26.6	NE	NE	11	NE	NA	1.1	<1.0	6.4	<1.0	<1.0	570	800	<1.0	1.2	<1.0	1.4	NA	NA	<1.0	<1.0	NA
Copper	ug/L	7440-50-8	NE	NE	NE	24600	NE	NE	9	NE	NA	5.5	<1.0	17	<1.0	<1.0	14000	26000	5.6	12	5.8	2.6	NA	NA	1200	250	NA
Lead	ug/L	7439-92-1	NE	NE	NE	NE	NE	15	14	NE	NA	11	58	2100	<1.0	<1.0	260	480	1.6	3.0	24	29	NA	NA	<1.0	1.4	NA
Nickel	ug/L	7440-02-0	NE	NE	NE	4750	NE	NE	20	4600	NA	2.0	<1.0	3.8	<1.0	<1.0	2000	2100	<1.0	<1.0	1.1	<1.0	NA	NA	16	12	NA
Selenium	ug/L	7782-49-2	NE	NE	NE	3080	NE	NE	5	4200	NA	<1.0	<1.0	<1.0	<1.0	<1.0	4.9	16	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	NA
Thallium	ug/L	7440-28-0	NE	NE	NE	24.6	NE	NE	0.47	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	4.3	<10	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	NA
Zinc	ug/L	7440-66-6	NE	NE	NE	220000	NE	NE	120	26000	NA	250	<20	87	<20	<20	35000	43000	69	73	21	22	NA	NA	16000	15000	NA

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesal range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
NA = not analyzed
ND = no constituents detected above the RL
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-WQSFC = VDEQ Water Quality Standards Fresh Cronic
VDEQ-WQSOSW = VDEQ Water Quality Standards Other Surface Waters
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Blue highlighting designates a deep groundwater sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Orange highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 7C. ICOR 2016 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			VDEQ-PDS	VDEQ-WQSFC	VDEQ-WQSOSW	MiHpt-15-GW		MiHpt-20-GW		MiHpt-21-GW		MiHpt-21-GW(25-28.5)	MiHpt-22-GW		MiHpt-22-GW(25-28.5)
					WTNC	WTC														
						Dermal Contact & Incidential Ingestion	Inhalation													
Sample Date:											9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/9/16	9/21/16	2/7/17	9/9/16
TPH 8015																				
TPH-GRO (C6-C10)	mg/L	C6C10GRO	NE	NE	NE	NE	NE	15	NE	NE	<0.1	<0.1	0.18	0.14	7.5	15	<0.1	0.38	2.3	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	NE	NE	NE	NE	NE	15	NE	NE	<0.10	<0.10	0.72	0.62	1.7	1.2	<0.10	0.27	0.19	<0.10
TPH 1664																				
Oil & Grease (Total Recovered)	mg/L	OG_TR	NE	NE	NE	NE	NE	NE	NE	NE	NA	NA	NA	NA	NA	NA	<2.3	NA	NA	<2.2
TPH	mg/L	TPH1664	NE	NE	NE	NE	NE	15	NE	NE	NA	NA	NA	NA	NA	NA	<2.3	NA	NA	<2.2
TCL VOCs 8260B																				
2-Butanone (MEK)	ug/L	78-93-3	224000	941000	6260000	1330000	1660	NE	NE	NE	<10	<10	<10	<10	<50	<100	<10	<10	<10	<10
Acetone	ug/L	67-64-1	2830000	11900000	54500000	754000	14100	NE	NE	NE	<10	<10	<10	<10	<50	<100	<10	<10	<10	<10
Benzene	ug/L	71-43-2	941	941	1050	863	15	12	NE	510	9.9	6.2	14	13	58	59	<1.0	130	630	<1.0
Chloroform	ug/L	67-66-3	27.3	35.5	2260	1720	22.8	80	NE	11000	7.7	63	<1.0	<1.0	<5.0	<10	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	102	429	9780	NE	3420	NE	NE	NE	<10	<10	<10	<10	560	710	<10	10	<10	<10
Ethylbenzene	ug/L	100-41-4	27.6	27.6	3380	1410	61	4.3	NE	2100	<1.0	<1.0	1.4	<1.0	150	160	<1.0	1.6	16	<1.0
Isopropylbenzene	ug/L	98-82-8	88.7	373	3450	6400	92.5	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	17	15	<1.0	<1.0	1.6	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	4500	19700	443000	1690000	651	15	NE	NE	<1.0	<1.0	<1.0	<1.0	<5.0	<10	5.9	<1.0	<1.0	4.8
Methylcyclohexane	ug/L	108-87-2	17.7	74.5	650	NE	624	NE	NE	NE	<10	<10	<10	<10	460	690	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	3.98	20.1	73.5	557	0.722	8.9	NE	NE	<1.0	1.1	67	42	6.4	<10	<1.0	<1.0	3.1	<1.0
Tetrachloroethene	ug/L	127-18-4	5.76	24.2	292	213	10.6	5	NE	33	<1.0	<1.0	<1.0	<1.0	47	64	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	1920	8070	63100	35000	1020	43	NE	6000	<1.0	<1.0	2.6	2.0	45	44	<1.0	<1.0	3.5	<1.0
Trichloroethene	ug/L	79-01-6	1.24	2.18	19.3	52.7	0.484	5	NE	300	<1.0	<1.0	<1.0	<1.0	10	11	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	71.5	149	1330	5270	21.8	33	NE	NE	<2.0	<2.0	<2.0	<2.0	190	240	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	51.9	207	1830	5870	21.9	33	NE	NE	<1.0	<1.0	1.4	1.1	9.1	11	<1.0	<1.0	8.4	<1.0
TCL SVOCs 8270C																				
2,4,5-Trichlorophenol	ug/L	95-95-4	NE	NE	NE	8330	NE	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	53	19	<5.0	<5.0	<5.0	<5.0
2,4-Dichlorophenol	ug/L	120-83-2	NE	NE	NE	1130	NE	NE	NE	290	<5.0	<5.0	<5.0	<5.0	710	220	<5.0	<5.0	<5.0	8.1
2-Chlorophenol	ug/L	95-57-8	NE	NE	NE	7350	NE	NE	NE	150	<5.0	<5.0	<5.0	<5.0	8.3	<5.0	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	ug/L	91-57-6	NE	NE	NE	61.5	NE	NE	NE	NE	<5.0	<0.50	<5.0	<0.50	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Acenaphthene	ug/L	83-32-9	NE	NE	NE	2870	NE	NE	NE	990	<5.0	<0.50	6.3	1.7	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Acenaphthylene	ug/L	208-96-8	NE	NE	NE	1590	NE	NE	NE	NE	<5.0	<0.50	<5.0	0.94	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Anthracene	ug/L	120-12-7	NE	NE	NE	7660	NE	NE	NE	40000	<5.0	<0.50	<5.0	<0.50	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Biphenyl (Diphenyl)	ug/L	92-52-4	3.31	13.9	1800	1160	1.23	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbazole	ug/L	86-74-8	NE	NE	NE	NE	NE	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibenzofuran	ug/L	132-64-9	NE	NE	NE	51.2	NE	NE	NE	NE	<5.0	<5.0	11	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Fluoranthene	ug/L	206-44-0	NE	NE	NE	330	NE	NE	NE	140	<5.0	<0.50	<5.0	<0.50	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Fluorene	ug/L	86-73-7	NE	NE	NE	4250	NE	NE	NE	5300	<5.0	<0.50	12	2.5	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Naphthalene	ug/L	91-20-3	3.98	20.1	73.5	557	0.722	8.9	NE	NE	<5.0	1.7	13	4.3	35	0.66	<5.0	<5.0	<0.50	<5.0
Pentachlorophenol	ug/L	87-86-5	5500000	24000000	12400000000	103	962000	NE	8.7	30	<5.0	<5.0	<5.0	<5.0	13	<5.0	<5.0	<5.0	<5.0	<5.0
Phenanthrene	ug/L	85-01-8	NE	NE	NE	1430	NE	NE	NE	NE	<5.0	<0.50	10	1.5	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Pyrene	ug/L	129-00-0	NE	NE	NE	941	NE	NE	NE	4000	<5.0	<0.50	<5.0	<0.50	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
PCBs 8082																				
PCBs	ug/L										ND	NA	ND	NA	ND	NA	NA	ND	NA	NA
Pesticides 8081B																				
Pesticides	ug/L										ND	NA	ND	NA	ND	NA	NA	ND	NA	NA
Herbicides 8151A																				
2,4,5-TP (Silvex)	ug/L	93-72-1	NE	NE	NE	NE	NE	NE	NE	NE	<0.19	NA	<0.20	NA	<19	NA	NA	<1.9	NA	NA
Dicamba	ug/L	1918-00-9	NE	NE	NE	NE	NE	NE	NE	NE	<0.19	NA	0.63	NA	23	NA	NA	<1.9	NA	NA
MCPP	ug/L	93-65-2	NE	NE	NE	NE	NE	NE	NE	NE	710	NA	<200	NA	85000	NA	NA	<1900	NA	NA
PPL Metals 6020A																				
Antimony	ug/L	7440-36-0	NE	NE	NE	NE	NE	NE	NE	640	<5.0	61	<5.0	<5.0	<5.0	<5.0	NA	<5.0	<5.0	NA
Arsenic	ug/L	7440-38-2	NE	NE	NE	NE	NE	NE	150	NE	51	4600	13	12	590	330	NA	180	230	NA
Beryllium	ug/L	7440-41-7	NE	NE	NE	NE	NE	NE	NE	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA
Cadmium	ug/L	7440-43-9	NE	NE	NE	36	NE	NE	1.1	NE	13	3.4	7.4	61	<1.0	<1.0	NA	<1.0	<1.0	NA
Chromium	ug/L	7440-47-3	NE	NE	NE	26.6	NE	NE	11	NE	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	NA	1.9	<1.0	NA
Copper	ug/L	7440-50-8	NE	NE	NE	24600	NE	NE	9	NE	12	36	12	59	1.4	<1.0	NA	2.4	<1.0	NA
Lead	ug/L	7439-92-1	NE	NE	NE	NE	NE	15	14	NE	<1.0	<1.0	2.0	4.9	<1.0	<1.0	NA	1.6	<1.0	NA
Nickel	ug/L	7440-02-0	NE	NE	NE	4750	NE	NE	20	4600	3.4	4.3	5.0	9.5	2.1	1.5	NA	2.0	<1.0	NA
Selenium	ug/L	7782-49-2	NE	NE	NE	3080	NE	NE	5	4200	1.6	8.0	8.3	18	3.3	1.2	NA	<1.0	<1.0	NA
Thallium	ug/L	7440-28-0	NE	NE	NE	24.6	NE	NE	0.47	<1.0	2.6	<1.0	<1.0	<1.0	<1.0	NA	<1.0	<1.0	NA
Zinc	ug/L	7440-66-6	NE	NE	NE	220000	NE	NE	120	26000	3800	1800	8600	13000	<20	20	NA	22	<20	NA

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
NA = not analyzed
ND = no constituents detected above the RL
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
VDEQ-PDS = general permit discharge standard for petroleum contaminated water
VDEQ-WQSFC = VDEQ Water Quality Standards Fresh Cronic
VDEQ-WQSOSW = VDEQ Water Quality Standards Other Surface Waters
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Blue highlighting designates a deep groundwater sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ groundwater screening level in at least 1 sample
Green highlighting designates target compound was detected at a concentration above the VDEQ surface water screening level in at least 1 sample
Orange highlighting designates target compound was detected at a concentration above the VDEQ groundwater and surface water screening level in at least 1 sample

TABLE 8. SUB-SLAB SOIL GAS ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-T3RSSG	VDEQ-T3CSSG	ICOR-SSG1	ICOR-SSG2	ICOR-SSG3	ICOR-SSG4
Sample Date:					12/5/16	12/5/16	12/5/16	12/5/16
VOCs TO15								
1,2,4-Trimethylbenzene	95-63-6	ug/m3	**24.3**	**102**	**6.5**	**6.3**	<25	**6.1**
2,2,4-Trimethylpentane	540-84-1	ug/m3	**NE**	**NE**	**8.6**	**9.9**	**63**	**11**
2-Butanone (MEK)	78-93-3	ug/m3	**17400**	**73000**	**11**	**18**	<37	**16**
Acetone	67-64-1	ug/m3	**108000**	**453000**	**46**	**260**	<240	**540**
Benzene	71-43-2	ug/m3	**333**	**438**	**2.4**	**3.0**	<16	**4.0**
Chloroform	67-66-3	ug/m3	**137**	**178**	**7.0**	<2.4	<24	**23**
Cyclohexane	110-82-7	ug/m3	**20900**	**87600**	**1.8**	**4.9**	**150**	**18**
Dichlorodifluoromethane	75-71-8	ug/m3	**348**	**1460**	**3.6**	**4.9**	<25	**8.8**
Ethylbenzene	100-41-4	ug/m3	**374**	**1640**	**7.5**	**7.9**	<22	**8.0**
Propylene	115-07-1	ug/m3	**NE**	**NE**	**9.9**	**8.5**	<43	**37**
Tetrahydrofuran	109-99-9	ug/m3	**NE**	**NE**	**22**	**28**	**26**	**29**
Toluene	108-88-3	ug/m3	**17400**	**73000**	**32**	**43**	**35**	**38**
m,p-Xylenes	108-38-3	ug/m3	**700**	**1460**	**27**	**28**	**47**	**29**
n-Heptane	142-82-5	ug/m3	**NE**	**NE**	**2.7**	**3.4**	<20	**5.3**
o-Xylene	95-47-6	ug/m3	**367**	**1460**	**14**	**14**	**26**	**15**

NOTES:
VOCs = volatile organic compounds
TO15 = United States Environmental Protection Agency analytical method
ug/m3 = micrograms per meter cubed
<0.86 = not detected above the analytical method reporting limit (RL)
Bold and right justification designates constituent was detected above the RL
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RSSG = VDEQ Tier III Residential Land use Sub-Slab Soil Gas Screening Level for Inhalation of Indoor Air
VDEQ-T3CSSG = VDEQ Tier III Commercial Land use Sub-Slab Soil Gas Screening Level for Inhalation of Indoor Air
NE = not established
Bold and center justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 9. DEEP SOIL GAS ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

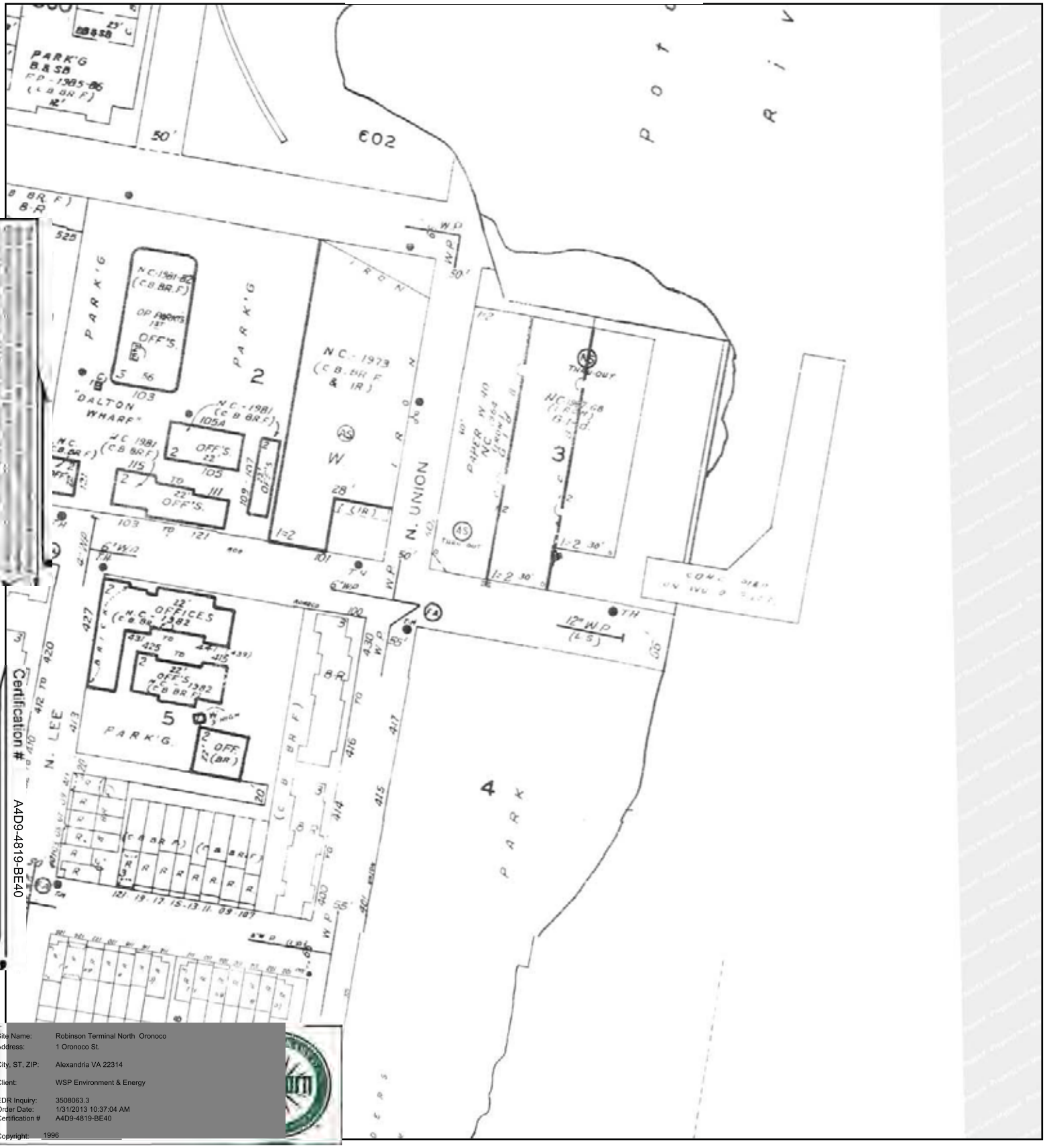
Sample ID:	CAS No.	Units	VDEQ-T3RDSG	VDEQ-T3CDSG	VDEQ-T3CW	ICOR-DSG1	ICOR-DSG2	ICOR-DSG3	ICOR-DSG4
Sample Date:						12/5/16	12/5/16	12/5/16	12/5/16
Depth Collected (feet bgs):						6 - 6.5	5 - 5.5	3.5 - 4	2 - 2.5
VOCs TO15									
1,2,4-Trimethylbenzene	95-63-6	ug/m3	**73**	**307**	**440000**	**7.7**	**8.2**	**4.8**	<25
1,3,5-Trimethylbenzene	108-67-8	ug/m3	**NE**	**NE**	**44300**	<2.5	**2.9**	<2.5	<25
2,2,4-Trimethylpentane	540-84-1	ug/m3	**NE**	**NE**	**NE**	**490**	**4.0**	**11**	**400**
2-Butanone (MEK)	78-93-3	ug/m3	**52100**	**219000**	**14600000**	<3.7	**5.6**	**4.1**	**180**
4-Methyl-2-Pentanone	108-10-1	ug/m3	**31300**	**131000**	**11500000**	<5.1	<5.1	<5.1	**300**
Acetone	67-64-1	ug/m3	**323000**	**1360000**	**78100000**	**65**	**43**	**30**	**19000**
Benzene	71-43-2	ug/m3	**1000**	**1310**	**238000**	**18**	**130**	**5.4**	<16
Carbon Disulfide	75-15-0	ug/m3	**7300**	**30700**	**1750000**	**76**	**53**	<31	<310
Chloroethane	75-00-3	ug/m3	**104000**	**438000**	**1030000**	<1.3	<1.3	**1.5**	<13
Chloroform	67-66-3	ug/m3	**410**	**533**	**340000**	**5.9**	**17**	**5.5**	<24
Cyclohexane	110-82-7	ug/m3	**62600**	**263000**	**60000000**	**190**	**68**	**73**	**320**
Ethylbenzene	100-41-4	ug/m3	**1120**	**4910**	**10900000**	**7.2**	**2.7**	**5.8**	<22
Naphthalene	91-20-3	ug/m3	**31.3**	**131**	**13200**	**6.7**	<2.6	<2.6	<26
Propylene	115-07-1	ug/m3	**NE**	**NE**	**NE**	**450**	**640**	**870**	**600**
Toluene	108-88-3	ug/m3	**52100**	**219000**	**17100000**	**20**	**8.1**	**18**	**22**
m,p-Xylenes	108-38-3	ug/m3	**2100**	**4380**	**390000**	**22**	**11**	**21**	<43
n-Heptane	142-82-5	ug/m3	**NE**	**NE**	**NE**	**20**	**9.8**	**8.6**	**130**
n-Hexane	110-54-3	ug/m3	**7300**	**30700**	**5990000**	**100**	<35	<35	**640**
n-Propylbenzene	103-65-1	ug/m3	**10400**	**43800**	**4430000**	**2.5**	<2.5	<2.5	<25
o-Xylene	95-47-6	ug/m3	**1100**	**4380**	**387000**	**13**	**7.5**	**12**	<22

NOTES:
bgs = below ground surface
VOCs = volatile organic compounds
TO15 = United States Environmental Protection Agency analytical method
ug/m3 = micrograms per meter cubed
<0.86 = not detected above the analytical method reporting limit (RL)
Bold and right justification designates constituent was detected above the RL
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RDSG = VDEQ Tier III residential land use Deep Soil Gas Screening Level for Inhalation of Indoor Air
VDEQ-T3CDSG = VDEQ Tier III commercial land use Deep Soil Gas Screening Level for Inhalation of Indoor Air
VDEQ-T3CW = VDEQ Tier III Construction Worker Soil Gas Screening Level for Inhalation of Air in a Trench
NE = not established
Bold and center justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

ATTACHMENT 1

HISTORIC MAPS DEPICTING SITE AND SURROUNDING AREA PROPERTY USE

1996 Certified Sanborn Map

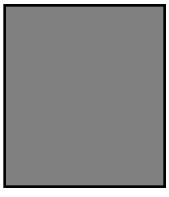


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Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
EDR Inquiry: 3508063.3
Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
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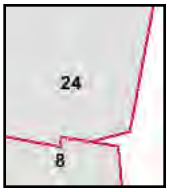
1993 Certified Sanborn Map



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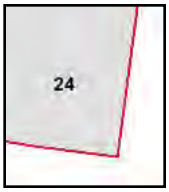


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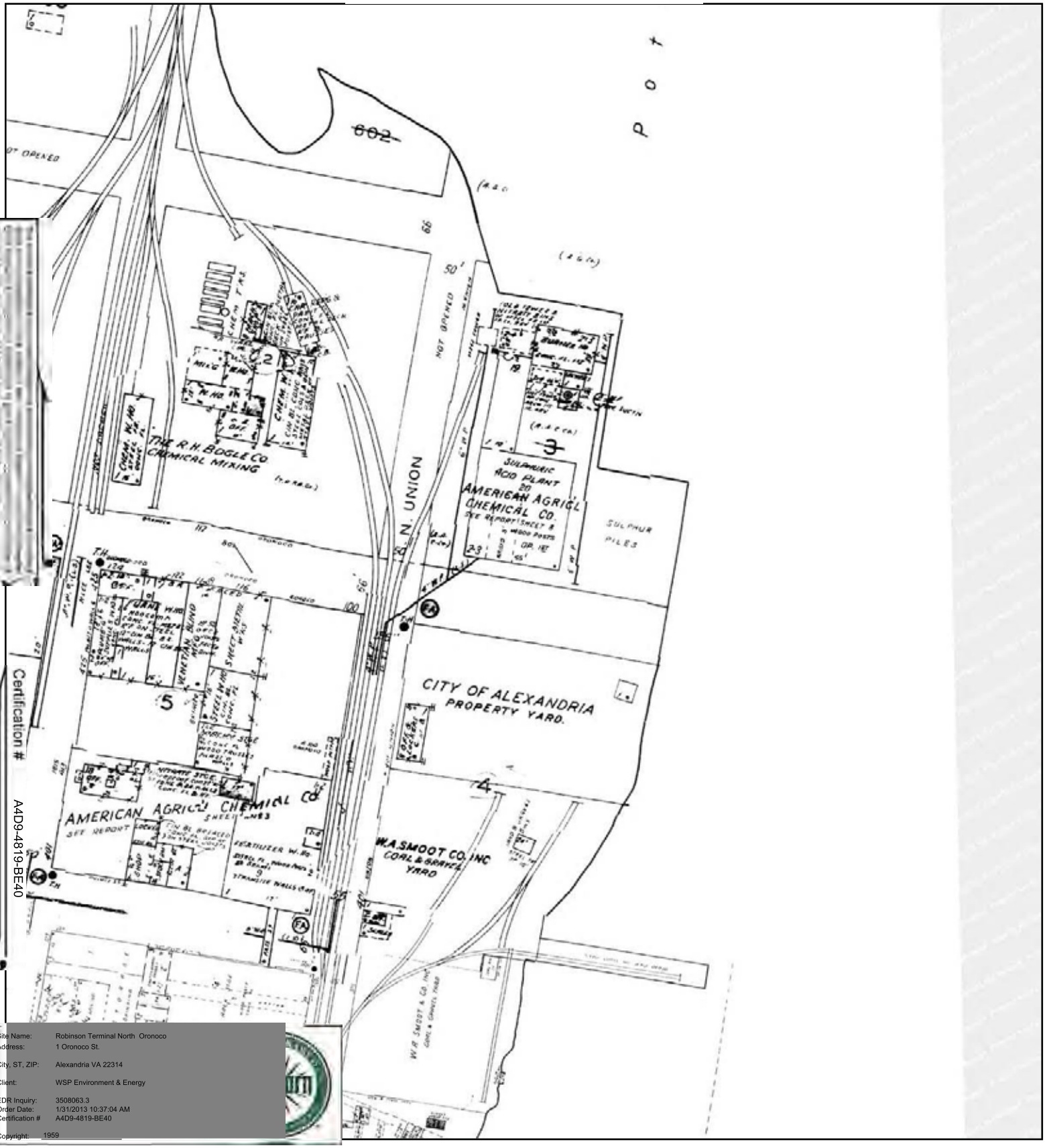




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N

1959 Certified Sanborn Map

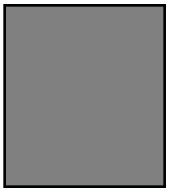


Site Name: Robinson Terminal North Oronoco
Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
EDR Inquiry: 3508063.3
Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
Copyright: 1959

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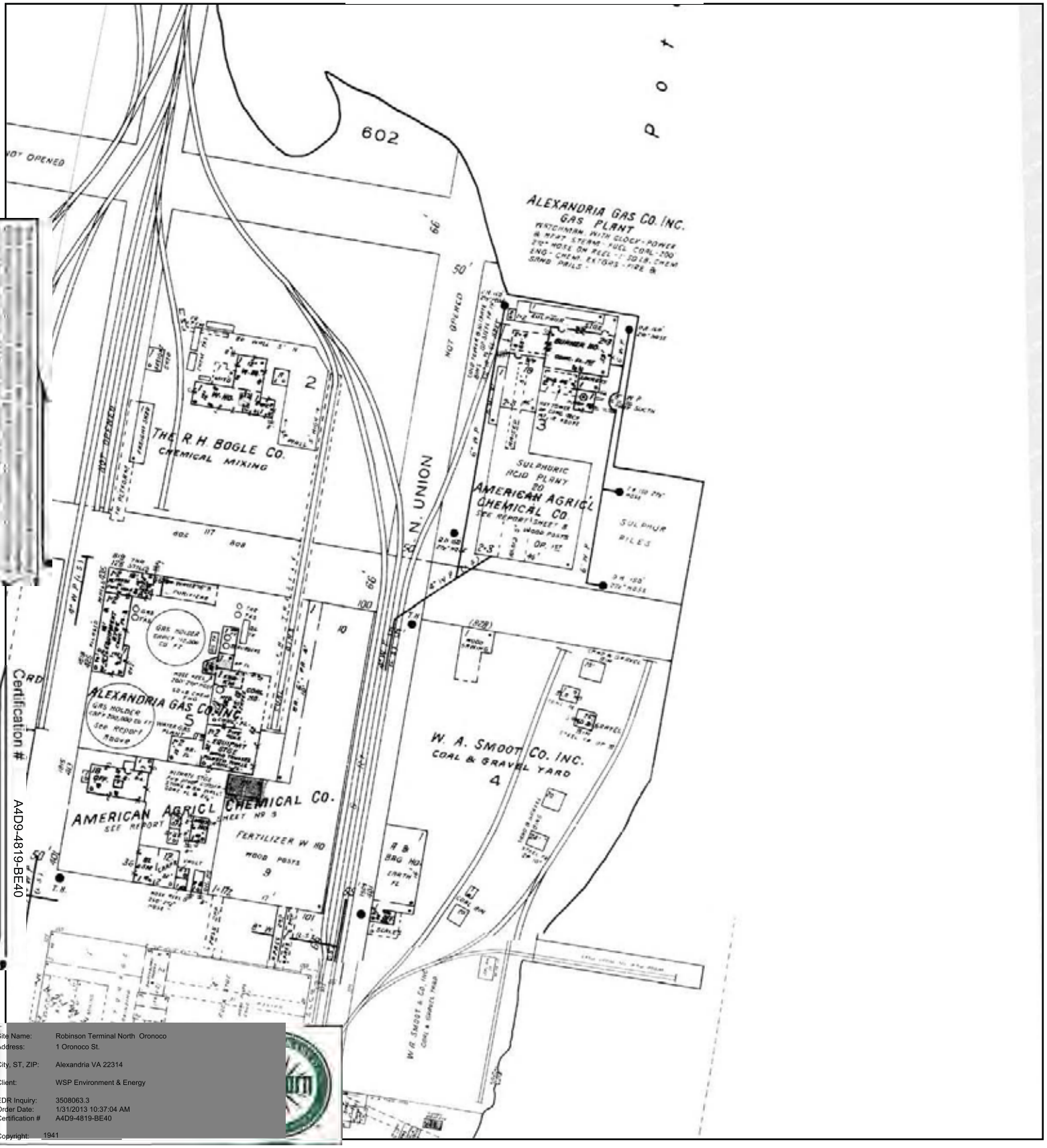




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Volume 1, Sheet 8

N

1941 Certified Sanborn Map

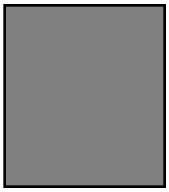


Certification # A4D9-4819-BE40

Site Name: Robinson Terminal North Oronoco
Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
EDR Inquiry: 3508063.3
Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
Copyright: 1941

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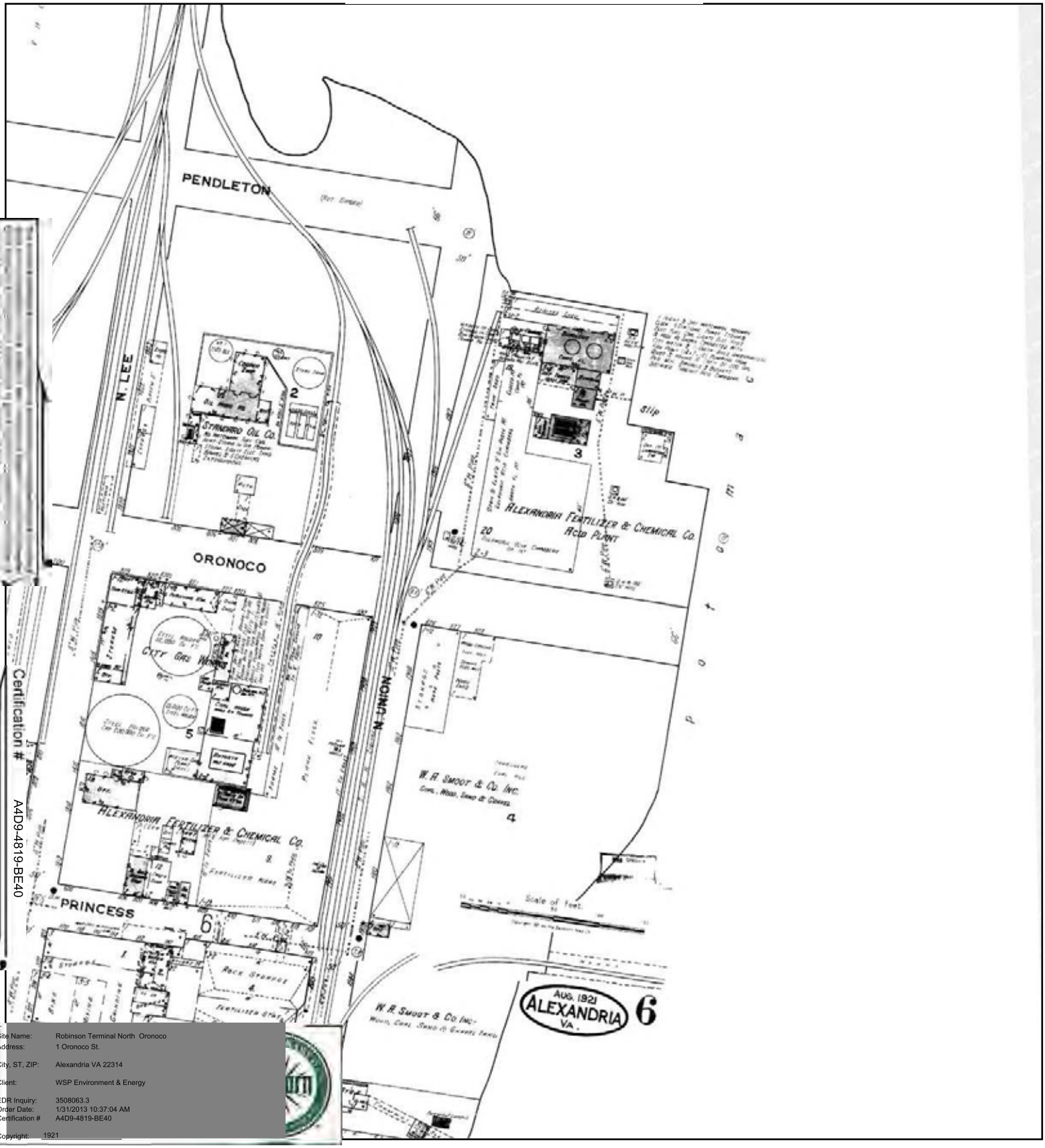


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Volume 1, Sheet 24

0 Feet 150 300 600

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1921 Certified Sanborn Map

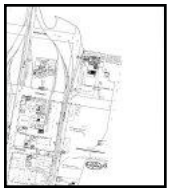


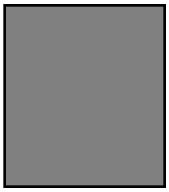
Certification # A4D9-4819-BE40

Site Name:	Robinson Terminal North Oronoco
Address:	1 Oronoco St.
City, ST, ZIP:	Alexandria VA 22314
Client:	WSP Environment & Energy
EDR Inquiry:	3508063.3
Order Date:	1/31/2013 10:37:04 AM
Certification #	A4D9-4819-BE40
Copyright:	1921

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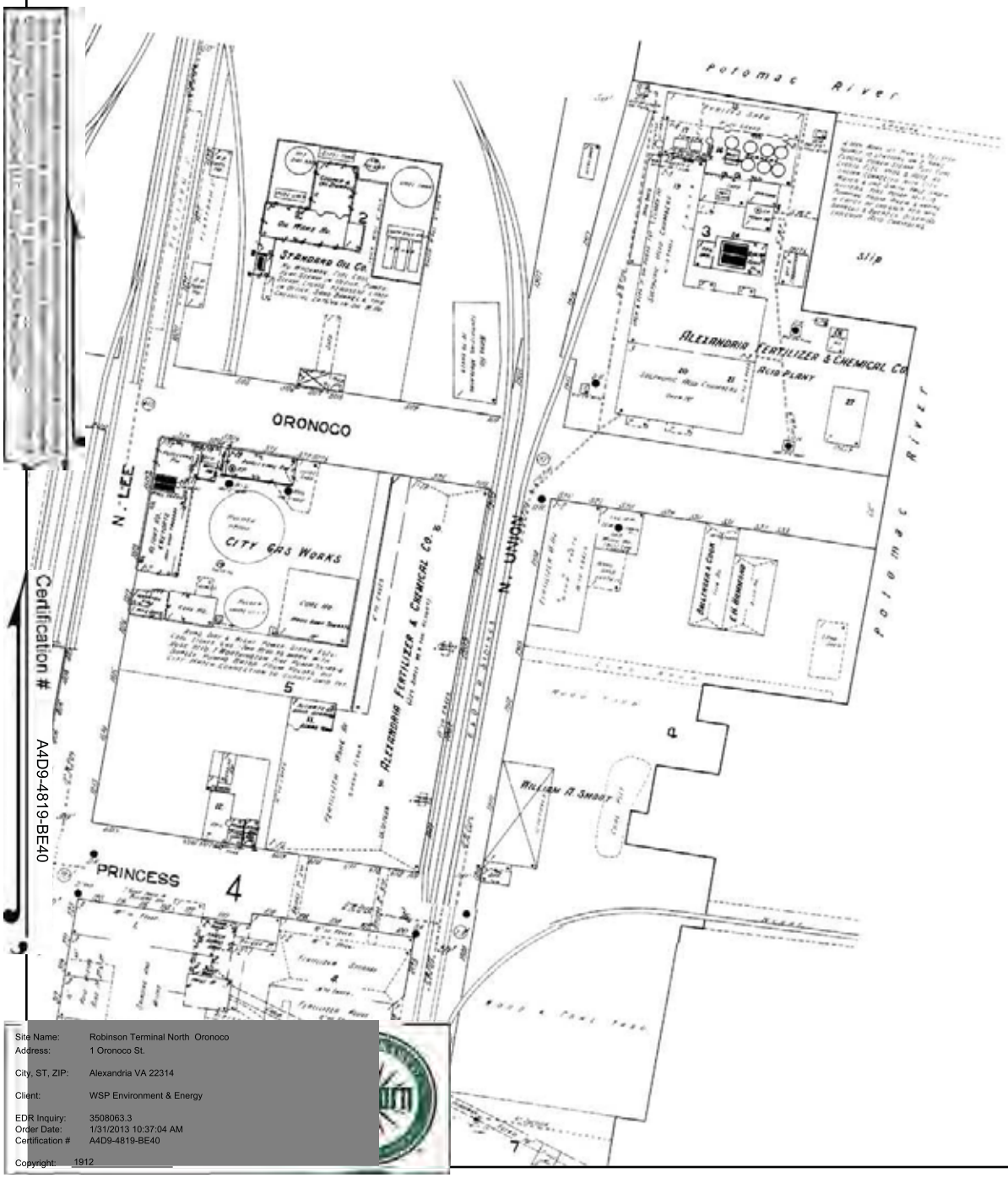




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N

1912 Certified Sanborn Map



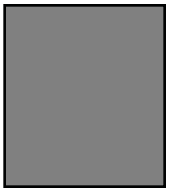
Certification # A4D9-4819-BE40

Site Name:	Robinson Terminal North Oronoco
Address:	1 Oronoco St.
City, ST, ZIP:	Alexandria VA 22314
Client:	WSP Environment & Energy
EDR Inquiry:	3508063.3
Order Date:	1/31/2013 10:37:04 AM
Certification #	A4D9-4819-BE40
Copyright:	1912

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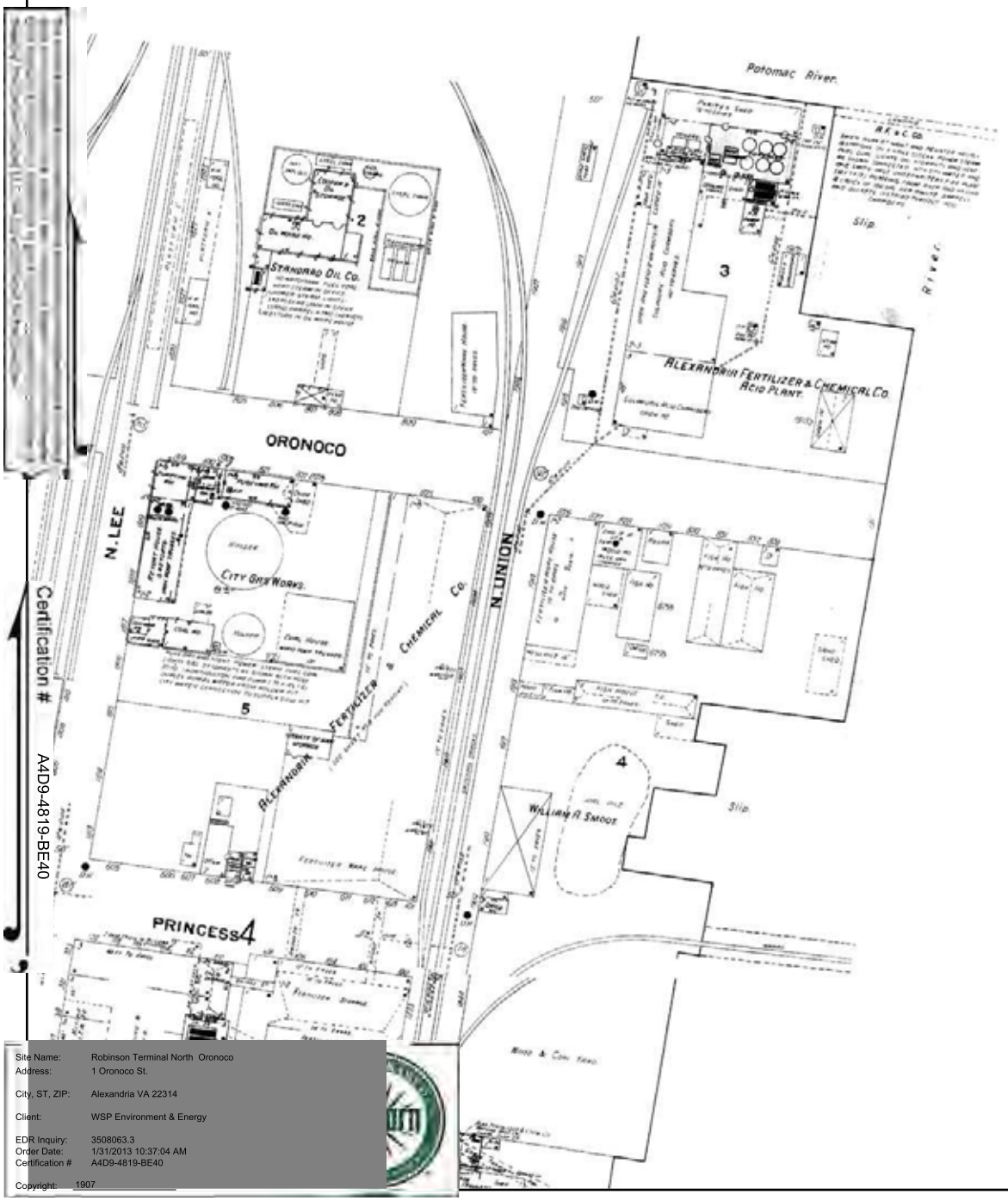




Volume 1, Sheet 4

N

1907 Certified Sanborn Map



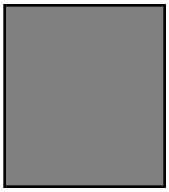
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Site Name: Robinson Terminal North Oronoco
Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
EDR Inquiry: 3508063.3
Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
Copyright: 1907

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Outlined areas indicate map sheets within the collection.

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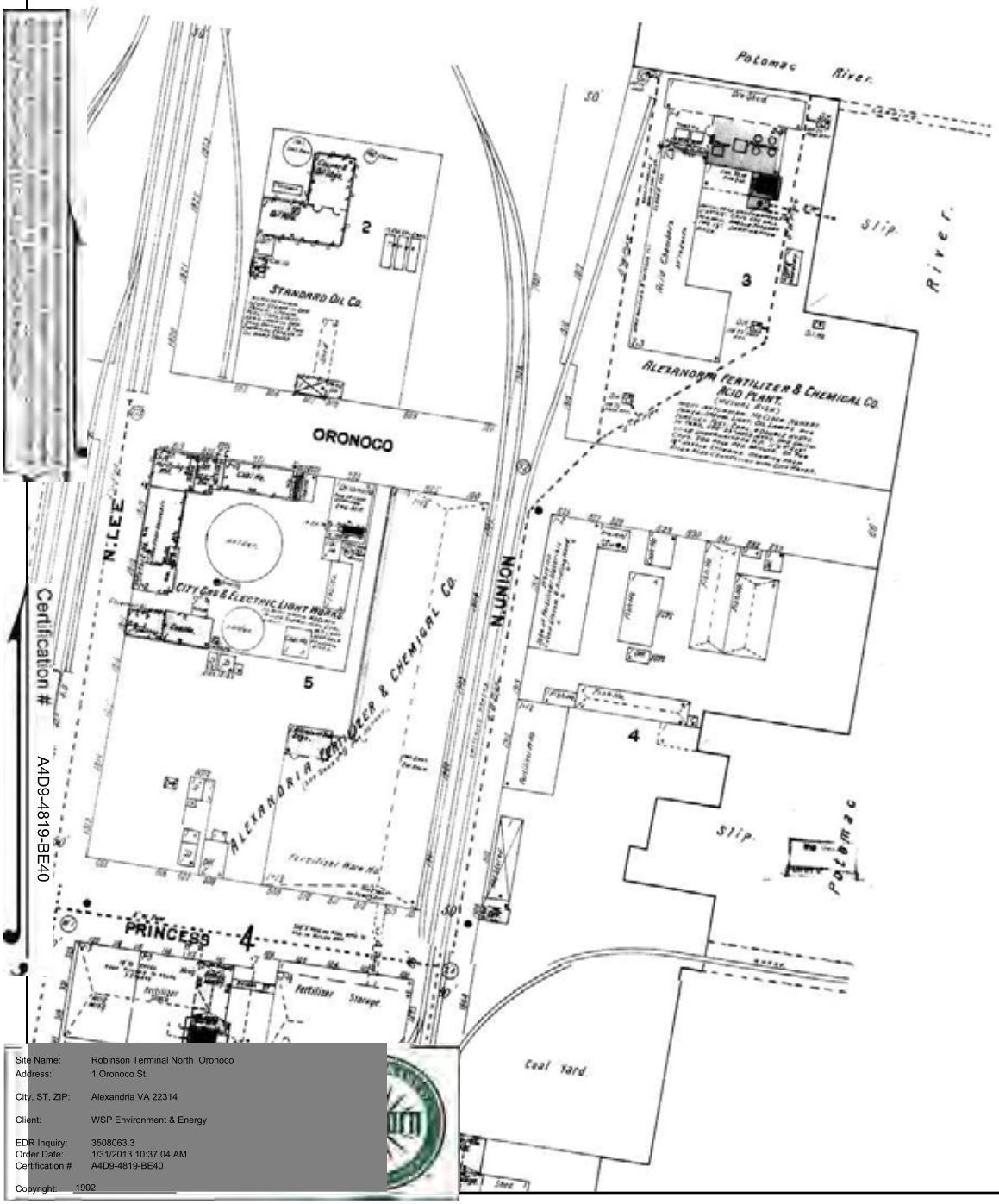




Volume 1, Sheet 4

N

1902 Certified Sanborn Map



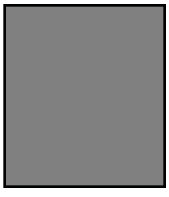
Certification # A4D9-4819-BE40

Site Name: Robinson Terminal North Oronoco
Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
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Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
Copyright: 1902

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Outlined areas indicate map sheets within the collection.

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Volume 1, Sheet 4

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1896 Certified Sanborn Map



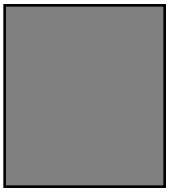
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Site Name: Robinson Terminal North Oronoco
Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
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Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
Copyright: 1896

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Outlined areas indicate map sheets within the collection.

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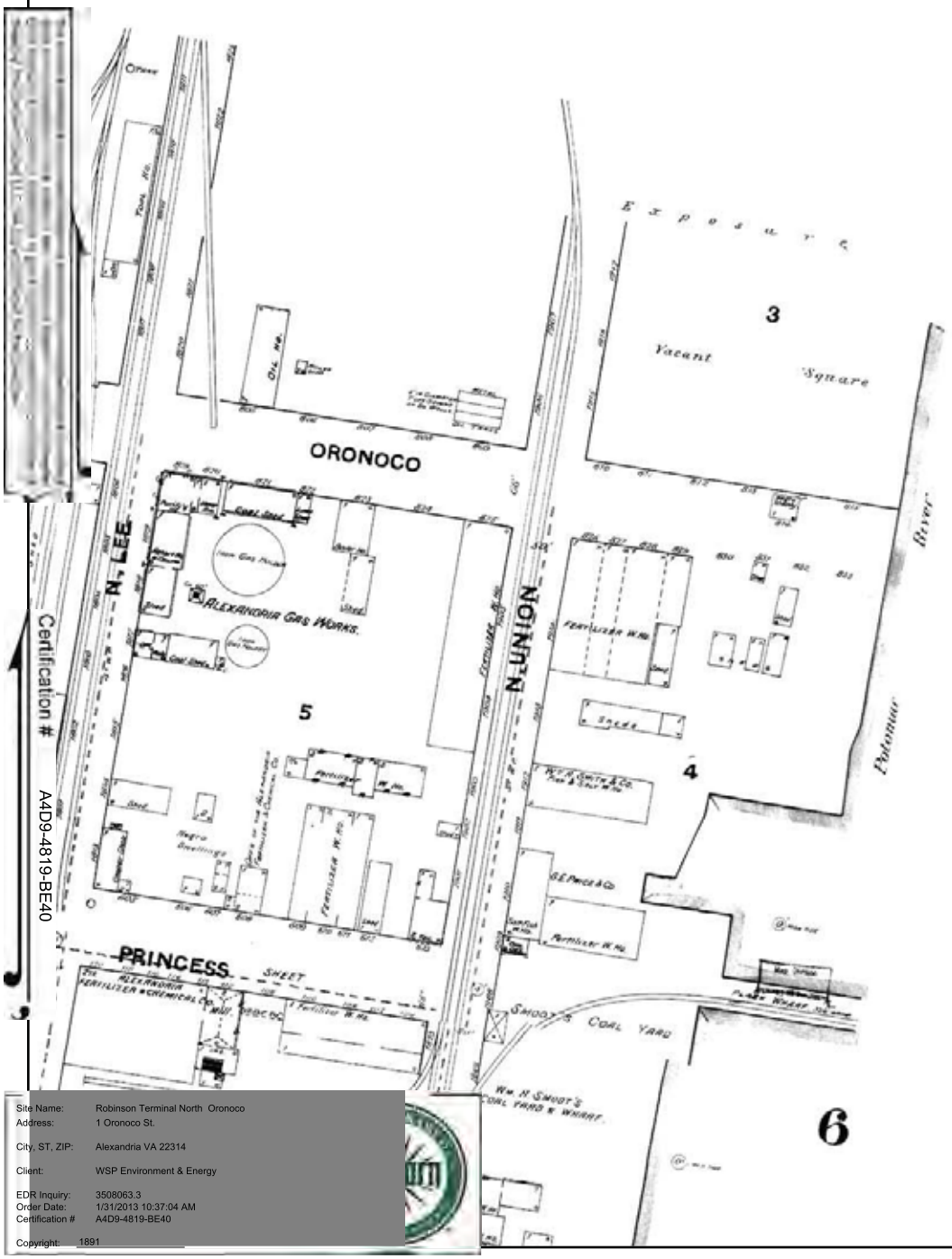




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N

1891 Certified Sanborn Map

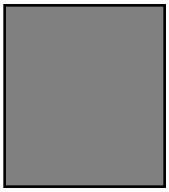


Site Name: Robinson Terminal North Oronoco
Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
EDR Inquiry: 3508063.3
Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
Copyright: 1891

This Certified Sanborn Map combines the following sheets.
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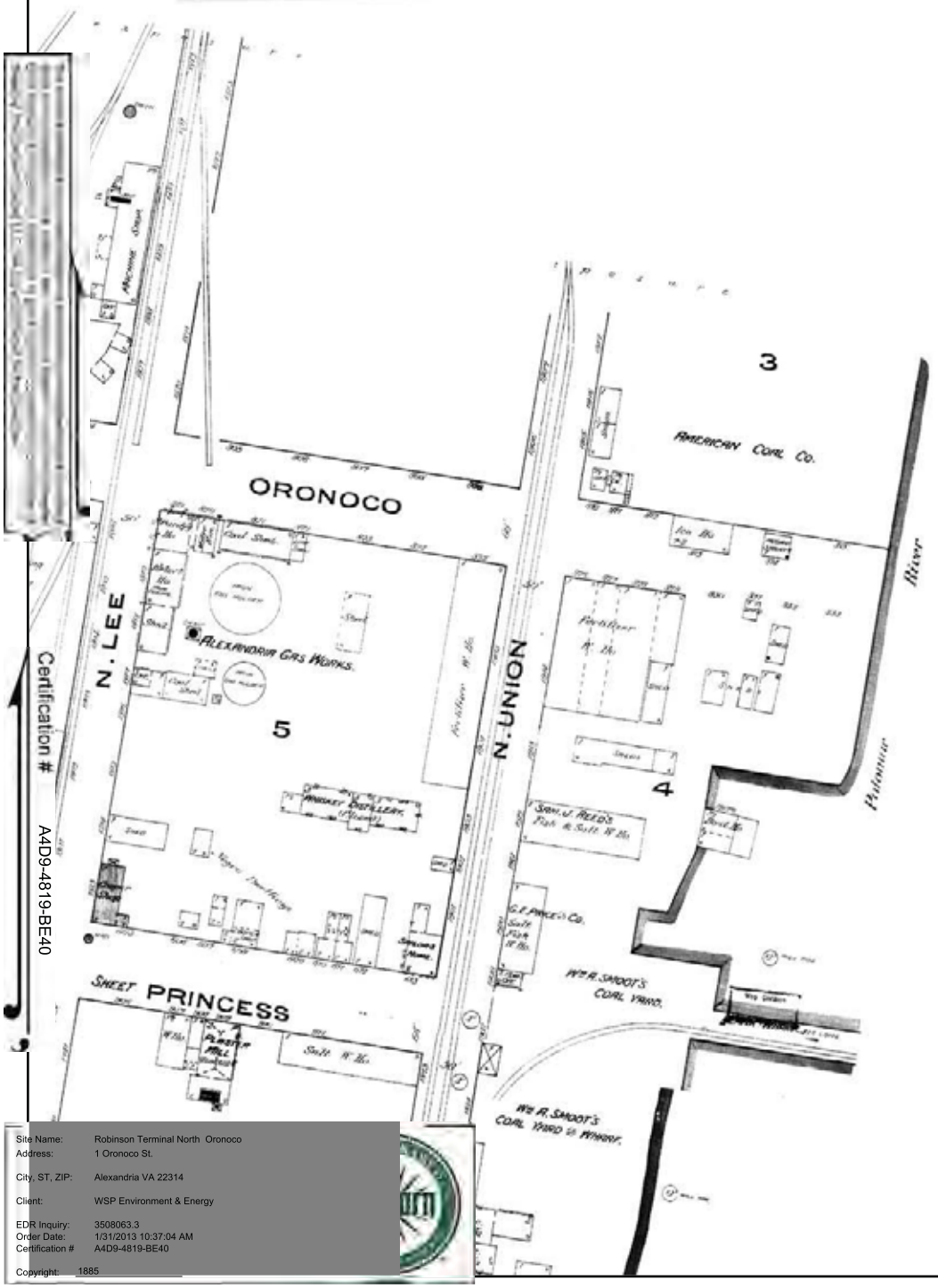




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N

1885 Certified Sanborn Map



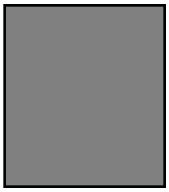
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Site Name: Robinson Terminal North Oronoco
Address: 1 Oronoco St.
City, ST, ZIP: Alexandria VA 22314
Client: WSP Environment & Energy
EDR Inquiry: 3508063.3
Order Date: 1/31/2013 10:37:04 AM
Certification # A4D9-4819-BE40
Copyright: 1885

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Outlined areas indicate map sheets within the collection.

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Volume 1, Sheet 2

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ATTACHMENT 2

PHOTO-DOCUMENTATION OF RECENT FIELD ACTIVITIES



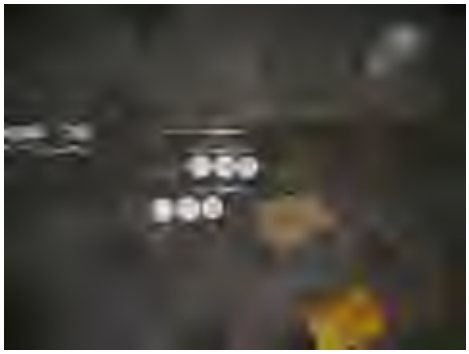
View of direct-push sampling rig during advancement of test boring.



View of sample cores generated during advancement of test boring.



View of direct-push sampling rig during advancement of test boring.



View of soil samples collected for laboratory analysis from sample cores.



View of coring machine used to core a hole through concrete floor within warehouses.



View of oil-stained soil encountered during advancement of test boring ICOR-SB3.



View of direct-push sampling rig during advancement of test boring ICOR-SB12.



View of intermixed cinder and brick encountered during advancement of test boring ICOR-SB12.



View of soil being screened with a PID.



View of dissolved metals groundwater sample being filtered during collection.



View of temporary well.



View of concrete being cored with direct-push sampling rig.



View of existing well ECS-MW2.



View of real-time tooling being advanced with direct-push rig.



View of groundwater sample being collected from temporary well installed at location ICOR-SB3.



View of real-time tooling advanced with direct-push rig.



View of analytical equipment used to collect data during advancement of real-time tooling.



View of direct-push sampling rig during advancement of test boring to collect soil sample.



View of real-time tooling being advanced with direct-push rig.



View of deep groundwater sample being collected from direct-push tooling (discrete sampler).



View of real-time tooling being advanced with direct-push rig.



View of sand and gravel deep groundwater beraing unit encountered at boring location MiHpt-14.



View of analytical equipment used to collect data during advancement of real-time tooling.



View of sand and gravel deep groundwater beraing unit encountered at boring location MiHpt-21.



View of permanent well being installed.



View of deep soil gas sample point.



View of test borings being tremie grouted.



View of deep soil gas sample point being installed through direct-push tooling.



View of Cox and Colvin VaporPin used to collect sub-slab soil gas sample.



View of purge pump used to purge deep soil gas sampling points prior to sample collection.



View of succesfully installed Cox and Colvin VaporPin used to collect sub-slab soil gas sample.



View of Summa canister used to collect sub-slab and deep soil gas sample.

ATTACHMENT 3

BORING LOGS

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-1
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 14'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Topsoil	
-0.6		FILL		Brown Sandy Gravel FILL, dry	
-2.1	2-4'		0.0	Brown Sandy Clay FILL, with gravel, moist	
-3.1				Tan Rock FILL, dry	
-3.6				Brown Lean Clay FILL, with gravel and some sand,	
--5	5-6'		0.0	moist	
-6.1	6-8'		0.0	Brown Lean Clay FILL, moist	
-					
-					With sand below 8'
-9.6				Light Brown Fat Clay FILL, moist	
--10.6				Brown Lean Clay FILL, with some sand, moist	
-	11-12'		0.0		
-12	12-14'		0.0	Black Gravel FILL, with sand	No petroleum odor
-13				Brown Lean Clay FILL, with sand	
-14				Bottom of Boring at 14'	
--15					
-					
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
-					
-					
-					
-					
--30					
-					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-2/MW-2
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 16'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Topsoil	
-0.6		FILL		Brown Sandy Gravel FILL, dry	
-4	2-4'		0.0	Brown Sandy Clay FILL, with gravel, moist	
-					
-					
--5					
-6	6-8'		0.0	Tan Rock FILL, dry	
-7				Brown Lean Clay FILL, moist	
-7.2				Tan Pea Gravel FILL, moist	
-7.4				Brown Sandy Clay FILL, with gravel, moist	
-8				Brown Lean Clay FILL, moist	
-9.11				Gravel FILL, moist	
--10	10-12'		0.0	Brown Lean Clay FILL, moist	
-					Fat clay below 10.6'
-					Lean clay with sand
-					below 11'
-12				Red Brick FILL, dry	
-12.2				Brown Sand FILL, with clay, moist	
-					With gravel below 14'
--15.6	15-16'	SP	0.0	Grey Poorly Graded SAND, wet	No petroleum odor
-				Bottom of Boring at 16'	
-					
-					
-					
--25					
-					
-					
-					
-					
--30					
-					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-3
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Topsoil	
-0.6	0-4'	FILL	0.0	Brown Sandy Gravel FILL, dry	
-					
-					
-					
--5					
-6				Brown Lean Clay FILL, with sand, moist	
-7.10	7-8'		0.0	Brown Fat Clay FILL, moist	
-					Light brown below 8'
-					
--10				Brown Sand FILL, with quartz fragments, moist	
-10.2				Brown Lean Clay FILL, moist	
-					Fat clay below 10.8'
-11.6	11-12'		0.0	Light Brown Lean Clay FILL, with some sand,	
-				moist	
-				Bottom of Boring at 12'	
--15					
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
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-					
-					
-					
--30					
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-					
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-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:**	B-4/MW-4
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:**	4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:**	12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Topsoil	
-0.6		FILL		Brown Sandy Gravel FILL, dry	
-	2-4'		0.0		
-3.9				Brown Lean Clay FILL, with sand and gravel, moist	
-4				Brown Gravel FILL, moist	
--5.6				Brown Fat Clay FILL, moist	
-6.10				Brown Crushed Rock FILL, moist	
-7	7-8'		0.0	Brown Fat Clay FILL, moist	
-					Lean clay below 8'
-8.6				Brown Sand FILL, with quartz fragments, moist	
-9	9-10'		1.4	Brown Fat Clay FILL, moist	No petroleum odor
--10					
-	11-12'		0.0		
-				Bottom of Boring at 12'	
-					
-					
--15					
-					
-					
-					
-					
--20					
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--25					
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--30					
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-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-5
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0		FILL		Grey Gravel FILL, dry	
-0.6				Brown Sandy Gravel FILL, dry	
-	2-4'		0.0		
-3.8				Grey Rock FILL, dry	
-					
--5					
-					
-7	7-8'		0.0	Brown Lean Clay FILL, with gravel, moist	
-7.6				Brown Fat Clay FILL, moist	
-7.9				Crushed Rock FILL, moist	
-					Water at 8'
--10				Brown Sand FILL, with gravel, wet	
-	11-12'		0.0		
-				Bottom of Boring at 12'	
-					
-					
--15					
-					
-					
-					
-					
--20					
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-					
--25					
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-					
-					
-					
--30					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-6/MW-7
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0		FILL		Grey Gravel FILL, dry	
-0.6				Brown Sandy Clay FILL, with gravel, dry	
-	2-4'		0.0		
-3				Brown Fat Clay FILL, with sand, moist	
-					
--5					
-	6.6-7.6'		0.0		Slight petroleum odor
-					below 6-6'
-					With sand below 8'
-9				Brown Sandy Clay FILL, moist .	
--10					
-	11-12'		0.8		
-				Bottom of Boring at 12'	Water at 12'
-					
-					
--15					
-					
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
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-					
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-					
--30					
-					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:**	B-7
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:**	4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:**	12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0		FILL		Gravel FILL, dry	
-					
-2	2-4'		0.0	Brown Fat Clay FILL, moist	
-2.6				Brown Well Graded Sand FILL, with gravel, moist	
-2.9				Brown Fat Clay FILL, moist	
--5					
-	6-8'		0.0		
-					
-					
-					Lean clay below 9'
--10	10-12'		0.0		
-					
-				Bottom of Boring at 12'	Water at 12'
-					
-					
--15					
-					
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
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-					
--30					
-					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:**	B-8
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:**	4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:**	12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Concrete	
-					
-2	2-4'		0.0	Brown Well Graded Sand FILL, moist	
-3				Brown Fat Clay FILL, moist	
-					
--5				Grey Sandy Lean Clay FILL, moist	No petroleum odor
-					
-7	7-8'		1.0	Brown Lean Clay FILL, moist	
-7.8				Red Brick FILL, dry	
-7.10				Brown Fat Clay FILL, moist	
-					Lean clay below 8'
-					
--10	10-12'		0.0		
-					
-				Bottom of Boring at 12'	
-					
-					
--15					
-					
-					
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--20					
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--25					
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--30					
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TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-9/MW-5
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 16'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Topsoil	
-0.6		FILL		Brown Sandy Clay FILL, with gravel, moist	
-	2-4'		0.0		
-3				Brown Fat Clay FILL, moist	
-					
--5	5-7'		0.0		
-					Lean clay below 6.6'
-					Fat clay below 7'
-					
-					
--10					
-	11-12'		1.3		Lean clay below 11.3'
-12	12-14'		49.2	Grey Lean Clay FILL, with some sand, moist	
-					Moderate petroleum odor
-					at 13'
--15					
-	15-16'		0.0	Bottom of Boring at 16'	
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
-					
-					
-					
-					
--30					
-					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:**	B-10
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:**	4-27-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:**	12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Topsoil	
-0.6		FILL		Brown Sandy Gravel FILL, dry	
-	2-4'		0.0		
-					
-4				Brown Fat Clay FILL, moist	
--5					
-	6-8'		0.0		
-					
-					
-					
--10					
-11.6	11-12'		0.2	Brown Lean Clay FILL, with sand, moist	
-				Bottom of Boring at 12'	
-					
-					
--15					
-					
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
-					
-					
-					
-					
--30					
-					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-11
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-28-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 12'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0		FILL		Concrete	
-					
-2	2-4'		0.0	Brown Fat Clay FILL, with sand and gravel, moist	
-3.2				Grey Gravel FILL, moist	
-3.8				Brown Sandy Clay FILL, with gravel, moist	
-4	4-8'		0.0	Red-Brown Poorly Graded Sand FILL, moist	
-4.6				Brown Lean Clay FILL, moist	
--5					
-6.6				Asphalt	
-7				Brown Lean Clay FILL, moist	
-7.10				Brown Sandy Clay FILL, moist	
-8.6				Brown and Grey Lean Clay FILL, moist	No petroleum odor
-	9-11'		0.0		
--10				Red Brick FILL, dry	
-10.2				Brown Fat Clay FILL, moist	
-				Bottom of Boring at 12'	
-					
-					
--15					
-					
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
-					
-					
-					
-					
--30					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-12/MW-1
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-28-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 10'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0	0-4'		0.0	Topsoil	
-0.8		FILL		Brown Sandy Gravel FILL, dry	
-					
-3.10				Brown Sandy Clay FILL, with gravel, moist	
-4	4-6'		0.0	Brown Fat Clay FILL, moist	
--5					
-					
-7	7-8'		0.0	Brown Fat Clay FILL, with some sand, moist	
-					
-8	8-10'		0.0	Dark Grey Gravel FILL, with sand, wet	No petroleum odor
-					Water at 8'
--10				Bottom of Boring at 10'	
-					
-					
-					
--15					
-					
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
-					
-					
-					
-					
--30					
-					
-					
-					
-					

TOTAL ENVIRONMENTAL CONCEPTS, INC.

DIRECT-PUSH LOG

TEC/PC#: 650.002/06-3131	**Site:** Robinson Terminal	**Boring No.:** B-13/MW-6
City, State: Alexandria, VA	**Client:** Robinson Terminal Warehouse Corp.	**Date:** 4-28-2006
Site Geologist: A. Weatherly	**Sample Type:** 4-ft poly tube	**Total Depth:** 16'

Depth (feet)	Sample Interval (feet)	USCS	PID (ppm)	Lithologic Description	Comments
--0				Topsoil	
-0.6		FILL		Brown Sandy Clay FILL, with gravel, moist	
-	2-4'		0.0		
-					
-4				Light Brown Lean Clay FILL, with sand, moist	
--5					
-	6-8'		0.0		
-					
-8				Light Brown Lean Clay FILL, moist	
-					
--10					With some sand and
-	11-12'		1.4		gravel below 10'
-					
-					
-	14-16'		0.0		
--15					
-				Bottom of Boring at 16'	
-					
-					
-					
--20					
-					
-					
-					
-					
--25					
-					
-					
-					
-					
--30					
-					
-					
-					
-					

REFERENCE NOTES FOR BORING LOGS

I. Drilling and Sampling Symbols:

SS	- Split Spoon Sampler	RB	- Rock Bit Drilling
ST	- Shelby Tube Sampler	BS	- Bulk Sample of Cuttings
RC	- Rock Core; NX, BX, AX	PA	- Power Auger (no sample)
PM	- Pressuremeter	HSA	- Hollow Stem Auger
DC	- Dutch Cone Penetrometer	WS	- Wash Sample

Standard Penetration Test (SPT) resistance refers to the blows per foot (bpf) of a 140 lb hammer falling 30 inches on a 2 in. O.D. split-spoon sampler as specified in ASTM D-1586. The blow count is commonly referred to as the N-value.

II. Correlation of Penetration Resistances to Soil Properties:

Relative Density-Sands, Silts

SPT-N (bpf)	Relative Density
0 – 5	Very Loose
6 – 10	Loose
11 – 30	Medium Dense
31 – 50	Dense
51+	Very Dense

Consistency of Cohesive Soils

SPT-N (bpf)	Consistency	Unconfined Compressive Strength, Qp, tsf
0 – 3	Very Soft	Under 0.25
4 – 5	Soft	0.25 - 0.49
6 – 10	Medium Stiff	0.50 - 0.99
11 – 15	Stiff	1.00 - 1.99
16 – 30	Very Stiff	2.00 - 3.99
31 – 50	Hard	4.00 - 8.00
51+	Very Hard	Over 8.00

Weathered Rock (WR) may be defined as SPT-N values exceeding 100 bpf depending on site specific conditions. Refer carefully to boring logs.

Rock Fragments, gravel, cobbles, boulders, or debris may produce N-values that are not representative of actual soil properties.

III. Unified Soil Classification Symbols:

GP – Poorly Graded Gravel
GW – Well Graded Gravel
GM – Silty Gravel
GC – Clayey Gravels
SP – Poorly Graded Sands
SW – Well Graded Sands
SM – Silty Sands
SC – Clayey Sands

ML – Low Plasticity Silts
MH – High Plasticity Silts
CL – Low Plasticity Clays
CH – High Plasticity Clays
OL – Low Plasticity Organics
OH – High Plasticity Organics
CL-ML – Dual Classification (Typical)

IV. Water Level Measurement Symbols:

WL - Water Level
WS - While Sampling
WD - While Drilling

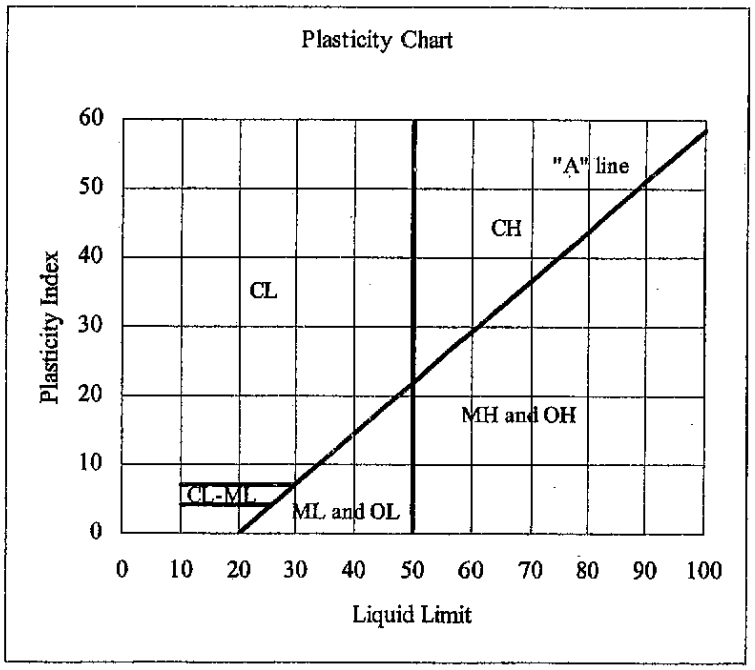
BCR – Before Casing Removal
ACR – After Casing Removal
WCI – Wet Cave In
DCI – Dry Cave In

The water levels are those water levels actually measured in the bore hole at the times indicated by the symbol. The measurements are relatively reliable when augering, without adding fluids, in a granular soil. In clays and plastic silts, the accurate determination of water levels may require several days for the water level to stabilize. In such cases, additional methods of measurement are generally required.

Unified Soil Classification System (ASTM D-2487)

Major Divisions			Group Symbols		Typical Names	Laboratory Classification Criteria	
Coarse-grained soils (More than half of material is larger than No. 200 Sieve size)	Gravels (More than half of coarse fraction is larger than No. 4 sieve size)	Clean gravels (Little or no fines)	GW		Well-graded gravels, gravel-sand mixtures, little or no fines	$C_u = D_{60}/D_{10}$ greater than 4 $C_c = (D_{30})^2/(D_{10}xD_{60})$ between 1 and 3	
			GP		Poorly graded gravels, gravel-sand mixtures, little or no fines	Not meeting all gradation requirements for GW	
		Gravels with fines (Appreciable amount of fines)	GM[a]	d u	Silty gravels, gravel-sand mixtures	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			GC		Clayey gravels, gravel-sand-clay mixtures	Atterberg limits below "A" line or P.I. less than 7	
	Sands (More than half of coarse fraction is smaller than No. 4 sieve size)	Clean sands (Little or no fines)	SW		Well-graded sands, gravelly sands, little or no fines	$C_u = D_{60}/D_{10}$ greater than 6 $C_c = (D_{30})^2/(D_{10}xD_{60})$ between 1 and 3	
			SP		Poorly graded sands, gravelly sands, little or no fines	Not meeting all gradation requirements for SW	
		Sands with fines (Appreciable amount o fines)	SM[a]	d u	Silty sands, sand-silt mixtures	Atterberg limits above "A" line or P.I. less than 4	Limits plotting in CL-ML zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
			SC		Clayey sands, sand-clay mixtures	Atterberg limits above "A" line with P.I. greater than 7	
Fine-grained soils (More than half material is smaller than No. 200 Sieve)	Silts and clays (Liquid limit less than 50)		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity		
			CL		Inorganic clays of low to medium plasticity, gravelly clays, sandy clays		
			OL		Organic silts and organic silty clays of low plasticity		
	Silts and clays (Liquid limit greater than 50)		MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH		Inorganic clays of high plasticity, fat clays		
			OH		Organic clays of medium to high plasticity, organic silts		
	Highly Organic soils		Pt		Peat and other highly organic soils		

Determine percentage of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:
Less than 5 percent GW, GP, SW, SP
More than 12 percent GM, GC, SM, SC
5 to 12 percent Border 4 line cases requiring dual symbols[b]



[a] Division of GM and SM groups into subdivisions of d and u are for roads and airfields only. Subdivision is based on Atterberg limits; suffix d used when L.L. is 28 or less and the P.I. is 6 or less; the suffix u used when L.L. is greater than 28.

[b] Borderline classifications, used for soils possessing characteristics of two groups, are designated by combinations of group symbols. For example: GW-GC, well-graded gravel-sand mixture with clay binder.

From Winterkorn and Fang. 1975.

CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-1	1 OF 2
PROJECT NAME	ARCHITECT-ENGINEER		
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT			

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 60+

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▼ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 11.80

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
0	1	SS	18	18	Concrete Depth 12"		10	9
					Gravel Depth 4"			
	2	SS	18	18	Sandy SILT, Some Clay, Trace Brick and Asphalt, Dark Gray, Moist, Very Loose to Medium Dense, (FILL)			30
5	3	SS	18	14			5	5
	4	SS	18	10		▽		7
10							0	
	5	SS	18	16	SILT, With Fine Sand, Trace Clay and Mica, Brown to Purplish Brown, Moist, Loose to Medium Dense, (ML)			6
15							-5	
	6	SS	18	18				15
20							-10	
					No Recovery			
	7	SS	18	0				33
25							-15	
					Silty SAND, With Gravel, Trace Quartz, Brown, Moist to Wet, Dense, (SM)			
	8	SS	18	12				34
30								

CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED	12/19/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED	12/19/2007	CAVE IN DEPTH ● 17.0'
▽WL	RIG T-1	FOREMAN CONNELLY	DRILLING METHOD HSA

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dmdan(01/03/2008)

CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-1	2 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.² 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY RQD% — — — REC.% 20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

DESCRIPTION OF MATERIAL ENGLISH UNITS

BOTTOM OF CASING ▶ LOSS OF CIRCULATION 100%

SURFACE ELEVATION 11.80

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS	ELEVATION (FT)
30						
						20
	9	SS	18	1		
35						
						25
	10	SS	9	2		
40						
						30
	11	SS	18	3		
45						
						35
	12	SS	18	3		
50						
						40
	13	SS	18	3		
55						
						45
	14	SS	18	18		
60						

Silty SAND, With Gravel, Trace Quartz, Brown, Moist to Wet, Dense, (SM)

GRAVEL, Trace Silty Sand, Gray, Wet, Very Dense, (GP)

Silty SAND, With Gravel, Dark Gray, Wet, Very Dense, (SM)

Marine CLAY, Trace Fine Sand and Gravel, Dark Purplish Brown, Moist to Wet, Medium Dense, (CH)

54

50/3

12

20

20

29

END OF BORING @ 60.00'

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR ▽D	BORING STARTED	12/19/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED	12/19/2007	CAVE IN DEPTH ● 17.0'
▽WL	RIG T-1	FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-2	1 OF 3

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.% ———
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

DESCRIPTION OF MATERIAL ENGLISH UNITS

BOTTOM OF CASING ▶ LOSS OF CIRCULATION 100%

SURFACE ELEVATION 11.80

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
0					Concrete Depth 12"		10	
	1	SS	18	18	Gravel Depth 6"			27
	2	SS	18	14	Silty SAND, Trace CLAY, Gravel, Quartz and Organics, Dark Gray to Brown, Moist, Medium Dense, (FILL)			18
5	3	SS	18	16			5	8
					CLAY, Trace Fine Sand and Silt, Brown, Moist, Medium Stiff, (CL)			
	4	SS	18	18	Clayey SILT, Trace Fine Sand, Dull Brown, Moist to Wet, Very Loose, (ML)		0	2
10								4
	5	SS	18	18				
15							-5	
					Silty SAND, With Gravel, Dark Gray, Moist to Wet, Medium Dense to Dense, (SM)			25
20	6	SS	18	18			-10	
	7	SS	18	14				54
25							-15	
					GRAVEL, Some Silty Sand, Brown, Wet, Medium Dense to Dense, (GW)			
	8	SS	18	14				26
30								

CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED	12/20/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED	12/20/2007	CAVE IN DEPTH @ N/A
▽WL 27.9' @ 7DAYS	RIG T-1	FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-2	2 OF 3

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} (1, 2, 3, 4, 5+)

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. (10, 20, 30, 40, 50+)

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 11.80

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
30					20	
	9	SS	18	8		36
35					25	
	10	SS	18	10		42
40					30	
	11	SS	18	14		21
45					35	
	12	SS	18	16		25
50					40	
	13	SS	18	10		28
55					45	
	14	SS	18	18		22
60						

GRAVEL, Some Silty Sand, Brown, Wet, Medium Dense to Dense, (GW)

Silty CLAY, Trace Fine Sand, Brown, Moist, Very Stiff, (CL)

Marine CLAY, Grayish Brown, Moist, Very Stiff, (CH)

CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED	12/20/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED	12/20/2007	CAVE IN DEPTH @ N/A
▽WL 27.9' @ 7DAYS	RIG T-1	FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-2	3 OF 3
PROJECT NAME	ARCHITECT-ENGINEER		
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT			

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT.
10 20 30 40 50+

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 11.80

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS	ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
60						50	
	15	SS	18	18			23
65						55	
	16	SS	18	18			21
70						60	
	17	SS	18	18			21
75						65	
	18	SS	18	18			26
80						70	
85						75	
90							

Marine CLAY, Grayish Brown, Moist, Very Stiff, (CH)

END OF BORING @ 80.00'

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED	12/20/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED	12/20/2007	CAVE IN DEPTH @ N/A
▽WL 27.9' @ 7DAYS	RIG T-1	FOREMAN CONNELLY	DRILLING METHOD HSA

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dmoken(01/03/2008)

CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-3	1 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

STANDARD PENETRATION BLOWS/FT. ⊗ 10 20 30 40 50+

DESCRIPTION OF MATERIAL ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.00

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
0					Concrete Depth 12"		
	1	SS	18	16	Sandy SILT, With Clay, Brown and Dark Gray, Moist, Loose to Medium Dense, (FILL)		7
	2	SS	18	16			15
5	3	SS	18	10		5	9
	4	SS	18	18		0	5
10					Silty SAND, Trace Gravel, Brown, Moist to Wet, Medium Dense, (SM)		
	5	SS	18	16		-5	20
15							
	6	SS	18	18		-10	22
20					GRAVEL, With Silty Sand, Brown, Moist to Wet, Dense to Very Dense, (GW)		
	7	SS	18	14		-15	39
25							
	8	SS	18	12		-20	37
30							

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 14.0' WS OR WD	BORING STARTED 12/26/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 12/26/2007	CAVE IN DEPTH ● N/A
▽WL	RIG T-1 FOREMAN CONNELLY	DRILLING METHOD HSA

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afrancisco(01/04/2008)

CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-3	2 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

DESCRIPTION OF MATERIAL ENGLISH UNITS

BOTTOM OF CASING — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.00

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS ELEVATION (FT)
30					
	9	SS	18	12	25
35					
	10	SS	18	14	30
40					
	11	SS	18	16	35
45					
	12	SS	18	14	40
50					
	13	SS	18	16	45
55					
	14	SS	18	16	50
60					

GRAVEL, With Silty Sand, Brown, Moist to Wet, Dense to Very Dense, (GW)

Marine CLAY, Reddish Brown and Gray, Moist, Very Stiff, (CH)

⊗45 ⊗80 ⊗19 ⊗30 ⊗34 ⊗39

END OF BORING @ 60.00'

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 14.0' WS OR WD	BORING STARTED 12/26/2007		
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 12/26/2007	CAVE IN DEPTH @ N/A	
▽WL	RIG T-1	FOREMAN CONNELLY	DRILLING METHOD HSA

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afanders(01/04/2008)

CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-4	1 OF 3

PROJECT NAME: ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT

ARCHITECT-ENGINEER:

SITE LOCATION: ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

ECS LLC MID-ATLANTIC

CALIBRATED PENETROMETER TONS/FT.^{2} (1, 2, 3, 4, 5+)

PLASTIC LIMIT % (X) — WATER CONTENT % (●) — LIQUID LIMIT % (Δ)

ROCK QUALITY DESIGNATION & RECOVERY: RQD% — — — REC.% (20%, 40%, 60%, 80%, 100%)

STANDARD PENETRATION BLOWS/FT. (⊗) (10, 20, 30, 40, 50+)

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL — ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
					BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%		
					SURFACE ELEVATION 9.20		
0					Concrete Depth 12"		
	1	SS	18	14	Silty SAND, With Gravel, Concrete, Brick and Roots, Trace Clay, Brown to Tannish Brown, Moist to Wet, Loose to Medium Dense, (FILL)	5	13
	2	SS	18	10			11
5	3	SS	18	12			9
	4	SS	18	10		0	9
10	5	SS	18	12	Silty SAND, With Gravel, Brown, Moist to Wet, Medium Dense, (SM)	-5	14
15	6	SS	18	18		-10	19
20	7	SS	18	16		-15	10
25	8	SS	18	18		-20	23
30							

CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED 12/27/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 12/27/2007	CAVE IN DEPTH @ N/A
▽WL 3.5' @ 7DAYS	RIG T-1 FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-4	2 OF 3

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▼ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.20

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS	ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
30							
							Silty SAND, With Gravel, Brown, Moist to Wet, Medium Dense, (SM)
							Marine CLAY, Trace Sand, Reddish Brown and Gray, Moist, Very Stiff to Hard, (CH)
35	9	SS	18	9		-25	9
	10	SS	18	18		-30	18
40	11	SS	18	18		-35	16
45	12	SS	18	18		-40	24
50	13	SS	18	18		-45	29
55	14	SS	18	13		-50	27
60							

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED	12/27/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED	12/27/2007	CAVE IN DEPTH @ N/A
▽WL 3.5' @ 7DAYS	RIG T-1 FOREMAN CONNELLY		DRILLING METHOD HSA

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dfanders(01/04/2008)

CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-4	3 OF 3

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2}
1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT.
10 20 30 40 50+

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.20

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	WATER LEVELS ELEVATION (FT)
60					
	15	SS	18	16	55
65					
	16	SS	18	17	60
70					
	17	SS	18	16	65
75					
	18	SS	18	18	70
80					
85					75
90					80

Marine CLAY, Trace Sand, Reddish Brown and Gray, Moist, Very Stiff to Hard, (CH)

⊗28 ⊗32 ⊗37 ⊗42

END OF BORING @ 80.00'

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED	12/27/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED	12/27/2007	CAVE IN DEPTH @ N/A
▽WL 3.5' @ 7DAYS	RIG T-1 FOREMAN CONNELLY		DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-5	1 OF 2
PROJECT NAME	ARCHITECT-ENGINEER		
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT			

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.² 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.% ———
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

BOTTOM OF CASING ▶ LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.20

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL — ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
0					Concrete Depth 12"		
	1	SS	18	5	Silty SAND, With Gravel, Concrete, Brick and Wood, Trace Clay, Brown, Moist, Loose to Medium Dense, (FILL)		8
	2	SS	18	12			11
5	3	SS	18	18		5	34
	4	SS	18	12		0	13
10							
	5	SS	18	14		-5	14
15					No Recovery		
	6	SS	18	0		-10	3
20							
	7	SS	18	0		-15	2
25					Silty SAND, Trace Gravel, Dark Brown to Purplish Brown, Moist to Wet, Very Loose to Loose, (SM)		
	8	SS	18	6		-20	2
30							

CONTINUED ON NEXT PAGE.

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED 1/2/2008	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 1/2/2008	CAVE IN DEPTH @ N/A
▽WL	RIG T-1 FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-5	2 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2}
1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT.
10 20 30 40 50+

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.20

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL — ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
30					Silty SAND, Trace Gravel, Dark Brown to Purplish Brown, Moist to Wet, Very Loose to Loose, (SM)		
35	9	SS	18	16		25	9
					GRAVEL, With Silty Sand, Dark Brown, Wet, Very Dense, (GP)		
40	10	SS	15	1		30	72/9
					Sandy CLAY, Brown and Gray, Moist to Wet, Stiff, (CL)		
45	11	SS	18	16		35	13
	12	SS	18	16		40	5
50							
	13	SS	18	16		45	8
55							
					Marine CLAY, Trace Rock Fragment, Reddish Brown and Gray, Moist, Very Stiff, (CH)		
60	14	SS	18	18		50	17

END OF BORING @ 60.00'

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 8.5' WS OR WD	BORING STARTED 1/2/2008	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 1/2/2008	CAVE IN DEPTH @ N/A
▽WL	RIG T-1 FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-6	1 OF 3
PROJECT NAME	ARCHITECT-ENGINEER		
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT			

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY RQD% — — — REC.% 20% 40% 60% 80% 100%

STANDARD PENETRATION BLOWS/FT. ⊗ 10 20 30 40 50+

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL — ENGLISH UNITS	WATER LEVELS ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
					BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%		
					SURFACE ELEVATION 9.20		
0					Concrete Depth 12"		
	1	SS	18	8	Silty SAND, With Gravel and Brick, Brown to Purplish Brown, Moist, Loose to Medium Dense, (FILL)		10
	2	SS	18	8		5	4
5	3	SS	18	18			16
	4	SS	18	18		0	5
10					Silty SAND, Trace Gravel, Dark Brown, Moist to Wet, Medium Dense, (SM)		
	5	SS	18	12		-5	14
15							
	6	SS	18	14		-10	11
20							
	7	SS	18	12		-15	12
25							
	8	SS	18	14	Silty SAND, With Gravel, Dark Brown, Moist, Medium Dense to Very Dense, (SM)	-20	55
30							

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL.

▽WL 5.0' WS OR WD	BORING STARTED 12/28/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 12/28/2007	CAVE IN DEPTH @ 14.0'
▽WL	RIG T-1 FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-6	2 OF 3

PROJECT NAME: ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT

ARCHITECT-ENGINEER:

SITE LOCATION: ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

ECS LLC MID-ATLANTIC

CALIBRATED PENETROMETER TONS/FT.^{2}: 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % △

ROCK QUALITY DESIGNATION & RECOVERY: RQD% — — — REC.% ——— 20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)
30				
35	9	SS	18	14
	10	SS	18	16
40				
45	11	SS	18	16
	12	SS	18	16
50				
55	13	SS	18	18
	14	SS	18	18
60				

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.20

Silty SAND, With Gravel, Dark Brown, Moist, Medium Dense to Very Dense, (SM)

Marine CLAY, Trace Sand, Reddish Brown and Gray, Moist, Very Stiff, (CH)

WATER LEVELS ELEVATION (FT): 25 30 35 40 45 50

⊗ 81 37 19 18 18 19

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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 5.0' WS OR WD	BORING STARTED 12/28/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 12/28/2007	CAVE IN DEPTH @ 14.0'
▽WL	RIG T-1 FOREMAN CONNELLY	DRILLING METHOD HSA

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CLIENT	JOB #	BORING #	SHEET
GRAHAM COMPANIES, LTD	13983	B-6	3 OF 3

PROJECT NAME	ARCHITECT-ENGINEER
ROBINSON TERMINAL AT ALEXANDRIA WATERFRONT	

ECS LLC MID-ATLANTIC

SITE LOCATION
ALEXANDRIA, VIRGINIA (500 N. UNION STREET)

CALIBRATED PENETROMETER TONS/FT.^{2} 1 2 3 4 5+

PLASTIC LIMIT % X — WATER CONTENT % ● — LIQUID LIMIT % Δ

ROCK QUALITY DESIGNATION & RECOVERY
RQD% — — — REC.%
20% 40% 60% 80% 100%

⊗ STANDARD PENETRATION BLOWS/FT. 10 20 30 40 50+

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING ▶ — LOSS OF CIRCULATION 100%

SURFACE ELEVATION 9.20

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	STANDARD PENETRATION BLOWS/FT.
60					Marine CLAY, Trace Sand, Reddish Brown and Gray, Moist, Very Stiff, (CH)			
65	15	SS	18	16			55	⊗23
	16	SS	18	16			60	⊗23
70								
75	17	SS	18	16			65	⊗24
	18	SS	18	16			70	⊗26
80					END OF BORING @ 80.00'		75	
85							80	
90								

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

▽WL 5.0' WS OR WD	BORING STARTED 12/28/2007	
▽WL(BCR) N/A ▽WL(ACR) N/A	BORING COMPLETED 12/28/2007	CAVE IN DEPTH @ 14.0'
▽WL	RIG T-1 FOREMAN CONNELLY	DRILLING METHOD HSA

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cfanders(01/04/2008)

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-7	1 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

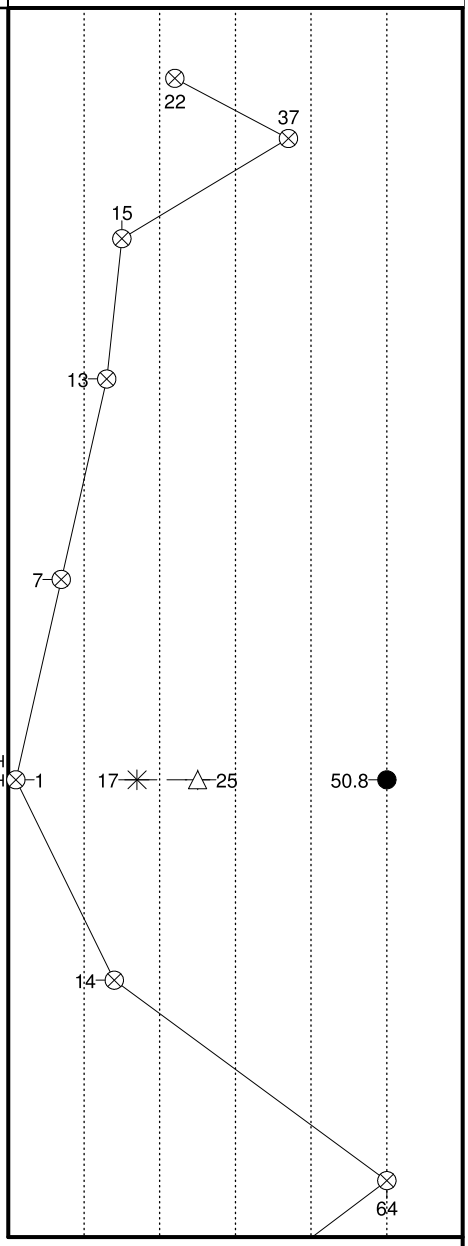
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Concrete Depth [7"]			
	S-1	SS	18	12	(CL FILL) SANDY LEAN CLAY WITH GRAVEL, Contains Asphalt, Grayish Brown, Moist, Very Stiff			9 11 11
	S-2	SS	18	16	(SC FILL) CLAYEY SAND WITH GRAVEL, Brown, Moist, Dense [Sample Smells Of Gasoline]			8 19 18
5	S-3	SS	18	12	(SP-SM FILL) SAND WITH SILT, Brown, Moist, Medium Dense [Sample Smells Of Gasoline]			6 7 8
	S-4	SS	18	10	(SC FILL) CLAYEY SAND, Contains Brick Fragments , Brown, Moist, Medium Dense	▽		4 6 7
10	S-5	SS	18	8	(SC) CLAYEY SAND, Brown and Gray, Wet, Loose			4 4 3
15	S-6	SS	18	16	(CL) LEAN CLAY WITH SAND, Gray, Wet, Very Soft			WOH WOH 1
20	S-7	SS	18	12	(SC) CLAYEY SAND, Contains Mica, Grayish Brown, Moist, Medium Dense			4 8 6
25	S-8	SS	18	6	(GC) CLAYEY GRAVEL WITH SAND, Gray, Moist, Very Dense			5 31 33
30								



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 9.50 WS ☐ WD ☐	BORING STARTED 10/07/14	
▽ WL(BCR) ▽ WL(ACR)	BORING COMPLETED 10/07/14	CAVE IN DEPTH
▽ WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-7	2 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

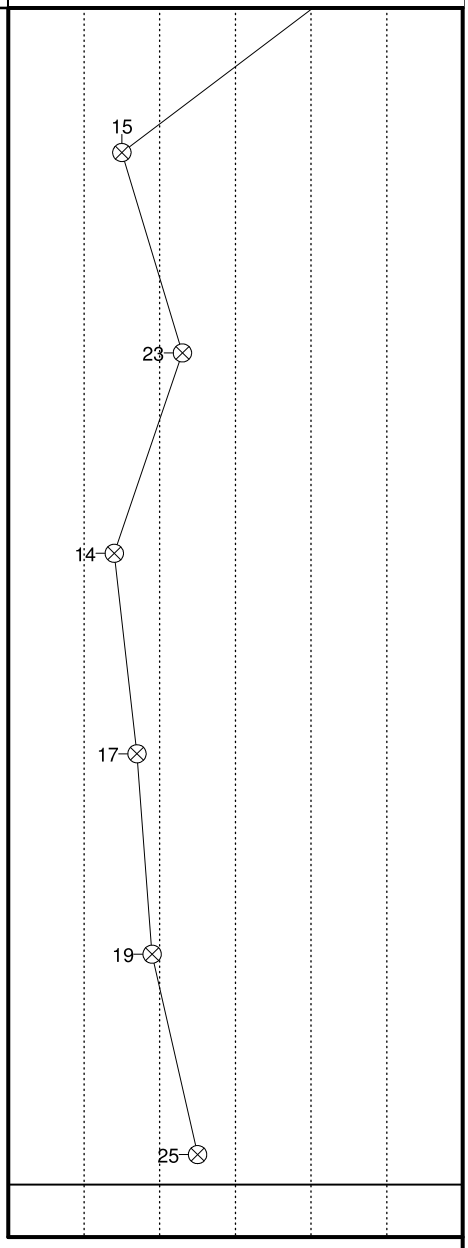
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					BOTTOM OF CASING ➧ LOSS OF CIRCULATION (100%)			
					SURFACE ELEVATION			
					(GC) CLAYEY GRAVEL WITH SAND, Gray, Moist, Very Dense			
					(CL) SANDY LEAN CLAY, Brownish Gray, Wet, Stiff			
35	S-9	SS	18	12				10 6 9
					(CH) FAT CLAY, Gray to Brown, Moist, Stiff to Very Stiff			
40	S-10	SS	18	14				4 7 16
45	S-11	SS	18	16				3 5 9
50	S-12	SS	18	14				4 6 11
55	S-13	SS	18	10				4 10 9
60	S-14	SS	18	16				8 13 12
					END OF BORING @ 60.00'			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 9.50 WS☐ WD☐	BORING STARTED 10/07/14	
WL(BCR) WL(ACR)	BORING COMPLETED 10/07/14	CAVE IN DEPTH
WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-8	1 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

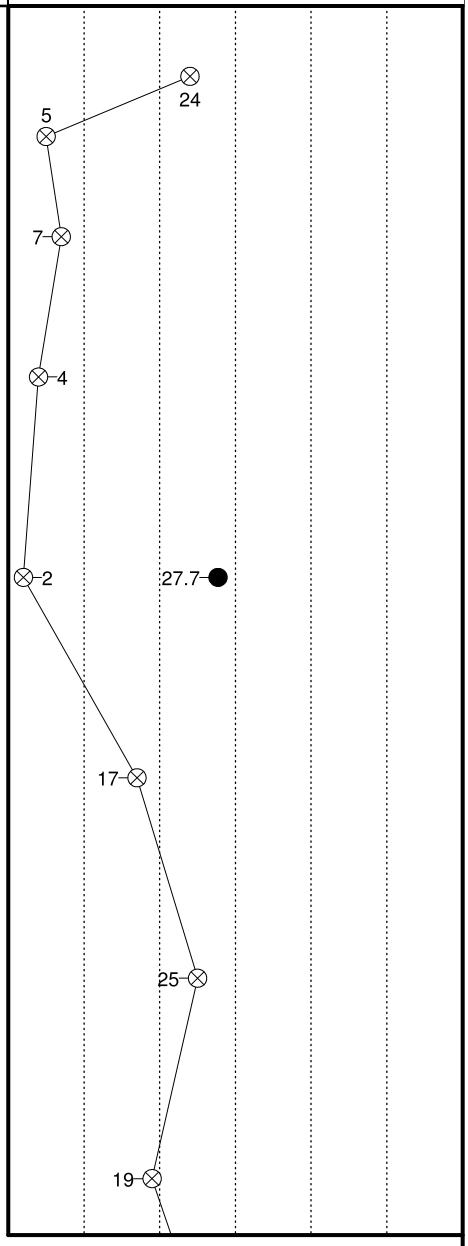
CALIBRATED PENETROMETER TONS/FT^2

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Concrete Depth [7"]			
	S-1	SS	18	10	(CL FILL) SANDY LEAN CLAY, Contains Brick, Brown, Moist, Very Stiff			16 14 10
	S-2	SS	18	10	(CL FILL) GRAVELLY LEAN CLAY, Brown, Moist, Medium Stiff			2 2 3
5	S-3	SS	18	12	(CL) LEAN CLAY WITH SAND, Tan, Moist, Medium Stiff			2 3 4
	S-4	SS	18	8	(CH) FAT CLAY, Gray, Moist to Wet, Very Soft to Soft	▽		2 3 1
10	S-5	SS	18	12				1 1 1
15	S-6	SS	18	16	(SC) CLAYEY SAND, Contains Mica, Brown, Wet, Medium Dense			2 5 12
20	S-7	SS	18	18	(SC) CLAYEY SAND, Brown, Moist, Medium Dense			13 13 12
25	S-8	SS	18	16				14 9 10
30								



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 9.00 WS☐ WD☐	BORING STARTED 10/06/14	
▽ WL(BCR) ▽ WL(ACR)	BORING COMPLETED 10/06/14	CAVE IN DEPTH
▽ WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-8	2 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

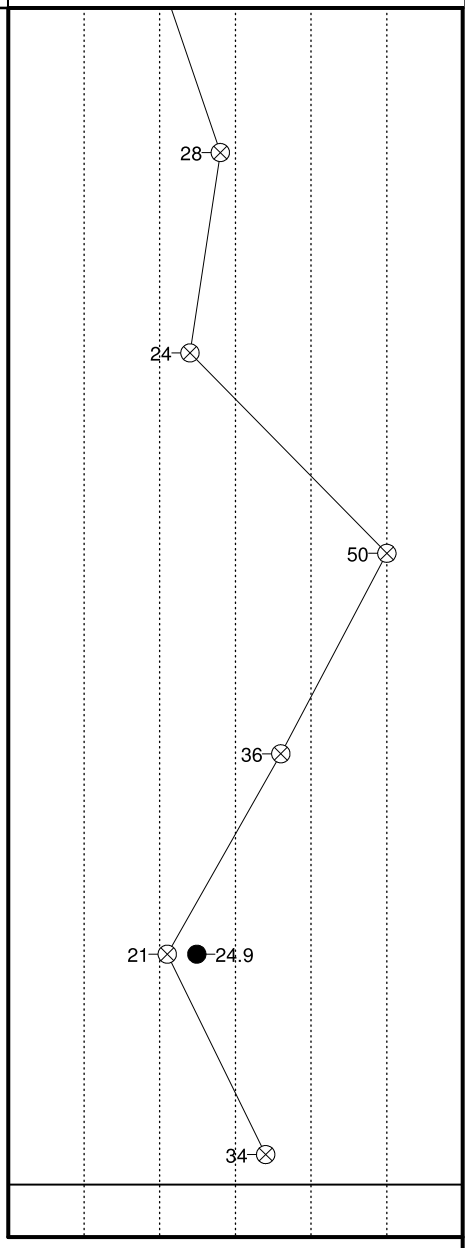
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					BOTTOM OF CASING ➧ LOSS OF CIRCULATION (100%)			
					SURFACE ELEVATION			
					(SC) CLAYEY SAND, Brown, Moist, Medium Dense			
					(SC) CLAYEY SAND WITH GRAVEL, Brown to Gray, Moist, Dense to Very Dense			
	S-9	SS	18	8				11 13 15
35								
	S-10	SS	18	10				13 12 12
40								
	S-11	SS	18	16				11 32 18
45								
	S-12	SS	18	14				13 16 20
50								
					(CH) FAT CLAY WITH SAND, Gray to Brown, Moist, Very Stiff to Hard			
	S-13	SS	18	18				10 13 8
55								
	S-14	SS	18	16				9 17 17
60					END OF BORING @ 60.00'			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 9.00 WS☐ WD☐	BORING STARTED 10/06/14	
WL(BCR) WL(ACR)	BORING COMPLETED 10/06/14	CAVE IN DEPTH
WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-9	1 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

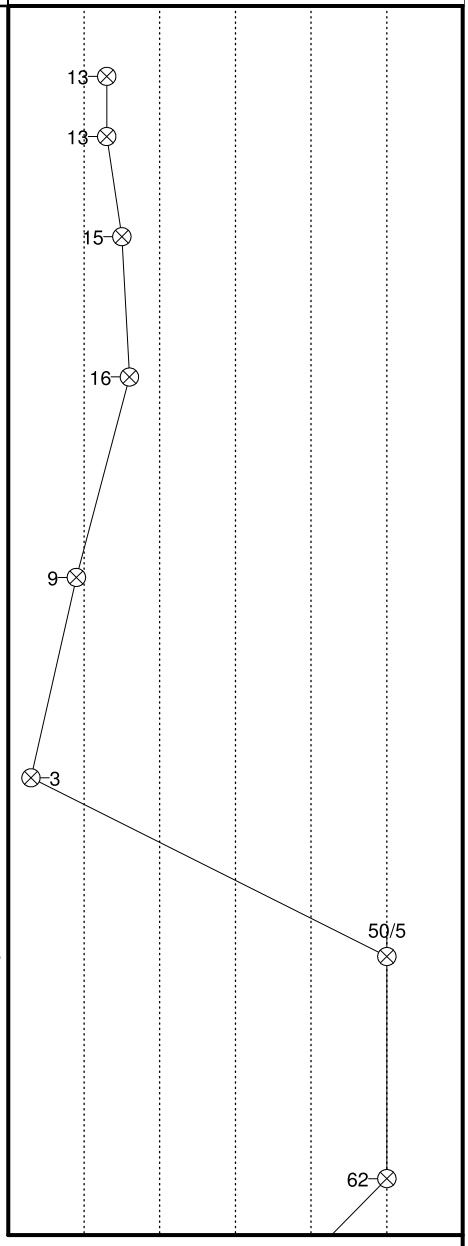
PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

⊗ STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION | SURFACE ELEVATION

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Concrete Depth [7"]			
	S-1	SS	18	16	(CL FILL) LEAN CLAY WITH SAND, Light Brown, Moist, Stiff			4 5 8
	S-2	SS	18	18				5 6 7
5	S-3	SS	18	18	(CH) FAT CLAY, Orangish Brown, Moist, Stiff			4 7 8
	S-4	SS	18	12	(SP-SM) SAND WITH SILT, Gray, Moist, Medium Dense	▽		5 6 10
10								
	S-5	SS	18	18	(CH) FAT CLAY, Gray, Moist, Stiff			5 5 4
15								
	S-6	SS	18	18	(SC) CLAYEY SAND, Contains Mica, Brownish Gray, Moist, Very Loose			2 1 2
20								
	S-7	SS	5	5	(NO RECOVERY)			50/5
25								
	S-8	SS	18	16	(SC) CLAYEY SAND WITH GRAVEL, Gray, Moist to Wet, Medium Dense to Very Dense			24 34 28
30								



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 9.50 WS☐ WD☐	BORING STARTED 10/02/14	
▽ WL(BCR) ▽ WL(ACR)	BORING COMPLETED 10/02/14	CAVE IN DEPTH
▽ WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-9	2 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - - - REC%

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

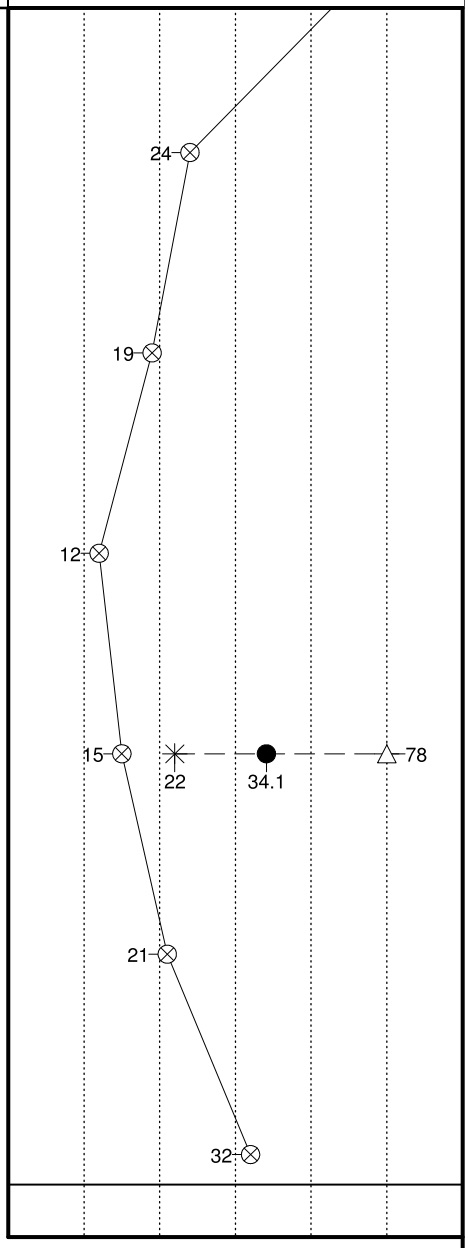
STANDARD PENETRATION BLOWS/FT

DESCRIPTION OF MATERIAL — ENGLISH UNITS

BOTTOM OF CASING | LOSS OF CIRCULATION (100%)

SURFACE ELEVATION

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					(SC) CLAYEY SAND WITH GRAVEL, Gray, Moist to Wet, Medium Dense to Very Dense			
35	S-9	SS	18	8				9 13 11
					(GP-GC) GRAVEL WITH CLAY, Gray and Light Brown, Moist to Wet, Medium Dense			
40	S-10	SS	18	8				3 4 15
45	S-11	SS	18	12				2 4 8
					(CH) FAT CLAY, Grayish Brown, Moist, Stiff to Hard			
50	S-12	SS	18	14				4 5 10
55	S-13	SS	18	6				4 10 11
60	S-14	SS	18	8				8 13 19
					END OF BORING @ 60.00'			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 9.50 WS☐ WD☐	BORING STARTED 10/02/14	
WL(BCR) WL(ACR)	BORING COMPLETED 10/02/14	CAVE IN DEPTH
WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-10	1 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
Robinson Terminal North - Final Geotechnical Study	Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING	EASTING	STATION

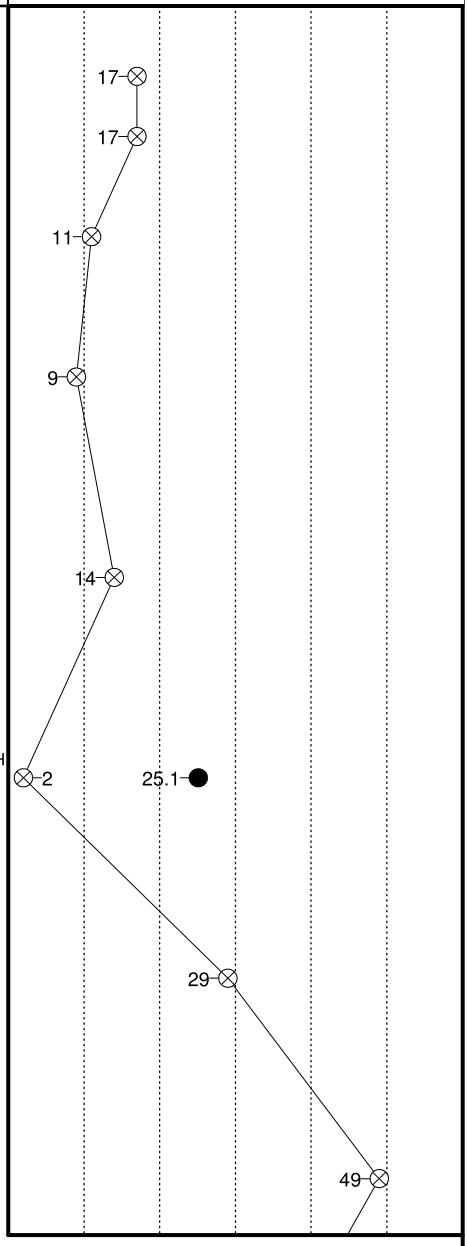
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Concrete Depth [7"]			
	S-1	SS	18	10	(SC FILL) CLAYEY SAND WITH GRAVEL, Light Gray, Moist, Medium Dense			6 8 9
	S-2	SS	18	12	(SC) CLAYEY SAND, Light Brown to Red, Moist, Medium Dense			8 8 9
5	S-3	SS	18	14				9 9 2
					(GC) CLAYEY GRAVEL, Dark Gray, Wet, Loose	▽		
	S-4	SS	18	10				5 5 4
10					(CL) LEAN CLAY, Pinkish Gray, Moist, Stiff			
	S-5	SS	18	12				4 6 8
15					(CL) LEAN CLAY, Brown, Wet, Very Soft			
	S-6	SS	18	16				WOH 1 1
20					(SC) CLAYEY SAND WITH GRAVEL, Brown, Moist to Wet, Medium Dense to Dense			
	S-7	SS	18	12				10 16 13
25								
	S-8	SS	18	14				19 23 26
30								



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 7.50 WS☐ WD☐	BORING STARTED 10/07/14	
▽ WL(BCR) ▽ WL(ACR)	BORING COMPLETED 10/07/14	CAVE IN DEPTH
▽ WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-10	2 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

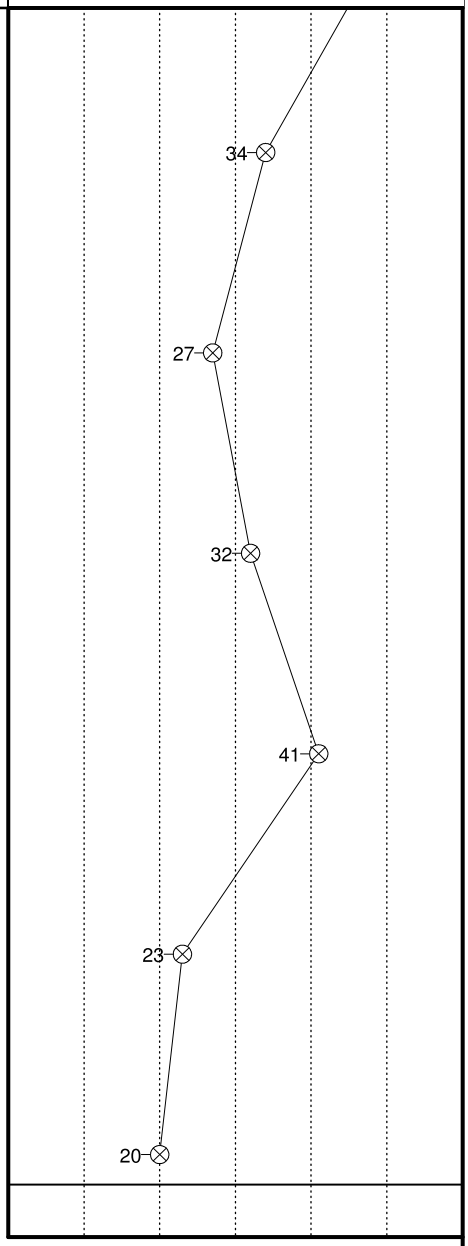
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					BOTTOM OF CASING ➧ LOSS OF CIRCULATION (100%)			
					SURFACE ELEVATION			
					(SC) CLAYEY SAND WITH GRAVEL, Brown, Moist to Wet, Medium Dense to Dense			
	S-9	SS	18	16				14 20 14
35								
					(CL) LEAN CLAY, Gray, Moist, Very Stiff to Hard			
	S-10	SS	18	14				12 16 11
40								
	S-11	SS	18	16				10 15 17
45								
					(SC) CLAYEY SAND, Brown, Moist, Medium Dense to Dense			
	S-12	SS	18	18				13 18 23
50								
	S-13	SS	18	14				16 14 9
55								
					(CL) SANDY LEAN CLAY, Brownish Gray, Moist, Very Stiff			
	S-14	SS	18	16				7 12 8
60					END OF BORING @ 60.00'			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 7.50 WS☐ WD☐	BORING STARTED 10/07/14	
WL(BCR) WL(ACR)	BORING COMPLETED 10/07/14	CAVE IN DEPTH
WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-11	1 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

CALIBRATED PENETROMETER TONS/FT^2

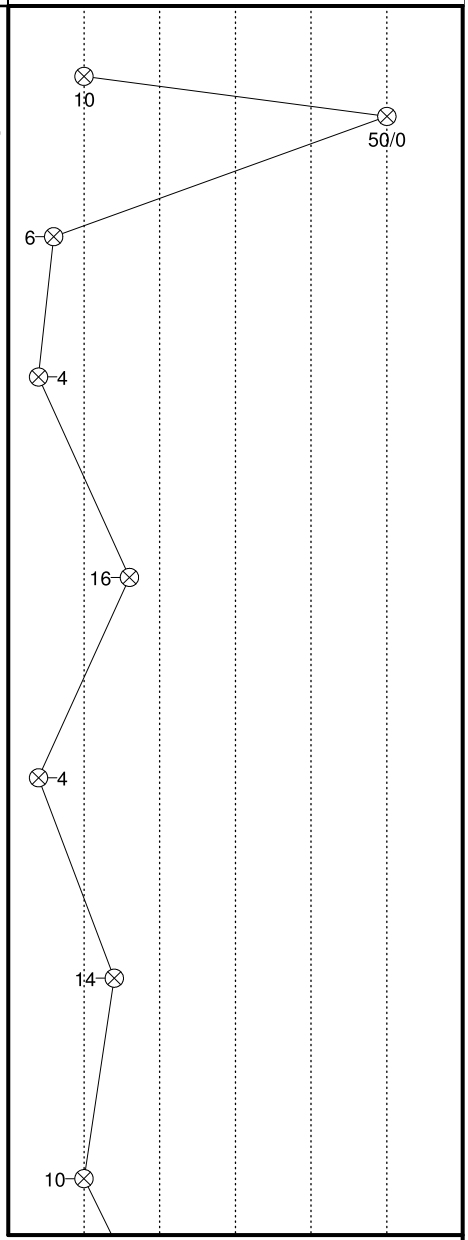
ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC%

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	BLOWS/6"
0					Concrete Depth [7"]	
	S-1	SS	18	3	(GW-GM FILL) WELL-GRADED GRAVEL WITH SILT, Gray, Moist, Loose to Extremely Dense	4 5 5 7 50/0
	S-2	SS	6	2		
5	S-3	SS	18	12	(CL) SANDY LEAN CLAY, Brownish Red to Brown, Moist, Soft to Medium Stiff	3 4 2
	S-4	SS	18	16		2 2 2
10					(SP-SC) SAND WITH CLAY, Grayish Brown, Moist, Medium Dense	10 10 6
	S-5	SS	18	18		
15					(NO RECOVERY)	
	S-6	SS	18	0		3 1 3
20					(SC) CLAYEY SAND, Gray, Moist, Loose to Medium Dense	
	S-7	SS	18	16		10 7 7
25						
	S-8	SS	18	14		7 6 4
30						

WATER LEVELS / ELEVATION (FT)



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 9.50 WS☐ WD☐	BORING STARTED 10/09/14	
WL(BCR) WL(ACR)	BORING COMPLETED 10/09/14	CAVE IN DEPTH
WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-11	2 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

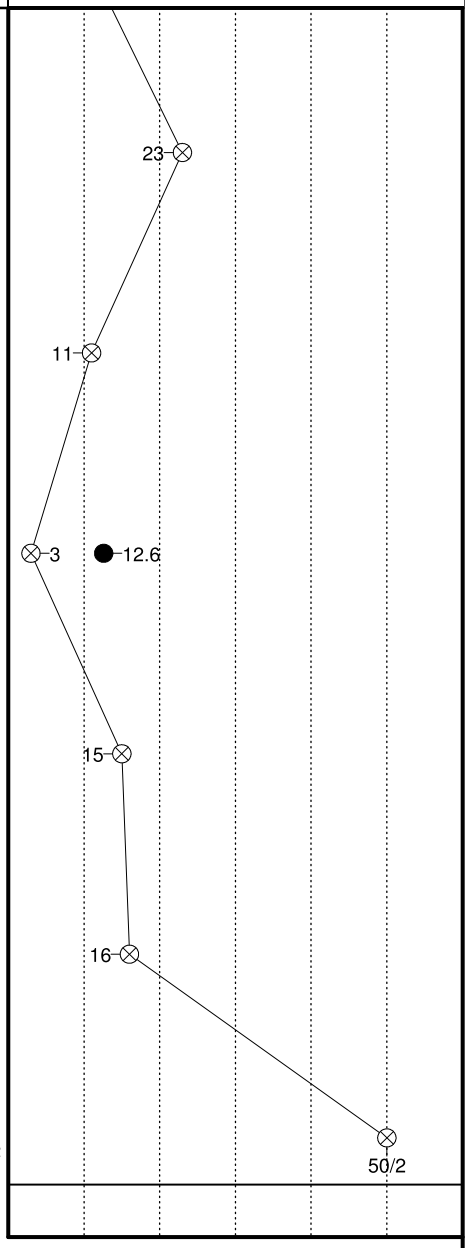
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC%

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					BOTTOM OF CASING ➧ LOSS OF CIRCULATION (100%)			
					SURFACE ELEVATION			
					(SC) CLAYEY SAND, Gray, Moist, Loose to Medium Dense			
					(CL) GRAVELLY LEAN CLAY WITH SAND, Gray, Moist, Very Stiff			
35	S-9	SS	18	18				8 10 13
					(CL) LEAN CLAY, Dark Gray, Wet, Stiff			
40	S-10	SS	18	8				7 5 6
					(CL) SANDY LEAN CLAY WITH GRAVEL, Brown to Gray, Moist to Wet, Soft to Stiff			
45	S-11	SS	18	16				4 2 1
50	S-12	SS	18	14				4 6 9
					(CL) LEAN CLAY WITH SAND, Brown, Wet, Very Stiff			
55	S-13	SS	18	14				5 8 8
					(WOOD Fragments) [No Soil Recovered]			
60	S-14	SS	8	1				10 50/2
					END OF BORING @ 60.00'			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 9.50 WS☐ WD☐	BORING STARTED 10/09/14	
▽ WL(BCR) ▼ WL(ACR)	BORING COMPLETED 10/09/14	CAVE IN DEPTH
▽ WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-12	1 OF 2

PROJECT NAME: Robinson Terminal North - Final Geotechnical Study

ARCHITECT-ENGINEER: Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING | EASTING | STATION

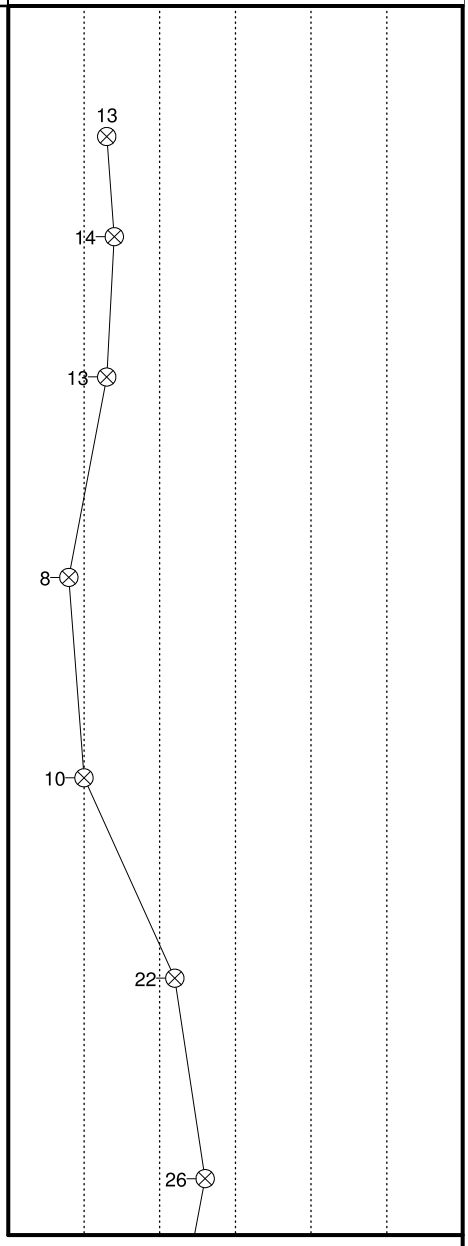
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% – — – REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
0					Concrete Depth [14"]			
					(CL FILL) SANDY LEAN CLAY WITH GRAVEL, Brownish Gray, Moist, Stiff			
	S-1	SS	18	10				6 6 7
5	S-2	SS	18	10				7 8 6
					(CL) GRAVELLY LEAN CLAY, Brownish Gray, Moist to Wet, Medium Stiff to Stiff			
	S-3	SS	18	8		▽		4 7 6
10								
	S-4	SS	18	18				5 5 3
15								
					(CL) SANDY LEAN CLAY, Contains Wood, Gray, Wet, Stiff			
	S-5	SS	18	14				4 7 3
20								
					(SC) CLAYEY SAND WITH GRAVEL, Gray, Wet, Medium Dense			
	S-6	SS	18	10				10 13 9
25								
					(CH) FAT CLAY, Gray to Brownish Red, Moist, Medium Stiff to Very Stiff			
	S-7	SS	18	16				20 15 11
30								



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THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

▽ WL 9.50 WS ☐ WD ☐	BORING STARTED 10/08/14	
▽ WL(BCR) ▼ WL(ACR)	BORING COMPLETED 10/08/14	CAVE IN DEPTH
▽ WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

CLIENT	JOB #	BORING #	SHEET
Alexandria North Terminal, LLC	13983-B	B-12	2 OF 2

PROJECT NAME	ARCHITECT-ENGINEER
Robinson Terminal North - Final Geotechnical Study	Ehlert-Bryan

SITE LOCATION: 500 N. Union Street, Alexandria, City of Alexandria

NORTHING	EASTING	STATION

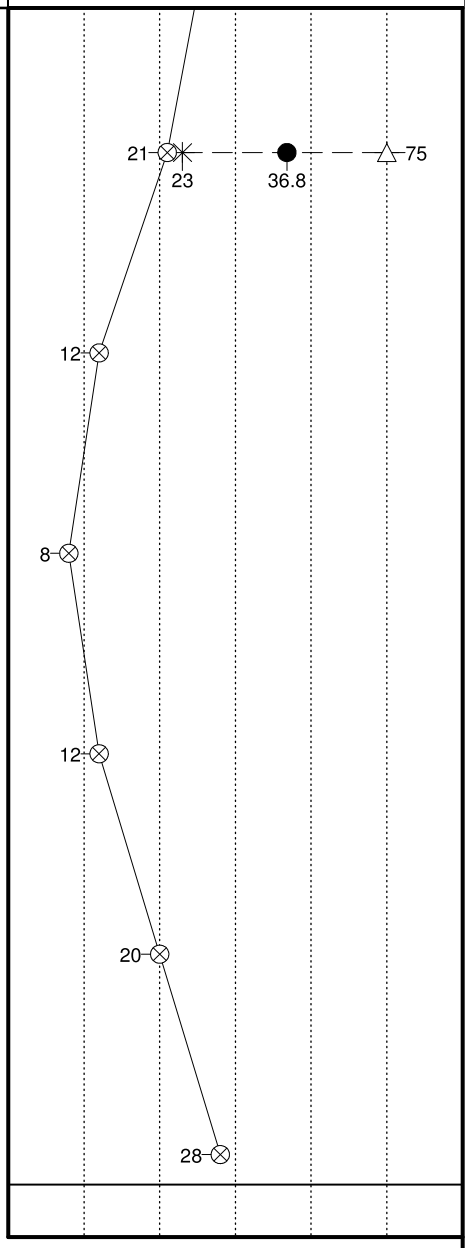
CALIBRATED PENETROMETER TONS/FT²

ROCK QUALITY DESIGNATION & RECOVERY
RQD% - — - REC% ———

PLASTIC LIMIT% | WATER CONTENT% | LIQUID LIMIT%

STANDARD PENETRATION BLOWS/FT

DEPTH (FT)	SAMPLE NO.	SAMPLE TYPE	SAMPLE DIST. (IN)	RECOVERY (IN)	DESCRIPTION OF MATERIAL (ENGLISH UNITS)	WATER LEVELS	ELEVATION (FT)	BLOWS/6"
					BOTTOM OF CASING ➧ LOSS OF CIRCULATION (100%)			
					SURFACE ELEVATION			
					(CH) FAT CLAY, Gray to Brownish Red, Moist, Medium Stiff to Very Stiff			
35	S-8	SS	18	14				9 11 10
40	S-9	SS	18	12				4 5 7
45	S-10	SS	18	14				3 6 2
50	S-11	SS	18	10				6 4 8
55	S-12	SS	18	16				5 9 11
60	S-13	SS	18	16				7 11 17
					END OF BORING @ 60.00'			



THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES. IN-SITU THE TRANSITION MAY BE GRADUAL.

WL 9.50 WS☐ WD☐	BORING STARTED 10/08/14	
WL(BCR) WL(ACR)	BORING COMPLETED 10/08/14	CAVE IN DEPTH
WL	RIG 55 LC ATV FOREMAN Nadal	DRILLING METHOD 3.25 HSA/MUD ROTARY

Boring Number:	ICOR-SB1			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	7:30	
Site Address:	501 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		4'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-3" Grass and roots.	
2		0.0		3"-4.75' Dark brown and black FILL comprised of intermixed F.-C. SAND, Gravel, Cinder, and little SILT.	Dry. No odors.
3					
4	ICOR-SB1(3-4)	0.0			
5				4.75'-6' Reddish brown F.-C. SAND with little SILT.	Wet. No odors.
6					
7				6'-9' Gray silty F. SAND with little CLAY.	Wet. No odors.
8					
9					
10				9'-15' Gray rounded GRAVEL with little F. SAND.	Wet. No odors.
11					
12					
13					
14					
15					
16					Boring terminated at 15'.
17					Temporary well installed to 13.5'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB2			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	10/8/13	7:45
Site Address:	501 N. Union Street		**Total Depth of Boring:**		15'
	Alexandria, VA		**Depth to Groundwater:**		6'
Project Number:	13-CI.01		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		G. Burke
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-6" Concrete.	
2		0.0		6"-14' Gray and dark brown fairly tight SILT with little F. SAND and very little CLAY.	Wet at 6'. Faint petroleum odors from 3'-5' (oil) and stronger odors from 5'-10' (oil and gasoline).
3					
4	ICOR-SB2(3-4)	15.7			
5					
6	ICOR-SB2(5-6)	25.4			
7					
8					
9					
10				9'-15' Gray rounded GRAVEL with little F. SAND.	Wet. No odors.
11					
12					
13					
14				14'-15' Wood (timber, railroad tie, pile?).	Wet. Treated wood odor.
15					
16					Boring terminated at 15'.
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB3			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	8:15	
Site Address:	501 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		10'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-3" Grass and roots.	
2		0.0		3"-4' Brown FILL comprised of intermixed BRICK, GRAVEL, F.-C. SAND, CONCRETE, and little SILT.	Dry. No odors.
3					
4		0.0			
5				4'-10' Gray silty F. SAND with little CLAY.	Moist. No odors.
6		0.0			
7					
8		0.0			
9					
10		4.0			
11	ICOR-SB3(10.5-11.5)			10'-12' Black oil-stained F.-C. SAND with little SILT.	Wet. Oil staining and petroleum odors (oil).
12					
13				12'-15' Gray silty F. SAND with little CLAY.	Wet. No odors.
14					
15					
16					Boring terminated at 15'.
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB4			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	8:35	
Site Address:	501 N. Union Street	**Total Depth of Boring:**		10'	
	Alexandria, VA	**Depth to Groundwater:**		9'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-4" Gravel.	
2		0.0		4"-4' Brown FILL comprised of intermixed GRAVEL, BRICK, F.-C. SAND and little SILT.	Dry. No odors.
3					
4		0.0			
5				4'-6' Brown F.-M. SAND with little SILT.	Moist. No odors.
6		0.0			
7				6'-10' Brown and reddish brown FILL comprised of intermixed BRICK, GRAVEL, F.-C. SAND, and little SILT.	Wet at 9'. No odors.
8		0.0			
9					
10					
11					Boring terminated at 10'.
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB5			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	9:10	
Site Address:	501 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		9.5'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		0.0		8"-6' Concrete debris.	Dry. No odors.
3					
4		0.0			
5					
6		0.0			
7	ICOR-SB5(6-7)			6'-9.5' Brown tight SILT and CLAY with little F. SAND.	Moist. No odors.
8		0.0			
9					
10				9.5'-13' Brown F.-M. SAND with little SILT and very little CLAY.	Wet. No odors.
11					
12					
13					
14				13'-15' Brown tight SILT and CLAY with little F. SAND.	Wet. No odors.
15					
16					Boring terminated at 15'.
17					Temporary well installed to 14'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB6			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	10:15	
Site Address:	500 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		6'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-6" Concrete.	
2		0.0		6"-4' Brown very tight silty F. SAND with little CLAY.	Dry. No odors.
3	ICOR-SB6(2-3)				
4		0.0			
5				4'-4.25' Concrete debris.	Dry. No odors.
6		0.0		4.25'-8.5' Reddish brown F.-M. SAND with little SILT and CLAY.	Wet at 6'. No odors.
7					
8					
9				8.5'-12' Black organic-rich F. SAND with little to some SILT and very little CLAY.	Wet. No odors.
10					
11					
12					
13				12'-15' Grayish brown silty F. SAND with little CLAY.	Wet. Faint petroleum odors (oil) from 12'-15'.
14					
15					
16					Boring terminated at 15'.
17					Temporary well installed to 13'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB7			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	10:45	
Site Address:	500 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		8.5'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		0.0		8"-7' Brown and brownish gray tight F. SAND, SILT, and little CLAY.	Dry to moist. Faint petroleum odors (oil) from 5'-7'.
3					
4		23.0			
5					
6		155.0			
7		163.0			
8	ICOR-SB7(7.5-8.5)			7'-8.5' Gray F.-M. SAND with little SILT.	Moist. Strong petroleum odors (oil and gasoline).
9				8.5'-15' Gray and reddish brown F.-M. SAND with little SILT and CLAY.	Wet. Strong petroleum odors (oil and gasoline).
10					
11					
12					
13					
14					
15					
16					Boring terminated at 15'.
17					Temporary well installed to 13'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB8			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	11:15	
Site Address:	500 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		9'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		46.1		8"-8' Brown and brownish gray tight SILT with some CLAY and little F. SAND.	Moist. Petroleum odors (oil and gasoline) from 1'-8'.
3	ICOR-SB8(2-3)				
4		231.0			
5					
6		357.0			
7		>451			
8	ICOR-SB8(7.5-8.5)				
9				8'-14.5' Grayish brown F.-M. SAND with some to little SILT and very little CLAY.	Wet at 9'. Strong petroleum odors (oil and gasoline).
10					
11					
12					
13					
14					
15				14.5'-15' Reddish brown F.-M. SAND, SILT, and little CLAY.	Wet. Strong petroleum odors (oil and gasoline).
16					Boring terminated at 15'.
17					Temporary well installed to 13.5'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB9			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	10/8/13	11:15
Site Address:	500 N. Union Street		**Total Depth of Boring:**		20'
	Alexandria, VA		**Depth to Groundwater:**		15'
Project Number:	13-CI.01		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		G. Burke
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		1.1		8"-2' Dark brown FILL comprised of intermixed F.-M. SAND and brick.	Dry. No odors.
3				2'-6' Brown F. SAND, SILT, and little to very little CLAY.	Dry. Faint petroleum odors (oil).
4	ICOR-SB9(4-5)	1.0			
5	ICOR-SB9(4.5-5.5)	2.8			
6		1.1			
7		0.0		6'-20' Dark brown FILL comprised of intermixed F.-M. SAND and brick.	Wet at 15'. No odors.
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					Boring terminated at 20'.
22					Temporary well installed to 18'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
23					
24					
25					

Boring Number:	ICOR-SB10			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	12:20	
Site Address:	500 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		8.5'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		0.0		8"-5' Black and red FILL comprised of intermixed CINDER, BRICK, F. SAND, and SILT.	Dry. No odors.
3	ICOR-SB10(2-3)				
4		0.0			
5					
6	ICOR-SB10(5.5-6.5)	0.0		5'-14' Light reddish brown tight silty F. SAND with little to some CLAY.	Wet at 8.5'. No odors.
7					
8		0.0			
9					
10					
11					
12					
13					
14					
15				14'-15' Light gray clayey SILT.	Wet. No odors.
16					Boring terminated at 15'.
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB11			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	12:45	
Site Address:	500 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		13'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		0.0		8"-2' Gray and reddish brown FILL comprised of intermixed SILT, BRICK, F. SAND, and little CLAY.	Dry. No odors.
3				2'-5' Black CINDER and BRICK.	Dry. No odors.
4		0.0			
5					
6	ICOR-SB11(5.5-6.5)	0.0		5'-15' Brown and grayish brown silty CLAY and clayey SILT with little F. SAND.	Wet at 13'. No odors.
7					
8		0.0			
9					
10					
11					
12					
13					
14					
15					
16					Boring terminated at 15'.
17					Temporary well installed to 14'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB12			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	13:15	
Site Address:	500 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		10'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		0.0		8"-4' Black and red CINDER and BRICK.	Dry. No odors.
3					
4		0.0			
5				4'-15' Light brown grading into gray tight silty CLAY with very little F. SAND.	Wet at 10'. No odors.
6		0.0			
7	ICOR-SB12(6-7)				
8		0.0			
9					
10					
11					
12					
13					
14					
15					
16					Boring terminated at 15'.
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB13			Page 1 of 1	
Location:	Robinson Terminal North	**Date and Time:**	10/8/13	13:45	
Site Address:	500 N. Union Street	**Total Depth of Boring:**		15'	
	Alexandria, VA	**Depth to Groundwater:**		9'	
Project Number:	13-CI.01	**Geologist/Scientist:**		M. Bruzzesi	
Drill Rig Type:	Direct-Push	**Driller:**		G. Burke	
Sampling Equipment:	Track-Mounted GeoProbe 6620DT	**ICOR, Ltd.**			
Borehole Diameter:	2-inch	**PO Box 406, Middleburg, VA 20118**			

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		0.0		8"-1.5' Brown tight SILT, F. SAND, and little CLAY.	Moist. No odors.
3				1.5'-3' Dark brown intermixed CINDER, BRICK, CONCRETE, and F. SAND.	Dry. No odors.
4		0.0		3'-15' Light brown, light reddish brown, and gray F.-M. SAND with little to some SILT, and very little CLAY.	Wet at 9'. No odors.
5					
6	ICOR-SB13(5.5-6.5)	0.0			
7					
8		0.0			
9					
10					
11					
12					
13					
14					
15					
16					Boring terminated at 15'.
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	ICOR-SB14			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/7/16	13:50
Site Address:	501 N. Union Street		**Total Depth of Boring:**		5'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	ICOR-SB14(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-5' Light reddish brown FILL comprised of fairly tight silty CLAY with little F. SAND and very little C. SAND and S. GRAVEL.	Dry. No odors.
4					
5	ICOR-SB14(4-5)	0.0			
6					Boring terminated at 5'.
7					
8					
9					
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34					
35					

Boring Number:	ICOR-SB15				Page 1 of 1
Location:	Robinson Terminal North			**Date and Time:** 9/7/16	7:50
Site Address:	501 N. Union Street			**Total Depth of Boring:**	5'
	Alexandria, VA			**Depth to Groundwater:**	NA
Project Number:	16-CI.001			**Geologist/Scientist:**	M. Bruzzesi
Drill Rig Type:	Direct-Push			**Driller:**	E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT			**ICOR, Ltd.**	
Borehole Diameter:	2-inch			**PO Box 406, Middleburg, VA 20118**	

Depth	Sample	PID	USCS	Description	Notes
1				0-1' Gravel.	
2	ICOR-SB15(1-2)	0.0		1'-5' Brown FILL comprised of intermixed F.-M. SAND, SILT, and little CLAY with some brick	Dry. No odors.
3					
4					
5		0.0			
6					Boring terminated at 5'.
7					
8					
9					
10					
11					
12					
13					
14					
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16					
17					
18					
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33					
34					
35					

Boring Number:	ECS-B7			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/7/16	14:40
Site Address:	501 N. Union Street		**Total Depth of Boring:**		6'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	ECS-B7(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-6' Black FILL comprised of intermixed F.-C. SAND, S. GRAVEL, and little SILT.	Dry. Faint chemical odors.
4					
5					
6	ECS-B7(5-6)	0.0			
7					Boring terminated at 6'.
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Boring Number:	MiHpt-3			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/6/16	15:40
Site Address:	501 N. Union Street		**Total Depth of Boring:**		5'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-3(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-4' Brown and light brown FILL comprised of intermixed F.-M. SAND and SILT.	Dry. No odors.
4					
5	MiHpt-3(4-5)	0.0		4'-5' Purplish brown FILL comprised of fairly tight intermixed F.-M. SAND and SILT.	Dry. No odors.
6					Boring terminated at 5'.
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Boring Number:	MiHpt-4				Page 1 of 1
Location:	Robinson Terminal North			**Date and Time:** 9/6/16	15:55
Site Address:	501 N. Union Street			**Total Depth of Boring:**	5'
	Alexandria, VA			**Depth to Groundwater:**	NA
Project Number:	16-CI.001			**Geologist/Scientist:**	M. Bruzzesi
Drill Rig Type:	Direct-Push			**Driller:**	E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT			**ICOR, Ltd.**	
Borehole Diameter:	2-inch			**PO Box 406, Middleburg, VA 20118**	

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-3(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-4' Brown and light brown FILL comprised of intermixed F.-M. SAND and little SILT.	Dry. No odors.
4					
5	MiHpt-3(4-5)	0.0		4'-5' Black FILL comprised of fairly tight intermixed F.-C. SAND and and very little SILT.	Dry. No odors.
6					Boring terminated at 5'.
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Boring Number:	MiHpt-5			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/7/16	10:00
Site Address:	500 N. Union Street		**Total Depth of Boring:**		16'
	Alexandria, VA		**Depth to Groundwater:**		7'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-5(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-9' Black and dark brown FILL comprised of intermixed F.-C. SAND, S. GRAVEL, and little SILT.	Wet at 7'. No odors.
4					
5		0.0			
6					
7					
8					
9					
10		0.0		9'-16' Brown F.-M. SAND with little to some SILT and CLAY.	Wet. No odors.
11					
12					
13					
14					
15					
16					
17					Boring terminated at 16'.
18					Permanent well installed to 16'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
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Boring Number:	MiHpt-6				Page 1 of 1
Location:	Robinson Terminal North		**Date and Time:**	9/6/16	15:20
Site Address:	501 N. Union Street		**Total Depth of Boring:**		5'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-6(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-2.5' Light brown FILL comprised of intermixed F.-M. SAND and GRAVEL.	Dry. No odors.
4				2.5'-5' Black and dark brown FILL comprised of intermixed F.-C. SAND and GRAVEL.	Dry. No odors.
5	MiHpt-6(4-5)	0.0			
6					Boring terminated at 5'.
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Boring Number:	MiHpt-7			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/6/16	14:00
Site Address:	501 N. Union Street		**Total Depth of Boring:**		17'
	Alexandria, VA		**Depth to Groundwater:**		8'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-7(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-2' Light brown FILL comprised of F.-M. SAND, GRAVEL, and SILT.	Dry. No odors.
4				2'-5' Black FILL comprised of intermixed F.-C. SAND, GRAVEL and little SILT with some brick fragments.	
5		0.0			
6				5'-8' Black F.-C. SAND with little SILT.	Wet at 8'. Faint petroleum odors.
7					
8	MiHpt-7(7-8)				
9				8'-10' Pale brown F. SAND with little M. SAND and very little SILT.	Wet. No odors.
10		0.0			
11				10'-12.5' Dark gray and black fairly tight silty CLAY.	Wet. Faint swamp odors.
12					
13				12.5'-17' Grayish brown F. SAND with very little SILT.	Wet. No odors.
14					
15					
16					
17					
18					Boring terminated at 17'.
19					Permanent well installed to 17'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
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Boring Number:	MiHpt-8			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/6/16	10:40
Site Address:	501 N. Union Street		**Total Depth of Boring:**		40'
	Alexandria, VA		**Depth to Groundwater:**		7'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2		0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-9.5' Gray and brown FILL comprised of intermixed F.-C. SAND, SILT and CLAY with some brick fragments.	Dry to moist. Faint swamp odors.
4					
5	MiHpt-8(4-5)	0.0			
6					
7					
8					
9					
10		0.0		9.5'-11.5' Brown FILL comprised of SILT and CLAY with little F. SAND.	Moist. Faint swamp odor.
11					
12				11.5'-12' Treated wood.	Strong creosote odors.
13				12'-15' Light brown and gray F. SAND with SILT and some to little CLAY.	Moist. Faint swamp odor.
14					
15				15'-17' Dark brown F.-M. SAND with some S. GRAVEL, SILT, and very little to no CLAY.	Wet. Faint swamp odor.
16					
17					
18				17'-40' Brown and grayish brown SILT and CLAY with very little to no F. SAND.	Wet. Faint swamp odor.
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35					
36					
37					
38					
39	MiHpt-8(37.8-38.8)				
40					
41					Boring terminated at 40'.
42					Permanent well installed to 20'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
43					
44					Deep groundwater sample collected from well point screen deployed from 36.5'-40'.

Boring Number:	MiHpt-10			Page 1 of 1	
Location:	Robinson Terminal North			**Date and Time:** 9/6/16	9:00
Site Address:	501 N. Union Street			**Total Depth of Boring:**	28.5'
	Alexandria, VA			**Depth to Groundwater:**	NA
Project Number:	16-CI.001			**Geologist/Scientist:**	M. Bruzzesi
Drill Rig Type:	Direct-Push			**Driller:**	E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT			**ICOR, Ltd.**	
Borehole Diameter:	2-inch			**PO Box 406, Middleburg, VA 20118**	

Depth	Sample	PID	USCS	Description	Notes
1					
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3					
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23					
24				23'-28' Black silty F. SAND and CLAY.	Discrete sampler used to collect sample from 23'-28'. Wet. No odors.
25	MiHpt-10(24.5-25.5)				
26					
27					
28					
29					Boring terminated at 28.5'.
30					Deep groundwater sample collected from well point screen deployed from 25'-28.5'.
31					
32					
33					
34					
35					

Boring Number:	MiHpt-12				Page 1 of 1
Location:	Robinson Terminal North			**Date and Time:** 9/7/16	12:45
Site Address:	500 N. Union Street			**Total Depth of Boring:**	5'
	Alexandria, VA			**Depth to Groundwater:**	5'
Project Number:	16-CI.001			**Geologist/Scientist:**	M. Bruzzesi
Drill Rig Type:	Direct-Push			**Driller:**	E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT			**ICOR, Ltd.**	
Borehole Diameter:	2-inch			**PO Box 406, Middleburg, VA 20118**	

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-12(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-2' Black FILL comprised of intermixed F.-M. SAND with little C. SAND and SILT.	Dry. No odors.
4				2'-4.5' Pale brown FILL comprised of fairly tight silty CLAY with very little to no F. SAND.	Moist. No odors.
5		0.0		4.5'-5' Pale brown FILL comprised of F. SAND and very little M. SAND and little to no SILT.	Wet at 5'. No odors.
6					Boring terminated at 5'.
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Boring Number:	MiHpt-13			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/7/16	15:15
Site Address:	500 N. Union Street		**Total Depth of Boring:**		5'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-13(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-2.5' Black FILL comprised of intermixed F.-C. SAND, S. GRAVEL, and little SILT.	Dry. No odors.
4				2.5'-4' Dark reddish brown FILL comprised of fairly tight silty F. SAND with little CLAY.	Dry. No odors.
5	MiHpt-13(4-5)	0.0		4'-5' Black FILL comprised of intermixed F.-C. SAND, S. GRAVEL, and little SILT.	Dry. Faint chemical odors.
6					Boring terminated at 5'.
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Boring Number:	MiHpt-14			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/8/16	7:35
Site Address:	500 N. Union Street		**Total Depth of Boring:**		28.5'
	Alexandria, VA		**Depth to Groundwater:**		10'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-14(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-5' Black and dark brown FILL comprised of intermixed F.-C. SAND, GRAVEL, and little to some SILT.	Dry. No odors.
4					
5	MiHpt-14(4-5)	0.0			
6	MiHpt-14(5-6)			5'-10' Light reddish brown fairly tight SILT with some CLAY and very little F. SAND.	Dry. No odors.
7					
8					
9					
10		0.0			
11				10'-14.5' Brown silty CLAY with varying amounts of F.-C. SAND and small GRAVEL.	Wet. No odors.
12					
13					
14					
15				14.5'-20' Brown to grayish brown fairly tight silty CLAY.	Wet. No odors.
16					
17					
18					
19					
20					
21				20'-28.5' Brown F.-C. SAND grading into F.C. SAND with small to medium rounded gravel.	Wet. No odors.
22					
23					
24					
25					
26	MiHpt-14(25-26)				
27					
28					
29					Boring terminated at 28.5'.
30					Permanent well installed to 16'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
31					
32					Deep groundwater sample collected from well point screen deployed from 25'-28.5'.
33					
34					
35					

Boring Number:	MiHpt-15			Page 1 of 1	
Location:	Robinson Terminal North			**Date and Time:** 9/8/16	8:25
Site Address:	500 N. Union Street			**Total Depth of Boring:**	16'
	Alexandria, VA			**Depth to Groundwater:**	8'
Project Number:	16-CI.001			**Geologist/Scientist:**	M. Bruzzesi
Drill Rig Type:	Direct-Push			**Driller:**	E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT			**ICOR, Ltd.**	
Borehole Diameter:	2-inch			**PO Box 406, Middleburg, VA 20118**	

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-15(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-4' Black and dark brown FILL comprised of fairly tight intermixed F.-M. SAND, GRAVEL, and SILT.	Dry. No odors.
4					
5	MiHpt-15(4-5)	0.0		4'-5.5' Black FILL comprised of fairly tight intermixed F.-C. SAND and GRAVEL with little SILT.	Moist. No odors.
6				5.5'-10' Light brown fairly tight silty F. SAND with some to little CLAY.	Wet at 8'. No odors.
7					
8					
9					
10		0.0			
11				10'-16' Gray silty CLAY with little F. SAND.	Wet. No odors.
12					
13					
14					
15					
16					
17					Boring terminated at 16'.
18					Permanent well installed to 16'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
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Boring Number:	MiHpt-16			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/8/16	7:55
Site Address:	500 N. Union Street		**Total Depth of Boring:**		10'
	Alexandria, VA		**Depth to Groundwater:**		7.5'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-16(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-2' Black FILL comprised of intermixed F.-C. SAND, GRAVEL, and little SILT.	Dry. No odors.
4				2'-3' Black and gray FILL comprised of intermixed F.-C. SAND, GRAVEL, SILT, and some brick fragments.	Dry. No odors.
5	MiHpt-16(4-5)	0.0		3'-5' Light reddish brown fairly tight silty CLAY.	Dry. No odors.
6				5'-7.5' Light gray and light reddish brown tight silty CLAY with little F. SAND.	Moist. No odors.
7					
8				7.5'-10' Gray and light reddish brown intermixed F.-M. SAND with little SILT and CLAY.	Wet at 7.5'. No odors.
9	MiHpt-16(8-9)				
10		0.0			
11					Boring terminated at 10'.
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Boring Number:	MiHpt-17			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/7/16	13:00
Site Address:	500 N. Union Street		**Total Depth of Boring:**		5'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-17(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-2.5' Black FILL comprised of intermixed F.-M. SAND, S. GRAVEL, and little SILT.	Dry. No odors.
4				2.5'-5' Pale reddish brown FILL comprised of fairly tight silty CLAY.	Moist. No odors.
5	MiHpt-17(4-5)	0.0			
6					Boring terminated at 5'.
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Boring Number:	MiHpt-18			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/7/16	13:25
Site Address:	501 N. Union Street		**Total Depth of Boring:**		5'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-18(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-5' Black FILL comprised of intermixed F.-M. SAND, S. GRAVEL, and little SILT.	Dry. No odors.
4					
5		0.0			
6					Boring terminated at 5'.
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Boring Number:	MiHpt-19			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/7/16	14:55
Site Address:	500 N. Union Street		**Total Depth of Boring:**		5'
	Alexandria, VA		**Depth to Groundwater:**		NA
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-19(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-5' Black and dark brown FILL comprised of intermixed F.-M. SAND, S. GRAVEL, and SILT.	Dry. Faint chemical odors.
4					
5	MiHpt-19(4-5)	0.4			
6					Boring terminated at 5'.
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					

Boring Number:	MiHpt-20			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/8/16	13:35
Site Address:	500 N. Union Street		**Total Depth of Boring:**		18'
	Alexandria, VA		**Depth to Groundwater:**		9'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-20(1-2)	0.0		8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-1.5' Brick fragments.	Dry. No odors.
4				1.5'-9' Light reddish brown and black F. SAND with some SILT and little CLAY and some GRAVEL.	Wet at 9'. No odors.
5	MiHpt-20(4-5)	0.0			
6					
7					
8					
9					
10		0.0		9'-13.5' Light reddish brown F. SAND with some SILT and little CLAY.	Wet. No odors.
11					
12					
13					
14				13.5'-15' Dark brown F.-C. SAND with very little SILT.	Wet. Very faint chemical odors.
15					
16					
17					
18					
19					Boring terminated at 18'.
20					Permanent well installed to 18'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					

Boring Number:	MiHpt-21				Page 1 of 1
Location:	Robinson Terminal North		**Date and Time:**	9/9/16	7:35
Site Address:	500 N. Union Street		**Total Depth of Boring:**		28.5'
	Alexandria, VA		**Depth to Groundwater:**		7'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-21(1-2)			8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-2.5' Black and dark brown FILL comprised of intermixed F.-C. SAND, GRAVEL, SILT and some brick fragments.	Dry. No odors.
4					
5	MiHpt-21(4.5-5.5)	7.3		2.5'-5' Gray and light reddish brown fairly tight silty CLAY with little to no F. SAND.	Dry. No odors.
6				5'-11' Gray and reddish brown silty F. SAND with some to little CLAY.	Wet at 11'. Strong gasoline odors from 5'-10'.
7					
8					
9					
10	MiHpt-21(9-10)	10.5			
11					
12				11'-21.5' Grayish brown tight SILT with F. SAND and little to some CLAY.	Wet. No odors.
13					
14					
15					
16					
17					
18					
19					
20					
21					
22				21.5'-28.5' Brown F.-C. SAND grading into F.C. SAND with small to medium rounded gravel.	Wet. No odors.
23					
24					
25	MiHpt-21(24-25)				
26					
27					
28					
29					Boring terminated at 28.5'.
30					Permanent well installed to 16'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
31					
32					Deep groundwater sample collected from well point screen deployed from 25'-28.5'.
33					
34					
35					

Boring Number:	MiHpt-22			Page 1 of 1	
Location:	Robinson Terminal North		**Date and Time:**	9/9/16	9:40
Site Address:	500 N. Union Street		**Total Depth of Boring:**		28.5'
	Alexandria, VA		**Depth to Groundwater:**		7'
Project Number:	16-CI.001		**Geologist/Scientist:**		M. Bruzzesi
Drill Rig Type:	Direct-Push		**Driller:**		E. Lindberg
Sampling Equipment:	Track-Mounted GeoProbe 6620DT		**ICOR, Ltd.**		
Borehole Diameter:	2-inch		**PO Box 406, Middleburg, VA 20118**		

Depth	Sample	PID	USCS	Description	Notes
1				0-8" Concrete.	
2	MiHpt-22(1-2)			8"-1' Gray gravel sub-base.	Dry. No odors.
3				1'-6' Gray and light reddish brown FILL comprised of SILT and CLAY with little F. SAND.	Dry. No odors.
4					
5	MiHpt-22(4-5)	2.5			
6					
7				6'-7.5' Black F. SAND with some to little SILT.	Wet at 7'. Strong gasoline odors.
8				7.5'-19.75' Gray and dark brown silty CLAY with little to no F. SAND.	Wet. Strong gasoline and chemical odor.
9					
10		7.4			
11					
12					
13					
14					
15		98.7			
16					
17					
18					
19					
20	MiHpt-22(19-20)	287.0		19.75'-28.5' Brown F.-C. SAND grading into F.C. SAND with small to medium rounded gravel.	Wet. Very faint chemical odors in upper 1'.
21					
22					
23					
24					
25	MiHpt-22(24-25)				
26					
27					
28					
29					Boring terminated at 28.5'.
30					Permanent well installed to 16'. Well constructed of 1" diameter new, dedicated, and disposable PVC (with 10' of screen).
31					
32					Deep groundwater sample collected from well point screen deployed from 25'-28.5'.
33					
34					
35					

ATTACHMENT 4

HIGH RESOLUTION SITE EVALUATION REPORT

Report of High-Resolution Assessment for Robinson Terminal North Alexandria VA June 2016

Project Number 3239-2016-02

Prepared in collaboration with

ICOR Limited

for

CityInterests LLC

by

COLUMBIA Technologies
Rockville, Maryland

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For more information on COLUMBIA Technologies, SmartData Solutions®, and High-Resolution assessment tools and protocols visit http://www.columbiatechnologies.com or call 1-888-344-2704.

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Appendices

Appendix A: Direct Sensing Equipment Description
Appendix B: Interpretation of Qualitative Direct Sensing Data
Appendix C: Quality Control Procedures

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Appendix D: MiHpt Logs, Individual Scale

Appendix E: MiHpt Logs, Collective Scale

Appendix F: Current Laboratory Results

Conversion Factors

Inch/Ounce/Pound/PSI to international System of Units

Multiply	By	To obtain
	Length	
Inch (in.)	2.54	Centimeter (cm)
Inch (in.)	25.4	Millimeter (mm)
Foot (ft.)	0.3048	Meter (m)
	Volume	
Ounce (oz.)	29.6	Milliliters (ml)
Gallon (gal)	3.8	Liters (L)
Cubic Foot (cf)	28.32	Liters (L)
	Pressure	
Pounds per Square Inch (psi)	6.89	Kilopascals (kPa)
	Hydraulic Conductivity	
Feet per day (ft/day)	0.0003527	Centimeters per second (cm/sec)

Temperature in degrees Celsius (°C) is converted to degrees Fahrenheit (°F) as

(°F) = (1.8 x (°C) + 32

Datum

Horizontal and vertical coordinates are referenced form the World Geodetic System 1984 [EPSG:4326].

Supplemental Information

Electrical conductivity (EC) is provided in millisiemens per meter (mS/meter).

Concentrations of chemical constituents in water are provided in either milligrams per liter (mg/L) or micrograms per liter (μg/L).

Concentrations of chemical constituents in soil are provided in either milligrams per kilogram (mg/kg) or micrograms per kilogram (μg/kg).

Report of High-Resolution Assessment for Robinson Terminal North Alexandria VA June 2016

Summary of Results

COLUMBIA Technologies, LLC, in collaboration with **ICOR Ltd (ICOR)** conducted a high-resolution assessment of the **Robinson Terminal North** properties located at 1 and 101 Oronoco Street in Alexandria, VA, (the SITE) during the period 22 to 28 June, 2016.

The SITE has a long history of industrial and commercial use and is being considered for development into a multi-story residential complex (eastern portion of the SITE) and multi-story residential and hotel complex (western portion of the SITE), both to include street-level retail and commercial use. Both complexes will also include at least one level of subsurface parking. No residential use on the first floor is currently anticipated.

Based on the findings of historical environmental assessments, hazardous materials requiring special handling and disposal prior to razing of the buildings are present in the buildings, at least three underground storage tanks (USTs) are buried at the SITE, and soil and groundwater beneath the SITE are impacted by the past industrial activities conducted at and adjacent to the SITE. Past activities of concern conducted at the SITE include petroleum storage and fertilizer production. Adjacent site uses of concern include petroleum storage, chemical production, and coal gasification.[1]

The goal of this investigation was to provide in high-resolution a detailed mapping of subsurface soil impacted with petroleum hydrocarbons and industrial chemicals. Additionally, the high-resolution characterization technology provided a description of likely pathways for contaminant migration onto and across the site. The high-resolution information also helped to identify any potential data gaps in previous sampling at a lower resolution or scale. The accurate measurement of the depth of contamination provides an important input to the site planning of subsurface structures. Soil and groundwater sampling results following this high-resolution profiling are provided in **Appendix F**.

This high-resolution assessment was conducted in accordance with the guidelines of references (A) and (B). The

[1] ICOR, Ltd. *Limited Phase II Environmental Site Assessment.* December 2014.

direct sensing data are comprised of combined Hydraulic Profiling Tool (HPT) and Membrane Interface Probe (MIP) measurements. This combined tool is referred to as a MiHpt.

Twenty-two (22) MiHpt soundings were at the locations shown in **Figure 2** as directed by **ICOR**. Elevated response was noted for both chlorinated and petroleum-based volatile organic compounds (VOCs) as shown in **Figures 3 and 4**. Contamination was observed from just below ground surface to approximately 25-ft below ground surface (bgs) as shown in **Figures 7 through 13.**

Elevated MIP-FID response was also noted adjacent to the property waterfront. The Flame Ionization Detector responds to organic carbon-hydrogen bonds and the response along the waterfront is likely from organic tidal influence.

The subsurface soils were characterized in the plume area using the Hydraulic Profiling Tool (HPT). Interbedded permeable and non-permeable soil layers were observed across the site. Multiple continuous zones of elevated permeability were observed providing pathways for contaminant migration.

Residual VOC contamination was measured in both high and low permeability soils. This is indicative of a mature plume with likely storage of contamination in the lower permeable soils that results in back-diffusion of contaminants into the more permeable soils.

Highly elevated electrical conductivity (EC) was noted shallow at several locations. These elevated EC measurements are likely indicative of residual ionic solutions such as those applied with oxidation injection materials.

Cross sections in both the east-west and north-south directions were developed by ICOR. New soil and groundwater samples were obtained to correlate with the direct sensing results and identify the specific contaminant compounds contributing to the direct sensing responses. The laboratory results for the most current data provide by ICOR are provided in **Appendix F**.

Methods, Assumptions, and Procedures

The MIP soundings were advanced as a cross-section through the treatment area for the VOC contamination and at some boundary locations. The resulting footprint of VOC contamination measured by the twenty-two (22) MiHpt borings is shown in **Figure 2** as directed by **ICOR**. Elevated response was noted for both chlorinated and petroleum-based volatile organic compounds (VOCs) as shown in **Figures 3 and 4**.

COLUMBIA Technologies employed three primary chemical detectors on the MIP profiling. These include: a Photo Ionization Detector (PID), a Flame Ionization Detector, and an Electron Capture Detector (ECD).

The PID provides sensitivity to aromatic compounds (BTEX). The FID is a general detector useful for confirmation of high concentrations of organic compounds including those not measured by the PID.

The MIP-ECD is highly specific to halogenated compounds; as such, the MIP-ECD detects a broad spectrum of chlorinated VOCs, including TCE and its degradation products. The MIP-ECD detector responds to halogenated compounds to a detection limit of approximately 250 ppb.

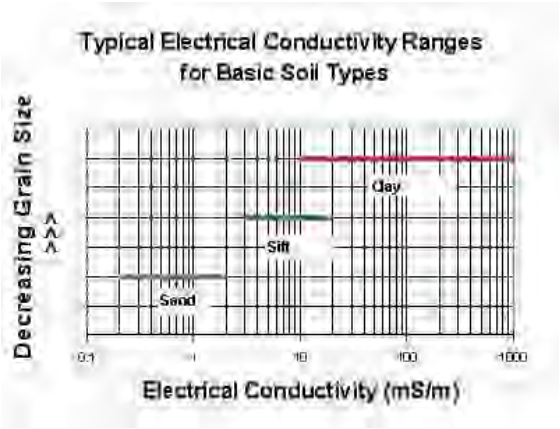
Together, the three detectors provide a reliable measurement for the presence of residual volatile organic compounds within the soil in the adsorbed, dissolved and vapor phase of contamination.

The Hydraulic Profiling Tool (HPT) was used to evaluate subsurface hydrostratigraphy, identifying higher permeability layers or heterogeneities that constitute preferential pathways for the movement of VOCs, and lower permeability layers that serve as storage zones for residual contamination.

The HPT pressure logs record measured changes in hydraulic pressure directly as water is pumped into the formation at a constant rate. These logs reveal the variability and relative hydraulic conductivity of the soil.

Electrical Conductivity (EC) is logged simultaneously with HPT pressure and the MIP analytical detector data. Variations in EC can also provide valuable insight into the stratigraphy of the subsurface. An increase in EC is typically indicative of finer-grained, less permeable soils.

General conductivity ranges for basic soil types are presented in the chart below (Geoprobe, 2015).



Together, the HPT and EC logs provide a powerful means of identifying more permeable heterogeneities in the

subsurface that provide preferential flow paths for contaminant migration.

The less permeable soils at the SITE will tend to limit the migration of residual and dissolved phase product. They also tend to provide long-term storage for residual NAPL and thus, serve as long-term sources of groundwater contamination.

As concentrations in higher permeability zones are reduced, the mass transfer process typically reverses, releasing contaminants from the lower-permeability zones into the higher-permeability zones (back-diffusion).

The technical team reviewed the high-resolution survey daily using the *SmartData Solutions*® real-time decision support system to iteratively refine the work plan with the project team and ensure the project objectives were met and completed on schedule.

Results and Discussion

Delineation of Chlorinated VOCs

The MIP-ECD was used together with the MIP-PID to delineate the chlorinated VOCs. The footprint of the cVOC contamination is presented in **Figure 3**. The vertical distribution of cVOCs is provided in **Figures 7 through 13**. The laboratory analytical results for soil and water samples obtained in the footprint identified concentrations of tetrachloroethylene and trichloroethylene above VDEQ action levels in groundwater samples taken at station M-21. These laboratory results are presented in **Appendix F**.

Delineation of Chlorinated VOCs

The MIP-FID was used together with the MIP-PID to delineate the petroleum hydrocarbon based VOCs as shown in **Figure 4**. The vertical distribution of petroleum hydrocarbon VOCs is provided in **Figures 7 through 13**. The laboratory analytical results for soil and water samples obtained in the footprint identified multiple petroleum hydrocarbon VOCs compounds including benzene, tri-methylbenzene, and naphthalene above VDEQ action levels. These results are presented in **Appendix F**.

Quality Control

Each direct sensing instrument was operated in accordance with the manufacturer's standard operating procedures and the *Standard Practice for Direct Push Technology for Volatile Contaminant Logging with the Membrane Interface Probe (MIP)* ASTM STANDARD D7352 – 07.

Performance testing was performed on each system prior to and following each survey sounding. These procedures are outlined in **Appendix C.**

A thorough QC review of the MiHpt logs revealed no anomalies.

Conclusions

1. Both chlorinated and petroleum hydrocarbon based VOCs above VDEQ action levels are present to a depth of 25-ft below grade from the western border of the assessment area, underneath the western building (101 Oronoco St), and continue to approximately Union Street to the east.
2. Elevated electrical conductivity response indicating an ionic or metallic material was noted shallow, < 10-ft below grade the building (1 Oronoco St.) between Union Street and the waterfront.
3. Multiple continuous zones of hydraulic permeability were observed providing pathways for contaminant migration.
4. Elevated MIP-FID response was also noted adjacent to the property waterfront. The Flame Ionization Detector responds to organic carbon-hydrogen bonds and the response along the waterfront is likely from organic tidal influence.
5. Inorganic contamination was not measured with the direct sensing equipment, however, laboratory analyses presented in **Appendix F** Identified inorganic contamination in both soil and water samples.

References

(A) ASTM International. 2007. *Standard Practice for Direct Push Technology for Volatile Contaminant Logging with the Membrane Interface Probe (MIP).* ASTM D7352 – 07.

(B) Geoprobe Technical Bulletin MK3010 Standard Operating Procedure for Geoprobe® Membrane Interface Probe (MIP) Revised: April 2012

(C) ICOR, Ltd. *Limited Phase II Environmental Site Assessment.* December 2014.

APPENDIX A - Direct Sensing Equipment Description

LIF/UVOST® Equipment Description

The LIF system utilized for this investigation is the latest generation UVOST® system developed by Dakota Technologies, Inc. (DTI). The LIF-UVOST® system uses a high-energy laser to produce an ultraviolet light source for the detection of polycyclic aromatic hydrocarbons (PAHs).

The LIF-UVOST® system employs a excitation beam of light from a xenon chloride laser at 308 nanometer (nm) light pulsed at 50 megahertz. Any residual phase PAHs present in the soil matrix will absorb this photon energy in the form of fluorescence.

This fluorescence is returned to the optical detection system via a second silica fiber optic line, measured, and recorded in real time across four 50nm wavelength bins centered at 350, 400, 450, and 500 nm.

Individual LIF-UVOST® logs consist of a primary graph of total fluorescence as a %RE test standard versus depth, an information box and up to five waveform callouts. These callouts present the fluorescence intensity of each of the monitored wavelengths on the Y-axis [in microvolts (uV)]. The four peaks are due to the fluorescence at the four monitored wavelengths called channels. Each channel is assigned a color. Various non-aqueous phase liquids will have a unique waveform signature based on the relative amplitude of the four channels and/or the broadening of one or more of the channels.

The aforementioned wavelengths represent a common range of fluorescence associated with PAHs. Typically, the lighter fuels (jet fuel and gasoline) emit fluorescence at the shorter wavelengths – 350 and 400 nm, while heavier, less distilled compounds such as bunker fuel or diesel fuel emit fluorescence at the longer wavelengths – 450 nm and 500 nm.

LIF/UVOST® screening is performed by pushing/hammering a shock protected optical cavity (SPOC) into the soil at the target rate of two centimeters per second (0.8 inches per second). As the SPOC is advanced, the total monitored fluorescence as well as the intensity and duration of the fluorescence at each of the four monitored wavelengths are recorded and displayed in real-time at one second intervals as a function of depth.

LIF/UVOST® system data is presented as a percentage of the normalized % Reference Emitter (RE) performance standard. This standard consists of a blend of Non-Aqueous Phase Liquid (NAPL) and produces a consistent fluorescence response over the four wavelengths monitored by the LIF/UVOST® system. Collected data is then presented as the %RE. Using the same RE at each location and site, allows normalization of data collected over several locations, sites, or screening events. The RE standard is provided by the equipment manufacturer and is the same for all LIF/UVOST® systems currently in operation.

Any fluorescence response is normally indicative of residual phase petroleum hydrocarbons, though some naturally occurring materials such as limestone will also fluoresce to a lesser and more monochromatic degree.

MIP/EC Equipment Description

The membrane interface probe with electrical conductivity (MIP/EC) probe is approximately 24 inches in length and 1.5-inches in diameter. The probe is driven into the ground at the nominal rate of 12 inches per minute

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using direct push technology (DPT) system Geoprobe or equivalent.

The MIP/EC probe was developed by Geoprobe Systems® and contains two separate systems: the soil EC tool and the MIP. EC, MIP chemical response, MIP operating parameters, rate of push speed and temperature are collected by the MIP/EC Field Instrument, and displayed continuously in real time during each push of the probe.

EC: Soil electrical conductivity, the inverse of soil resistivity, is measured using a dipole arrangement. In this process, an alternating electrical current is transmitted through the soil from the center, isolated pin of the probe. This current is then passed back to the probe body. The voltage response of the imposed current to the soil is measured across these same two points. Conductivity is measured in Siemens/meter, and due to the low conductivity of earth materials, the EC probe uses milliSiemens/meter (mS/m). The probe is reasonably accurate in the range of 5 to 400 mS/m.

The electrical properties of soil vary by geological setting. Therefore, conductivity measurements will vary both in magnitude and the relative change from one soil type to another in each geological setting. In general, at a given location, lower conductivity values are characteristic of larger particles such as cobbles and sands, while higher conductivities are characteristic of finer sized particles such as finer sand, silts and clays. Observed conductivities significantly higher than 400 mS/m are indicative of ionic materials other than soil. Examples include saltwater intrusion, presence of ionic chemicals from storage or injection, or potentially soil mixtures with metallic compounds.

MIP: The MIP portion of the probe is used to create high resolution, real-time profiles of subsurface volatile organic compounds (VOCs). The operating principle is based on heating the soil and/or water around a semi-permeable polymer membrane to 121 degrees Celsius (ºC), which allows VOCs to partition across this membrane. The MIP can be used in saturated or unsaturated soils, as water does not pass through the membrane. Nitrogen is used as an inert carrier gas, and travels from a surface supply down a transfer tubing which sweeps across the back of the membrane and returns any captured VOCs to the installed detectors at the surface. It takes approximately 60 seconds for the nitrogen gas stream to travel through 150 feet of inert tubing and reach the detectors.

COLUMBIA Technologies utilizes three chemical detectors on the MIP: a Photo Ionization Detector (PID), a Flame Ionization Detector (FID) and an Electron Capture Detector (ECD), or Halogen Specific Detector (XSD) mounted on a laboratory grade gas chromatograph (GC). The output signal from the detectors is captured by the MIP/EC data logging system installed on a laptop computer.

The PID detector consists of a special ultraviolet (UV) lamp mounted on a thermostatically controlled, low volume, flow-through cell. The temperature is adjustable from ambient temperature to 250 ºC. The 10.2-electron volt (eV) UV lamp emits energy at a wavelength of 120 nm, which is sufficient to ionize most aromatics such as BTEX and many other molecules such as hydrogen sulfide (H_2S), hexane, and ethanol whose ionization potentials are less than 10.2 eV.

The PID also emits a response for chlorinated compounds containing double-bonded carbons (e.g. halogenated ethylenes), such as trichloroethylene (TCE) and tetrachloroethylene (PCE). Methanol and water, which have ionization potentials

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greater than 10.2 eV, do not respond on the PID. Given that the PID is non-destructive, it is often run first in series with other detectors for multiple analyses from a single injection.

The FID utilizes a hydrogen flame to combust compounds in the carrier gas. The FID responds linearly over several orders of magnitude, and the response is very stable from day to day. This detector responds to any molecule with a carbon-hydrogen bond, but poorly to compounds such as H_2S, carbon tetrachloride, or ammonia. The carrier gas effluent from the GC column is mixed with hydrogen and burned. This combustion ionizes the analyte molecules. A collector electrode attracts the negative ions to the electrometer amplifier, producing an analog signal, which is directed to the data system input.

The ECD detector consists of a sealed stainless-steel cylinder containing radioactive Nickel-63. The Nickel-63 emits beta particles (electrons), which collide with the carrier gas molecules, ionizing them in the process. This forms a stable cloud of free electrons in the ECD cell. When electro-negative compounds (especially chlorinated, fluorinated or brominated molecules), such as carbon tetrachloride or TCE, enter the cell, they immediately combine with the free electrons, temporarily reducing the number remaining in the electron cloud. The detector electronics, which maintain a constant current of about 1 nanoampere through the electron cloud, are forced to pulse at a faster rate to compensate for the decreased number of free electrons. The pulse rate is converted to an analog output, which is transmitted to the data system.

The ECD detector provides for extremely sensitive detection of common contaminants such as PCE and TCE, typically in the range of 100-200 parts per billion (ppb) in-situ concentrations for these compounds. However, the relatively small linear range of the detector as compared to the other detectors, the maximum response of the detector will be reached early, typically at in-situ concentration of 1 to 2 parts per million (ppm) for these polychlorinated compounds. Additionally, ECD detector response varies considerably for different compounds. Of particular note the response factor of the ECD to polychlorinated compounds such as PCE is a factor of 1,000 to 10,000 as compared to dichloro compounds, such as the common degradation product *cis*-1,2-dichloroethylene (DCE). Performance testing for the compounds of interest is critical to understanding the system response to in-situ chemical distributions.

HPT Equipment Description

The HPT probe is approximately 24 inches in length and 1.5-inches in diameter. The probe is driven into the ground at the nominal rate of 12 inches per minute using a DPT rig.

The HPT probe was developed by Geoprobe Systems® and contains two separate systems: soil EC and the HPT. EC, HPT parameters and temperature are collected by the HPT Field Instrument, and displayed continuously in real time during each push of the probe.

EC: Soil electrical conductivity, the inverse of soil resistivity, is measured using a Werner array arrangement. In this process, an electrical current is transmitted through the soil from two electrodes on the probe body. This current is then passed back to the probe, and the voltage response of the imposed current to the soil is measured across these points. Conductivity is measured in Siemens/meter, and due to the low conductivity of earth materials, the EC probe uses mS/m. The probe is reasonably

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accurate in the range of 5 to 400 mS/m.

The electrical properties of soil vary by geological setting. Therefore, conductivity measurements will vary both in magnitude and the relative change from one soil type to another in each geological setting. In general, at a given location, lower conductivity values are characteristic of larger particles such as cobbles and sands, while higher conductivities are characteristic of finer sized particles such as finer sand, silts and clays. Observed conductivities significantly higher than 400 mS/m are indicative of ionic materials other than soil. Examples include saltwater intrusion, presence of ionic chemicals from storage or injection, or potentially soil mixtures with metallic compounds.

HPT: The HPT portion of the system is used to create high resolution, real-time profiles of soil hydraulic properties, which can be used to infer permeability and hydraulic conductivity. The HPT system consists of a controller, a pump, a transfer line (trunkline) which is pre-strung through the DPT rods, a pressure transducer, a permeable screen, and a field computer.

HPT screening is performed simultaneously with the EC logging. As the tool is advanced, water is pumped through the trunkline and passes into the soil through the permeable screen. The flow is regulated as to be as constant as possible. The pressure required to inject the constant flow of water into the soil, known as the HPT pressure, is monitored by the pressure transducer and recorded on the field computer in pounds per square inch (psi) versus depth. The flow rate of the water into the soil formation is also measured and recorded in milliliters per minute (mL/min) versus depth. Static pressure measurements (dissipation tests) can also be made by stopping at discrete intervals, allowing users to determine the static water level. The dissipation test provides an estimate of the static water level, based on the hydraulic head imposed on the probe at rest as compared to the pressure measured at the surface prior to starting each location push. Dissipation tests are best run in coarser grained materials (sands and gravels) to assure that the local ambient hydrostatic pressure is measured quickly and accurately.

To perform a dissipation test, the HPT probe is advanced to a depth below the water table and the water flow is stopped. The pressure dissipation (reduction of pressure gradient caused by forcibly pumping water into the formation) is monitored until a stable value is observed. The dissipation usually takes the shape of a curve approaching an inflection point or stable value. The stable value is then used for the hydraulic pressure at that depth and can be used to estimate static water depth. The HPT software can also provide an estimate of K (a value used in hydrogeologic calculations) to provide an interpretation of the hydraulic permeability of the formation.

Depth in feet is measured and recorded using a precision potentiometer with a 100-inch linear range. The potentiometer is mounted onto the mast of the DPT rig and a counter-weight anchored to the foot of the rig. Measurements are recorded on the down stroke of the mast, as the tooling string is pushed into the ground, and is accurate within 1/10th of an inch. The reference elevation (depth) reported for each individual boring is established by setting the data logger to zero feet with the sensing window of the downhole probe aligned with the ground surface. True boring elevations can be established with the addition of survey data if provided for in the scope of work.

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APPENDIX B – Interpretation of Qualitative Direct Sensing Data

General MIP/EC Log Interpretation

Each MIP/EC log includes five separate graphs of data. The Y-axis on all graphs is depth. The first graph displays the EC, measured in mS/m. Small soil conductivity values are indicative of coarser grained particles, such as sands and silty sands, and larger soil conductivities are indicative of finer-grained particles, such as clays and silty clays. The next three graphs are displays of measures of chemical detector response: PID, FID, and ECD, measured in µV. These graphs are a linear scale, and provide a relative comparison of total detector response between boring locations. The fifth graph displays the temperature of the MIP/EC probe as it is pushed into the subsurface.

General HPT Log Interpretation

Each HPT log, presented on an individual scale, includes three separate graphs of data. The Y axis on all graphs is depth. The first graph displays HPT pressure in psi and flow rate measured in mL/min. In general, higher HPT pressure readings and lower flow rates indicate lower soil permeability, while lower HPT pressure readings and higher flow rate readings indicate higher soil permeability. The second graph shows estimated K value, in feet/day, indicating the hydraulic permeability of the formation. The static groundwater level is also displayed on the graphs. The third graph displays the EC, measured in mS/m. Lower soil conductivities are indicative of coarser grained particles, such as sands and silty sands, and higher soil conductivities are indicative of finer grained particles, such as clays and silty clays.

The HPT pressure and electrical conductivity can be used to identify hydraulic permeable layers, confining units and preferential migration pathways. This information is useful for creating contaminate fate and transport models, selecting monitoring well location and screen intervals, and targeting zones for remedial injections.

Interpreting MIP Results and Comparison to Laboratory Analyses

A typically configured MIP system is effective at profiling the relative distribution of certain VOCs and relative soil types versus depth. The typical MIP system will detect VOCs with boiling points of 121 ºC or less; with vapor pressures above approximately 0.14 psi; and with non-polar hydrophobic compound structures. The sensitivity or in-situ detection level of a MIP system is dependent on many different factors. **COLUMBIA Technologies**' systems and protocols are standardized to provide reliable and comparable detection and logging of chlorinated VOCs (CVOCs) on the order of 200 ppb in-situ concentrations. Petroleum based VOCs are reliably logged at 1 ppm in-situ concentrations. Each of **COLUMBIA Technologies**' MIP system configurations are performance tested prior to use and if requested, MIP systems may be specially configured for atypical compounds of concern (COCs) and site conditions.

An understanding of the principles of operation and performance of the configured MIP detectors is essential to properly interpreting the MIP log results. For example, a CVOC with an ionization potential greater than 10.6 eV will respond on the ECD detector but not on the PID equipped with a 10.6 eV lamp. A hydrophilic compound such

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as an alcohol or ketone will normally be scrubbed out of the MIP gas stream by the MIP Membrane and the installed dryer and never reach the detectors. A CVOC with a small number of chlorine atoms such as vinyl chloride or DCE will have a lower response on the ECD than a CVOC containing three or four chlorine atoms. Each shortfall in detector or system performance can be overcome by properly configuring and testing the MIP system for the site specific COCs prior to use. Additionally, the in-field performance tests performed before and after each boring are critical to monitor the performance of the MIP system from the membrane through to the data logging system.

Generalized correlations between MIP response and laboratory sample results can be inferred, but cannot be viewed as a linear comparison. MIP response and laboratory results are collected, analyzed and reported in different units and by different procedures, so correlation is not an exact one-to-one comparison. For example, not all VOCs present and analyzed in laboratory instruments with compound separation are detected and measured by a typical MIP system. The MIP process uses a membrane extraction process from a heated zone of varying subsurface matrix of soil, water, and/or vapor. Soil and groundwater results involve the collection of a sample, extraction of sub-sample at the surface, and then transporting them to a laboratory for further extraction and analysis. These two processes are different by definition.

Unusual or invalid responses on the MIP system can result from malfunctions such as carrier or makeup gas leakage, gas flow blockage, heater failure, and carryover of water vapor or excessive chemical saturation. Each MIP detector will respond differently to each of these malfunctions. The most common cause of false positive responses for CVOCs is water carryover or blockage of carrier gas flow. The most common causes of false negative are improperly adjusted gas flows or leakage and inoperative detectors. **COLUMBIA Technologies**' field geochemists are trained to recognize these problems and to take the appropriate corrective action in the field.

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APPENDIX C – Quality Control Procedures

MIP/EC System Performance Test

As a quality control check, the MIP system response is evaluated prior to and upon completion of each MIP location. An aqueous phase performance test is performed using specific compounds designed to evaluate the sensitivity of the particular probe, transfer line and detector suite to be used. The resulting values are recorded and compared to predetermined values.

The EC dipole is also evaluated using a brass and stainless-steel test jig, resulting in known values of 55 and 290 mS/m. Results must fall within 10% of the expected values; otherwise corrective action must be performed.

HPT System Performance Test

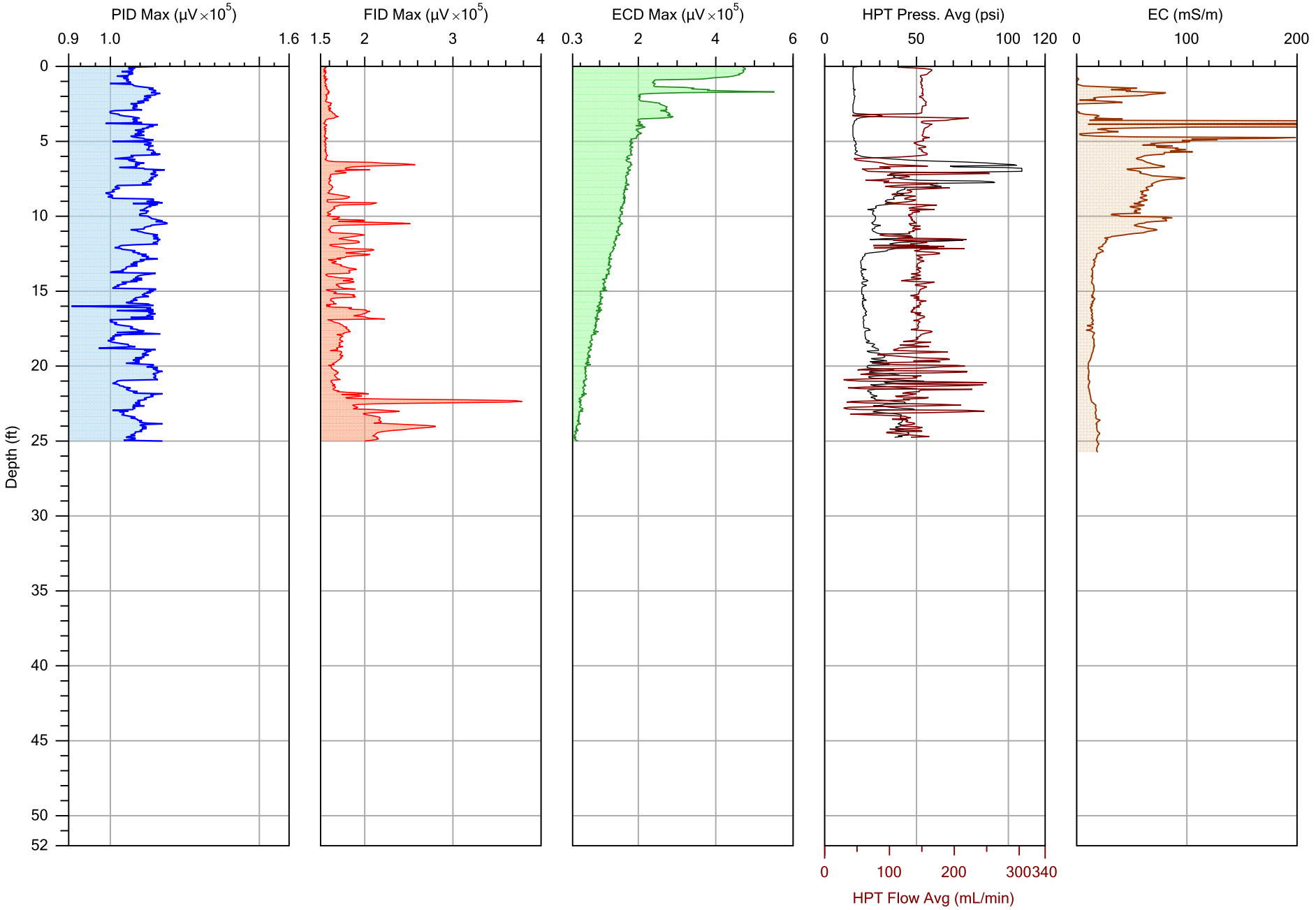
The EC Wenner is also evaluated using a Wenner Array test jig, to test the probe for isolation and continuity. Results must fall within 10% of the expected values; otherwise corrective action must be performed.

The HPT sensor is also evaluated using static (no flow) and dynamic (with flow at approximately 150 milliliters per minute hydraulic pressure measurements at two different head elevations, 6.0 inches apart. The difference for each test must be 0.2 psi, +/- 10%; otherwise corrective action must be performed.

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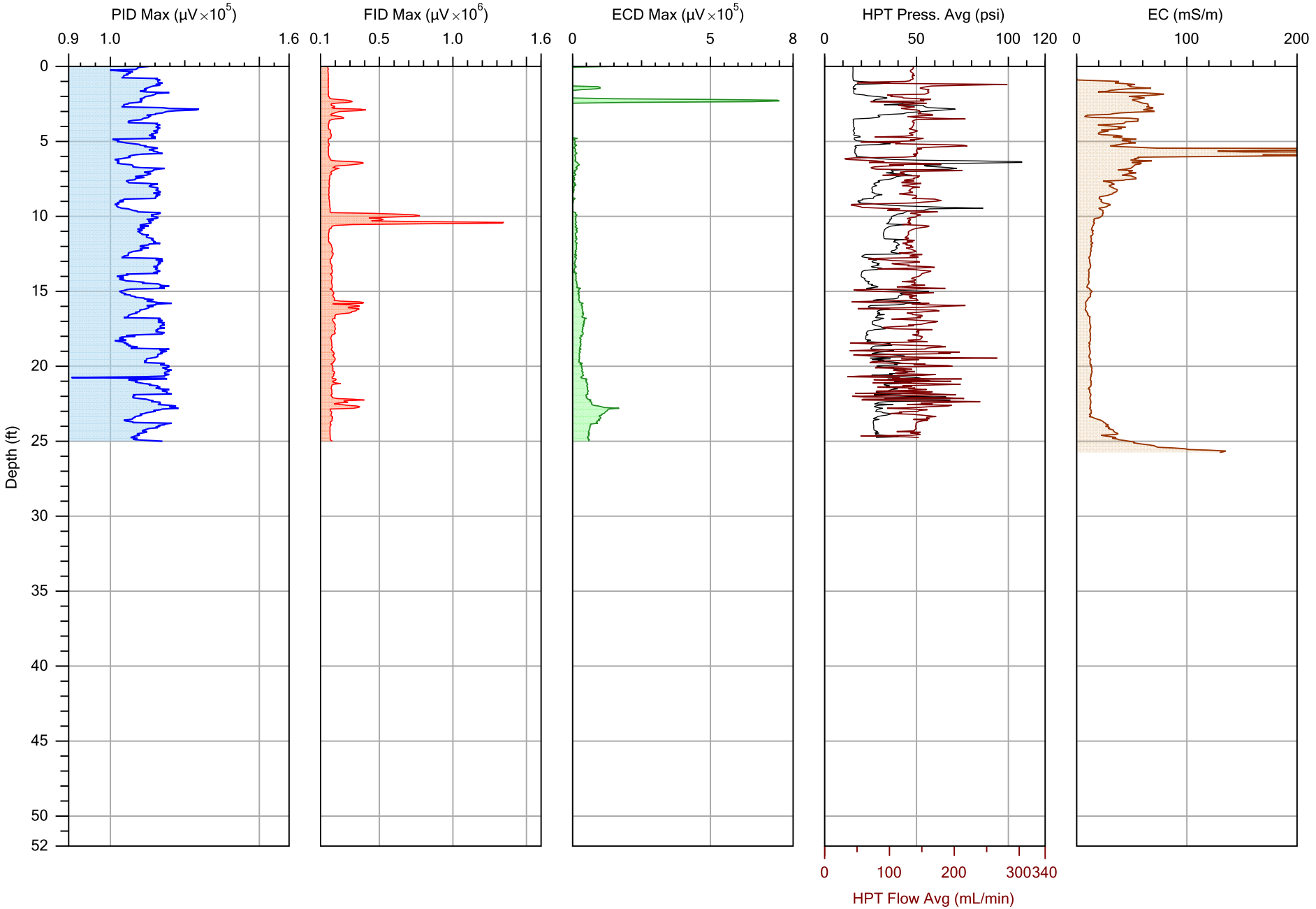
APPENDIX D – Data Logs for Membrane Interface Probe with Hydraulic Profile Tool (MiHpt), Individual Scale

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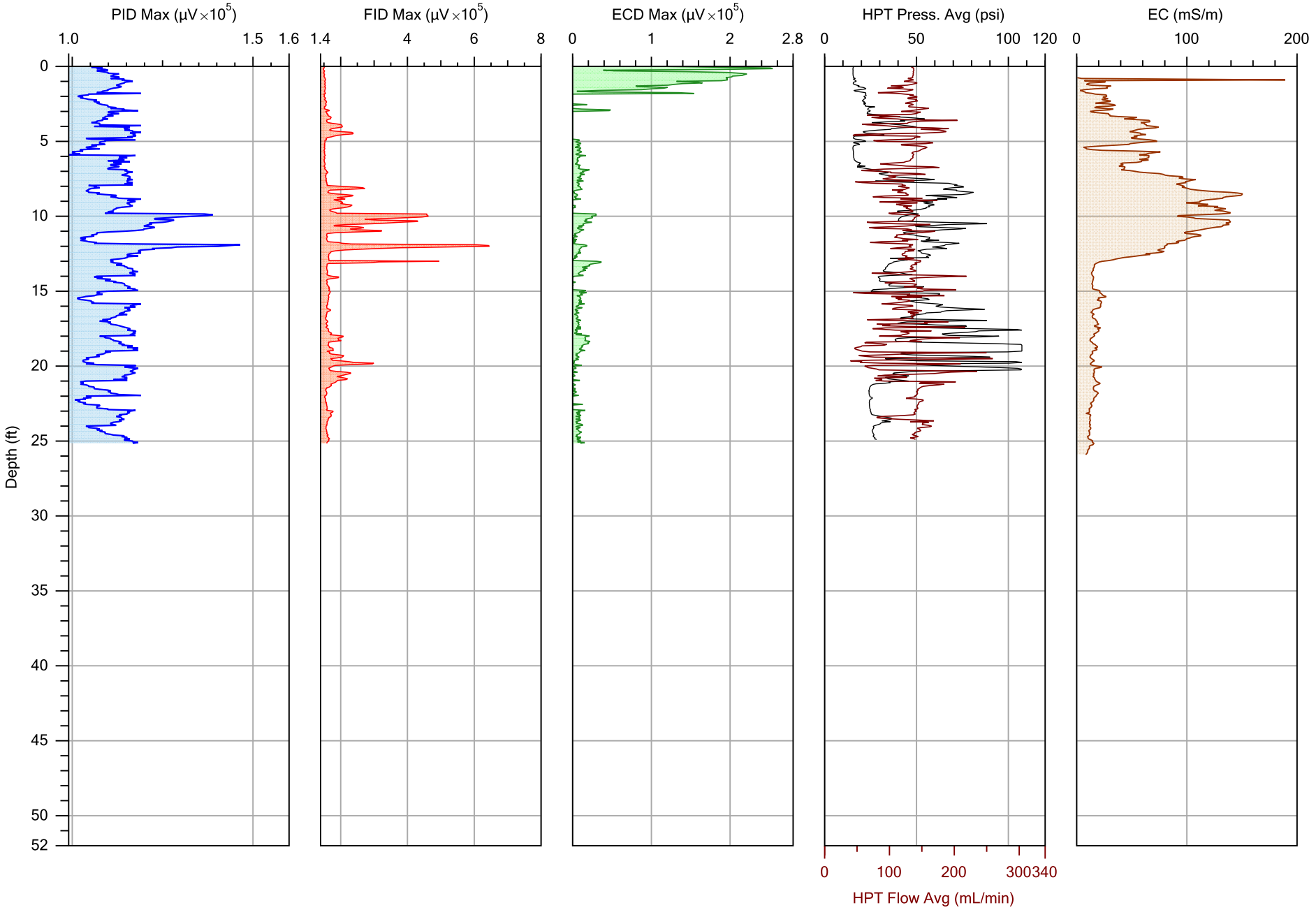


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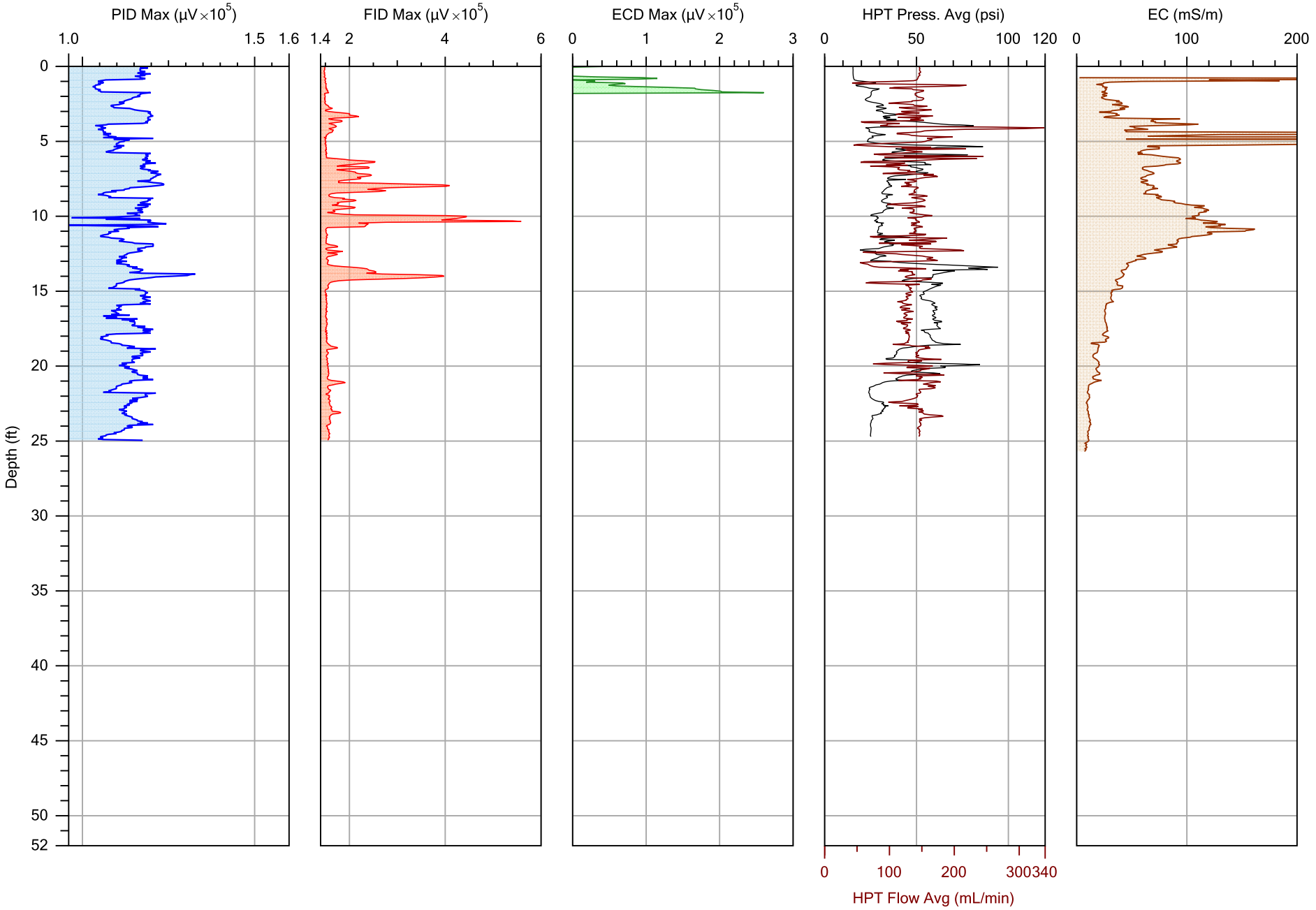


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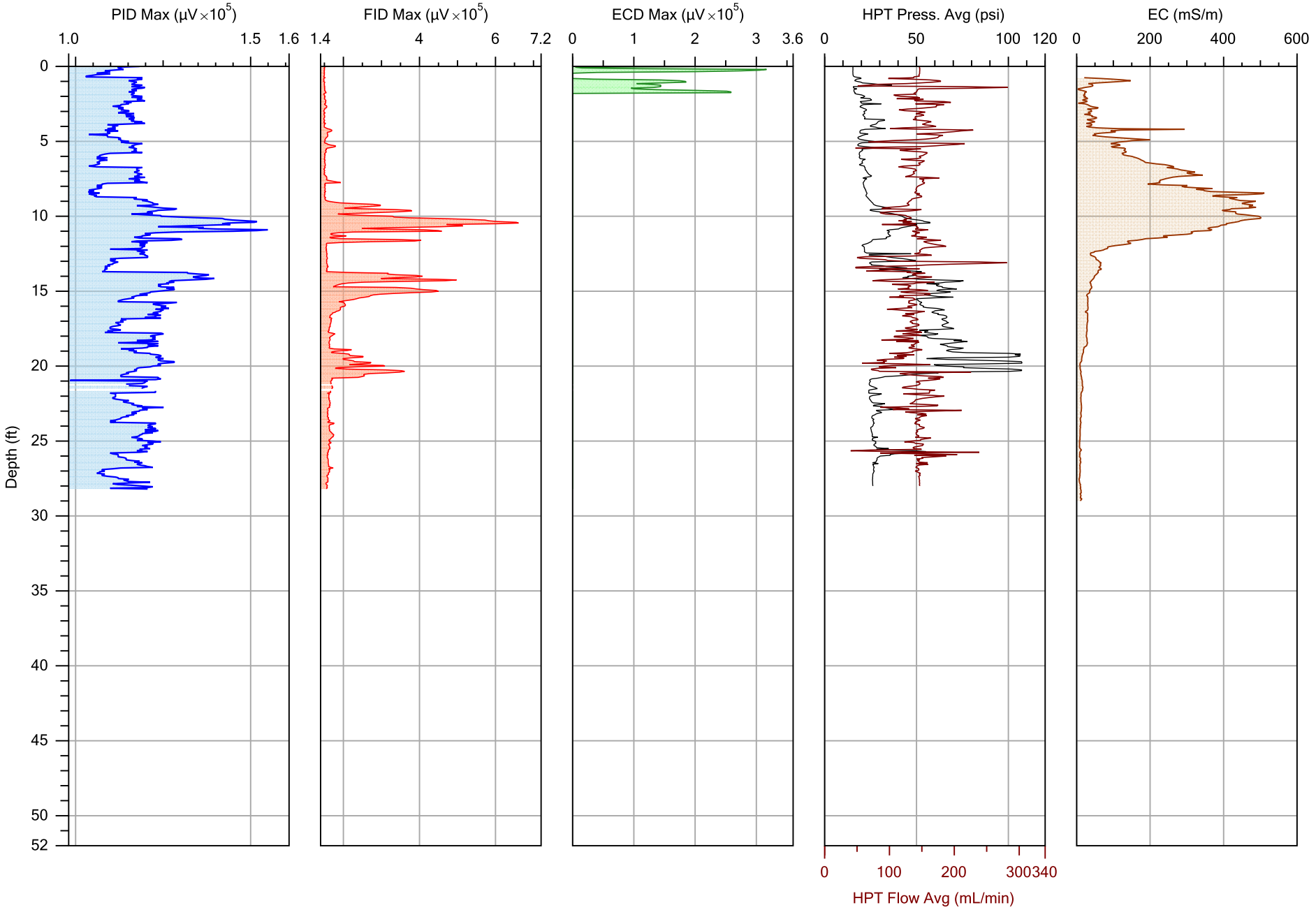




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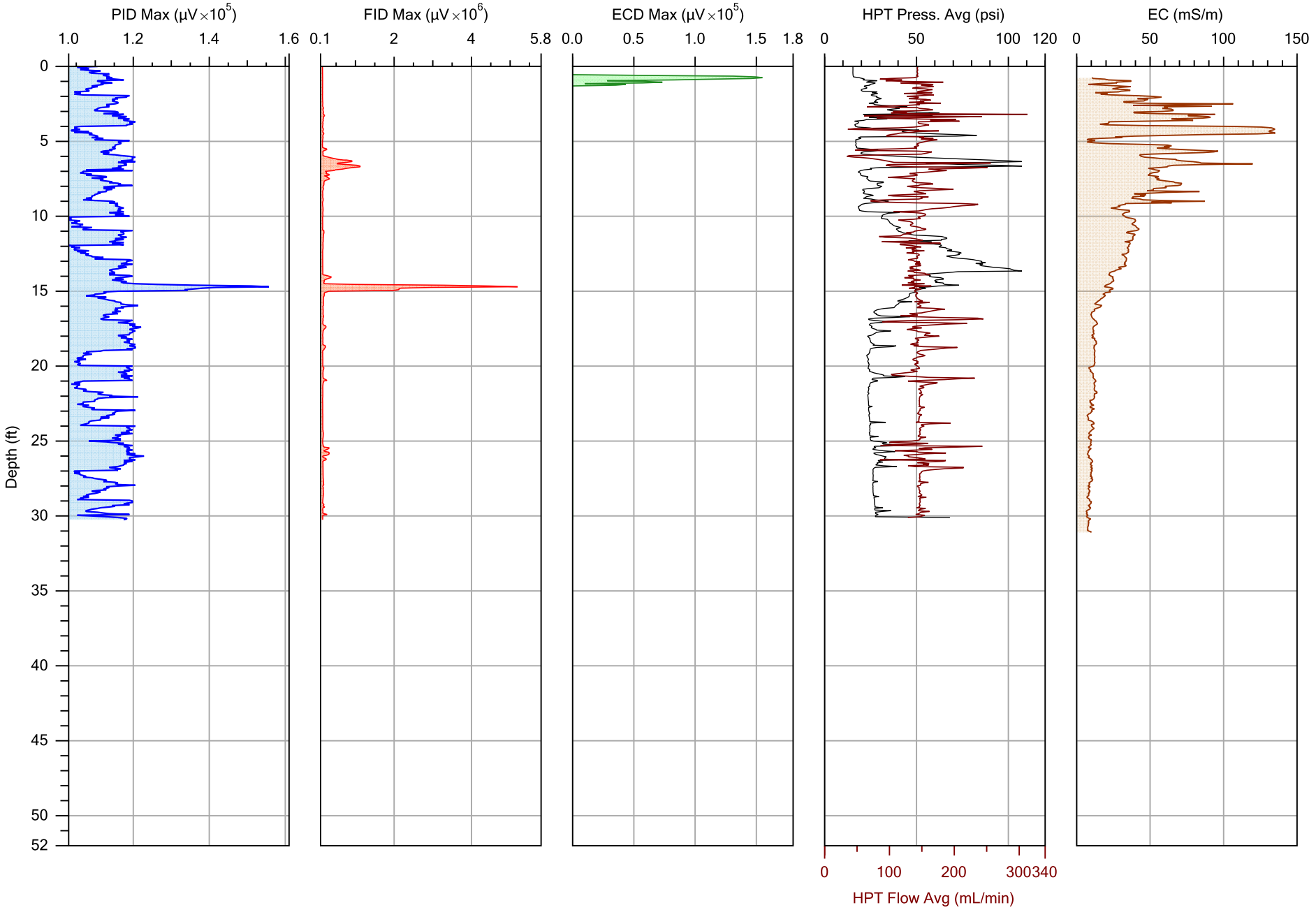


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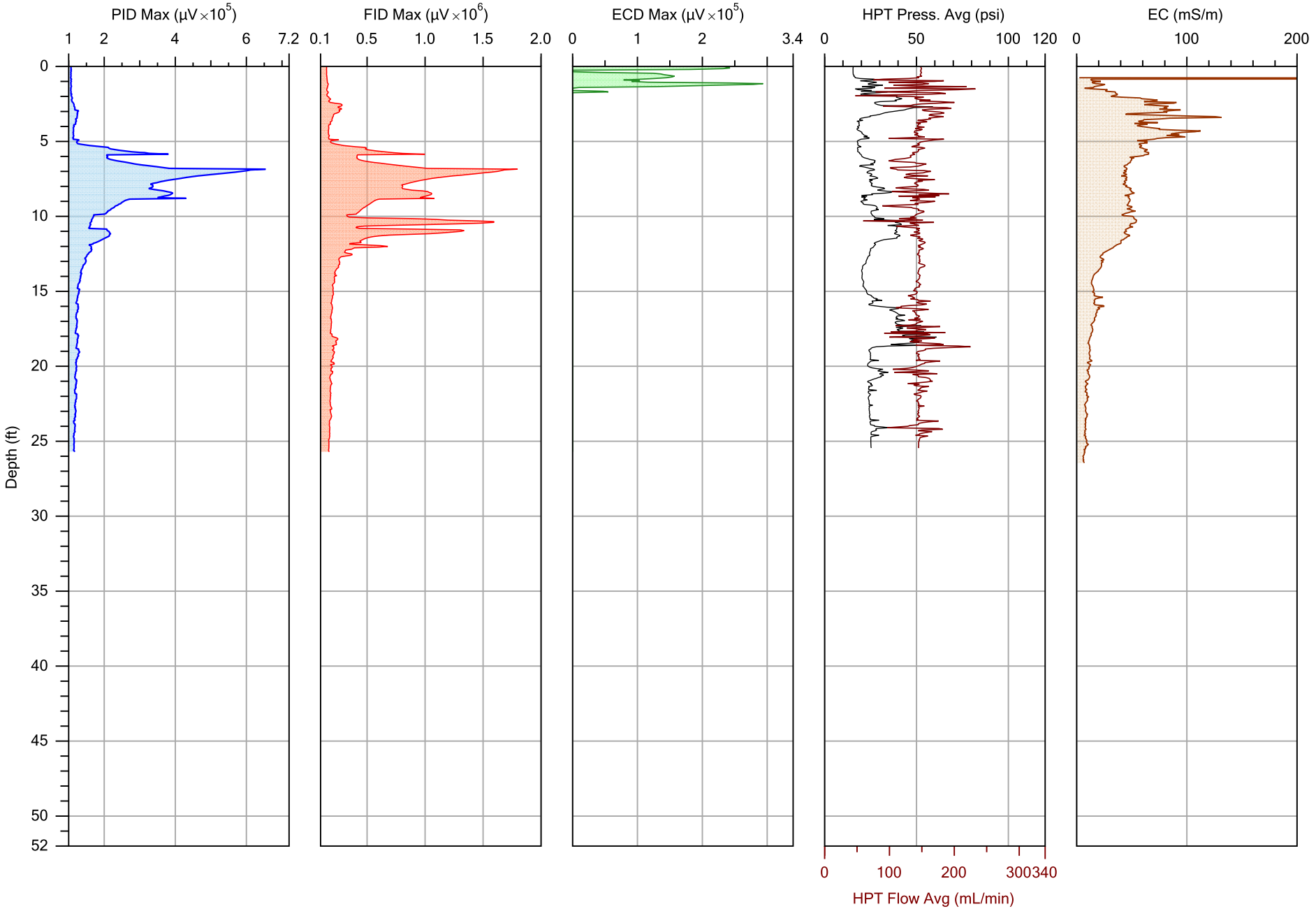


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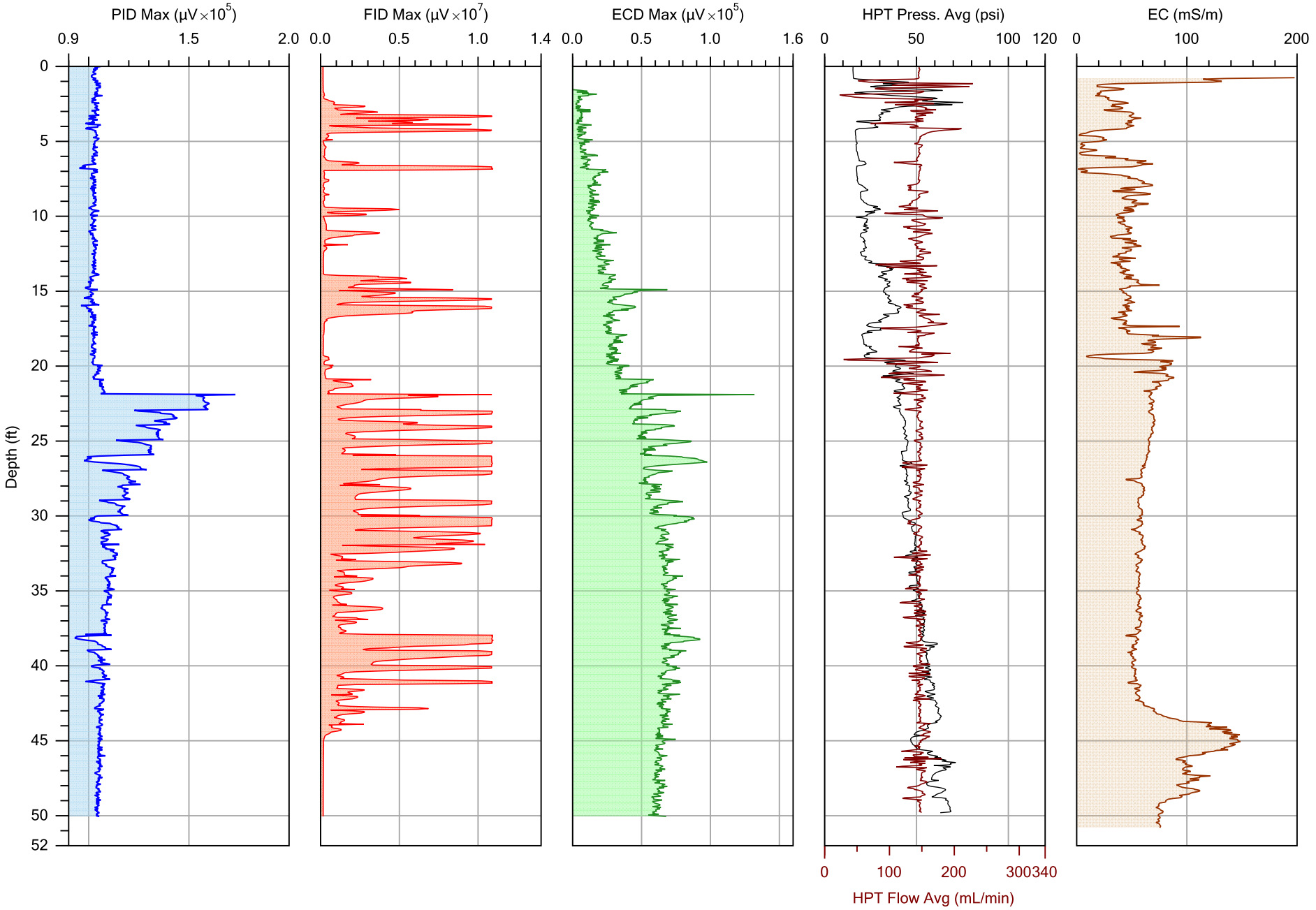


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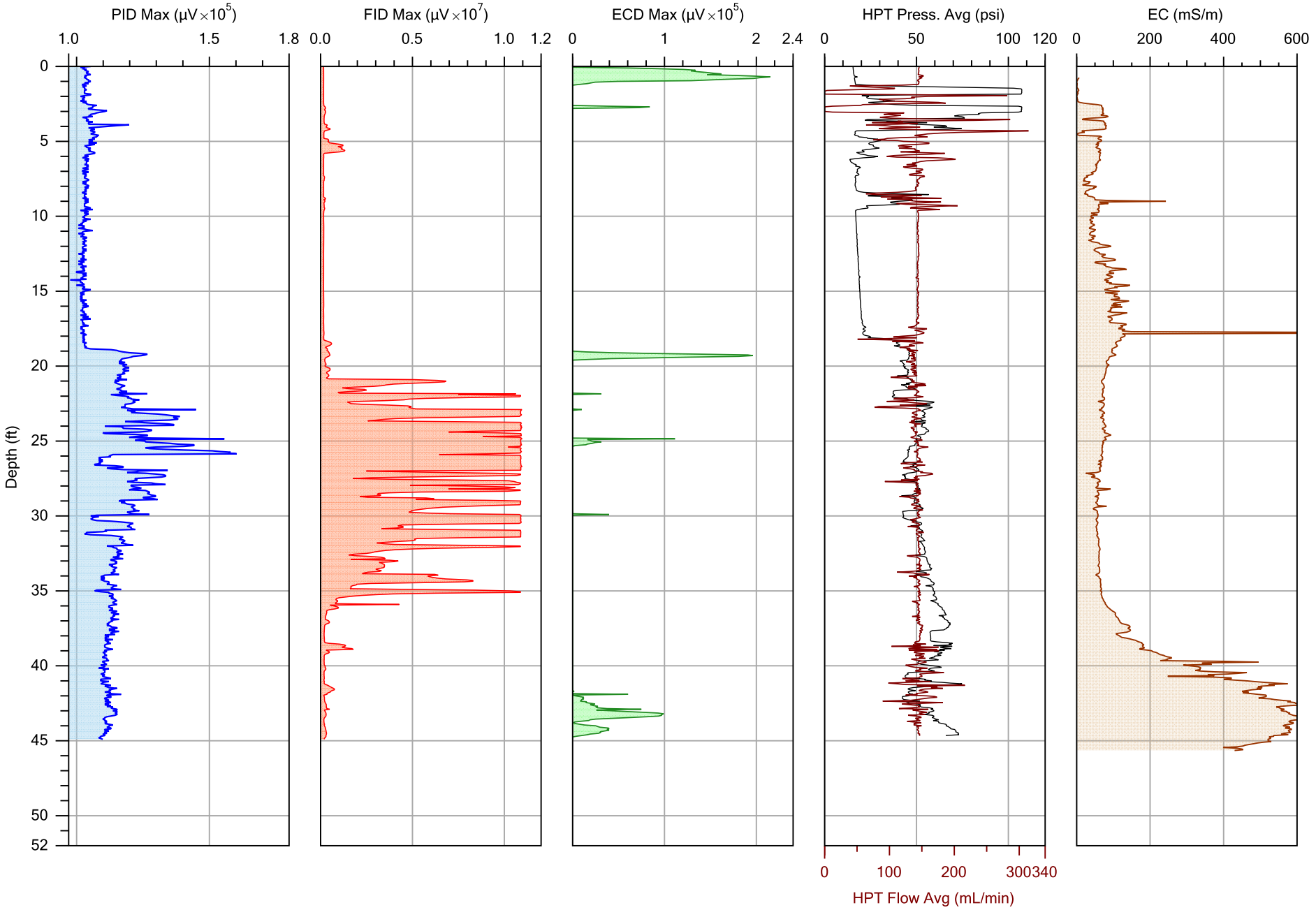




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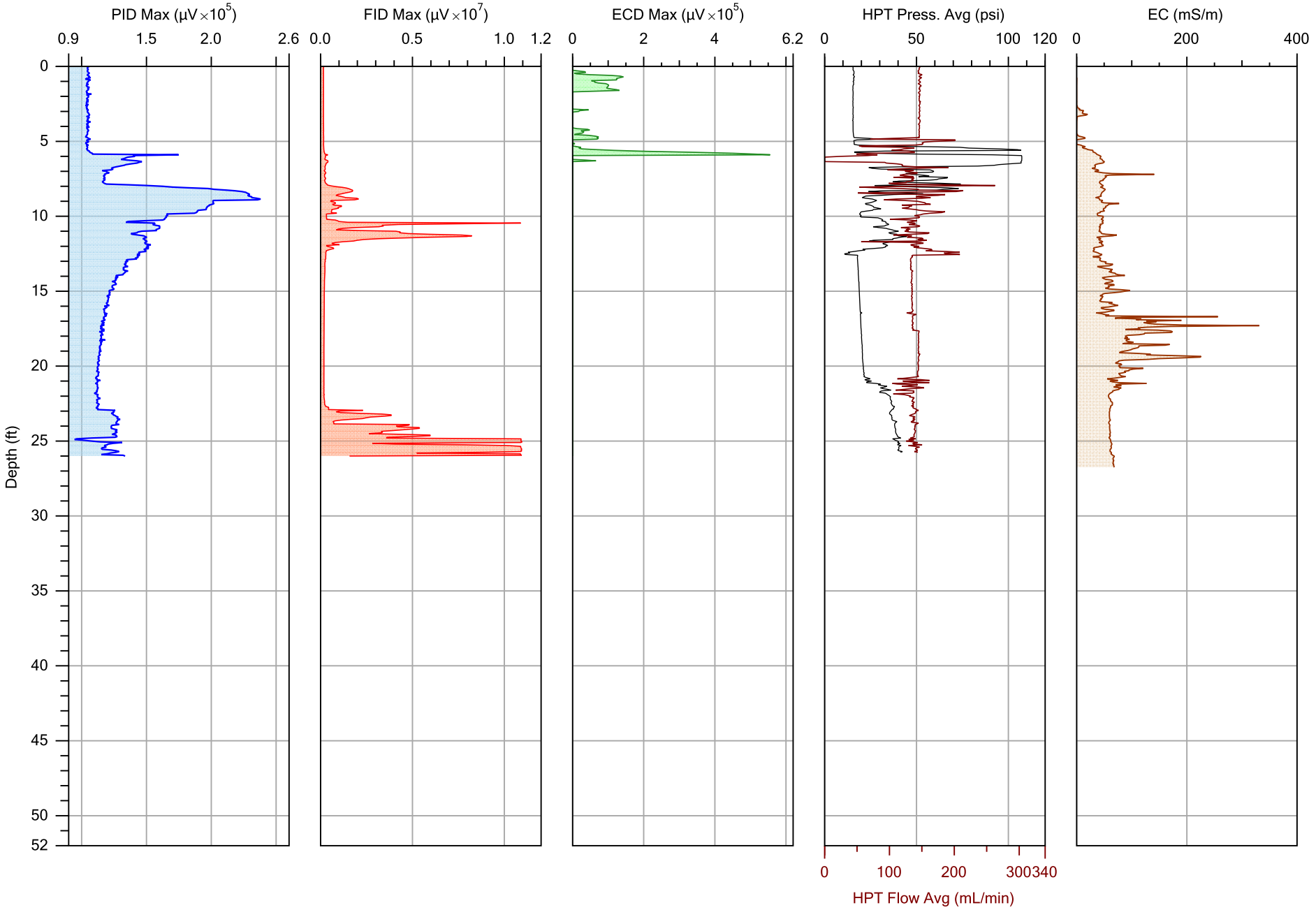


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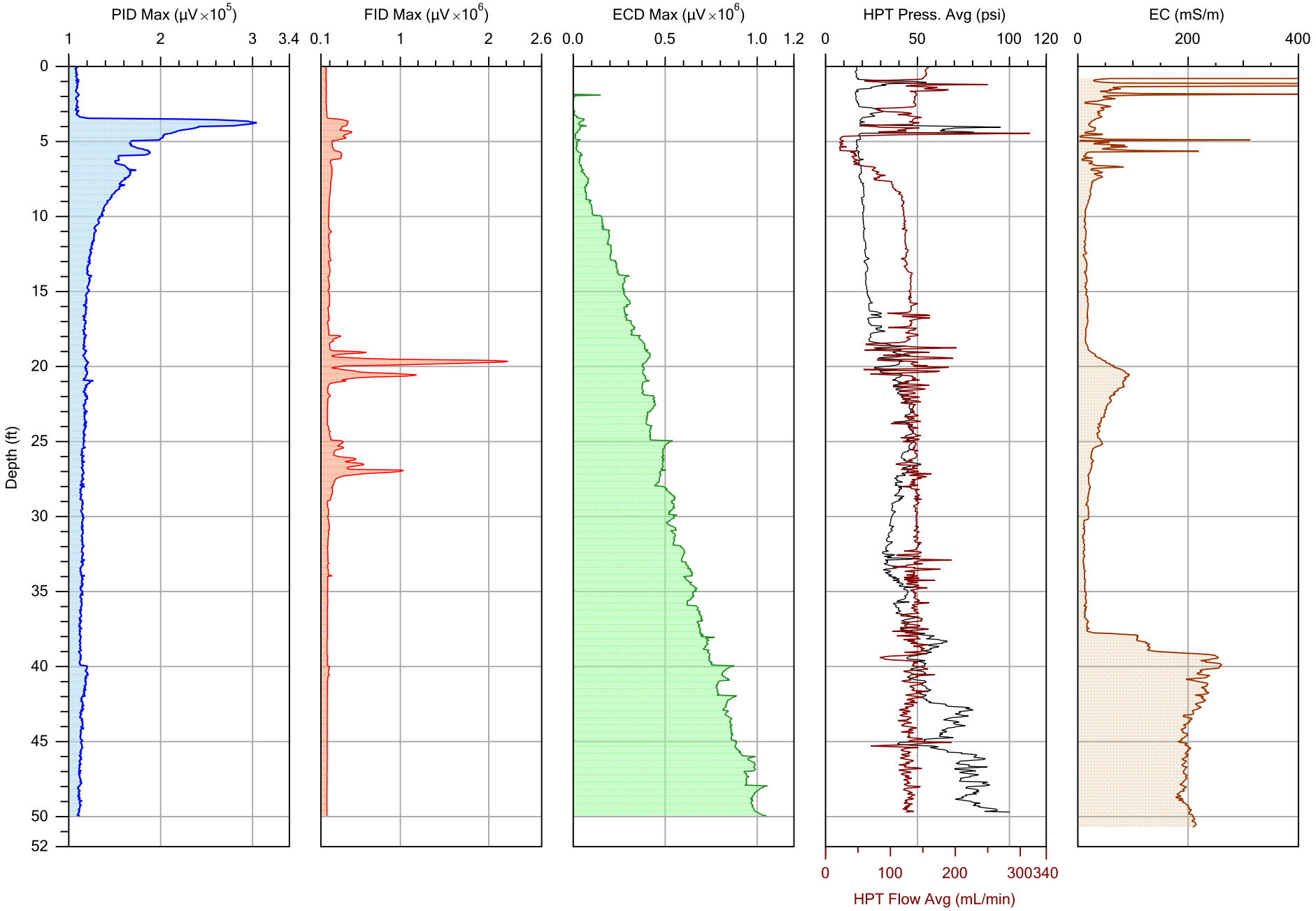




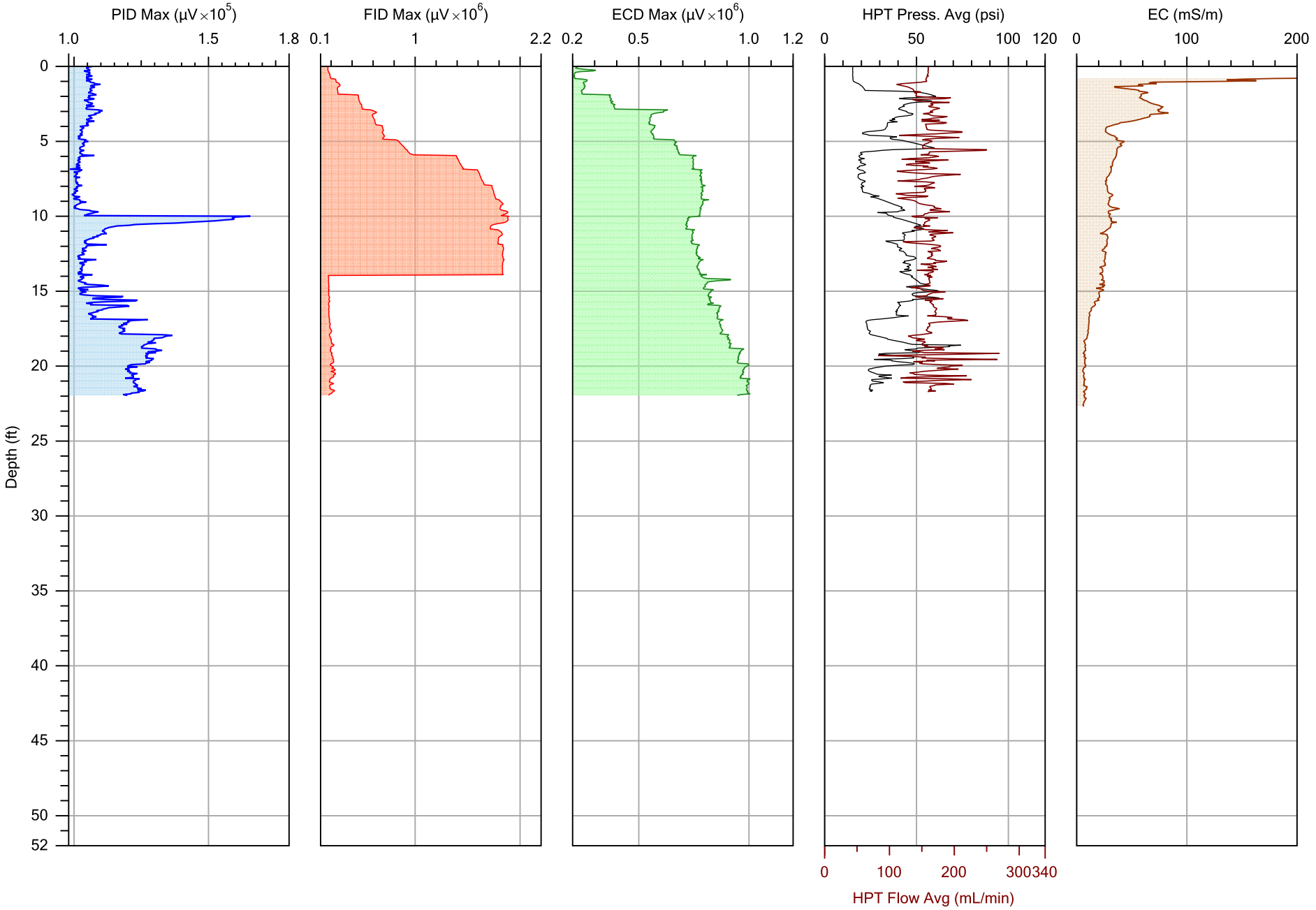
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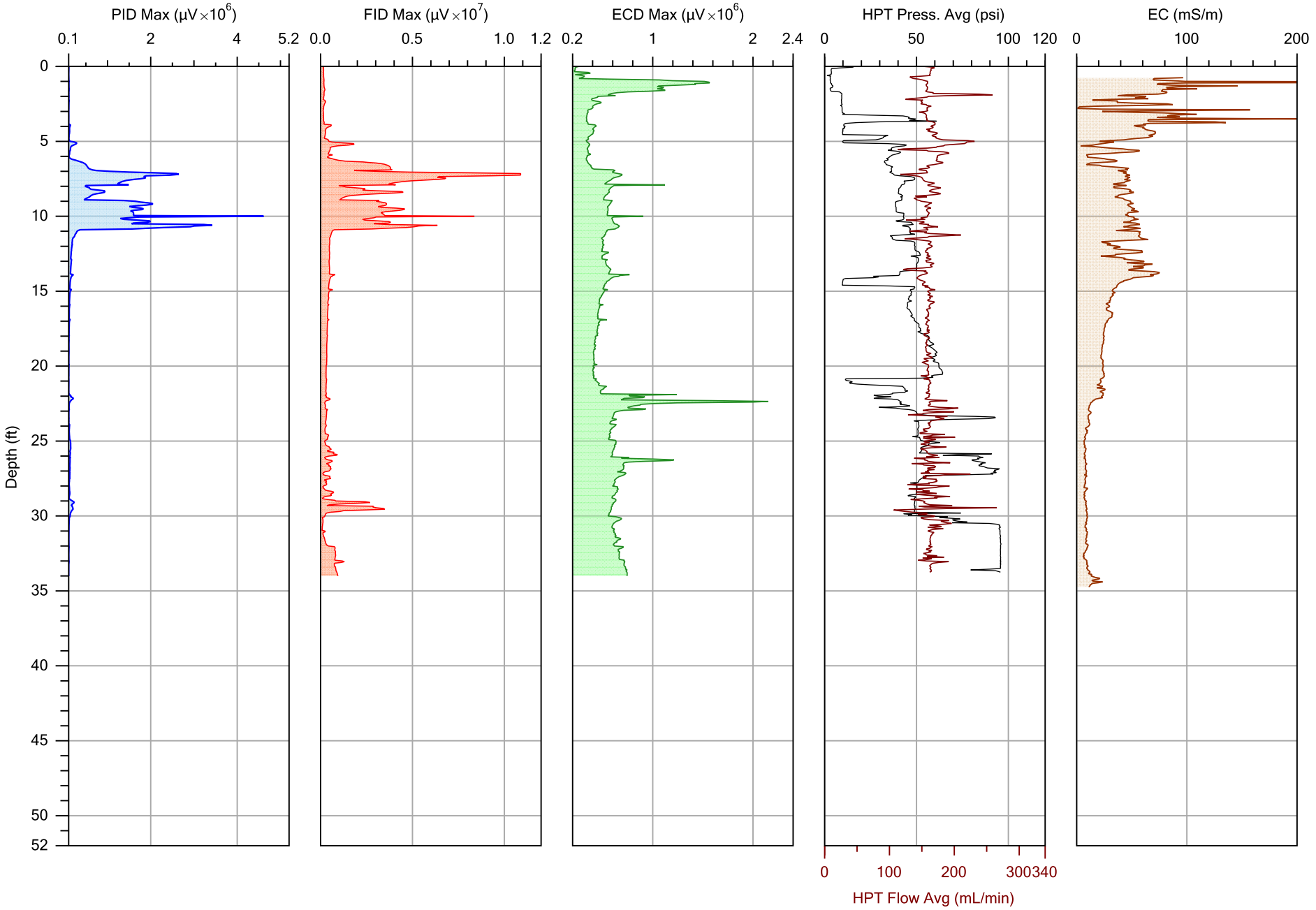


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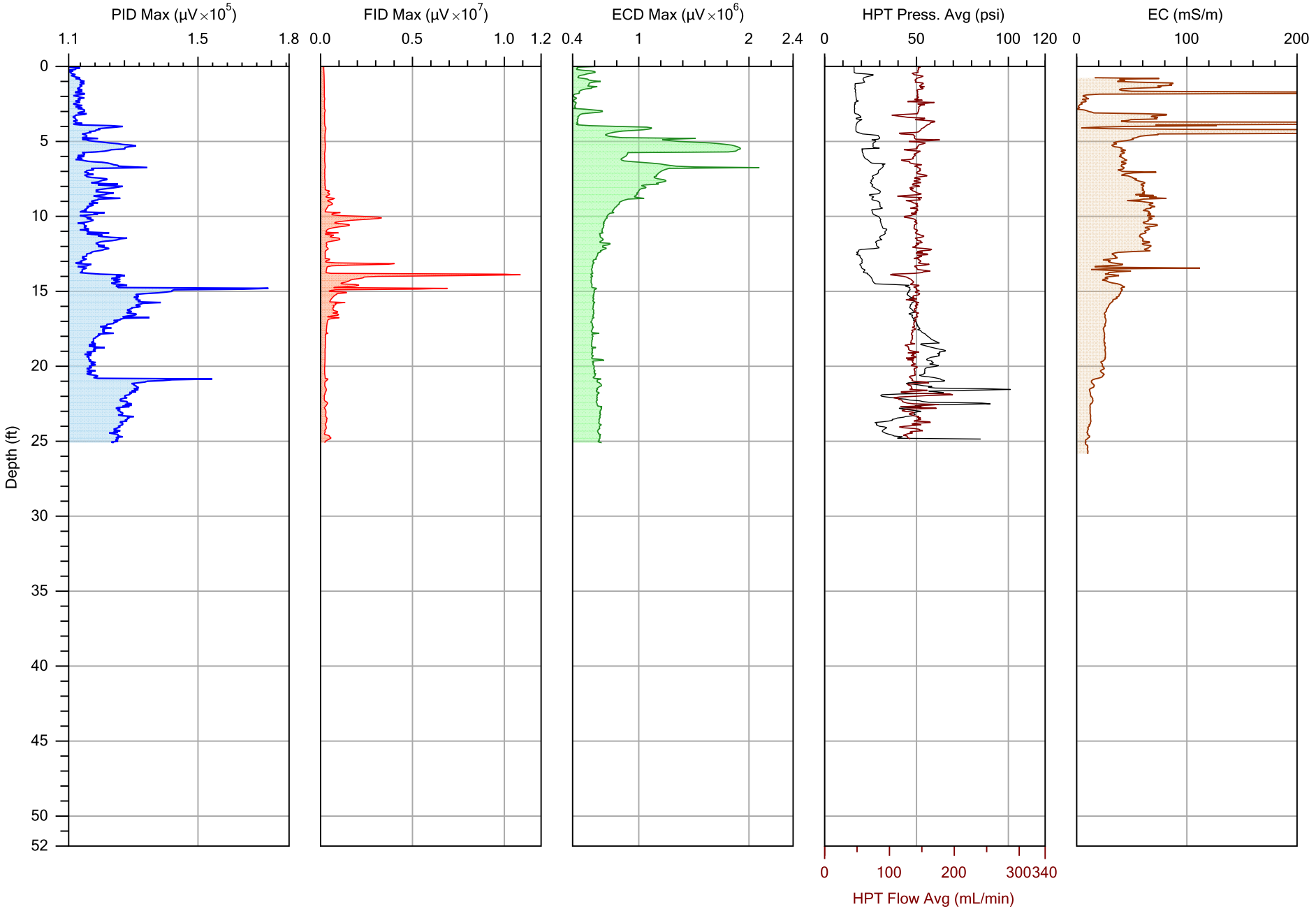


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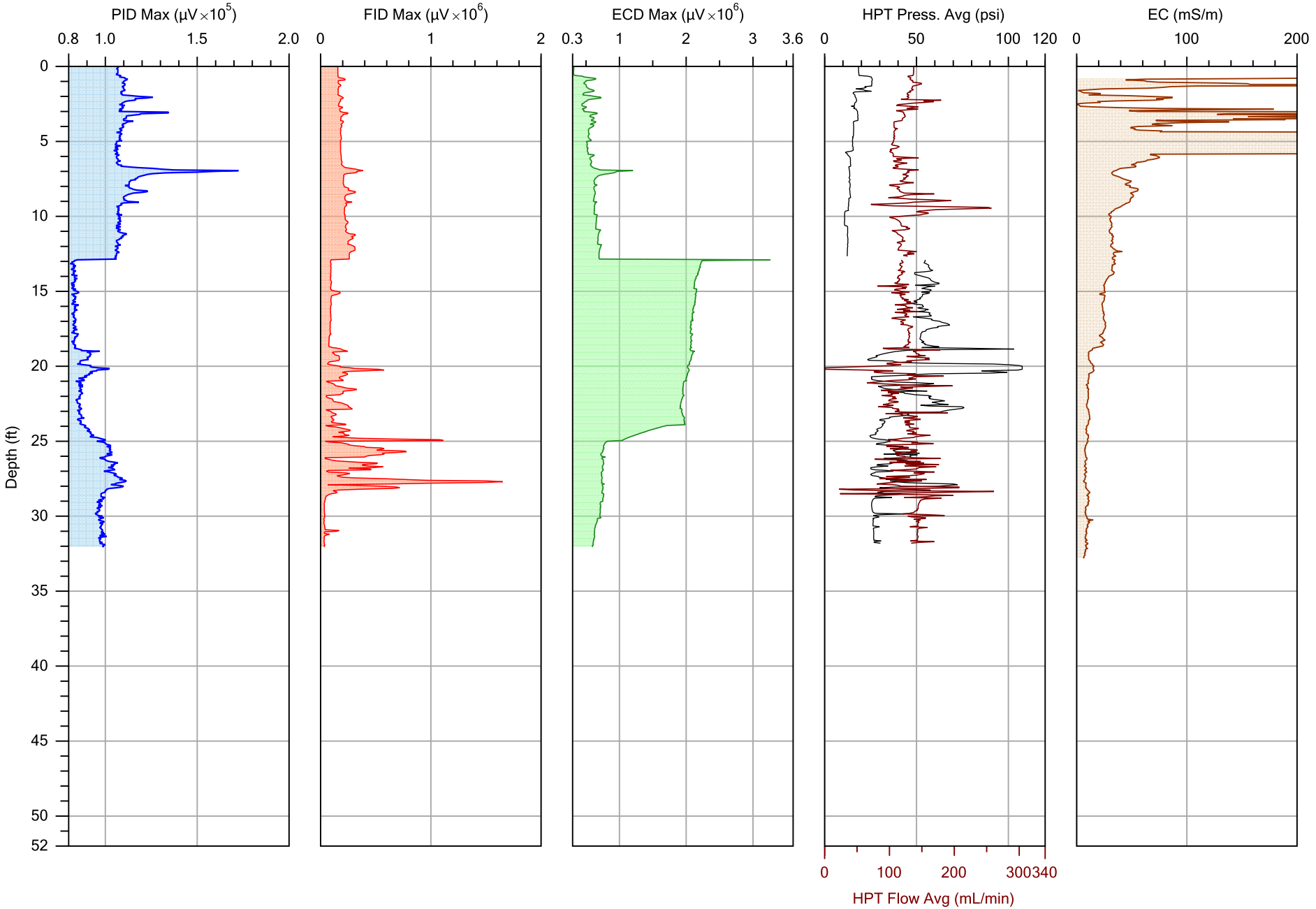


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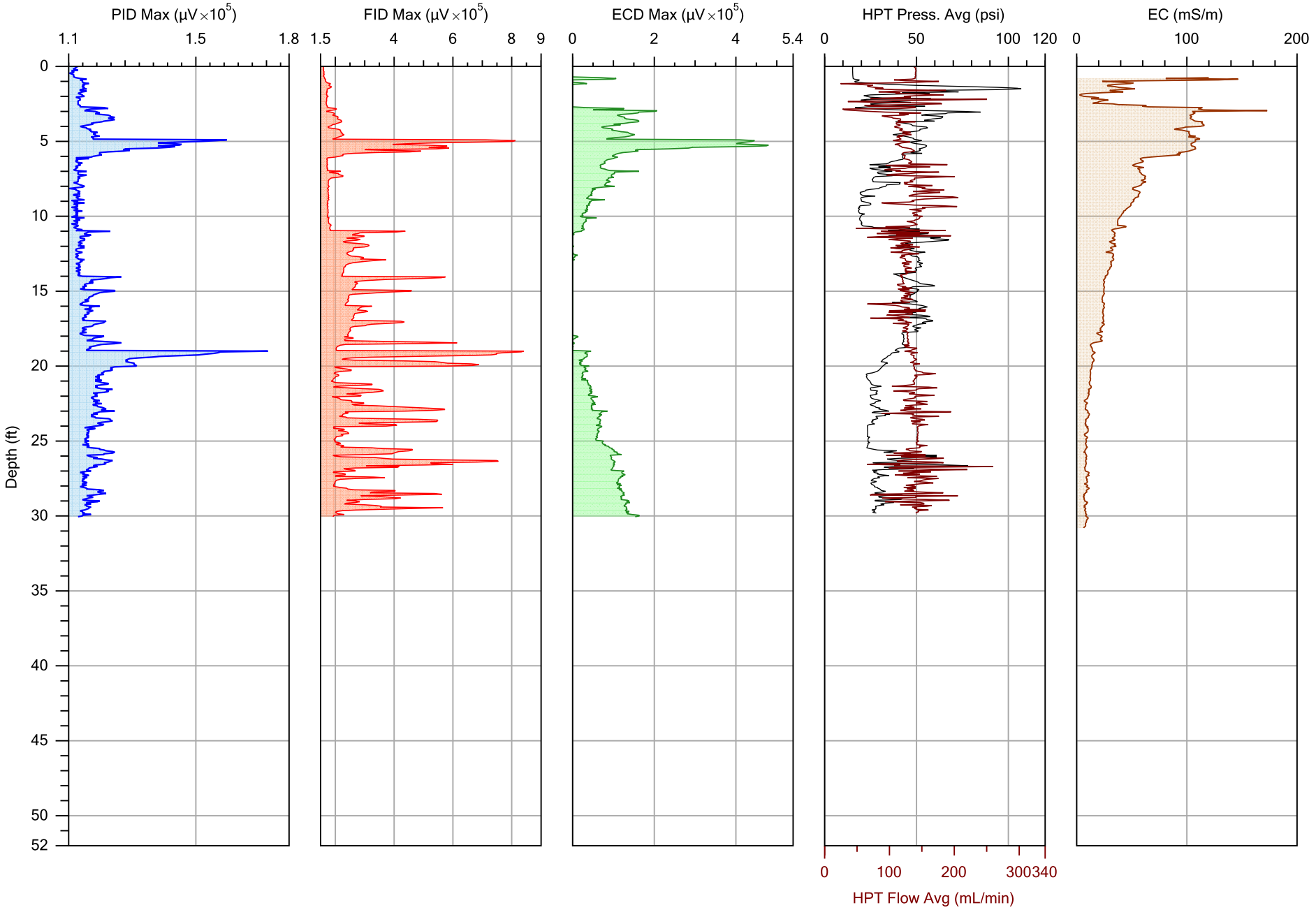


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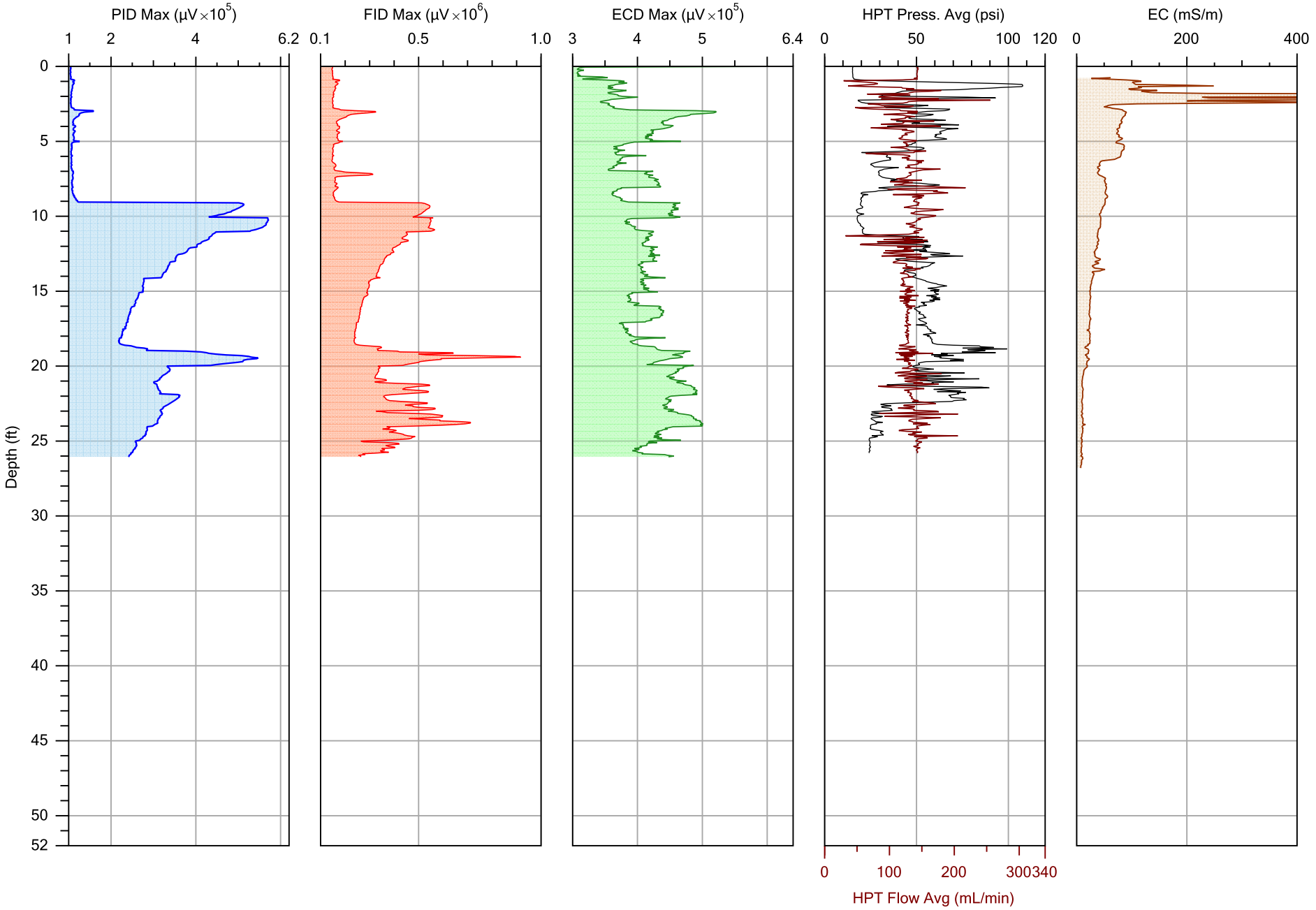


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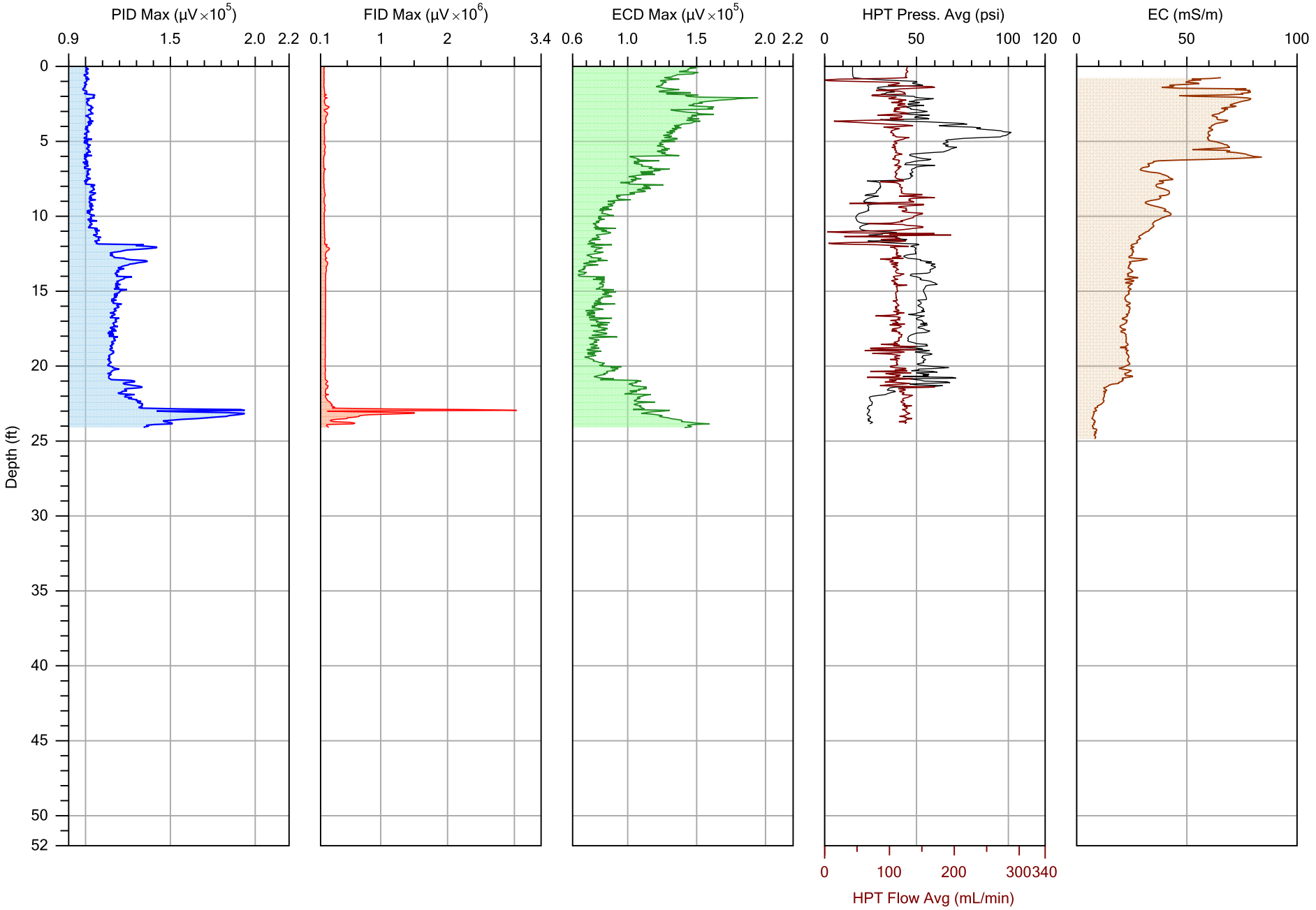


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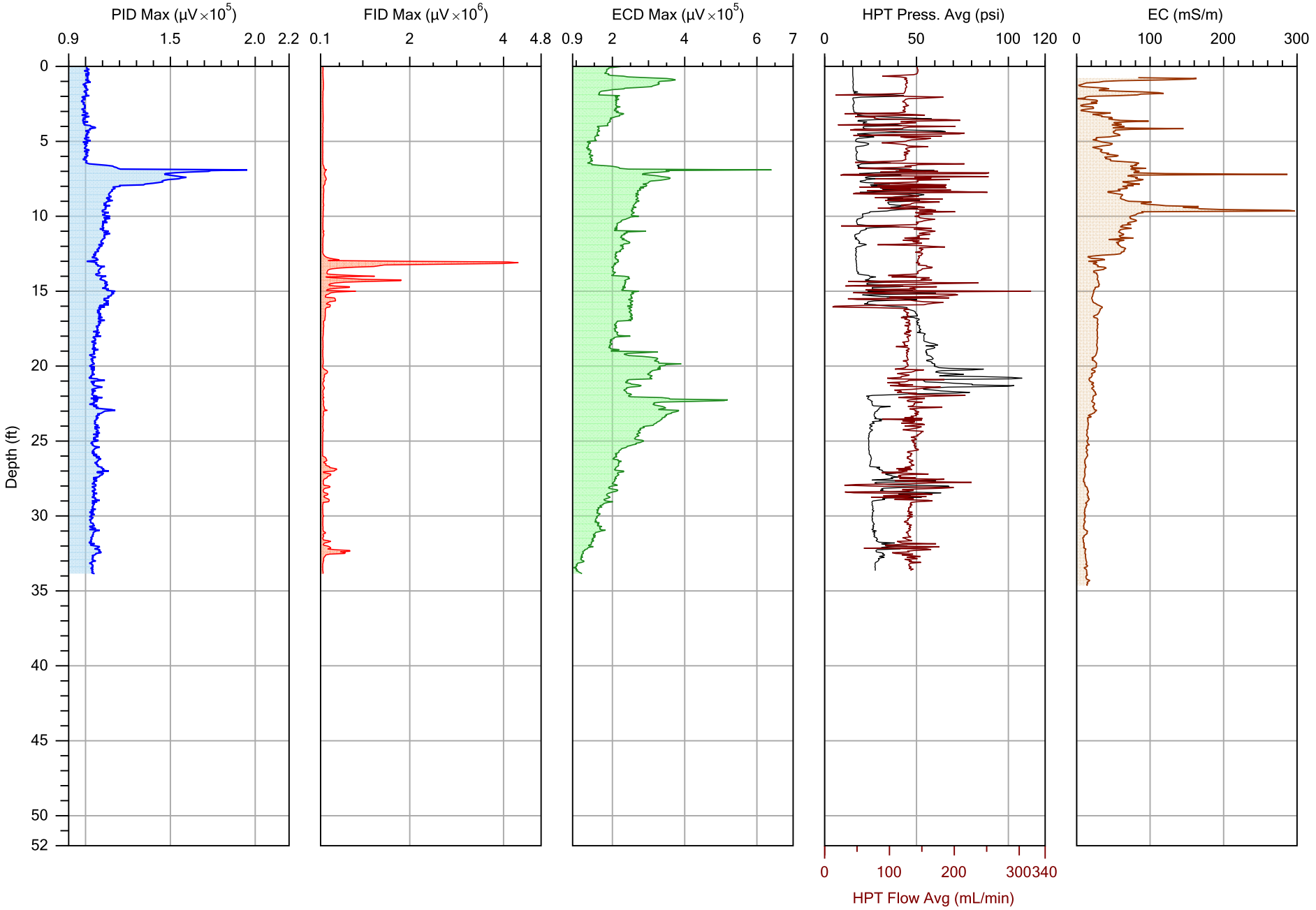


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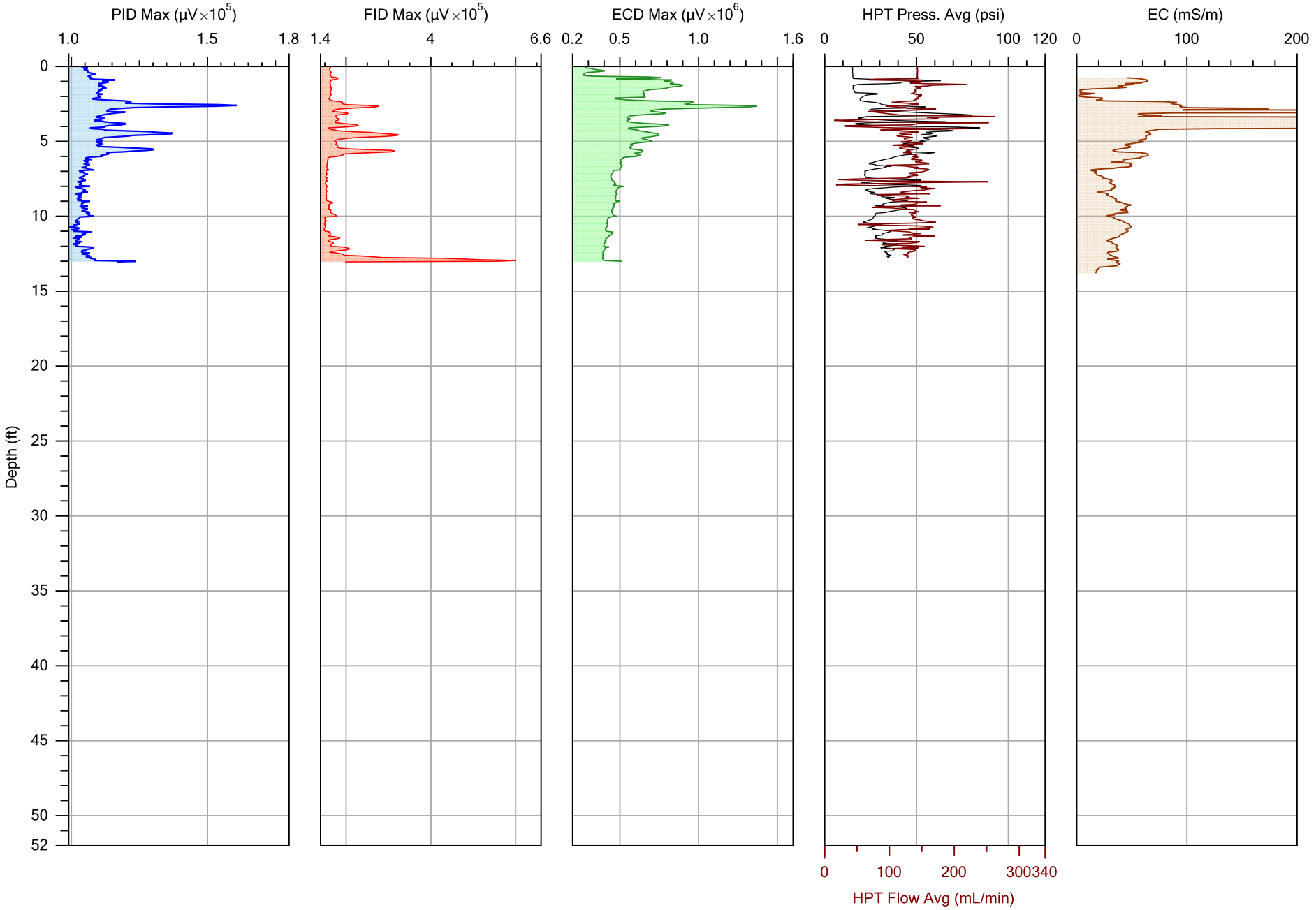


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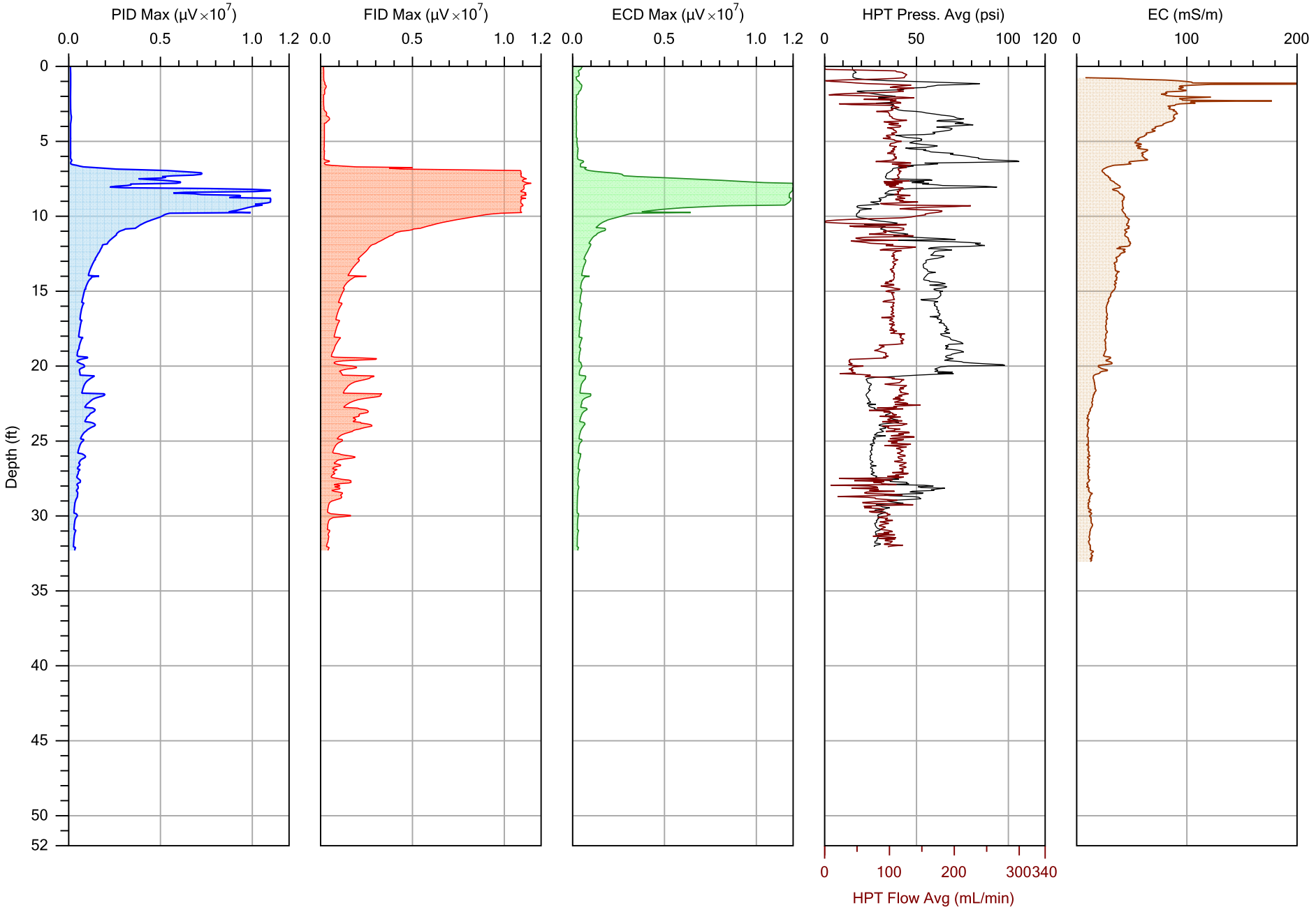


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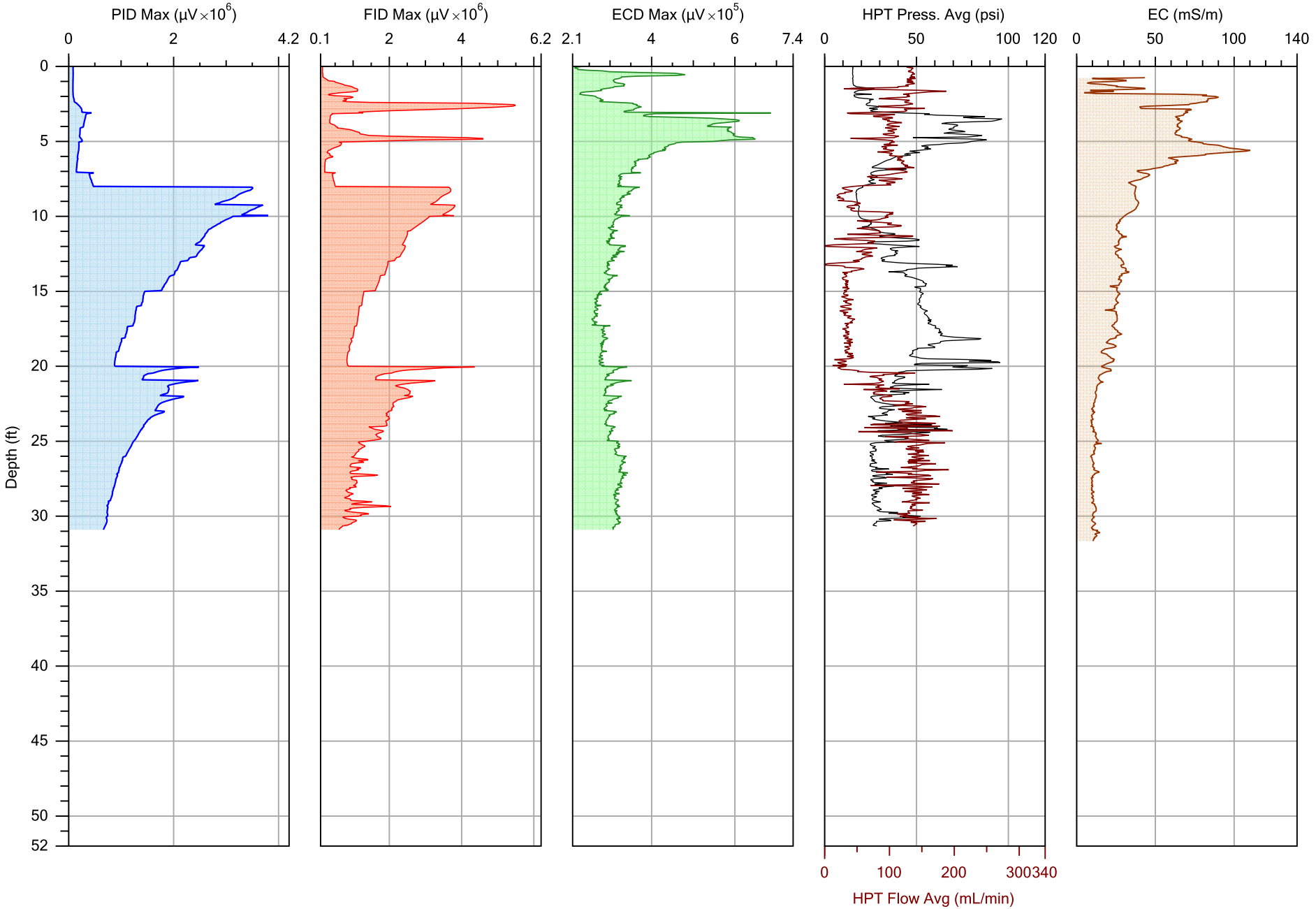




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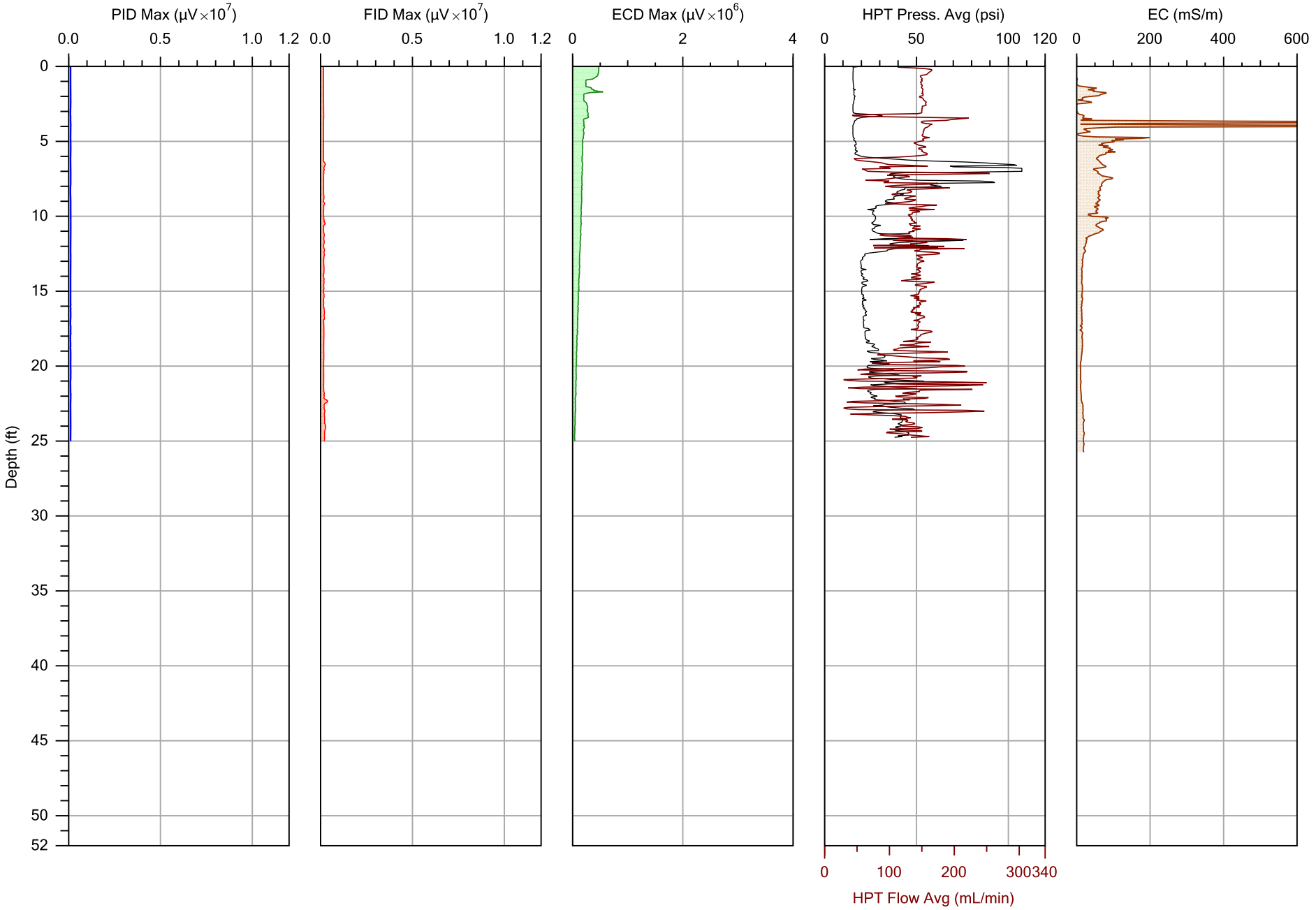




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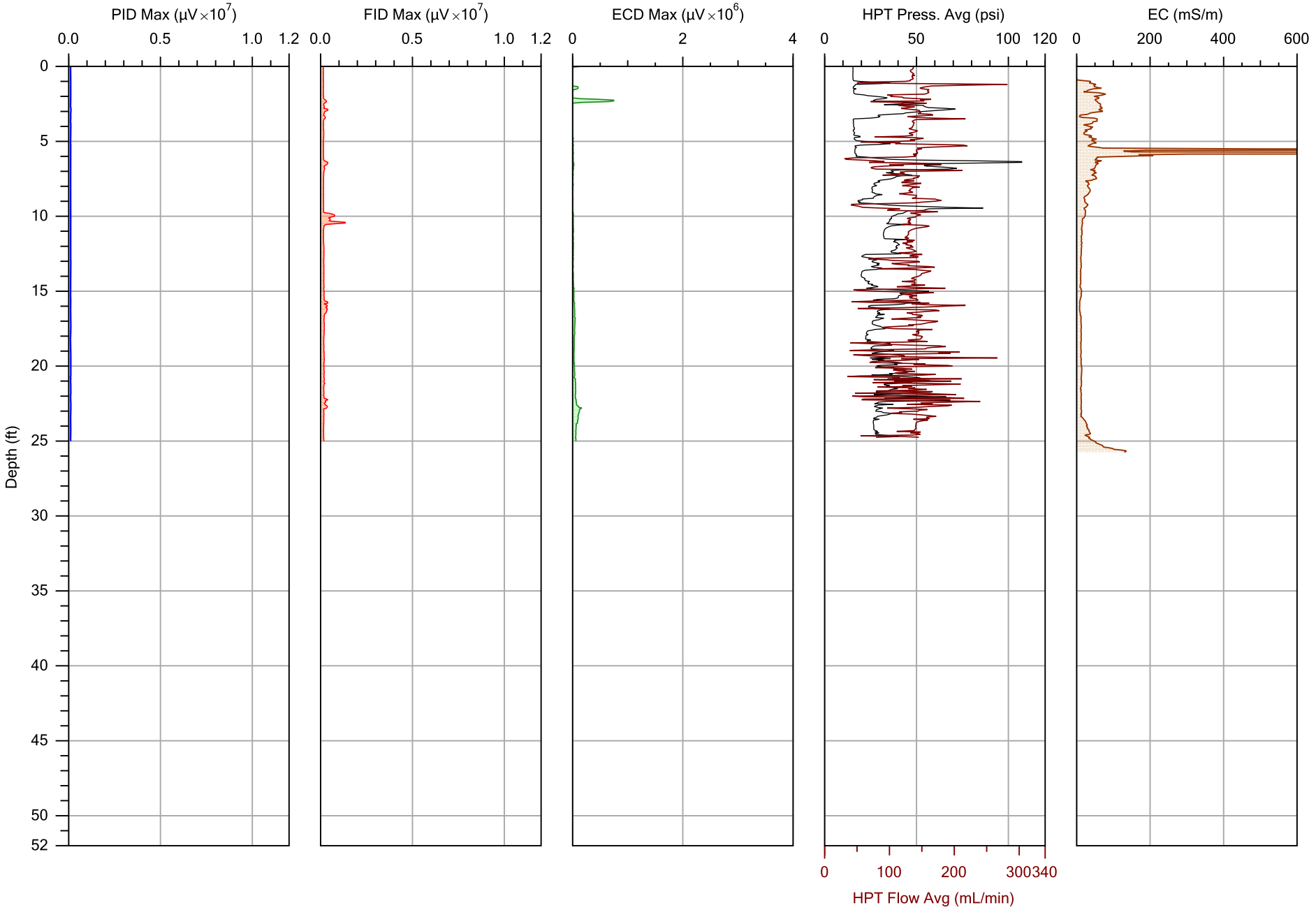
APPENDIX E – Data Logs for Membrane Interface Probe with Hydraulic Profile Tool (MiHpt), Collective Scale

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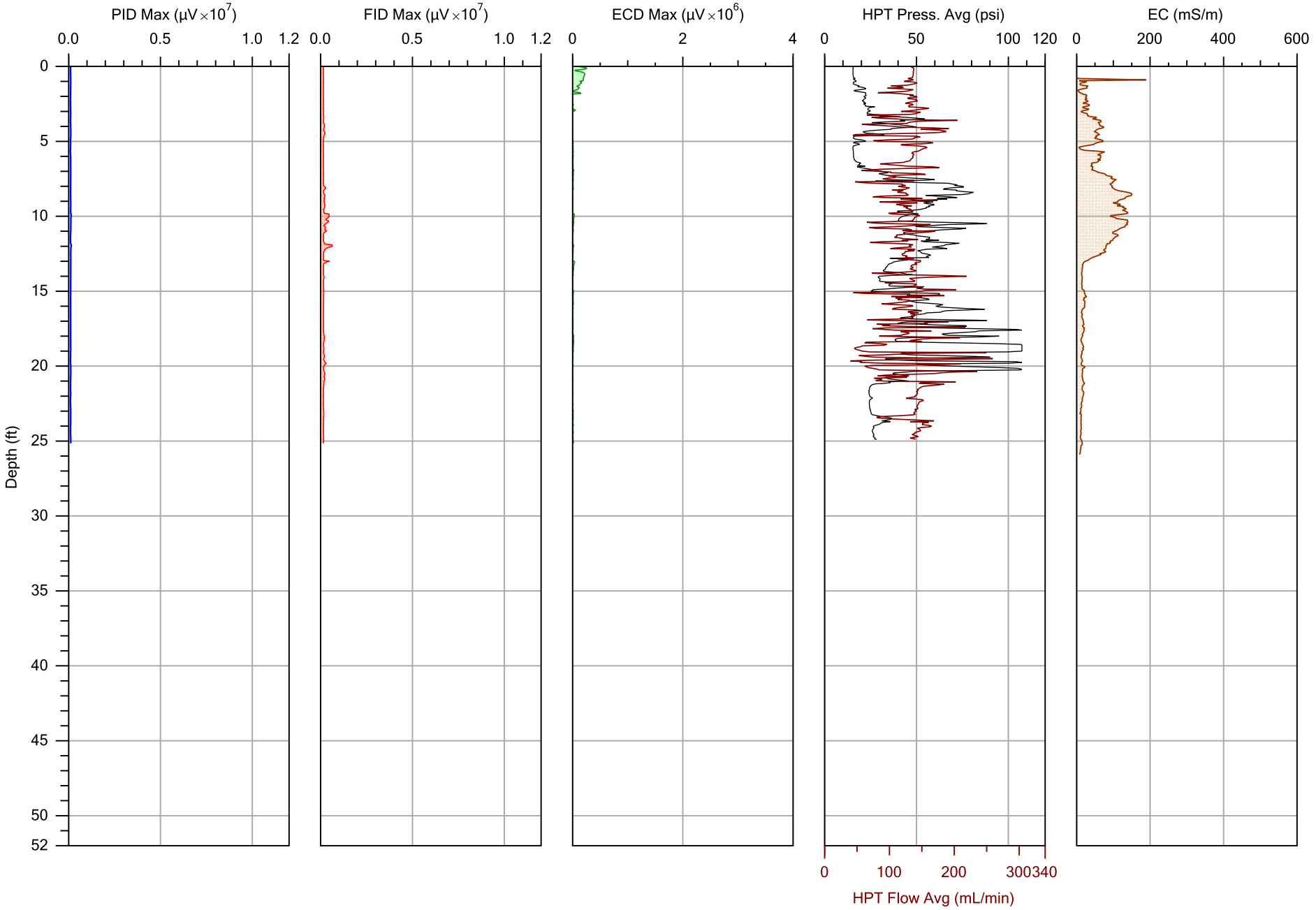


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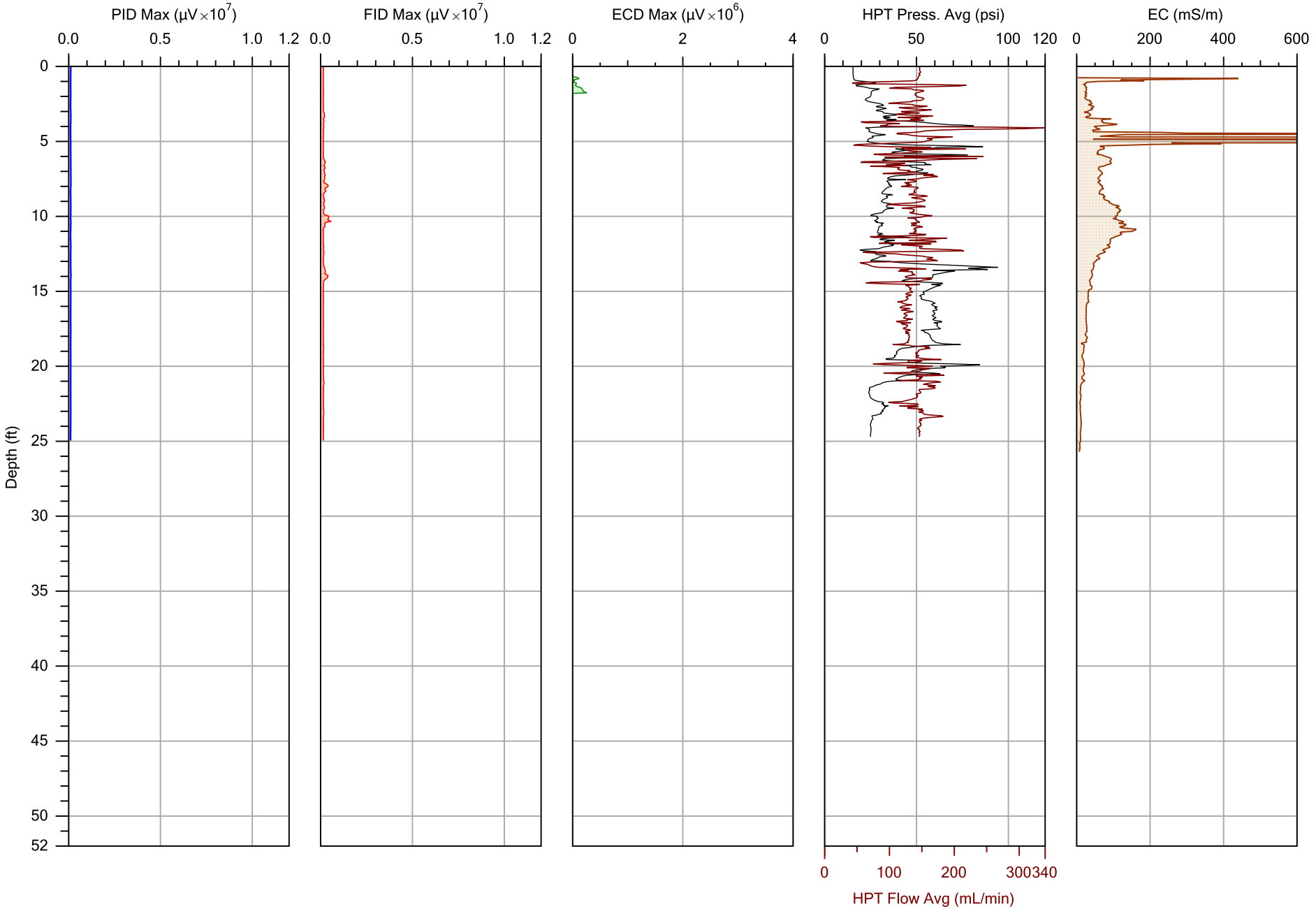


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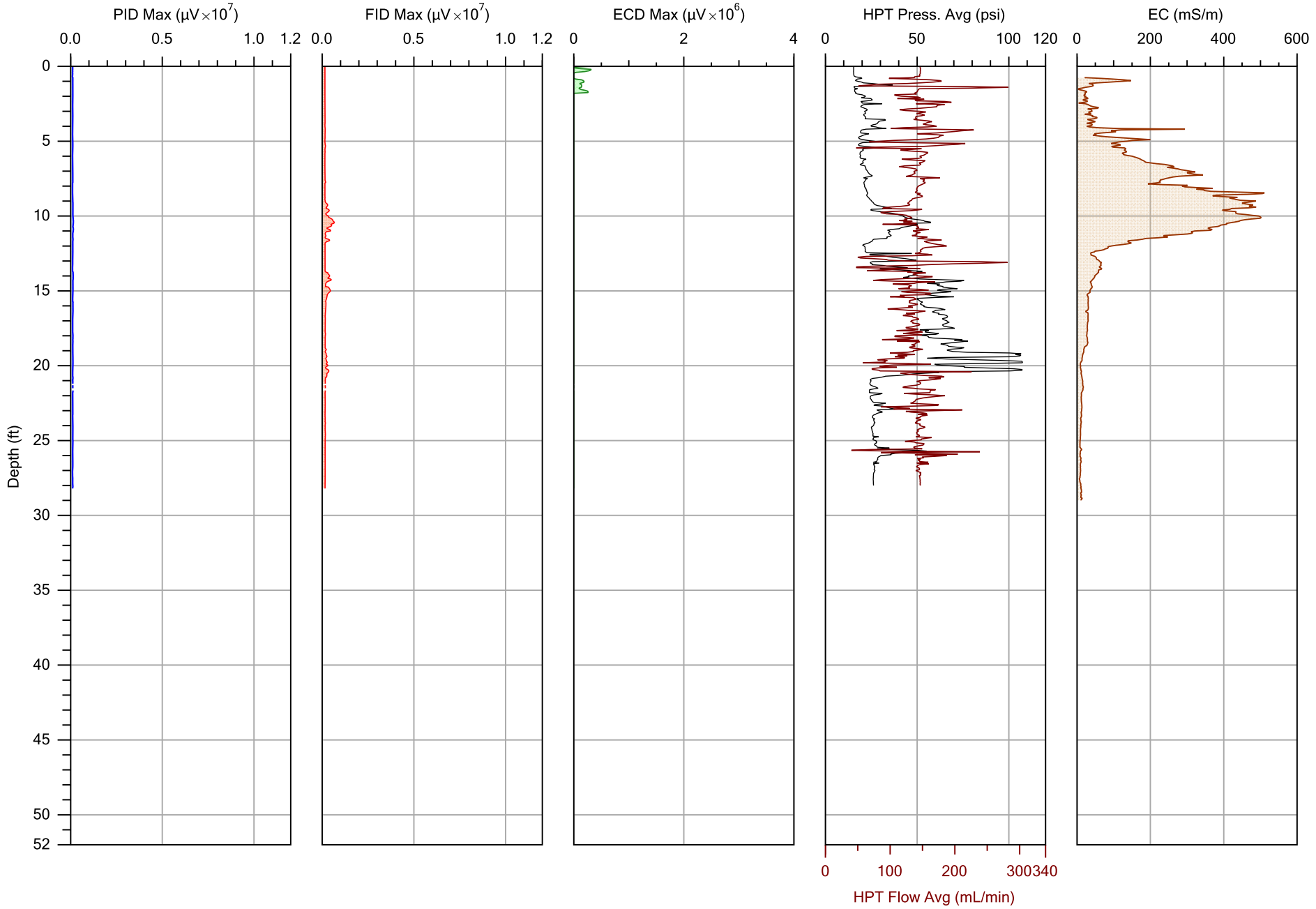


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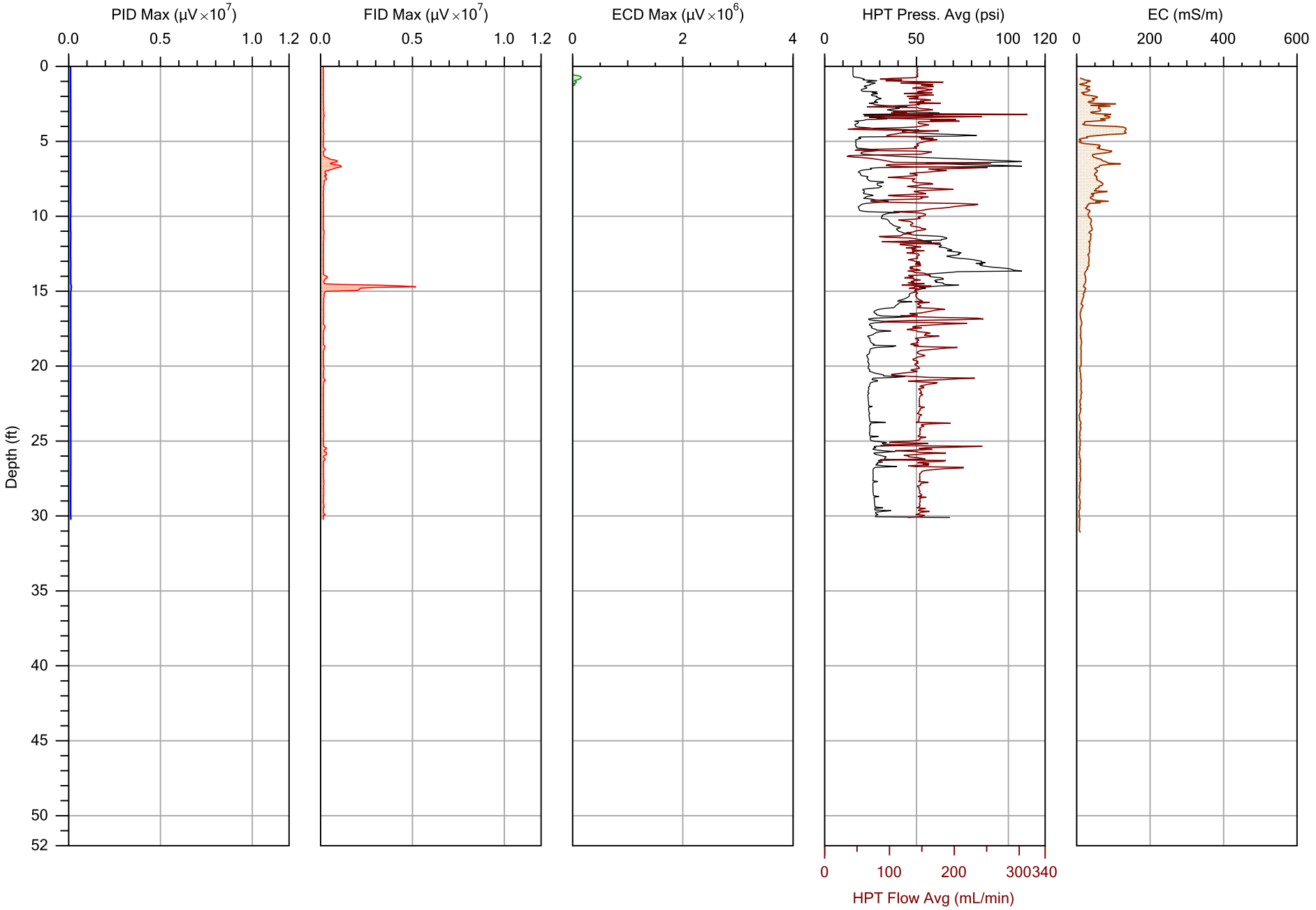


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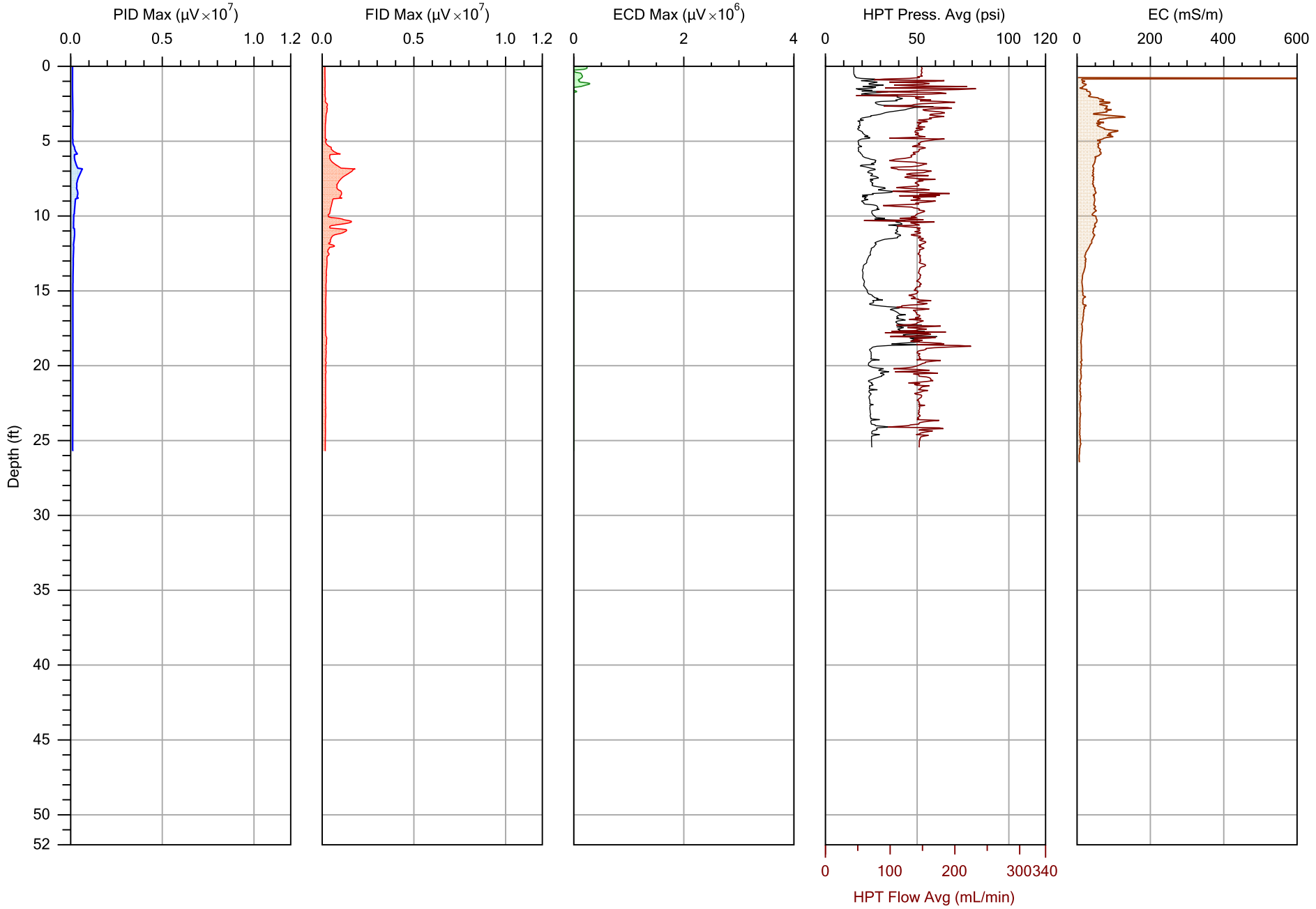


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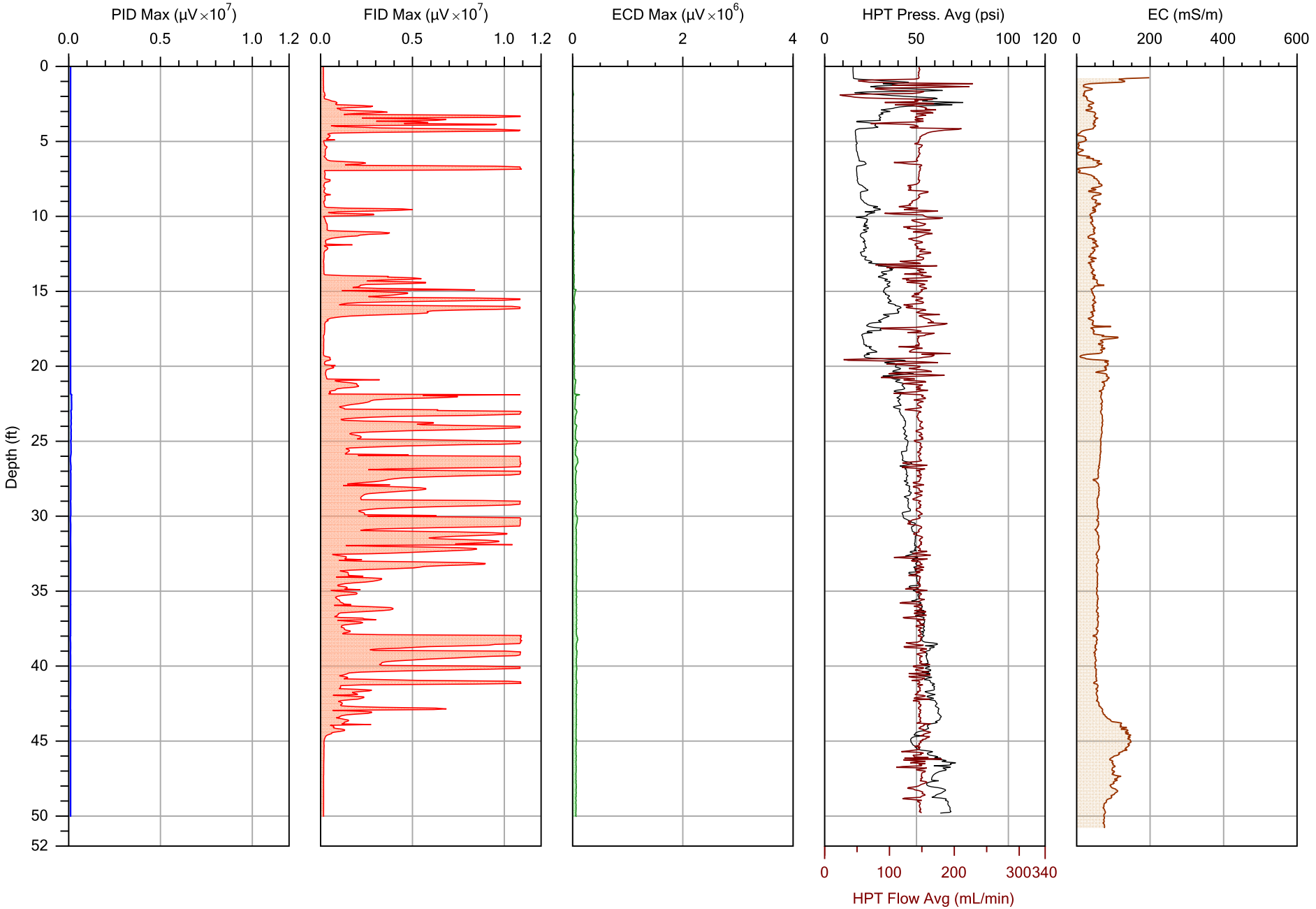


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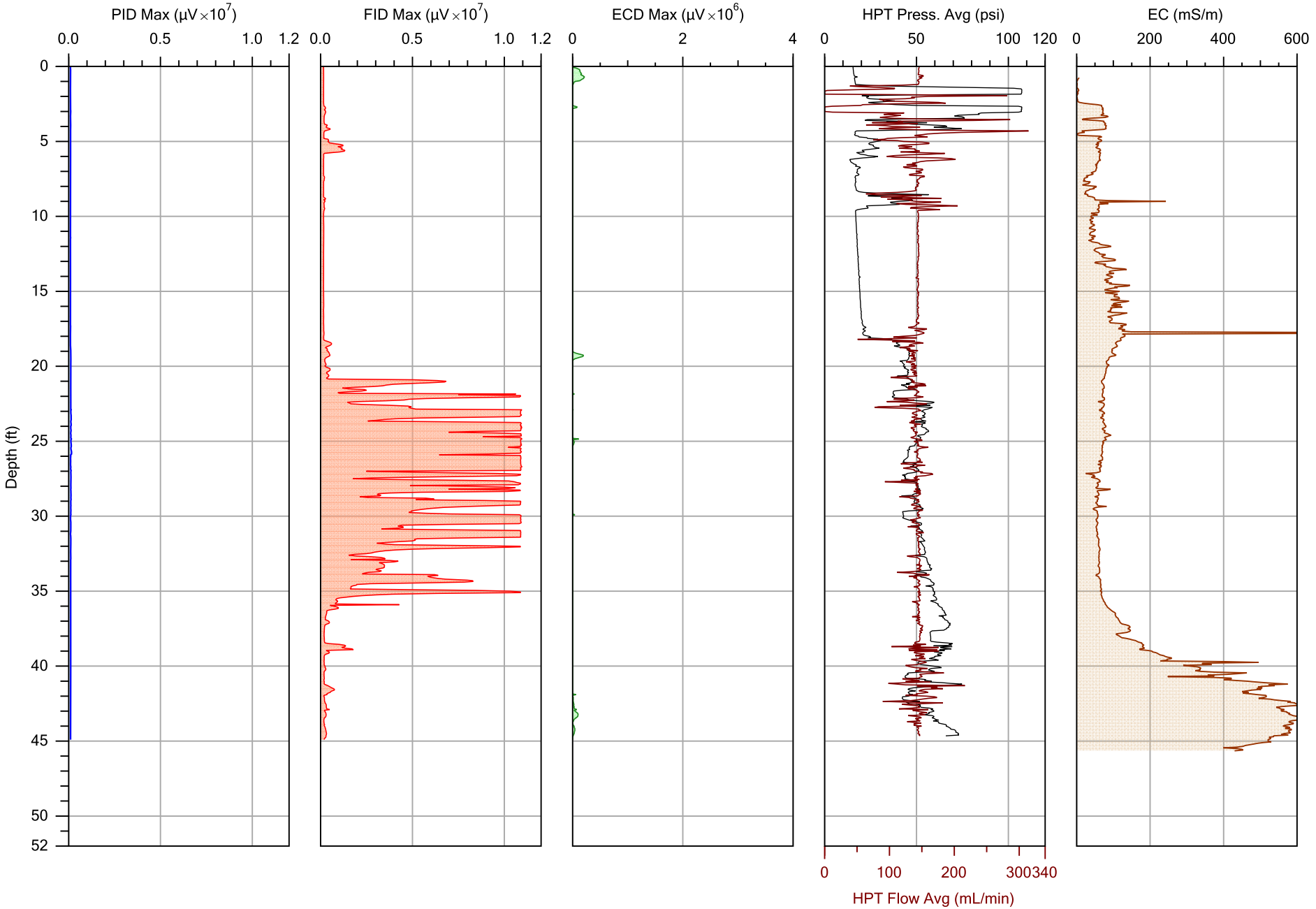


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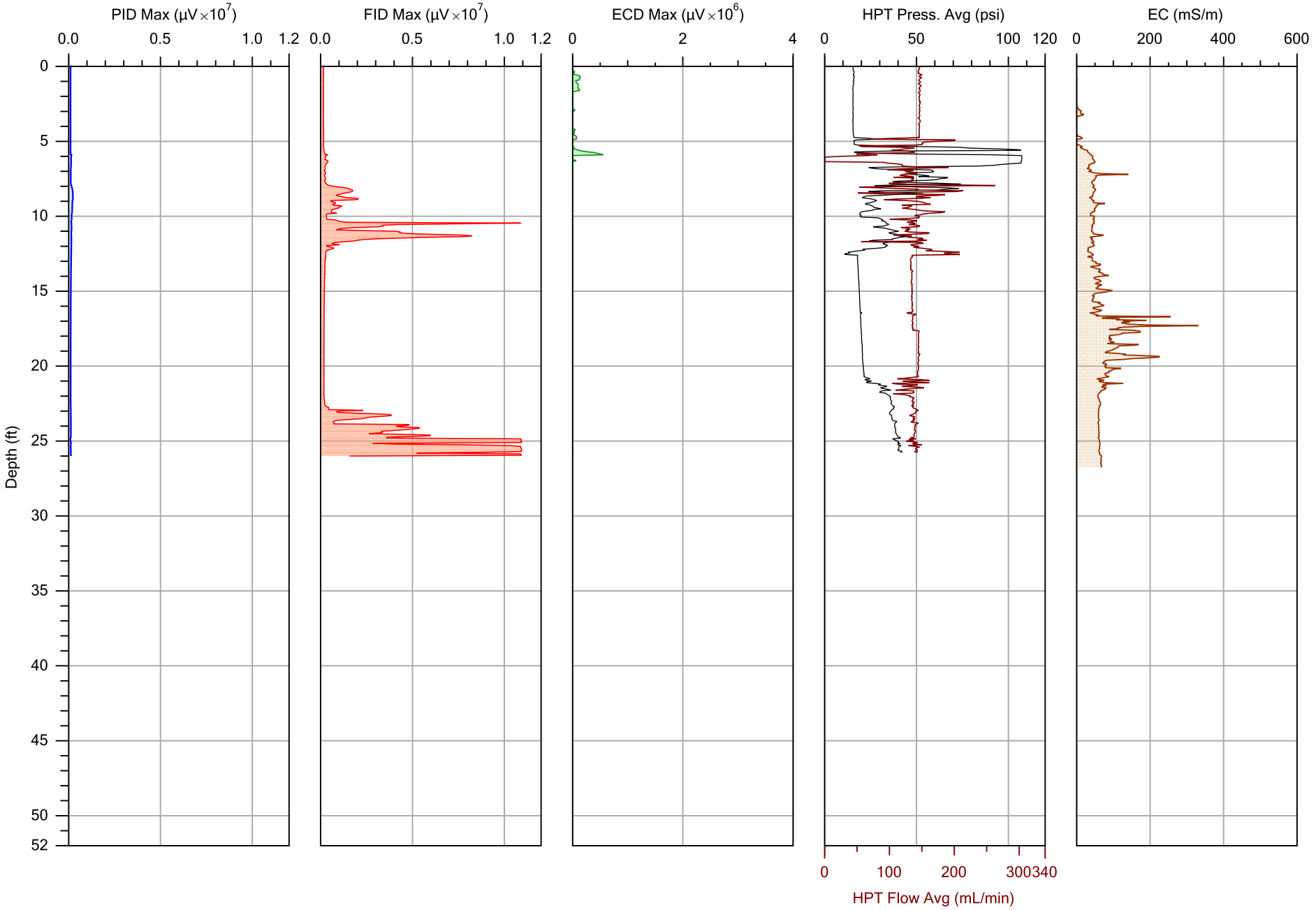


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Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



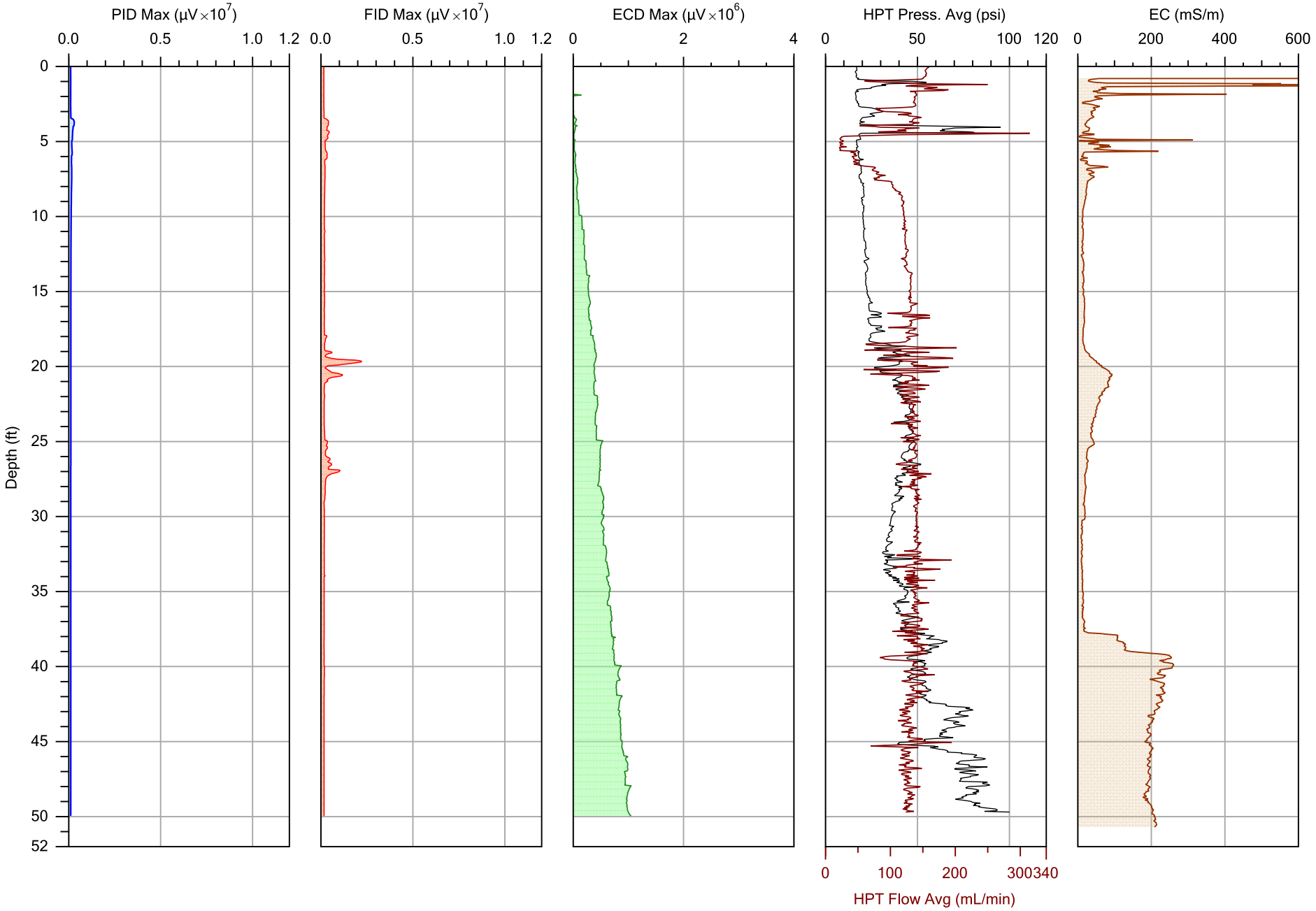


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Company: COLUMBIA Technologies	Operator: JHM	Date: 6/24/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



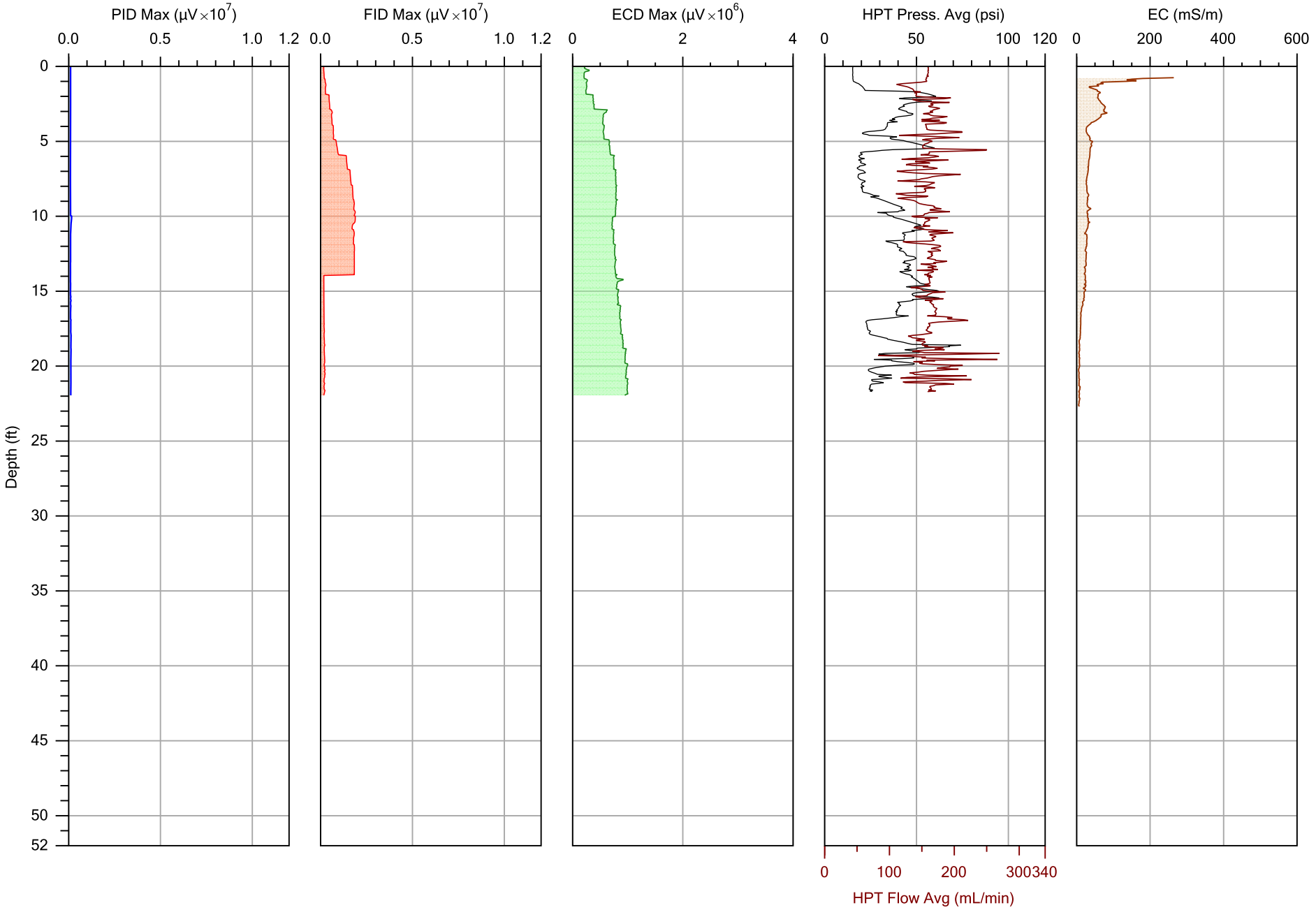


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Company: COLUMBIA Technologies	Operator: JHM	Date: 6/24/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



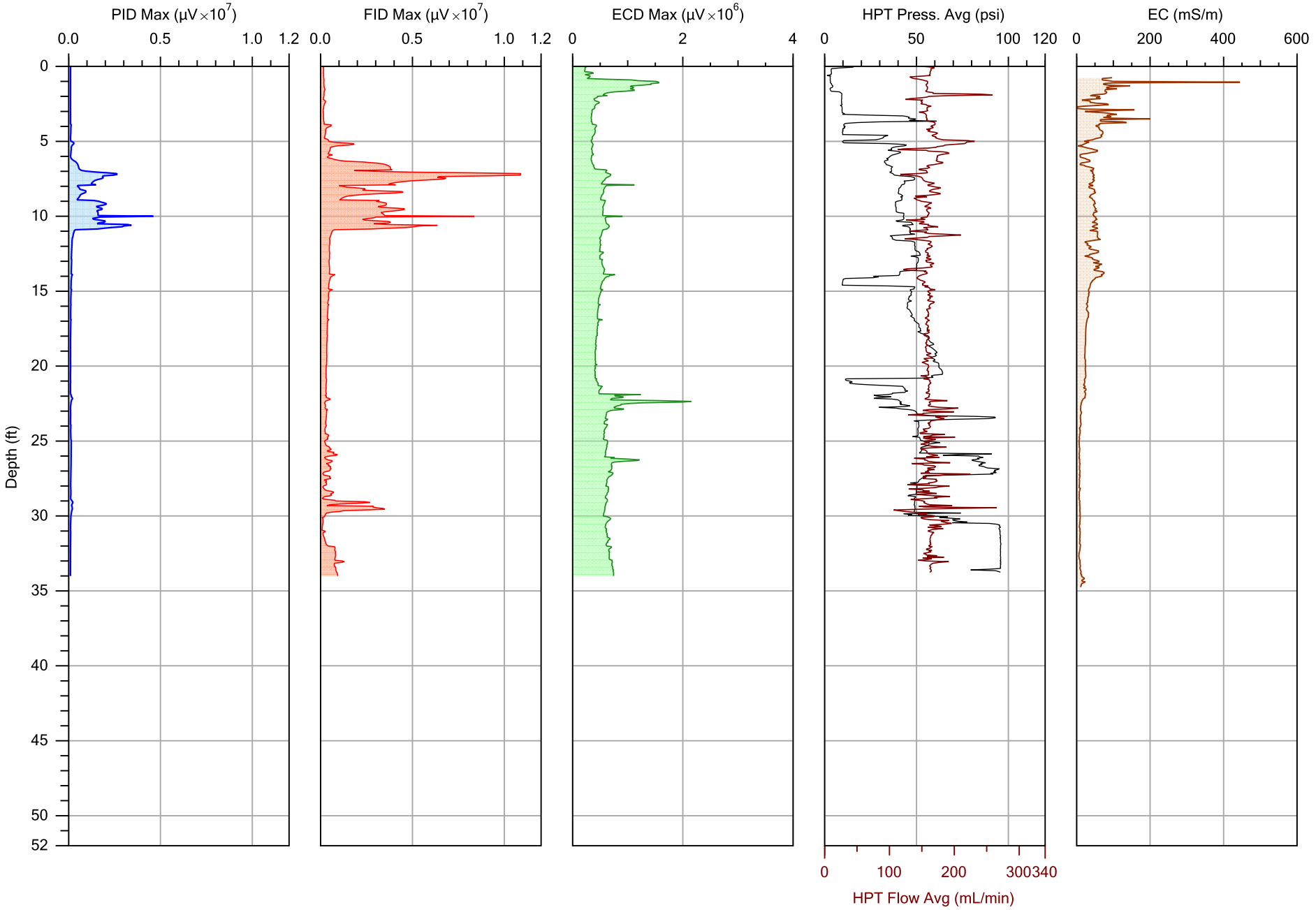


		File: MIHPT-11.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/5/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



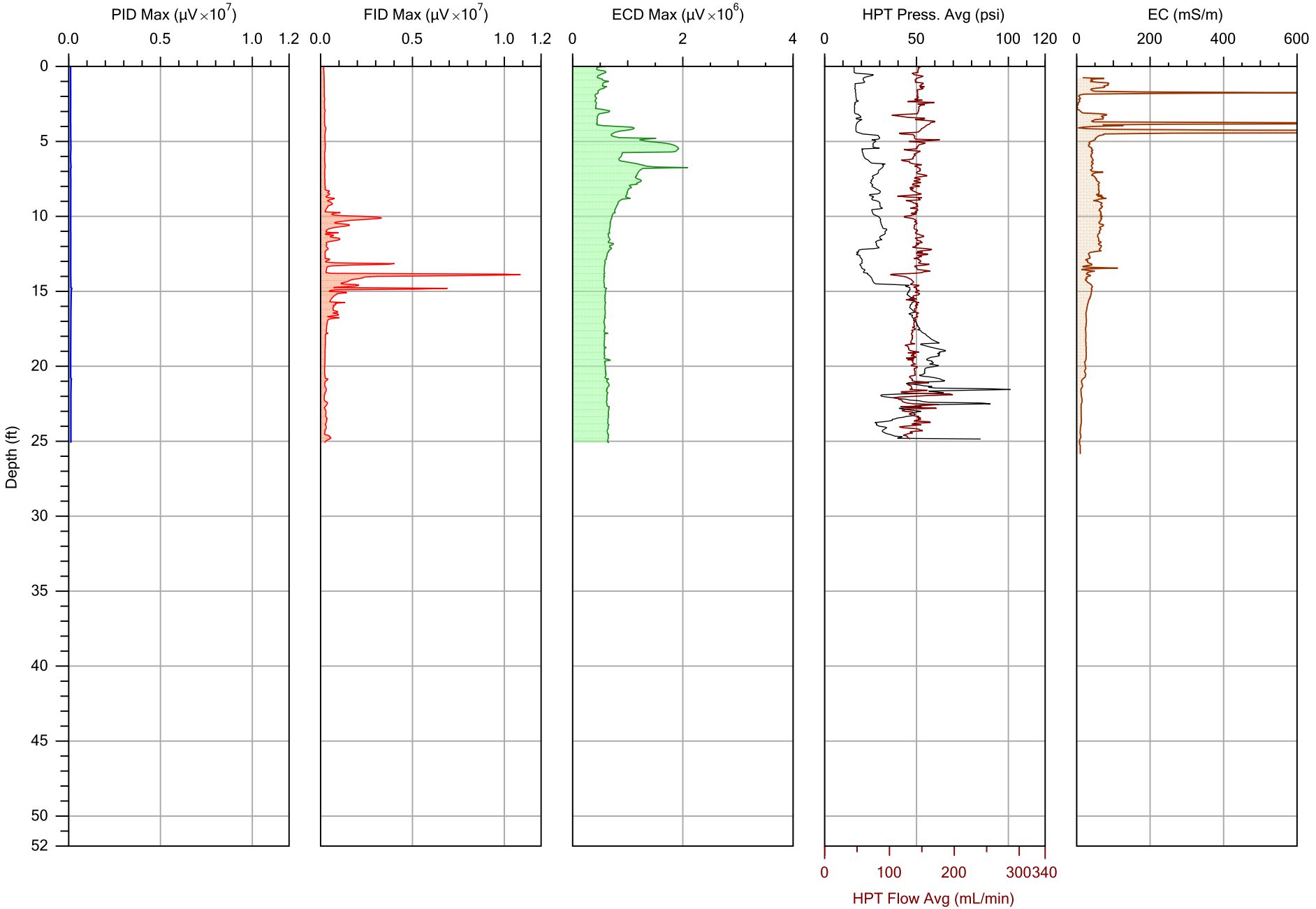


		File: MIHPT-12.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/6/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



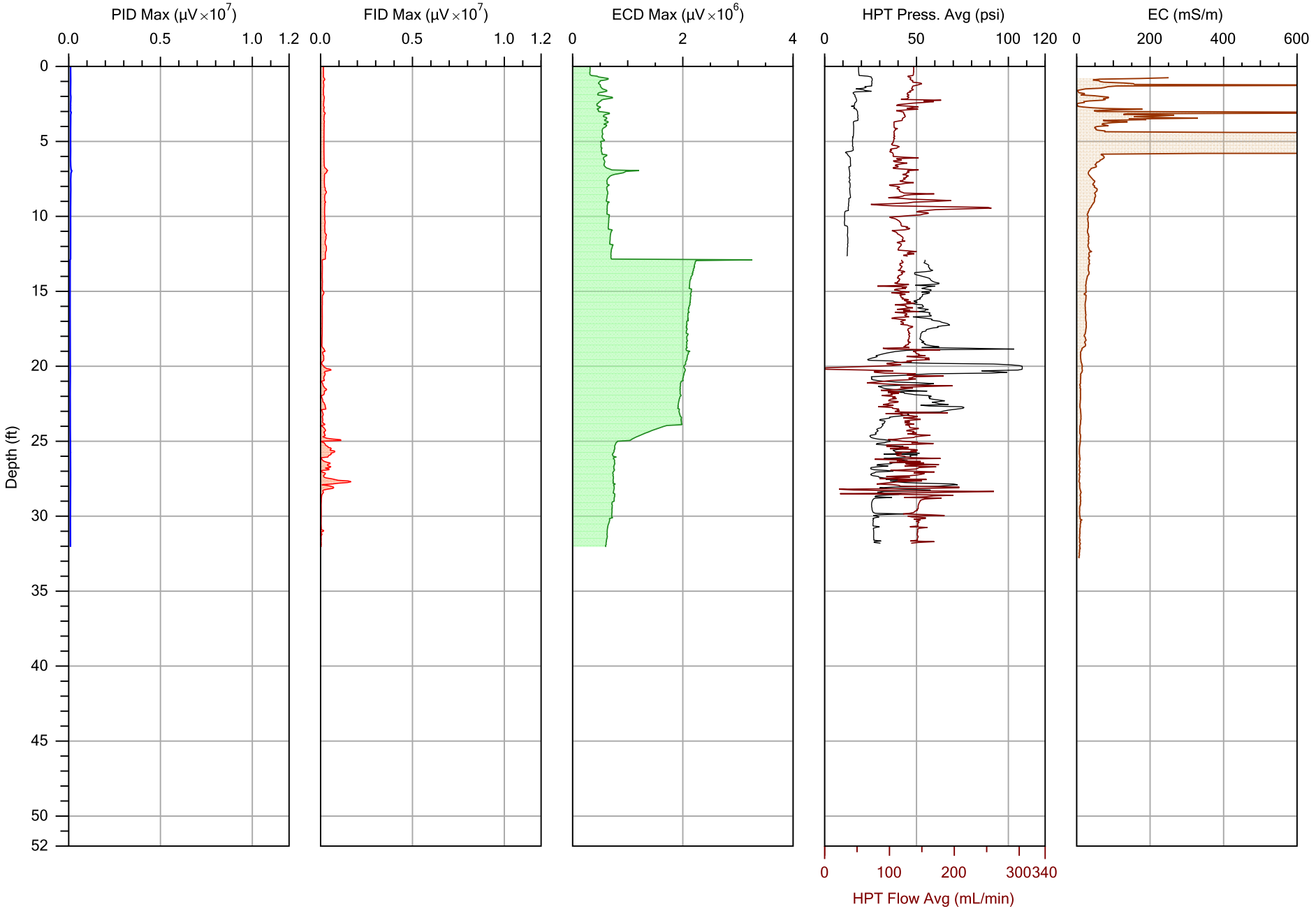


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Company: COLUMBIA Technologies	Operator: JHM	Date: 7/6/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



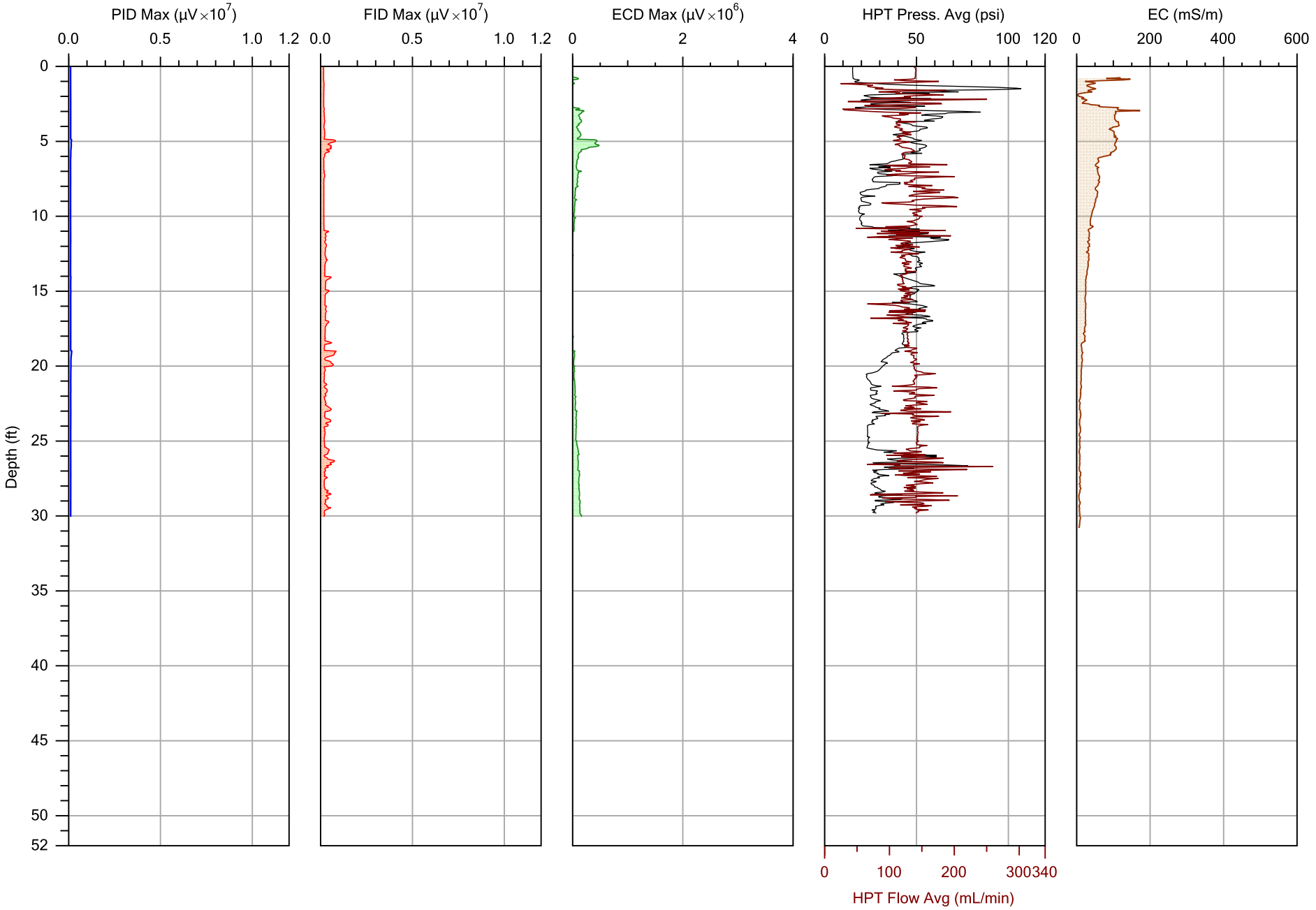


		File: MIHPT-14.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/6/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



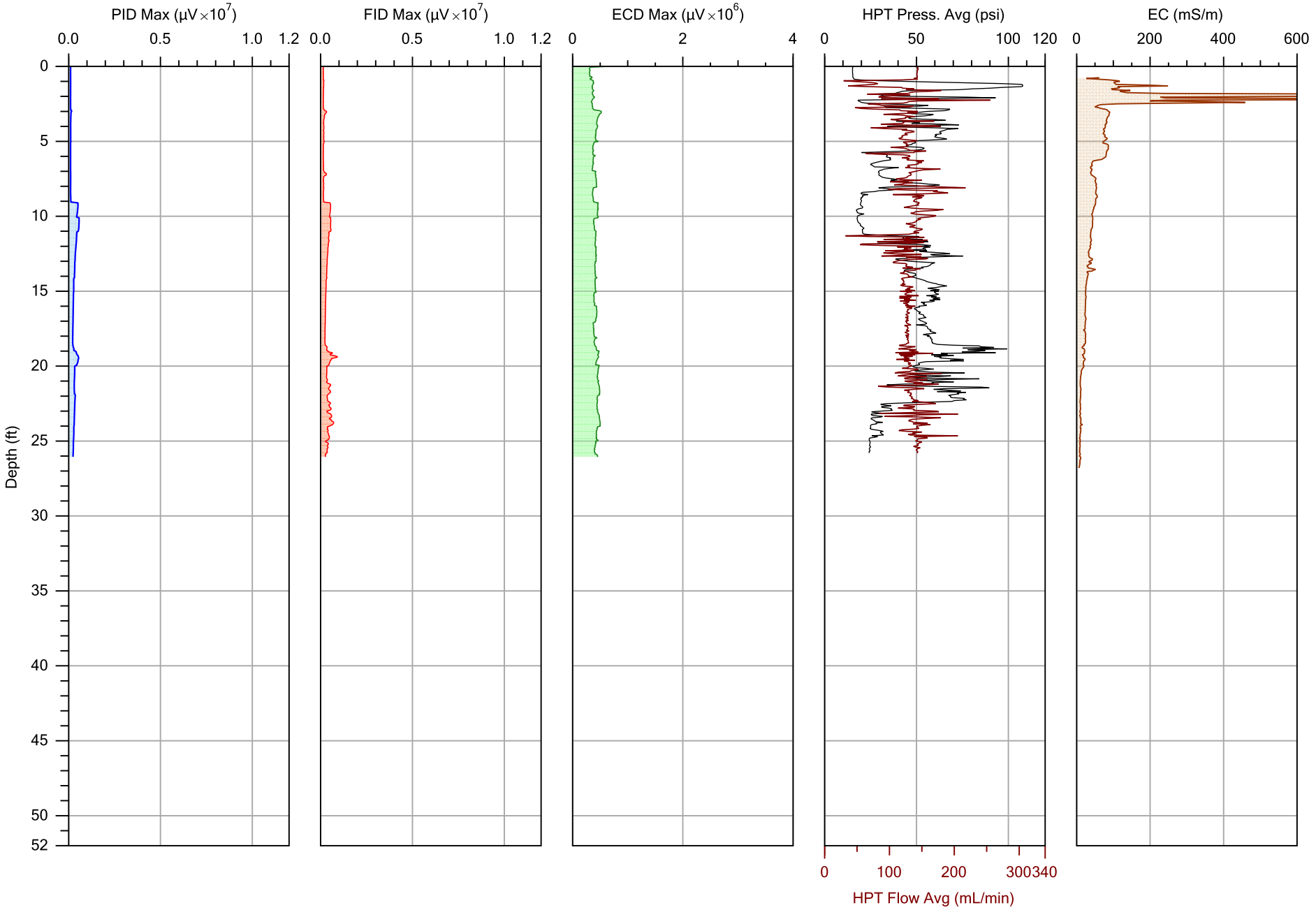


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Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



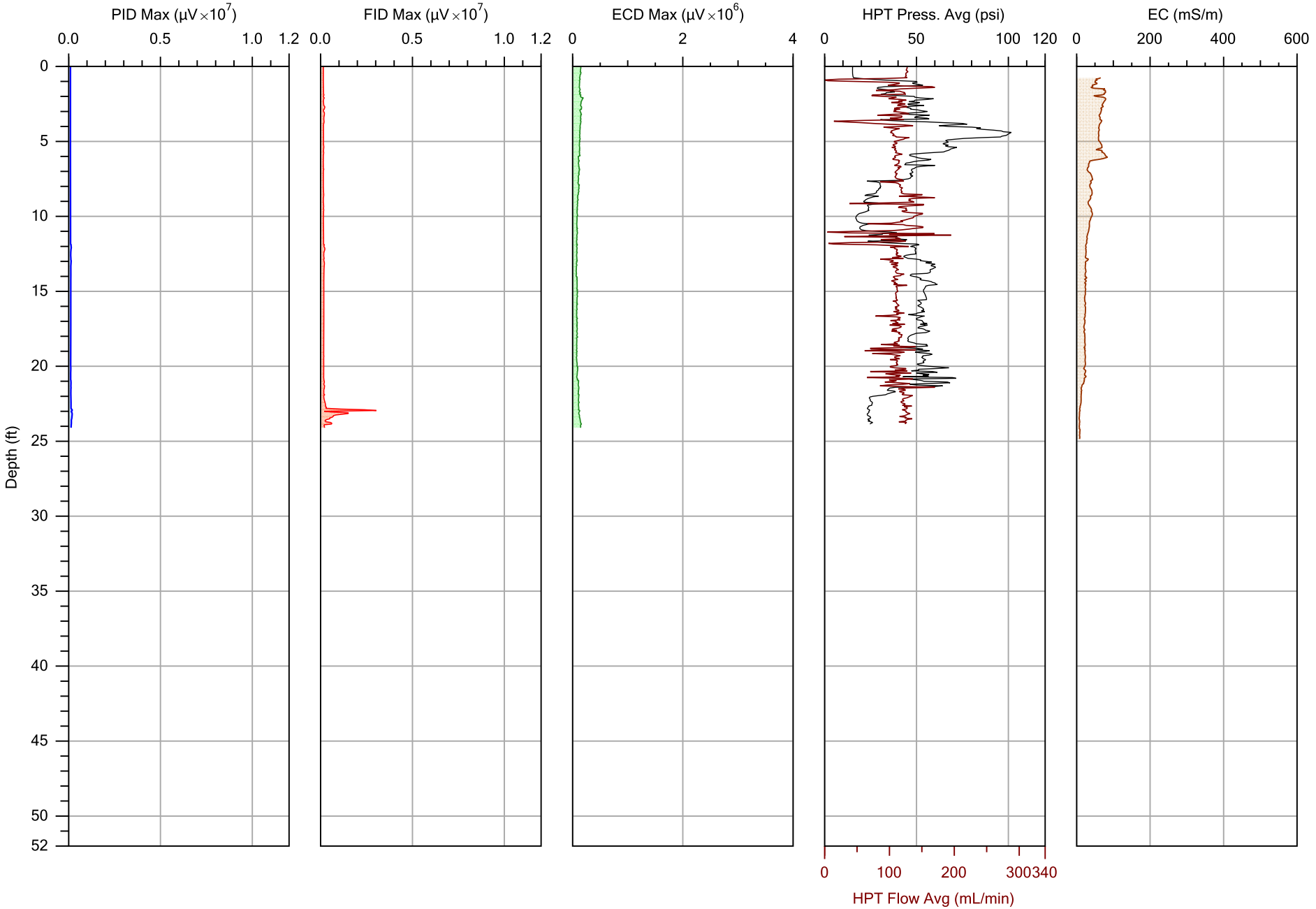


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Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



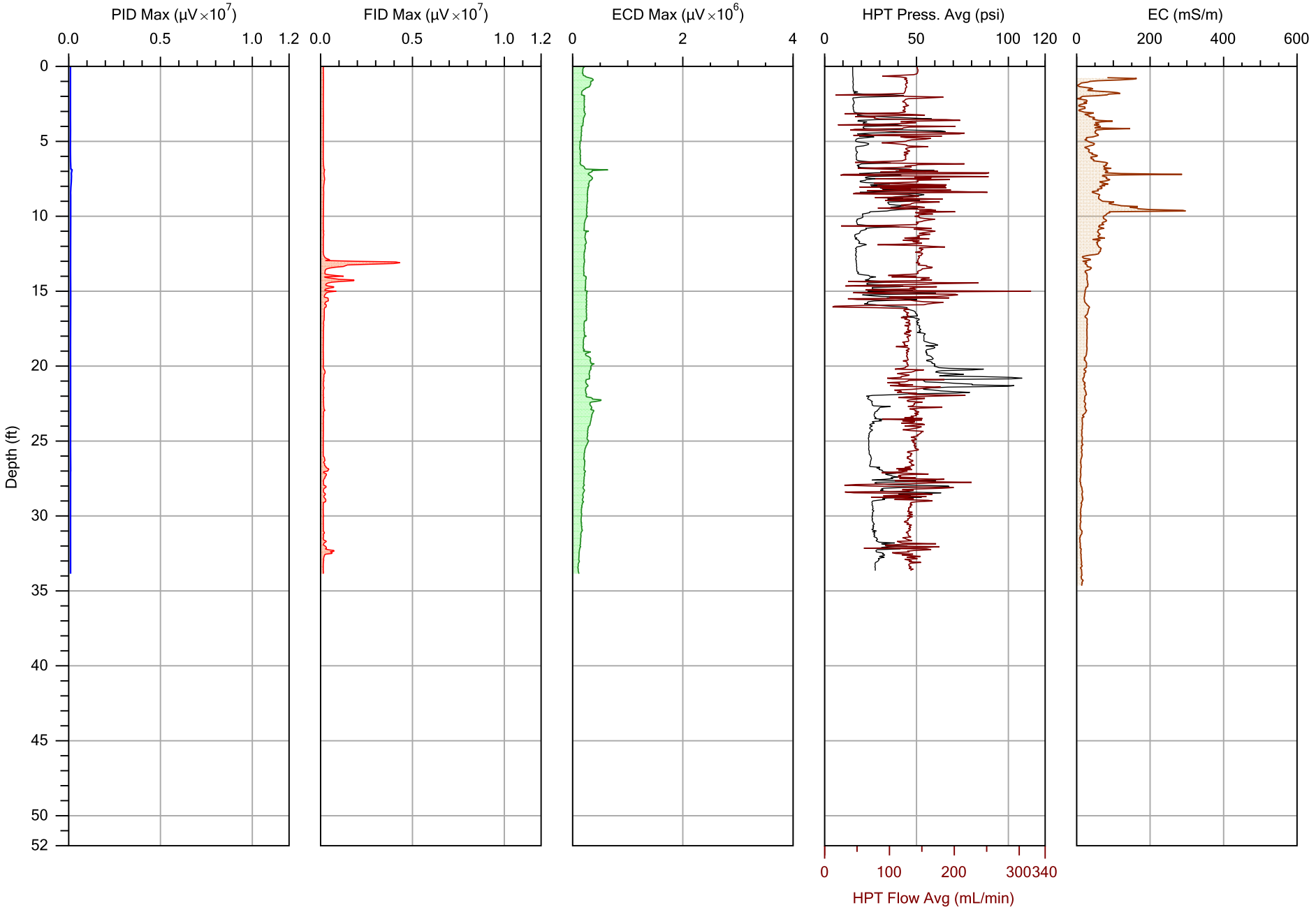


		File: MIHPT-17.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



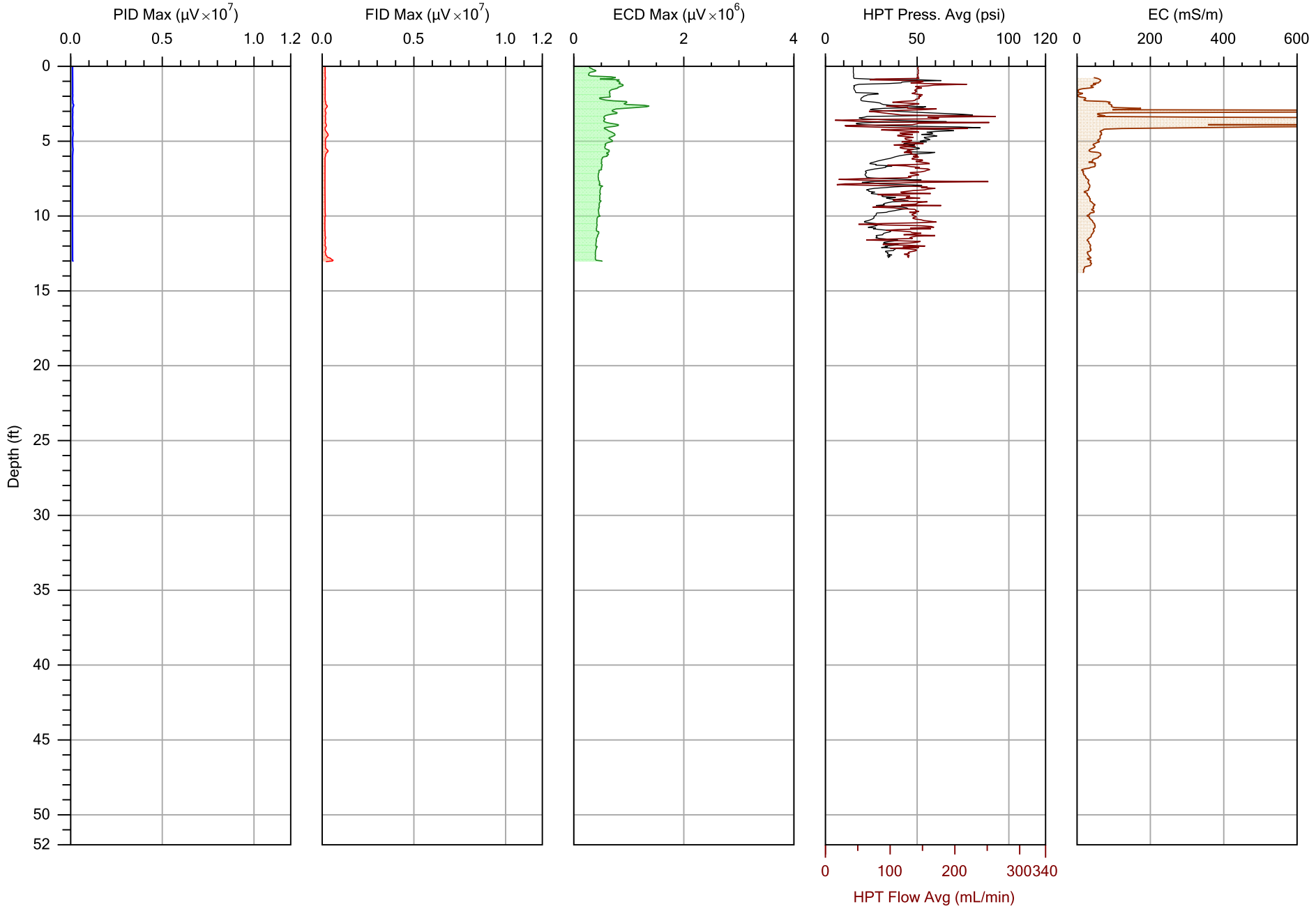


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Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



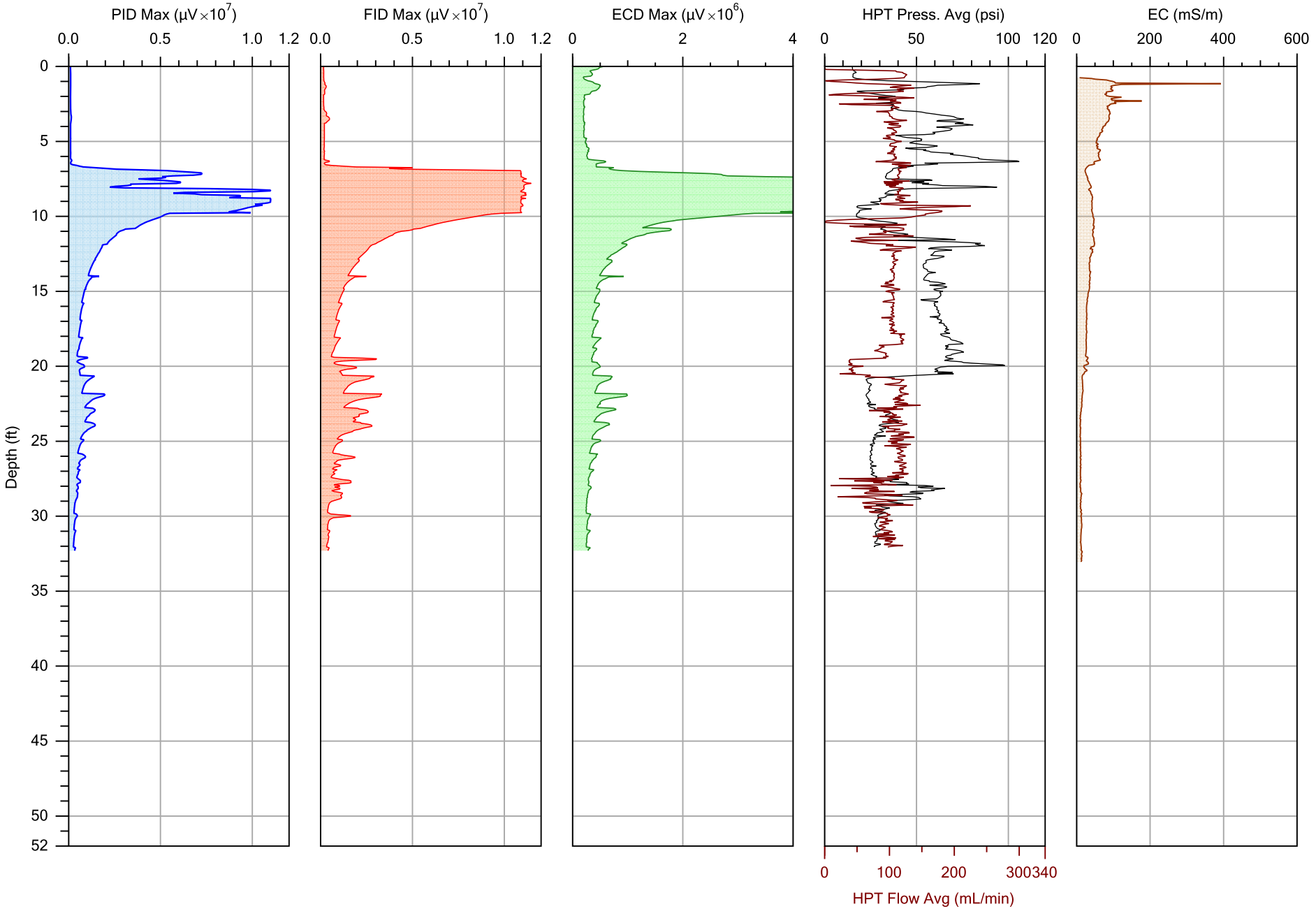


		File: MIHPT-19.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:



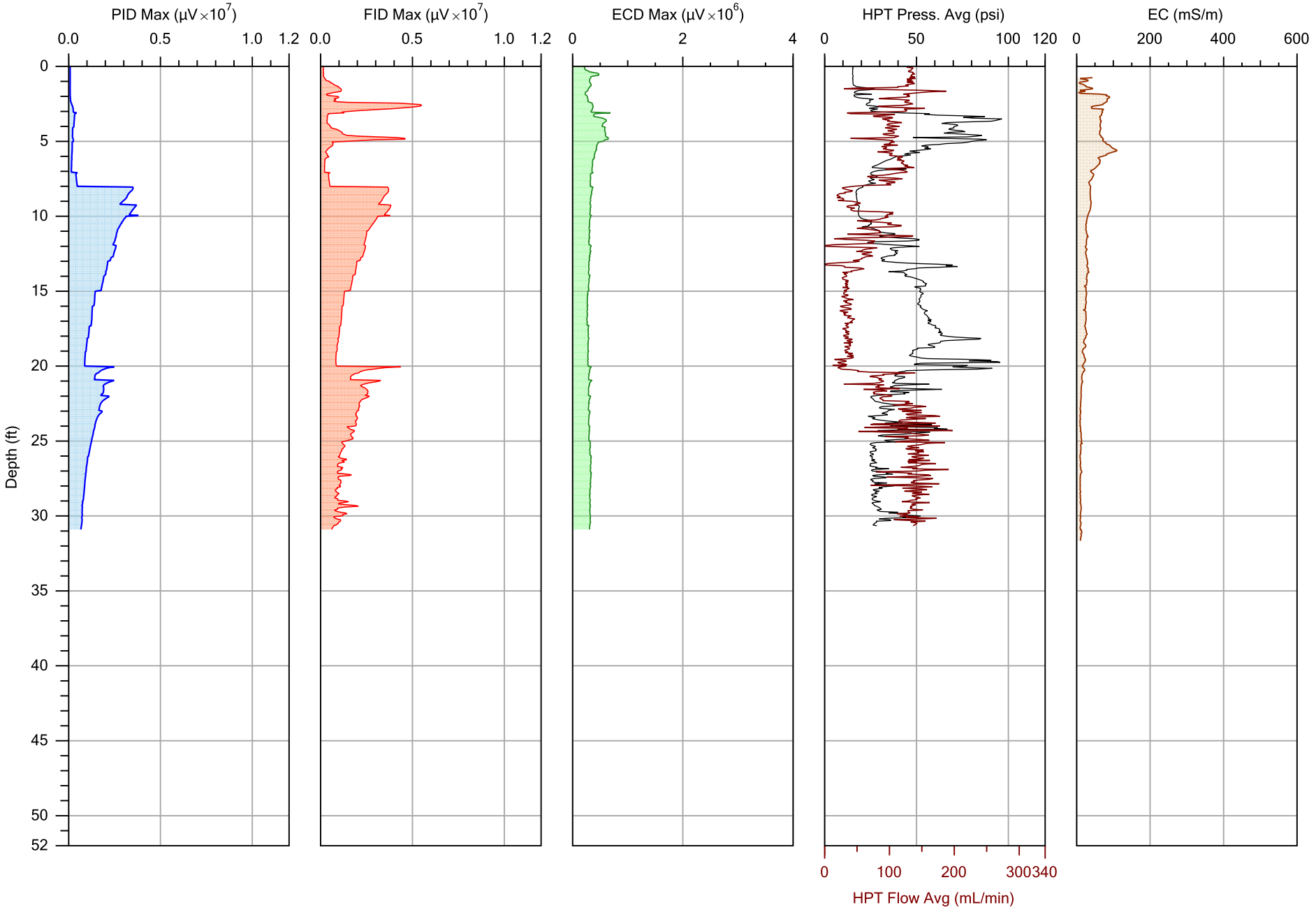


		File: MIHPT-20.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:





		File: MIHPT-21.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:





		File: MIHPT-22.MHP
Company: COLUMBIA Technologies	Operator: JHM	Date: 7/7/2016
Project ID: Robinson Terminal North	Client: ICOR, Ltd.	Location:

APPENDIX F – Current Laboratory Results

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TABLE 4A. TEC SOIL ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	TEC-B1 (11-12)	TEC-B2 (12-16)	TEC-B3 (11-12)	TEC-B4 (9-10)	TEC-B6 (11-12)	TEC-B7 (10-12)	TEC-B8 (7-8)	TEC-B9 (12-14)	TEC-B10 (12-14)	TEC-B11 (9-11)	TEC-B12 (7-8)	TEC-B13 (11-12)
Date:					4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06	4/26/06
TPH																
TPH-GRO	mg/kg	**8300**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND	**0.62**	ND	ND	**0.62**	ND
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND	**17**	ND	ND	**17**	**19**

NOTES:
(11-12) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
mg/kg = milligrams per kilogram
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
ND = not detected above analytical method reporting limit
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 4B. TEC GROUNDWATER ANALYTICAL RESULTS

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			TEC-MW1	TEC-MW2	TEC-MW3	TEC-MW4	TEC-MW5	TEC-MW6	TEC-MW7
				WTNC	WTC								
					Dermal Contact & Incidential Ingestion	Inhalation							
Date:							5/1/06	5/1/06	5/1/06	5/1/06	5/1/06	5/1/06	5/1/06
TPH													
TPH-GRO	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND
TPH-DRO	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	ND	ND	ND	ND	ND	ND	ND
VOCs													
Benzene	ug/L	**941**	**1240**	**1050**	**863**	**15**	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/L	**1920**	**8070**	**63100**	**35000**	**1020**	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	**27.6**	**27.6**	**3380**	**1410**	**61**	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ug/L	**492**	**2070**	**5940**	**11100**	**87.4**	ND	ND	ND	ND	ND	ND	ND
Methyl-t-butyl ether	ug/L	**1330**	**1970**	**397000**	**152000**	**585**	**2**	**2**	**1**	**67**	ND	ND	ND
Naphthalene	ug/L	**3.98**	**20.1**	**73.5**	**557**	**0.722**	ND	ND	ND	ND	ND	ND	ND

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwelath of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
ND = not detected above anaytical method reporting limit
Bold and right justification designates target compound was detected at a concentration above RL
Green highlighting designates target compound was detected at a concentration above the RL in at least 1 sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 5A. ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B1				ECS-B2				ECS-B3				
					(1-2.5)	(2.5-4)	(8.5-10)	(18.5-20)	(2.5-4)	(5-6.5)	(8.5-10)	(13.5-15)	(1-2.5)	(2.5-4)	(8.5-10)	(13.5-15)	(28.5-30)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH																	
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	**10200**	**7060**	ND	**56**	NA	**17**	**70**	**115**	NA	**40**	ND	**27**
VOCs																	
Benzene	ug/kg	**NE**	**97.7**	**5400**	NA	ND	**2.8**	ND	ND	NA	ND	**11**	**9.8**	NA	**5120**	ND	ND
2-Butanone (MEK)	ug/kg	**NE**	**1250**	**20000000**	NA	ND	ND	ND	ND	NA	**7.3**	ND	ND	NA	ND	ND	ND
n-Butylbenzene	ug/kg	**NE**	**14200**	**5100000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
sec-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
tert-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Carbon Disulfide	ug/kg	**NE**	**492**	**370000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Ethylbenzene	ug/kg	**NE**	**5400**	**27000**	NA	ND	ND	ND	ND	NA	ND	**17**	**8.6**	NA	ND	ND	ND
Isopropylbenzene (Cumene)	ug/kg	**NE**	**3410**	**110000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
p-Isopropyltoluene	ug/kg	**NE**	**NE**	**NE**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Methyl-t-butyl ether	ug/kg	**NE**	**41.7**	**220000**	NA	ND	ND	ND	ND	NA	ND	ND	**4.2**	NA	ND	**2.7**	**3.2**
Naphthalene	ug/kg	**NE**	**26.2**	**18000**	NA	**136**	**70**	ND	ND	NA	ND	**204**	**7.4**	NA	ND	**84**	ND
n-Propylbenzene	ug/kg	**NE**	**5360**	**2100000**	NA	ND	ND	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Styrene	ug/kg	**NE**	**5600**	**3600000**	NA	ND	ND	ND	ND	NA	ND	ND	**4.2**	NA	ND	ND	ND
Toluene	ug/kg	**NE**	**31100**	**4500000**	NA	**7.7**	**13**	**3.4**	**4.2**	NA	**4.2**	**4.7**	**70**	NA	**196**	**5.6**	**2.7**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**115**	**26000**	NA	ND	**13**	ND	ND	NA	ND	**14**	**16**	NA	ND	**10**	ND
1,3,5-Trimethylbenzene	ug/kg	**NE**	**658**	**1000000**	NA	ND	**13**	ND	ND	NA	ND	**14**	**7.5**	NA	ND	**11**	ND
Total Xylenes	ug/kg	**NE**	**63000**	**270000**	NA	**3.4**	**14.1**	ND	ND	NA	ND	**16.3**	**58**	NA	ND	**11.1**	ND
RCRA Metals																	
Arsenic	mg/kg	**NE**	**3.4**	**30**	**4.3**	NA	NA	NA	NA	**1090**	NA	NA	NA	NA	NA	NA	NA
Barium	mg/kg	**NE**	**1500**	**19000**	**82.3**	NA	NA	NA	NA	**90.9**	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/kg	**NE**	**7**	**80**	ND	NA	NA	NA	NA	**23.6**	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	**NE**	**0.29**	**63***	**16.3**	NA	NA	NA	NA	**17.5**	NA	NA	NA	NA	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	**14.9**	NA	NA	NA	NA	**297**	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/kg	**NE**	**1**	**4.3**	ND	NA	NA	NA	NA	**75.1**	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/kg	**NE**	**5.1**	**510**	ND	NA	NA	NA	NA	**10.3**	NA	NA	NA	NA	NA	NA	NA
Silver	mg/kg	**NE**	**1.19**	**510**	ND	NA	NA	NA	NA	**1.41**	NA	NA	NA	NA	NA	NA	NA
Pesticides, PCBs, and Herbicides																	
Pesticides					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
PCBs					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Herbicides					NA	NA	NA	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 5A. ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B4					ECS-B5				
					(5-6.5)	(13.5-15)	(18.5-20)	(23.5-25)	(28.5-30)	(2.5-4)	(5-6.5)	(8.5-10)	(28.5-30)	(33.5-35)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH														
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	**123**	**22**	NA	**22**	ND	**95**	NA	**20**	**58**	ND
VOCs														
Benzene	ug/kg	**NE**	**97.7**	**5400**	ND	**6.3**	NA	**4.6**	ND	ND	NA	ND	ND	**3.7**
2-Butanone (MEK)	ug/kg	**NE**	**1250**	**20000000**	ND	ND	NA	ND	ND	ND	NA	ND	**7.3**	ND
n-Butylbenzene	ug/kg	**NE**	**14200**	**5100000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
sec-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
tert-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Carbon Disulfide	ug/kg	**NE**	**492**	**370000**	ND	ND	NA	ND	ND	ND	NA	**3.3**	ND	**11**
Ethylbenzene	ug/kg	**NE**	**5400**	**27000**	**2.2**	**5.1**	NA	**4.9**	ND	ND	NA	ND	ND	**7**
Isopropylbenzene (Cumene)	ug/kg	**NE**	**3410**	**110000**	ND	ND	NA	**2.5**	ND	ND	NA	ND	ND	ND
p-Isopropyltoluene	ug/kg	**NE**	**NE**	**NE**	ND	ND	NA	ND	ND	ND	NA	**166**	**226**	**419**
Methyl-t-butyl ether	ug/kg	**NE**	**41.7**	**220000**	ND	ND	NA	**2.6**	ND	ND	NA	ND	ND	ND
Naphthalene	ug/kg	**NE**	**26.2**	**18000**	ND	**66**	NA	**155**	**4.9**	ND	NA	**14**	**5.9**	**27**
n-Propylbenzene	ug/kg	**NE**	**5360**	**2100000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Styrene	ug/kg	**NE**	**5600**	**3600000**	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND
Toluene	ug/kg	**NE**	**31100**	**4500000**	**16**	**11**	NA	**29**	ND	ND	NA	**4.5**	**5.7**	**8.4**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**115**	**26000**	**4.9**	**6.5**	NA	**12**	ND	**4**	NA	**11**	**9.8**	**9.3**
1,3,5-Trimethylbenzene	ug/kg	**NE**	**658**	**1000000**	**4.7**	**2.8**	NA	**5**	ND	ND	NA	**4.6**	**3.8**	**2.8**
Total Xylenes	ug/kg	**NE**	**63000**	**270000**	**12.2**	**9**	NA	**24.7**	ND	ND	NA	ND	**3.3**	**3.7**
RCRA Metals														
Arsenic	mg/kg	**NE**	**3.4**	**30**	NA	NA	NA	NA	NA	NA	**7**	NA	NA	NA
Barium	mg/kg	**NE**	**1500**	**19000**	NA	NA	NA	NA	NA	NA	**99.7**	NA	NA	NA
Cadmium	mg/kg	**NE**	**7**	**80**	NA	NA	NA	NA	NA	NA	**3.79**	NA	NA	NA
Chromium	mg/kg	**NE**	**0.29**	**63***	NA	NA	NA	NA	NA	NA	**25.8**	NA	NA	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	NA	NA	NA	NA	**11.5**	NA	NA	NA
Mercury	mg/kg	**NE**	**1**	**4.3**	NA	NA	NA	NA	NA	NA	**0.25**	NA	NA	NA
Selenium	mg/kg	**NE**	**5.1**	**510**	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Silver	mg/kg	**NE**	**1.19**	**510**	NA	NA	NA	NA	NA	NA	ND	NA	NA	NA
Pesticides, PCBs, and Herbicides														
Pesticides					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
PCBs					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA
Herbicides					NA	NA	ND	NA	NA	NA	NA	NA	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 5A. ECS SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B6						
					(1-2.5)	(5-6.5)	(8.5-10)	(13.5-15)	(18.5-20)	(23.5-25)	(28.5-30)
Date:					1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08	1/3/08
TPH											
TPH-DRO	mg/kg	**11000**	**NE**	**NE**	NA	**142**	**111**	**31**	**68**	NA	**33**
VOCs											
Benzene	ug/kg	**NE**	**97.7**	**5400**	NA	**977**	ND	**16**	ND	NA	ND
2-Butanone (MEK)	ug/kg	**NE**	**1250**	**20000000**	NA	ND	ND	ND	ND	NA	ND
n-Butylbenzene	ug/kg	**NE**	**14200**	**5100000**	NA	**366**	ND	**3.2**	ND	NA	**3.6**
sec-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	**26**	ND	NA	ND
tert-Butylbenzene	ug/kg	**NE**	**NE**	**10000000**	NA	ND	ND	**11**	ND	NA	ND
Carbon Disulfide	ug/kg	**NE**	**492**	**370000**	NA	ND	ND	ND	ND	NA	ND
Ethylbenzene	ug/kg	**NE**	**5400**	**27000**	NA	**1360**	ND	**6.4**	ND	NA	ND
Isopropylbenzene (Cumene)	ug/kg	**NE**	**3410**	**110000**	NA	ND	ND	**8.4**	ND	NA	ND
p-Isopropyltoluene	ug/kg	**NE**	**NE**	**NE**	NA	**473**	ND	**3.8**	ND	NA	ND
Methyl-t-butyl ether	ug/kg	**NE**	**41.7**	**220000**	NA	ND	ND	ND	ND	NA	ND
Naphthalene	ug/kg	**NE**	**26.2**	**18000**	NA	ND	ND	**5.2**	**5500**	NA	ND
n-Propylbenzene	ug/kg	**NE**	**5360**	**2100000**	NA	ND	ND	**5.8**	ND	NA	**2.7**
Styrene	ug/kg	**NE**	**5600**	**3600000**	NA	ND	ND	ND	ND	NA	ND
Toluene	ug/kg	**NE**	**31100**	**4500000**	NA	**3800**	**238**	**36**	ND	NA	**2.9**
1,2,4-Trimethylbenzene	ug/kg	**NE**	**115**	**26000**	NA	**1050**	ND	**18**	ND	NA	**19**
1,3,5-Trimethylbenzene	ug/kg	**NE**	**658**	**1000000**	NA	**1870**	ND	**11**	ND	NA	**9.8**
Total Xylenes	ug/kg	**NE**	**63000**	**270000**	NA	**4209**	**361**	**38**	ND	NA	**3.5**
RCRA Metals											
Arsenic	mg/kg	**NE**	**3.4**	**30**	NA	NA	NA	NA	NA	**6.6**	NA
Barium	mg/kg	**NE**	**1500**	**19000**	NA	NA	NA	NA	NA	**46**	NA
Cadmium	mg/kg	**NE**	**7**	**80**	NA	NA	NA	NA	NA	ND	NA
Chromium	mg/kg	**NE**	**0.29**	**63***	NA	NA	NA	NA	NA	**19.9**	NA
Lead	mg/kg	**NE**	**270**	**800**	NA	NA	NA	NA	NA	**39.5**	NA
Mercury	mg/kg	**NE**	**1**	**4.3**	NA	NA	NA	NA	NA	**0.06**	NA
Selenium	mg/kg	**NE**	**5.1**	**510**	NA	NA	NA	NA	NA	ND	NA
Silver	mg/kg	**NE**	**1.19**	**510**	NA	NA	NA	NA	NA	ND	NA
Pesticides, PCBs, and Herbicides											
Pesticides					ND	NA	NA	NA	ND	NA	NA
PCBs					ND	NA	NA	NA	ND	NA	NA
Herbicides					ND	NA	NA	NA	ND	NA	NA

NOTES:
(10-13.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
RCRA = Resource Conservation and Recovery Act
PCBs = polychlorinated biphenyls
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
ND = not detected above the analytical method reporting limit
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
Bold and right justification designates target compound was detected at a concentration above RL
* = total chromium (chromium III and VI)
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6C. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	ECS-B7(1-2)	ECS-B7(5-6)	ICOR-SB3(10.5-11.5)	ICOR-SB9(4-5)	ICOR-SB14(1-2)	ICOR-SB14(4-5)	ICOR-SB15(1-2)	MiHpt-03(1-2)	MiHpt-03(4-5)	MiHpt-04(1-2)	MiHpt-04(4-5)	MiHpt-05(1-2)	MiHpt-06(1-2)	MiHpt-06(4-5)	MiHpt-07(1-2)	MiHpt-07(7-8)	MiHpt-08(4-5)
Sample Date:						9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/7/16	9/6/16	9/6/16	9/6/16	9/6/16	9/7/16	9/6/16	9/6/16	9/6/16	9/6/16	9/6/16
TPH 8015																						
TPH-GRO (C6-C10)	C6C10GRO	mg/kg	**8300**	**NE**	**NE**	NA	<0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1300**	**0.260**
TPH-DRO (C10-C28)	C10C28DRO	mg/kg	**11000**	**NE**	**NE**	NA	**100**	**13**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**59**	<12
TCL VOCs 8260B																						
Acetone	67-64-1	ug/kg	**NE**	**2750**	**63000000**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Cyclohexane	110-82-7	ug/kg	**NE**	**55500**	**2700000**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Ethylbenzene	100-41-4	ug/kg	**NE**	**39700**	**250000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Isopropylbenzene	98-82-8	ug/kg	**NE**	**3940**	**1100000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Methylcyclohexane	108-87-2	ug/kg	**NE**	**NE**	**NE**	NA	<23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1900	<17
Naphthalene	91-20-3	ug/kg	**NE**	**114**	**59000**	NA	**260**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Tetrachloroethene	127-18-4	ug/kg	**NE**	**80.7**	**39000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
Toluene	108-88-3	ug/kg	**NE**	**31100**	**4700000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
m,p-Xylenes	108-38-3	ug/kg	**NE**	**914**	**240000**	NA	<11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<930	<8.6
o-Xylene	95-47-6	ug/kg	**NE**	**926**	**280000**	NA	<5.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<460	<4.3
TCL SVOCs 8270C																						
2-Methylnaphthalene	91-57-6	ug/kg	**NE**	**1100**	**300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	ug/kg	**NE**	**32100**	**4500000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	ug/kg	**NE**	**354000**	**23000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	ug/kg	**NE**	**150**	**2900**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	ug/kg	**NE**	**170000**	**2300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	ug/kg	**NE**	**15000**	**290000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	ug/kg	**NE**	**150000**	**2900000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)Anthracene	53-70-3	ug/kg	**NE**	**150**	**2900**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	ug/kg	**NE**	**870**	**100000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	ug/kg	**NE**	**230000**	**3000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	ug/kg	**NE**	**31900**	**3000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-c,d)Pyrene	193-39-5	ug/kg	**NE**	**1500**	**29000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	ug/kg	**NE**	**114**	**59000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	ug/kg	**NE**	**34900**	**2300000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	ug/kg	**NE**	**90300**	**23000000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCBs 8082																						
PCBs		mg/kg				<0.055	NA	<0.060	<0.058	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pesticides 8081B																						
4,4-DDD	72-54-8	ug/kg	**NE**	**4370**	**96000**	**6.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4-DDE	72-55-9	ug/kg	**NE**	**16000**	**68000**	**15**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4-DDT	50-29-3	ug/kg	**NE**	**3600**	**52000**	**7.0**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Herbicides 8151A																						
2,4,5-T	93-76-5	ug/kg	**NE**	**NE**	**NE**	<22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxins 8290A																						
2,3,7,8-TCDD	1746-01-6	ng/kg	**NE**	**5.1**	**73**	NA	NA	NA	NA	NA	NA	**0.0670** JQ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PPL Metals 6020A																						
Antimony	7440-36-0	mg/kg	**NE**	**3.1**	**41**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**17**	NA	NA	NA
Arsenic	7440-38-2	mg/kg	**NE**	**3.4**	**30**	**49**	NA	NA	NA	**9.1**	**9.2**	NA	**1.1**	**190**	**3.9**	**320**	**2.2**	**1.2**	**150**	**1.0**	NA	NA
Cadmium	7440-43-9	mg/kg	**NE**	**7**	**98**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	<2.5	NA	NA	NA
Chromium	7440-47-3	mg/kg	**NE**	**0.29***	**63***	**17**	NA	NA	NA	NA	NA	NA	**5.5**	NA	**4.0**	NA	NA	**8.1**	**11**	NA	NA	NA
Copper	7440-50-8	mg/kg	**NE**	**310**	**4100**	**39**	NA	NA	NA	NA	NA	NA	**4.2**	NA	**6.7**	NA	NA	**6.0**	**410**	NA	NA	NA
Lead	7439-92-1	mg/kg	**NE**	**270**	**800**	**160**	NA	NA	NA	NA	NA	NA	**22**	NA	**94**	NA	NA	**6.7**	**1800**	NA	NA	NA
Mercury	7439-97-6	mg/kg	**NE**	**0.94**	**4**	**1.3**	NA	NA	NA	NA	NA	NA	<0.10	NA	**0.094**	NA	NA	**0.12**	**0.47**	NA	NA	NA
Nickel	7440-02-0	mg/kg	**NE**	**39.1**	**2000**	**14**	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	**3.2**	**6.5**	NA	NA	NA
Selenium	7782-49-2	mg/kg	**NE**	**5.1**	**510**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**6.3**	NA	NA	NA
Silver	7440-22-4	mg/kg	**NE**	**1.19**	**510**	<2.5	NA	NA	NA	NA	NA	NA	<2.6	NA	<2.0	NA	NA	<2.5	**3.3**	NA	NA	NA
Thallium	7440-28-0	mg/kg	**NE**	**0.078**	**1**	<2.0	NA	NA	NA	NA	NA	NA	<2.1	NA	<1.6	NA	NA	<2.0	**2.4**	NA	NA	NA
Zinc	7440-66-6	mg/kg	**NE**	**584**	**31000**	**130**	NA	NA	NA	NA	NA	NA	<10	NA	**16**	NA	NA	**15**	**370**	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
* = total chromium (chromium III and VI)
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6C. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	MiHpt-08(37.8-38.8)	MiHpt-10(24.5-25.5)	MiHpt-12(1-2)	MiHpt-13(1-2)	MiHpt-13(4-5)	MiHpt-14(1-2)	MiHpt-14(4-5)	MiHpt-14(5-6)	MiHpt-14(25-26)	MiHpt-15(1-2)	MiHpt-15(4-5)	MiHpt-16(1-2)	MiHpt-16(4-5)	MiHpt-16(8-9)	MiHpt-17(1-2)	MiHpt-17(4-5)	MiHpt-18(1-2)
Sample Date:						9/6/16	9/6/16	9/7/16	9/7/16	9/7/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/8/16	9/7/16	9/7/16	9/7/16
TPH 8015																						
TPH-GRO (C6-C10)	C6C10GRO	mg/kg	8300	NE	NE	**0.160**	**0.180**	NA	NA	NA	NA	NA	NA	<0.11	NA	NA	NA	NA	NA	NA	NA	NA
TPH-DRO (C10-C28)	C10C28DRO	mg/kg	11000	NE	NE	<15	**150**	NA	NA	NA	NA	NA	NA	<12	NA	NA	NA	NA	NA	NA	NA	NA
TCL VOCs 8260B																						
Acetone	67-64-1	ug/kg	NE	2750	63000000	**66**	**84**	NA	NA	NA	NA	NA	**45**	<20	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	110-82-7	ug/kg	NE	55500	2700000	<27	<27	NA	NA	NA	NA	NA	<19	<20	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	ug/kg	NE	39700	250000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	98-82-8	ug/kg	NE	3940	1100000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	108-87-2	ug/kg	NE	NE	NE	<27	<27	NA	NA	NA	NA	NA	<19	<20	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	ug/kg	NE	114	59000	<6.8	**10**	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	127-18-4	ug/kg	NE	80.7	39000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	108-88-3	ug/kg	NE	31100	4700000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Xylenes	108-38-3	ug/kg	NE	914	240000	<14	<14	NA	NA	NA	NA	NA	<9.5	<10	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	95-47-6	ug/kg	NE	926	280000	<6.8	<6.9	NA	NA	NA	NA	NA	<4.7	<5.0	NA	NA	NA	NA	NA	NA	NA	NA
TCL SVOCs 8270C																						
2-Methylnaphthalene	91-57-6	ug/kg	NE	1100	300000	<250	**560**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	83-32-9	ug/kg	NE	32100	4500000	<250	**2300**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	120-12-7	ug/kg	NE	354000	23000000	<250	**3400**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	56-55-3	ug/kg	NE	1500	29000	<250	**5500**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	ug/kg	NE	150	2900	<250	**5200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	ug/kg	NE	1500	29000	<250	**3800**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	ug/kg	NE	170000	2300000	<250	**2700**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	207-08-9	ug/kg	NE	15000	290000	<250	**3500**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	218-01-9	ug/kg	NE	150000	2900000	<250	**4800**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)Anthracene	53-70-3	ug/kg	NE	150	2900	<250	**1200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	ug/kg	NE	870	100000	<250	**1200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	206-44-0	ug/kg	NE	230000	3000000	<250	**8700**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	86-73-7	ug/kg	NE	31900	3000000	<250	**2200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-c,d)Pyrene	193-39-5	ug/kg	NE	1500	29000	<250	**3100**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	91-20-3	ug/kg	NE	114	59000	<250	**570**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	ug/kg	NE	34900	2300000	<250	**8200**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	129-00-0	ug/kg	NE	90300	23000000	<250	**7400**	NA	NA	NA	NA	NA	NA	<190	NA	NA	NA	NA	NA	NA	NA	NA
PCBs 8082																						
PCBs		mg/kg				NA	NA	NA	NA	NA	<0.056	NA	NA	NA	NA	NA	<0.059	<0.061	NA	NA	NA	NA
Pesticides 8081B																						
4,4-DDD	72-54-8	ug/kg	NE	4370	96000	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
4,4-DDE	72-55-9	ug/kg	NE	16000	68000	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
4,4-DDT	50-29-3	ug/kg	NE	3600	52000	NA	NA	NA	NA	NA	<4.5	NA	NA	NA	NA	NA	<4.7	<4.9	NA	NA	NA	NA
Herbicides 8151A																						
2,4,5-T	93-76-5	ug/kg	NE	NE	NE	NA	NA	NA	NA	NA	<22	NA	NA	NA	NA	NA	<25	<25	NA	NA	NA	NA
Dioxins 8290A																						
2,3,7,8-TCDD	1746-01-6	ng/kg	NE	5.1	73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.115** J	NA	NA	NA	NA	NA
PPL Metals 6020A																						
Antimony	7440-36-0	mg/kg	NE	3.1	41	NA	NA	NA	**12**	NA	**18**	NA	NA	NA	<2.7	NA	NA	NA	NA	**14**	NA	NA
Arsenic	7440-38-2	mg/kg	NE	3.4	30	NA	NA	**400**	**810**	**32**	**730**	**93**	NA	NA	**9.6**	**1800**	NA	NA	**6.6**	**670**	**6.9**	**12**
Cadmium	7440-43-9	mg/kg	NE	7	98	NA	NA	NA	**17**	NA	**7.7**	NA	NA	NA	<2.7	NA	NA	NA	NA	**12**	NA	NA
Chromium	7440-47-3	mg/kg	NE	0.29*	63*	NA	NA	NA	**29**	NA	**16**	NA	NA	NA	**15**	NA	NA	NA	NA	**27**	NA	NA
Copper	7440-50-8	mg/kg	NE	310	4100	NA	NA	NA	**11000**	NA	**780**	NA	NA	NA	**35**	NA	NA	NA	NA	**6900**	NA	NA
Lead	7439-92-1	mg/kg	NE	270	800	NA	NA	NA	**1800**	NA	**380**	NA	NA	NA	**100**	NA	NA	NA	NA	**1500**	NA	NA
Mercury	7439-97-6	mg/kg	NE	0.94	4	NA	NA	NA	**26**	NA	**18**	NA	NA	NA	**0.61**	NA	NA	NA	NA	**20**	NA	NA
Nickel	7440-02-0	mg/kg	NE	39.1	2000	NA	NA	NA	**18**	NA	**12**	NA	NA	NA	**12**	NA	NA	NA	NA	**16**	NA	NA
Selenium	7782-49-2	mg/kg	NE	5.1	510	NA	NA	NA	**11**	NA	**5.0**	NA	NA	NA	<2.7	NA	NA	NA	NA	**12**	NA	NA
Silver	7440-22-4	mg/kg	NE	1.19	510	NA	NA	NA	**16**	NA	**2.3**	NA	NA	NA	<2.7	NA	NA	NA	NA	**16**	NA	NA
Thallium	7440-28-0	mg/kg	NE	0.078	1	NA	NA	NA	**6.5**	NA	**5.6**	NA	NA	NA	<2.2	NA	NA	NA	NA	<21	NA	NA
Zinc	7440-66-6	mg/kg	NE	584	31000	NA	NA	NA	**7200**	NA	**1300**	NA	NA	NA	**83**	NA	NA	NA	NA	**4300**	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
* = total chromium (chromium III and VI)
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 6C. 2016 ICOR SOIL ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-PSSS	VDEQ-T2SCU	VDEQ-T3SCR	MiHpt-19(1-2)	MiHpt-19(4-5)	MiHpt-20(1.5-2.5)	MiHpt-20(4-5)	MiHpt-21(1-2)	MiHpt-21(4.5-5.5)	MiHpt-21(9-10)	MiHpt-21(24-25)	MiHpt-22(1-2)	MiHpt-22(4.5-5.5)	MiHpt-22(19-20)	MiHpt-22(24-25)
Sample Date:						9/7/16	9/7/16	9/8/16	9/8/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16	9/9/16
TPH 8015																	
TPH-GRO (C6-C10)	C6C10GRO	mg/kg	8300	NE	NE	NA	NA	NA	NA	NA	NA	760	<0.12	NA	NA	2.5	<0.12
TPH-DRO (C10-C28)	C10C28DRO	mg/kg	11000	NE	NE	NA	NA	NA	NA	NA	NA	49	<12	NA	NA	71	<12
TCL VOCs 8260B																	
Acetone	67-64-1	ug/kg	NE	2750	63000000	NA	NA	NA	NA	NA	NA	<1900	<21	NA	NA	<24000	<22
Cyclohexane	110-82-7	ug/kg	NE	55500	2700000	NA	NA	NA	NA	NA	NA	190000	<21	NA	NA	35000	<22
Ethylbenzene	100-41-4	ug/kg	NE	39700	250000	NA	NA	NA	NA	NA	NA	8500	<5.2	NA	NA	15000	<5.5
Isopropylbenzene	98-82-8	ug/kg	NE	3940	1100000	NA	NA	NA	NA	NA	NA	1900	<5.2	NA	NA	<6000	<5.5
Methylcyclohexane	108-87-2	ug/kg	NE	NE	NE	NA	NA	NA	NA	NA	NA	400000	<21	NA	NA	200000	<22
Naphthalene	91-20-3	ug/kg	NE	114	59000	NA	NA	NA	NA	NA	NA	<490	<5.2	NA	NA	46000	<5.5
Tetrachloroethene	127-18-4	ug/kg	NE	80.7	39000	NA	NA	NA	NA	NA	NA	3800	<5.2	NA	NA	<6000	<5.5
Toluene	108-88-3	ug/kg	NE	31100	4700000	NA	NA	NA	NA	NA	NA	990	<5.2	NA	NA	<6000	<5.5
m,p-Xylenes	108-38-3	ug/kg	NE	914	240000	NA	NA	NA	NA	NA	NA	14000	<10	NA	NA	18000	<11
o-Xylene	95-47-6	ug/kg	NE	926	280000	NA	NA	NA	NA	NA	NA	700	<5.2	NA	NA	7300	<5.5
TCL SVOCs 8270C																	
2-Methylnaphthalene	91-57-6	ug/kg	NE	1100	300000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Acenaphthene	83-32-9	ug/kg	NE	32100	4500000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Anthracene	120-12-7	ug/kg	NE	354000	23000000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(a)anthracene	56-55-3	ug/kg	NE	1500	29000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(a)pyrene	50-32-8	ug/kg	NE	150	2900	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(b)fluoranthene	205-99-2	ug/kg	NE	1500	29000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(g,h,i)perylene	191-24-2	ug/kg	NE	170000	2300000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Benzo(k)fluoranthene	207-08-9	ug/kg	NE	15000	290000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Chrysene	218-01-9	ug/kg	NE	150000	2900000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Dibenz(a,h)Anthracene	53-70-3	ug/kg	NE	150	2900	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Dibenzofuran	132-64-9	ug/kg	NE	870	100000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Fluoranthene	206-44-0	ug/kg	NE	230000	3000000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Fluorene	86-73-7	ug/kg	NE	31900	3000000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Indeno(1,2,3-c,d)Pyrene	193-39-5	ug/kg	NE	1500	29000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Naphthalene	91-20-3	ug/kg	NE	114	59000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Phenanthrene	85-01-8	ug/kg	NE	34900	2300000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
Pyrene	129-00-0	ug/kg	NE	90300	23000000	NA	NA	NA	NA	NA	NA	NA	<200	NA	NA	NA	<210
PCBs 8082																	
PCBs		mg/kg				NA	NA	<0.062	NA	<0.061	<0.060	NA	NA	<0.061	<0.059	NA	NA
Pesticides 8081B																	
4,4-DDD	72-54-8	ug/kg	NE	4370	96000	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
4,4-DDE	72-55-9	ug/kg	NE	16000	68000	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
4,4-DDT	50-29-3	ug/kg	NE	3600	52000	NA	NA	<5.0	NA	<4.9	<4.8	NA	NA	<4.9	<4.7	NA	NA
Herbicides 8151A																	
2,4,5-T	93-76-5	ug/kg	NE	NE	NE	NA	NA	<26	NA	52	42	NA	NA	<24	<23	NA	NA
Dioxins 8290A																	
2,3,7,8-TCDD	1746-01-6	ng/kg	NE	5.1	73	12.4	NA	0.691 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
PPL Metals 6020A																	
Antimony	7440-36-0	mg/kg	NE	3.1	41	NA	NA	13	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Arsenic	7440-38-2	mg/kg	NE	3.4	30	130	480	480	5.8	NA	7.7	NA	NA	2500	810	NA	NA
Cadmium	7440-43-9	mg/kg	NE	7	98	NA	NA	5.9	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Chromium	7440-47-3	mg/kg	NE	0.29*	63*	NA	NA	21	NA	NA	NA	NA	NA	22	NA	NA	NA
Copper	7440-50-8	mg/kg	NE	310	4100	NA	NA	1400	NA	NA	NA	NA	NA	25	NA	NA	NA
Lead	7439-92-1	mg/kg	NE	270	800	NA	NA	690	NA	NA	NA	NA	NA	69	NA	NA	NA
Mercury	7439-97-6	mg/kg	NE	0.94	4	NA	NA	3.5	NA	NA	NA	NA	NA	0.26	NA	NA	NA
Nickel	7440-02-0	mg/kg	NE	39.1	2000	NA	NA	14	NA	NA	NA	NA	NA	22	NA	NA	NA
Selenium	7782-49-2	mg/kg	NE	5.1	510	NA	NA	4.4	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Silver	7440-22-4	mg/kg	NE	1.19	510	NA	NA	4.5	NA	NA	NA	NA	NA	<2.6	NA	NA	NA
Thallium	7440-28-0	mg/kg	NE	0.078	1	NA	NA	<2.1	NA	NA	NA	NA	NA	<2.1	NA	NA	NA
Zinc	7440-66-6	mg/kg	NE	584	31000	NA	NA	2700	NA	NA	NA	NA	NA	79	NA	NA	NA

NOTES:
(0.5-1.5) = designates depth sample was collected below ground surface
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ng/kg = nanograms per kilogram
ug/kg = micrograms per kilogram
mg/kg = milligrams per kilogram
NA = not analyzed
<1.0 = not detected above analytical method reporting limit (RL)
VDEQ-PSS = Commonwealth of Virginia Department of Environmental Quality (VDEQ) petroleum saturated soil standard
VDEQ-T2SCU = VDEQ Tier II screening concentration for unrestricted use soil (residential)
VDEQ-T3SCR = VDEQ Tier III screening concentration for restricted use soil (commercial/industrial)
* = total chromium (chromium III and VI)
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above a VDEQ screening concentration in at least 1 sample

TABLE 7A. ICOR 2013 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			ECS-MW2	ECS-MW4	ICOR-SB1(GW)	ICOR-SB5(GW)	ICOR-SB6(GW)	ICOR-SB7(GW)	ICOR-SB8(GW)	ICOR-SB9(GW)
					WTNC	WTC									
						Dermal Contact & Incidental Ingestion	Inhalation								
Date:								10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013
TPH EPA 8015															
TPH-GRO		mg/L	NE	NE	NE	NE	NE	2.8	<0.1	<0.1	0.25	0.21	0.18	11	0.25
TPH-DRO		mg/L	NE	NE	NE	NE	NE	0.91	0.15	0.17	0.30	0.11	0.16	0.93	0.77
TCL VOCs EPA 8260B															
Benzene	71-43-2	ug/L	941	1240	1050	863	15	160	<1.0	<1.0	49	50	1.7	57	7.4
Cyclohexane	110-82-7	ug/L	102	429	9780	NE	3420	150	<10	<10	<10	<10	<10	710	<10
Ethylbenzene	100-41-4	ug/L	27.6	27.6	3380	1410	61	47	<1.0	<1.0	15	7.7	<1.0	80	<1.0
Isopropylbenzene	98-82-8	ug/L	88.7	373	3450	6400	92.5	6.7	<1.0	<1.0	3.5	<1.0	1.2	<10	<1.0
Methylcyclohexane	108-87-2	ug/L	17.7	74.5	650	NE	624	230	<10	<10	<10	<10	<10	520	<10
Naphthalene	91-20-3	ug/L	3.98	20.1	73.5	557	0.722	73	<1.0	<1.0	29	27	<1.0	50	19
Toluene	108-88-3	ug/L	1920	8070	63100	35000	1020	5.8	<1.0	<1.0	<1.0	<1.0	<1.0	16	1.7
m,p-Xylenes	108-38-3	ug/L	71.5	149	1330	5270	21.8	17	<2.0	<2.0	4.8	2.9	<2.0	76	<2.0
o-Xylene	95-47-6	ug/L	51.9	207	1830	5870	21.9	28	<1.0	<1.0	21	3.2	<1.0	<10	<1.0
TCL SVOCs EPA 8270C															
Acenaphthene	83-32-9	ug/L	NE	NE	NE	2870	NE	<11	17	7.2	<5.0	<5.0	<5.0	<11	27
Acenaphthylene	208-96-8	ug/L	NE	NE	NE	1460	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.5
Anthracene	120-12-7	ug/L	NE	NE	NE	7660	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	7.3
Biphenyl (Diphenyl)	92-52-4	ug/L	3.31	13.9	1800	1160	1.23	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	9.3
Carbazole	86-74-8	ug/L	NE	NE	NE	NE	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.7
Dibenzofuran	132-64-9	ug/L	NE	NE	NE	47.1	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	22
Fluoranthene	206-44-0	ug/L	NE	NE	NE	304	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	12
Fluorene	86-73-7	ug/L	NE	NE	NE	4250	NE	<11	5.9	<5.0	<5.0	<5.0	<5.0	<11	30
Naphthalene	91-20-3	ug/L	3.98	20.1	73.5	557	0.722	36	<5.0	<5.0	<5.0	8.4	<5.0	<11	13
Phenanthrene	85-01-8	ug/L	NE	NE	NE	1430	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	25
Pyrene	129-00-0	ug/L	NE	NE	NE	866	NE	<11	<5.0	<5.0	<5.0	<5.0	<5.0	<11	8.7
Total PPL Metals EPA 6020A															
Antimony	7440-36-0	ug/L	NE	NE	NE	NE	NE	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	NA	9.9
Arsenic	7440-38-2	ug/L	NE	NE	NE	NE	NE	95	38	120	480	400	15	NA	370
Beryllium	7440-41-7	ug/L	NE	NE	NE	NE	NE	26	<1.0	<1.0	60	1.8	<1.0	NA	<1.0
Cadmium	7440-43-9	ug/L	NE	NE	NE	36	NE	31	<1.0	13	32	6.7	<1.0	NA	2.5
Chromium	7440-47-3	ug/L	NE	NE	NE	26.6	NE	180	<1.0	24	270	39	3.7	NA	3.5
Copper	7440-50-8	ug/L	NE	NE	NE	24600	NE	3300	<1.0	700	2000	790	1.4	NA	150
Lead	7439-92-1	ug/L	NE	NE	NE	NE	NE	1100	14	530	610	290	3.2	NA	76
Mercury	7439-97-6	ug/L	0.067	0.281	5.59	NE	0.895	0.72	<0.20	0.38	0.26	<0.20	<0.20	NA	0.40
Nickel	7440-02-0	ug/L	NE	NE	NE	4750	NE	160	<1.0	38	1500	33	2.9	NA	6.6
Selenium	7782-49-2	ug/L	NE	NE	NE	3080	NE	<5.0	<1.0	3.7	5.8	7.6	<1.0	NA	<1.0
Silver	7440-22-4	ug/L	NE	NE	NE	469	NE	<1.0	<1.0	3.7	<1.0	<1.0	<1.0	NA	<1.0
Thallium	7440-28-0	ug/L	NE	NE	NE	24.6	NE	1.1	<1.0	1.0	1.0	<1.0	<1.0	NA	<1.0
Zinc	7440-66-6	ug/L	NE	NE	NE	220000	NE	19000	<20	6900	21000	1800	28	NA	8200

TABLE 7A. ICOR 2013 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	CAS No.	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			ECS-MW2	ECS-MW4	ICOR-SB1(GW)	ICOR-SB5(GW)	ICOR-SB6(GW)	ICOR-SB7(GW)	ICOR-SB8(GW)	ICOR-SB9(GW)
					WTNC	WTC									
						Dermal Contact & Incidential Ingestion	Inhalation								
Date:								10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013	10/08/2013
Dissolved PPL Metals EPA 6020A															
Arsenic	7440-38-2	ug/L	**NE**	**NE**	**NE**	**NE**	**NE**	**1.4**	<1.0	**14**	**420**	**38**	**5.0**	NA	**25**
Beryllium	7440-41-7	ug/L	**NE**	**NE**	**NE**	**NE**	**NE**	<1.0	<1.0	<1.0	**32**	<1.0	<1.0	NA	<1.0
Cadmium	7440-43-9	ug/L	**NE**	**NE**	**NE**	**36**	**NE**	<1.0	<1.0	**6.4**	**39**	<1.0	<1.0	NA	<1.0
Chromium	7440-47-3	ug/L	**NE**	**NE**	**NE**	**26.6**	**NE**	<1.0	<1.0	<1.0	**250**	<1.0	<1.0	NA	<1.0
Copper	7440-50-8	ug/L	**NE**	**NE**	**NE**	**24600**	**NE**	<1.0	<1.0	**52**	**1000**	**3.0**	<1.0	NA	<1.0
Lead	7439-92-1	ug/L	**NE**	**NE**	**NE**	**NE**	**NE**	<1.0	<1.0	**2.9**	**820**	<1.0	<1.0	NA	<1.0
Mercury	7439-97-6	ug/L	**0.067**	**0.281**	**5.59**	**NE**	**0.895**	<0.20	<0.20	<0.20	**0.25**	<0.20	<0.20	NA	<0.20
Nickel	7440-02-0	ug/L	**NE**	**NE**	**NE**	**4750**	**NE**	**1.5**	<1.0	**24**	**1500**	**3.8**	<1.0	NA	**3.0**
Selenium	7782-49-2	ug/L	**NE**	**NE**	**NE**	**3080**	**NE**	<1.0	<1.0	**1.7**	**4.3**	**7.2**	<1.0	NA	<1.0
Zinc	7440-66-6	ug/L	**NE**	**NE**	**NE**	**220000**	**NE**	**130**	<20	**4200**	**23000**	**530**	<20	NA	**6400**

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
<1.0 = not detected above analytical method reporting limit (RL)
Bold and right justification designates target compound was detected at a concentration above RL
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 7B. GROUNDWATER ANALYTICAL RESULTS (OBTAINED DURING UST REMOVAL AND INCLUDES COMPARISON TO HISTORICAL DATA)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			VDEQ-WCS	TEC-MW2		TEC-MW3		TEC-MW4		TEC-MW5	
				WTNC	WTC										
					Dermal Contact & Incidential Ingestion	Inhalation									
Date:								5/1/06	3/30/16	5/1/06	3/30/16	5/1/06	3/30/16	5/1/06	3/30/16
TPH 8015															
TPH-DRO	mg/L	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	ND	**0.29**	ND	**0.13**	ND	**0.75**	ND	<0.12
VOCs 8021B															
Benzene	ug/L	**941**	**941**	**1050**	**863**	**15**	**NE**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Toluene	ug/L	**1920**	**8070**	**63100**	**35000**	**1020**	**6000**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Ethylbenzene	ug/L	**27.6**	**27.6**	**3380**	**1410**	**61**	**2100**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
m,p-Xylenes	ug/L	**71.5**	**149**	**1330**	**5270**	**21.8**	**NE**	ND	<2.0	ND	<2.0	ND	<2.0	ND	<2.0
o-Xylenes	ug/L	**51.9**	**207**	**1830**	**5870**	**21.9**	**NE**	ND	<1.0	ND	<1.0	ND	<1.0	ND	<1.0
Total Xylenes	ug/L	**492**	**2070**	**5940**	**11100**	**87.4**	**NE**	ND	<2.0	ND	<2.0	ND	<2.0	ND	<2.0
Naphthalene	ug/L	**3.98**	**20.1**	**73.5**	**557**	**0.722**	**NE**	ND	**4.9**	ND	<1.0	ND	**4.3**	ND	<1.0

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
VOCs = volatile organic compounds
ug/L = micrograms per liter
mg/L = milligrams per liter
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
VDEQ-WQS = VDEQ water quality standards for contaminants of concern for other surface waters
ND of <0.12 = not detected above anaytical method reporting limit
Bold and center justification designates target compound was detected at a concentration above RL
Green highlighting designates target compound was detected at a concentration above the RL in at least 1 sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 7C. ICOR 2016 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			TEC-MW2		TEC-MW4		ECS-MW4		MiHpt-05-GW		MiHpt-07-GW		MiHpt-08-GW		MiHpt-08-GW(37-40.5)	MiHpt-10-GW(25-28.5)	MiHpt-14-GW		MiHpt-14-GW(25-28.5)	MiHpt-15-GW		MiHpt-20-GW	
					WTNC	WTC																							
						Dermal Contact & Incidential Ingestion	Inhalation																						
Sample Date:								9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/21/16	2/7/17	9/6/16	9/9/16	9/21/16	2/7/17	9/8/16	9/21/16	2/7/17	9/21/16	2/7/17
TPH 8015																												
TPH-GRO (C6-C10)	mg/L	C6C10GRO	**NE**	**NE**	**NE**	**NE**	**NE**	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	**0.81**	**0.79**	**0.88**	**0.89**	<0.1	<0.1	<0.1	<0.1	**0.33**	**0.41**	<0.1	<0.1	<0.1	**0.18**	**0.14**
TPH-DRO (C10-C28)	mg/L	C10C28DRO	**NE**	**NE**	**NE**	**NE**	**NE**	**0.21**	**0.18**	**0.21**	**0.26**	<0.10	<0.10	**0.52**	**0.41**	**2.0**	**1.8**	**0.15**	**0.20**	**0.48**	**0.55**	**0.75**	**1.2**	<0.10	<0.10	<0.10	**0.72**	**0.62**
TPH 1664																												
Oil & Grease (Total Recovered)	mg/L	OG_TR	**NE**	**NE**	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.2	<2.4	NA	NA	<2.4	NA	NA	NA	NA
TPH	mg/L	TPH1664	**NE**	**NE**	**NE**	**NE**	**NE**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2.2	<2.4	NA	NA	<2.4	NA	NA	NA	NA
TCL VOCs 8260B																												
2-Butanone (MEK)	ug/L	78-93-3	**224000**	**941000**	**6260000**	**1330000**	**1660**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**40**	<10	<10	<10	<10	<10	<10	<10	<10
Acetone	ug/L	67-64-1	**2830000**	**11900000**	**54500000**	**754000**	**14100**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**81**	**38**	<10	<10	<10	<10	<10	<10	<10
Benzene	ug/L	71-43-2	**941**	**941**	**1050**	**863**	**15**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**110**	**150**	**25**	**31**	<1.0	<1.0	<1.0	**1.3**	**66**	**70**	<1.0	**9.9**	**6.2**	**14**	**13**
Chloroform	ug/L	67-66-3	**27.3**	**35.5**	**2260**	**1720**	**22.8**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**1.4**	**1.3**	<1.0	**7.7**	**63**	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**102**	**429**	**9780**	**NE**	**3420**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	ug/L	100-41-4	**27.6**	**27.6**	**3380**	**1410**	**61**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**26**	**14**	**61**	**57**	<1.0	<1.0	<1.0	<1.0	**5.4**	**7.4**	<1.0	<1.0	<1.0	**1.4**	<1.0
Isopropylbenzene	ug/L	98-82-8	**88.7**	**373**	**3450**	**6400**	**92.5**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**4.5**	**4.4**	**12**	**13**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	**4500**	**19700**	**443000**	**1690000**	**651**	**2.5**	**2.8**	<1.0	<1.0	**3.7**	**4.7**	<1.0	<1.0	**1.0**	**1.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**5.7**	<1.0	<1.0	<1.0	<1.0
Methylcyclohexane	ug/L	108-87-2	**17.7**	**74.5**	**650**	**NE**	**624**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**3.98**	**20.1**	**73.5**	**557**	**0.722**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**170**	**250**	**830**	**720**	**14**	**14**	<1.0	**7.5**	**37**	**48**	<1.0	<1.0	**1.1**	**67**	**42**
Tetrachloroethene	ug/L	127-18-4	**5.76**	**24.2**	**292**	**213**	**10.6**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8070**	**63100**	**35000**	**1020**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**2.4**	**1.0**	**3.7**	**2.7**	<1.0	<1.0	<1.0	<1.0	**5.6**	**5.6**	<1.0	<1.0	<1.0	**2.6**	**2.0**
Trichloroethene	ug/L	79-01-6	**1.24**	**2.18**	**19.3**	**52.7**	**0.484**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**71.5**	**149**	**1330**	**5270**	**21.8**	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	**12**	**18**	**32**	**30**	<2.0	<2.0	<2.0	<2.0	**2.8**	**4.5**	<2.0	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	**51.9**	**207**	**1830**	**5870**	**21.9**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	**23**	**38**	**32**	**38**	<1.0	<1.0	<1.0	<1.0	**4.8**	**7.4**	<1.0	<1.0	<1.0	**1.4**	**1.1**
TCL SVOCs 8270C																												
2,4,5-Trichlorophenol	ug/L	95-95-4	**NE**	**NE**	**NE**	**8330**	**NE**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,4-Dichlorophenol	ug/L	120-83-2	**NE**	**NE**	**NE**	**1130**	**NE**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	**13**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Chlorophenol	ug/L	95-57-8	**NE**	**NE**	**NE**	**7350**	**NE**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	ug/L	91-57-6	**NE**	**NE**	**NE**	**61.5**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	<0.50	**16**	**1.9**	**40**	**28**	<5.3	<0.50	<6.3	<5.0	<5.0	**0.68**	<5.0	<5.0	<0.50	<5.0	<0.50
Acenaphthene	ug/L	83-32-9	**NE**	**NE**	**NE**	**2870**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	**2.5**	<5.3	**1.0**	**36**	**38**	<5.3	**1.6**	**8.4**	<5.0	**12**	**8.5**	<5.0	<5.0	<0.50	**6.3**	**1.7**
Acenaphthylene	ug/L	208-96-8	**NE**	**NE**	**NE**	**1590**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	**1.2**	<5.3	<0.50	<6.3	<5.0	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0	**0.94**
Anthracene	ug/L	120-12-7	**NE**	**NE**	**NE**	**7660**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	**1.6**	<5.3	<0.50	<6.3	<5.0	**6.3**	**2.4**	<5.0	<5.0	<0.50	<5.0	<0.50
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.31**	**13.9**	**1800**	**1160**	**1.23**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	**7.0**	**7.1**	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbazole	ug/L	86-74-8	**NE**	**NE**	**NE**	**NE**	**NE**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	**7.4**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibenzofuran	ug/L	132-64-9	**NE**	**NE**	**NE**	**51.2**	**NE**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	**13**	**7.2**	<5.0	<5.0	<5.0	**11**	<5.0
Fluoranthene	ug/L	206-44-0	**NE**	**NE**	**NE**	**330**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	**1.2**	<5.3	<0.50	<6.3	<5.0	<5.0	**1.9**	<5.0	<5.0	<0.50	<5.0	<0.50
Fluorene	ug/L	86-73-7	**NE**	**NE**	**NE**	**4250**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	**0.75**	<5.3	**1.1**	**8.2**	**9.5**	<5.3	**0.51**	<6.3	<5.0	**18**	**9.6**	<5.0	<5.0	<0.50	**12**	**2.5**
Naphthalene	ug/L	91-20-3	**3.98**	**20.1**	**73.5**	**557**	**0.722**	NA	<0.50	<5.0	<0.50	<5.0	<0.50	**83**	**47**	**200**	**170**	<5.3	**2.2**	<6.3	<5.0	**10**	**8.8**	<5.0	<5.0	**1.7**	**13**	**4.3**
Pentachlorophenol	ug/L	87-86-5	**5500000**	**24000000**	**12400000000**	**103**	**962000**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.3	<5.0	<5.0	<5.0	<5.3	<5.0	<6.3	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Phenanthrene	ug/L	85-01-8	**NE**	**NE**	**NE**	**1430**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	**8.7**	**8.8**	<5.3	<0.50	**8.9**	<5.0	**21**	**6.9**	<5.0	<5.0	<0.50	**10**	**1.5**
Pyrene	ug/L	129-00-0	**NE**	**NE**	**NE**	**941**	**NE**	NA	<0.50	<5.0	<0.50	<5.0	<0.50	<5.3	<0.50	<5.0	<0.50	<5.3	<0.50	<6.3	<5.0	<5.0	**1.3**	<5.0	<5.0	<0.50	<5.0	<0.50
PCBs 8082																												
PCBs	ug/L							NA	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	ND	NA	ND	NA
Pesticides 8081B																												
Pesticides	ug/L							NA	NA	ND	NA	ND	NA	ND	NA	ND	NA	ND	NA	NA	NA	NA	NA	ND	ND	NA	ND	NA
Herbicides 8151A																												
2,4,5-TP (Silvex)	ug/L	93-72-1	**NE**	**NE**	**NE**	**NE**	**NE**	NA	NA	<0.19	NA	<0.19	NA	<0.19	NA	<0.19	NA	<1.9	NA	NA	NA	**4.4**	NA	NA	<0.19	NA	<0.20	NA
Dicamba	ug/L	1918-00-9	**NE**	**NE**	**NE**	**NE**	**NE**	NA	NA	<0.19	NA	<0.19	NA	<0.19	NA	<0.19	NA	<1.9	NA	NA	NA	<1.9	NA	NA	<0.19	NA	**0.63**	NA
MCPP	ug/L	93-65-2	**NE**	**NE**	**NE**	**NE**	**NE**	NA	NA	<190	NA	<190	NA	<190	NA	<190	NA	<1900	NA	NA	NA	<1900	NA	NA	**710**	NA	<200	NA
PPL Metals 6020A																												
Antimony	ug/L	7440-36-0	**NE**	**NE**	**NE**	**NE**	**NE**	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	<5.0	NA	NA	<5.0	<5.0	NA	<5.0	**61**	<5.0	<5.0
Arsenic	ug/L	7440-38-2	**NE**	**NE**	**NE**	**NE**	**NE**	NA	**8.5**	**2.3**	**8.0**	**9.1**	**12**	**560**	**290**	**7.5**	**7.4**	**6.3**	**3.7**	NA	NA	**12**	**19**	NA	**51**	**4600**	**13**	**12**
Beryllium	ug/L	7440-41-7	**NE**	**NE**	**NE**	**NE**	**NE**	NA	<1.0	<1.0	<1.0	<1.0	<1.0	**22**	**89**	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/L	7440-43-9	**NE**	**NE**	**NE**	**36**	**NE**	NA	<1.0	<1.0	<1.0	<1.0	<1.0	**52**	**130**	<1.0	<1.0	<1.0	<1.0	NA	NA	**24**	**14**	NA	**13**	**3.4**	**7.4**	**61**
Chromium	ug/L	7440-47-3	**NE**	**NE**	**NE**	**26.6**	**NE**	NA	**1.1**	<1.0	**6.4**	<1.0	<1.0	**570**	**800**	<1.0	**1.2**	<1.0	**1.4**	NA	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0	<1.0
Copper	ug/L	7440-50-8	**NE**	**NE**	**NE**	**24600**	**NE**	NA	**5.5**	<1.0	**17**	<1.0	<1.0	**14000**	**26000**	**5.6**	**12**	**5.8**	**2.6**	NA	NA	**1200**	**250**	NA	**12**	**36**	**12**	**59**
Lead	ug/L	7439-92-1	**NE**	**NE**	**NE**	**NE**	**NE**	NA	**11**	**58**	**2100**	<1.0	<1.0	**260**	**480**	**1.6**	**3.0**	**24**	**29**	NA	NA	<1.0	**1.4**	NA	<1.0	<1.0	**2.0**	**4.9**
Nickel	ug/L	7440-02-0	**NE**	**NE**	**NE**	**4750**	**NE**	NA	**2.0**	<1.0	**3.8**	<1.0	<1.0	**2000**	**2100**	<1.0	<1.0	**1.1**	<1.0	NA	NA	**16**	**12**	NA	**3.4**	**4.3**	**5.0**	**9.5**
Selenium	ug/L	7782-49-2	**NE**	**NE**	**NE**	**3080**	**NE**	NA	<1.0	<1.0	<1.0	<1.0	<1.0	**4.9**	**16**	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	NA	**1.6**	**8.0**	**8.3**	**18**
Thallium	ug/L	7440-28-0	**NE**	**NE**	**NE**	**24.6**	**NE**	NA	<1.0	<1.0	<1.0	<1.0	<1.0	**4.3**	<10	<1.0	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	NA	<1.0	**2.6**	<1.0	<1.0
Zinc	ug/L	7440-66-6	**NE**	**NE**	**NE**	**220000**	**NE**	NA	**250**	<20	**87**	<20	<20	**35000**	**43000**	**69**	**73**	**21**	**22**	NA	NA	**16000**	**15000**	NA	**3800**	**1800**	**8600**	**13000**

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
PCBs = polychlorinated biphenyls
PPL = Priority Pollutant List
EPA 8260B = United States Environmental Protection Agency SW-846 analytical method
ug/L = micrograms per liter
mg/L = milligrams per liter
<1.0 = not detected above analytical method reporting limit (RL)
NA = not analyzed
ND = no constituents detected above the RL
VDEQ = Commonwealth of Virginia Department of Environmental Quality
VDEQ-T3RGSL = VDEQ Tier III residential groundwater screening level
VDEQ-T3CGSL = VDEQ Tier III commercial groundwater screening level
VDEQ-CWT = VDEQ contaminants of concern for a construction worker in a trench
WTNC = water table not contacted
WTC = water table contacted
NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Blue highlighting designates a deep groundwater sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

TABLE 7C. ICOR 2016 GROUNDWATER ANALYTICAL RESULTS (DETECTIONS ONLY)

FORMER ROBINSON TERMINAL NORTH
500 AND 501 NORTH UNION STREET
ALEXANDRIA, VA

Sample ID:	Units	CAS No.	VDEQ-T3RGSL	VDEQ-T3CGSL	VDEQ-CWT			MiHpt-21-GW		MiHpt-21-GW(25-28.5)	MiHpt-22-GW		MiHpt-22-GW(25-28.5)
					WTNC	WTC							
						Dermal Contact & Incidential Ingestion	Inhalation						
Sample Date:								9/21/16	2/7/17	9/9/16	9/21/16	2/7/17	9/9/16
TPH 8015													
TPH-GRO (C6-C10)	mg/L	C6C10GRO	**NE**	**NE**	**NE**	**NE**	**NE**	**7.5**	**15**	<0.1	**0.38**	**2.3**	<0.1
TPH-DRO (C10-C28)	mg/L	C10C28DRO	**NE**	**NE**	**NE**	**NE**	**NE**	**1.7**	**1.2**	<0.10	**0.27**	**0.19**	<0.10
TPH 1664													
Oil & Grease (Total Recovered)	mg/L	OG_TR	**NE**	**NE**	**NE**	**NE**	**NE**	NA	NA	<2.3	NA	NA	<2.2
TPH	mg/L	TPH1664	**NE**	**NE**	**NE**	**NE**	**NE**	NA	NA	<2.3	NA	NA	<2.2
TCL VOCs 8260B													
2-Butanone (MEK)	ug/L	78-93-3	**224000**	**941000**	**6260000**	**1330000**	**1660**	<50	<100	<10	<10	<10	<10
Acetone	ug/L	67-64-1	**2830000**	**11900000**	**54500000**	**754000**	**14100**	<50	<100	<10	<10	<10	<10
Benzene	ug/L	71-43-2	**941**	**941**	**1050**	**863**	**15**	**58**	**59**	<1.0	**130**	**630**	<1.0
Chloroform	ug/L	67-66-3	**27.3**	**35.5**	**2260**	**1720**	**22.8**	<5.0	<10	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	110-82-7	**102**	**429**	**9780**	**NE**	**3420**	**560**	**710**	<10	**10**	<10	<10
Ethylbenzene	ug/L	100-41-4	**27.6**	**27.6**	**3380**	**1410**	**61**	**150**	**160**	<1.0	**1.6**	**16**	<1.0
Isopropylbenzene	ug/L	98-82-8	**88.7**	**373**	**3450**	**6400**	**92.5**	**17**	**15**	<1.0	<1.0	**1.6**	<1.0
Methyl-t-butyl ether	ug/L	1634-04-4	**4500**	**19700**	**443000**	**1690000**	**651**	<5.0	<10	**5.9**	<1.0	<1.0	**4.8**
Methylcyclohexane	ug/L	108-87-2	**17.7**	**74.5**	**650**	**NE**	**624**	**460**	**690**	<10	<10	<10	<10
Naphthalene	ug/L	91-20-3	**3.98**	**20.1**	**73.5**	**557**	**0.722**	**6.4**	<10	<1.0	<1.0	**3.1**	<1.0
Tetrachloroethene	ug/L	127-18-4	**5.76**	**24.2**	**292**	**213**	**10.6**	**47**	**64**	<1.0	<1.0	<1.0	<1.0
Toluene	ug/L	108-88-3	**1920**	**8070**	**63100**	**35000**	**1020**	**45**	**44**	<1.0	<1.0	**3.5**	<1.0
Trichloroethene	ug/L	79-01-6	**1.24**	**2.18**	**19.3**	**52.7**	**0.484**	**10**	**11**	<1.0	<1.0	<1.0	<1.0
m,p-Xylenes	ug/L	108-38-3	**71.5**	**149**	**1330**	**5270**	**21.8**	**190**	**240**	<2.0	<2.0	<2.0	<2.0
o-Xylene	ug/L	95-47-6	**51.9**	**207**	**1830**	**5870**	**21.9**	**9.1**	**11**	<1.0	<1.0	**8.4**	<1.0
TCL SVOCs 8270C													
2,4,5-Trichlorophenol	ug/L	95-95-4	**NE**	**NE**	**NE**	**8330**	**NE**	**53**	**19**	<5.0	<5.0	<5.0	<5.0
2,4-Dichlorophenol	ug/L	120-83-2	**NE**	**NE**	**NE**	**1130**	**NE**	**710**	**220**	<5.0	<5.0	<5.0	**8.1**
2-Chlorophenol	ug/L	95-57-8	**NE**	**NE**	**NE**	**7350**	**NE**	**8.3**	<5.0	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	ug/L	91-57-6	**NE**	**NE**	**NE**	**61.5**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Acenaphthene	ug/L	83-32-9	**NE**	**NE**	**NE**	**2870**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Acenaphthylene	ug/L	208-96-8	**NE**	**NE**	**NE**	**1590**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Anthracene	ug/L	120-12-7	**NE**	**NE**	**NE**	**7660**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Biphenyl (Diphenyl)	ug/L	92-52-4	**3.31**	**13.9**	**1800**	**1160**	**1.23**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbazole	ug/L	86-74-8	**NE**	**NE**	**NE**	**NE**	**NE**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibenzofuran	ug/L	132-64-9	**NE**	**NE**	**NE**	**51.2**	**NE**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Fluoranthene	ug/L	206-44-0	**NE**	**NE**	**NE**	**330**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Fluorene	ug/L	86-73-7	**NE**	**NE**	**NE**	**4250**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Naphthalene	ug/L	91-20-3	**3.98**	**20.1**	**73.5**	**557**	**0.722**	**35**	**0.66**	<5.0	<5.0	<0.50	<5.0
Pentachlorophenol	ug/L	87-86-5	**5500000**	**24000000**	**12400000000**	**103**	**962000**	**13**	<5.0	<5.0	<5.0	<5.0	<5.0
Phenanthrene	ug/L	85-01-8	**NE**	**NE**	**NE**	**1430**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
Pyrene	ug/L	129-00-0	**NE**	**NE**	**NE**	**941**	**NE**	<5.0	<0.50	<5.0	<5.0	<0.50	<5.0
PCBs 8082													
PCBs	ug/L							ND	NA	NA	ND	NA	NA
Pesticides 8081B													
Pesticides	ug/L							ND	NA	NA	ND	NA	NA
Herbicides 8151A													
2,4,5-TP (Silvex)	ug/L	93-72-1	**NE**	**NE**	**NE**	**NE**	**NE**	<19	NA	NA	<1.9	NA	NA
Dicamba	ug/L	1918-00-9	**NE**	**NE**	**NE**	**NE**	**NE**	**23**	NA	NA	<1.9	NA	NA
MCPP	ug/L	93-65-2	**NE**	**NE**	**NE**	**NE**	**NE**	**85000**	NA	NA	<1900	NA	NA
PPL Metals 6020A													
Antimony	ug/L	7440-36-0	**NE**	**NE**	**NE**	**NE**	**NE**	<5.0	<5.0	NA	<5.0	<5.0	NA
Arsenic	ug/L	7440-38-2	**NE**	**NE**	**NE**	**NE**	**NE**	**590**	**330**	NA	**180**	**230**	NA
Beryllium	ug/L	7440-41-7	**NE**	**NE**	**NE**	**NE**	**NE**	<1.0	<1.0	NA	<1.0	<1.0	NA
Cadmium	ug/L	7440-43-9	**NE**	**NE**	**NE**	**36**	**NE**	<1.0	<1.0	NA	<1.0	<1.0	NA
Chromium	ug/L	7440-47-3	**NE**	**NE**	**NE**	**26.6**	**NE**	<1.0	<1.0	NA	**1.9**	<1.0	NA
Copper	ug/L	7440-50-8	**NE**	**NE**	**NE**	**24600**	**NE**	**1.4**	<1.0	NA	**2.4**	<1.0	NA
Lead	ug/L	7439-92-1	**NE**	**NE**	**NE**	**NE**	**NE**	<1.0	<1.0	NA	**1.6**	<1.0	NA
Nickel	ug/L	7440-02-0	**NE**	**NE**	**NE**	**4750**	**NE**	**2.1**	**1.5**	NA	**2.0**	<1.0	NA
Selenium	ug/L	7782-49-2	**NE**	**NE**	**NE**	**3080**	**NE**	**3.3**	**1.2**	NA	<1.0	<1.0	NA
Thallium	ug/L	7440-28-0	**NE**	**NE**	**NE**	**24.6**	**NE**	<1.0	<1.0	NA	<1.0	<1.0	NA
Zinc	ug/L	7440-66-6	**NE**	**NE**	**NE**	**220000**	**NE**	<20	**20**	NA	**22**	<20	NA

NOTES:
TPH = total petroleum hydrocarbons
TPH-DRO = diesel range TPH
TPH-GRO = gasoline range TPH
TCL = Target Compound List
VOCs = volatile organic compounds
SVOCs = semi-VOCs
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WTNC = water table not contacted
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NE = not established
Bold and right justification designates target compound was detected at a concentration above RL
Blue highlighting designates a deep groundwater sample
Yellow highlighting designates target compound was detected at a concentration above the VDEQ screening level in at least 1 sample

List of Symbols, Abbreviations, and Acronyms

Symbol or Abbreviation	Definition
CSM	**Conceptual Site Model.** A **CSM** is a method to describe what is known or can be inferred about a site for the purpose of making a decision. A CSM generally will address physical, chemical and biological systems; contaminant release and transport; societal issues; policy, land use, and exposures.
CVOC	**Chlorinated Volatile Organic Contaminant.** A **VOC** containing chlorine atoms; typically, a cleaning solvent.
DPT	**Direct-Push Technology** (DPT) refers to a group of techniques used for subsurface investigation by driving, pushing and/or vibrating small-diameter rods into the ground.
ECD	**Electron Capture Detector.** An **ECD** is a device for detecting electron-absorbing components (high electronegativity) such as halogenated compounds in a gas through the attachment of electrons via electron capture ionization.
DNAPL	**Dense Non-Aqueous Phase Liquid.** A **DNAPL** is a denser-than-water NAPL, i.e. a liquid that is both denser than water and is immiscible in or does not dissolve in water.
HPT	**Hydraulic Profiling Tool**. The **HPT** is a logging **tool** that measures the pressure required to inject a flow of water into the soil as the probe is advanced into the subsurface. In addition to measurement of injection pressure, the HPT can also be used to measure hydrostatic pressure under the zero-flow condition.
LCSM	**LNAPL Conceptual Site Model.** A **LCSM** is a conceptual site model focused on the release and transport of LNAPL contaminants.
LIF	**Laser-induced fluorescence** is a spectroscopic method in which an atom or molecule is excited to a higher energy level by the absorption of laser light followed by spontaneous emission of light.
LNAPL	**Light Non-Aqueous Phase Liquids** are groundwater contaminants that are not soluble in water and have lower density than water, in contrast to a **DNAPL** which has higher density than water.
MIP	**Membrane Interface Probe**. The **MIP** is a direct push tool used to log the relative concentration of volatile organic compounds (VOCs) with depth in soil.

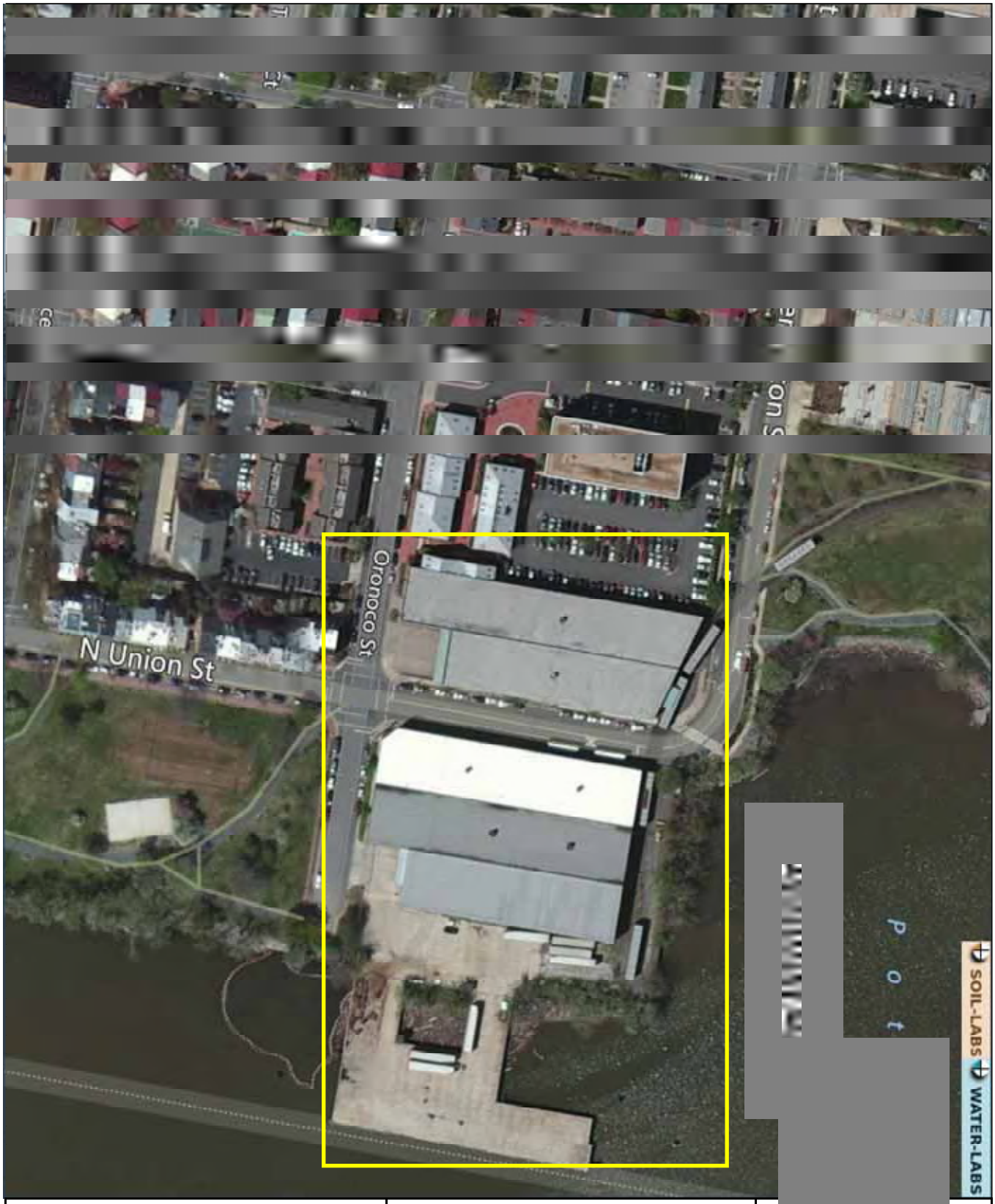
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Symbol or Abbreviation	Definition
PHC	**Petroleum Hydrocarbons.** The presence of petroleum hydrocarbon fuels in any phase. **(PHC).**
PID	**Photo Ionization Detector.** In a **PID** high-energy photons to break molecules into positively charged ions. The **PID** will only respond to components that have ionization energies at or below the energy of the photons produced by the **PID** lamp.
SPOC	**Shock Protected Optical Cavity**. The **SPOC** is the component of the LIF system that contains the mirror and sapphire window for proper alignment of the laser beam.
TCE	**Trichloroethylene.** The chemical compound **TCE** is a halocarbon commonly used as an industrial solvent. It is a clear non-flammable liquid with a sweet smell.
UST	**Underground Storage Tank.** Under Federal law **UST** means any one or combination of tanks including connected underground pipes that is used to contain regulated substances, and the volume of which including the volume of underground pipes is 10 percent or more beneath the surface of the ground. This does not include, among other things, any farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes, tanks for storing heating oil for consumption on the premises, or septic tanks.
UVOST®	**Ultraviolet Optical Scanning Tool®.** A **LIF** is a tool that uses laser light in the ultraviolet spectrum to excite fluorescent molecules that exist in the majority of hazardous non-aqueous phase liquids (NAPLs) such as petroleum fuels/oils, coal tars, and creosotes.
VOC	**Volatile organic compounds** (**VOCs**) are organic chemicals that have a high vapor pressure at ordinary room temperature. Their high vapor pressure results from a low boiling point, which causes large numbers of molecules to evaporate or sublimate from the liquid or solid form of the compound and enter the surrounding air, a trait known as volatility.
XSD	**Halogen Specific Detector.** The **XSD** was developed for the selective detection of halogen-containing compounds.

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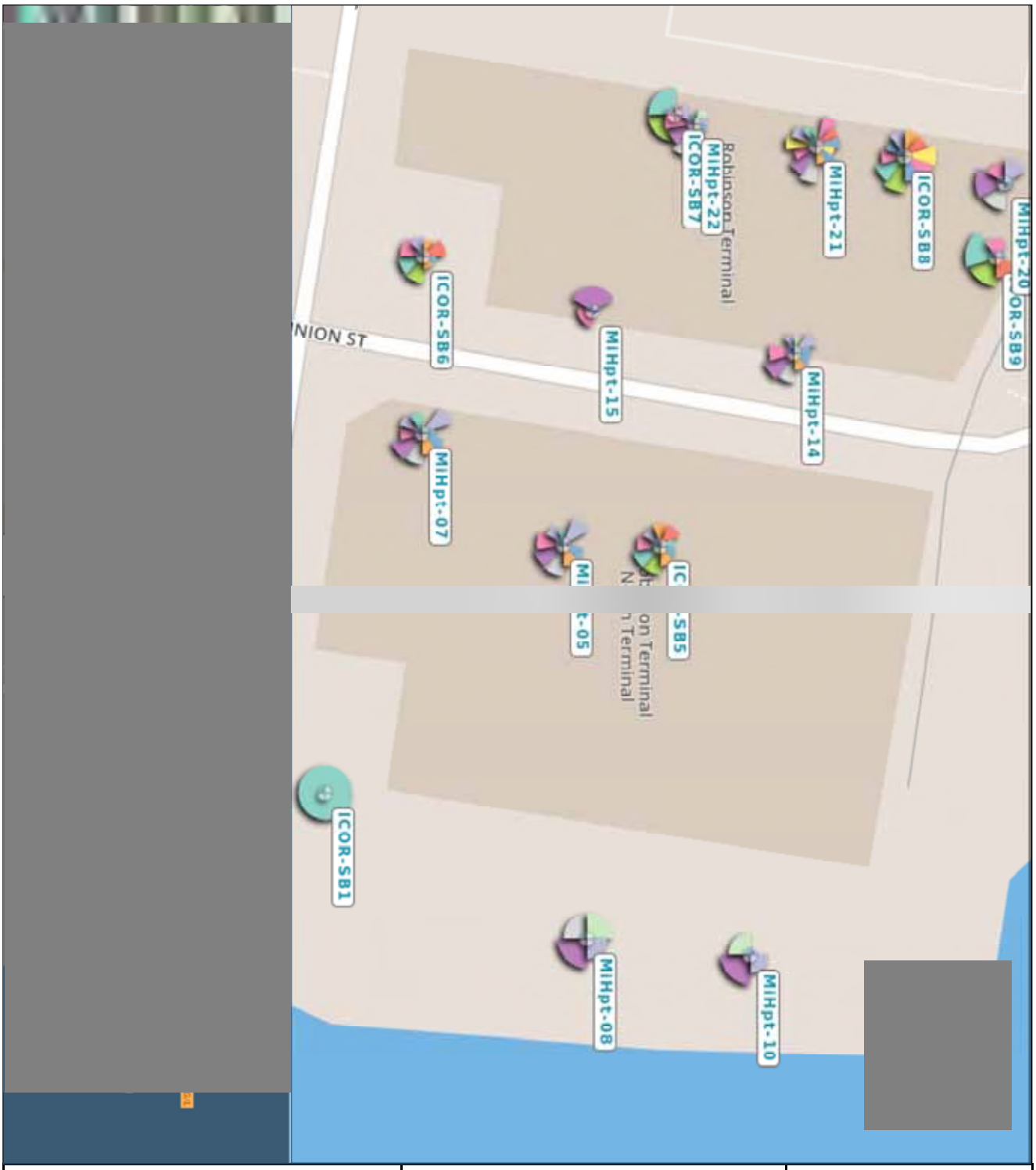


COLUMBIA TECHNOLOGIES	**Robinson Terminal North** Alexandria, VA		**Assessment Area**
	High-Resolution Assessment	June 2016	**Figure 1**

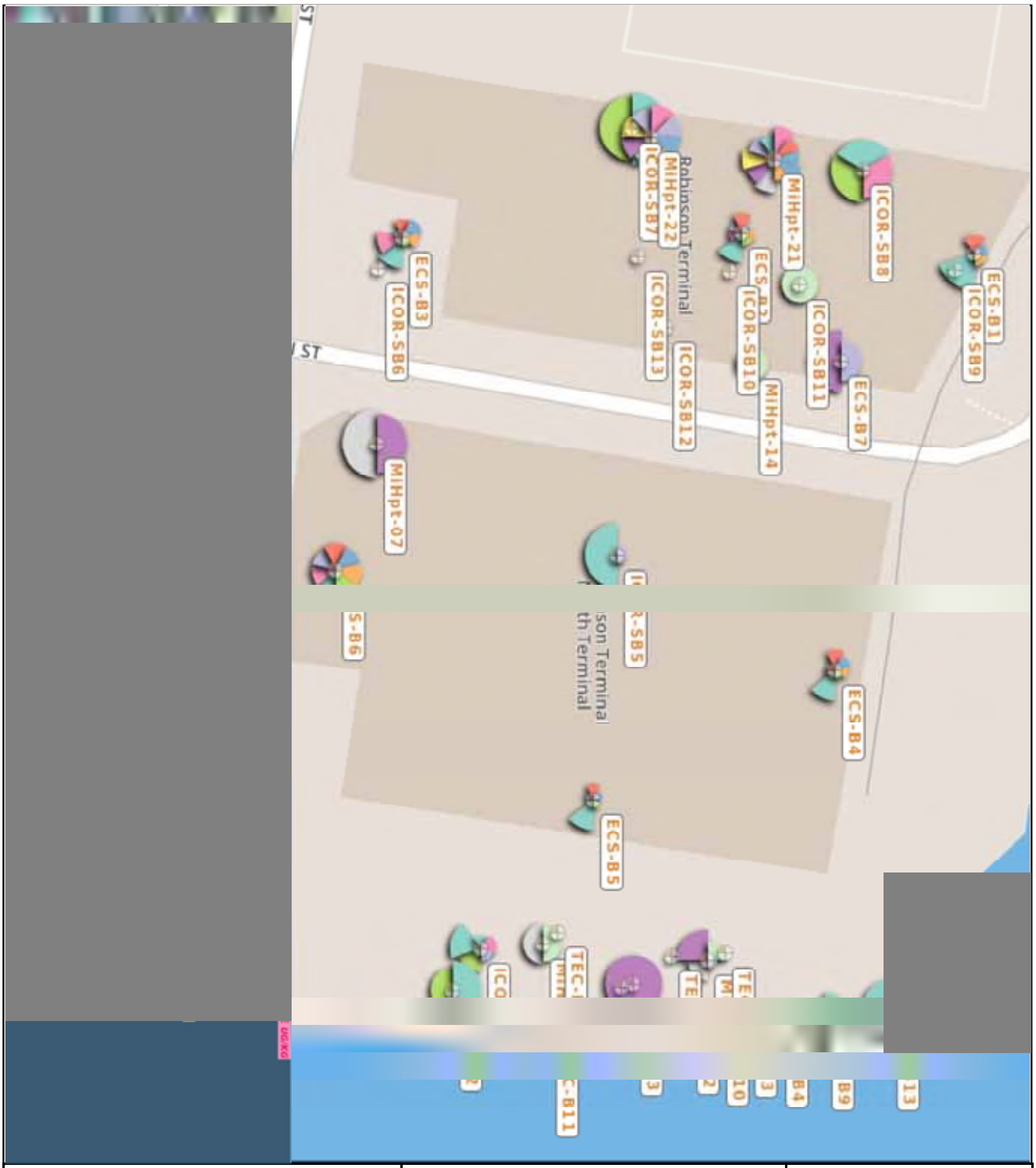
	Robinson Terminal North Alexandria, VA	**MiHpt Survey Locations**
	June 2016	**Figure 2**
	High-Resolution Assessment	

Columbia Technologies	High-Resolution Assessment	June 2016
Robinson Terminal North Alexandria, VA		
Area of Chlorinated VOC Response		**Figure 3**

	High-Resolution Assessment	June 2016
Robinson Terminal North Alexandria, VA		
Area of Petroleum VOC Response		**Figure 4**



COLUMBIA TECHNOLOGIES	**Robinson Terminal North** Alexandria, VA		**Current Groundwater Laboratory Results**
	High-Resolution Assessment	June 2016	**Figure 5**



COLUMBIA TECHNOLOGIES	**Robinson Terminal North** Alexandria, VA		**Current Soil Laboratory Results**
	High-Resolution Assessment	June 2016	**Figure 6**

	Robinson Terminal North Alexandria, VA	**E-W Cross Section A-A'**
High-Resolution Assessment	June 2016	**Figure 7**

Robinson Terminal North
Alexandria, VA
High-Resolution Assessment
June 2016
E-W Cross Section B-B'
Figure 8
B
B'
Petroleum VOCs
Chlorinated VOCs
High Humic Content
Robinson Terminal North Terminal
Petroleum VOCs
Chlorinated VOCs
Indicates High Permeability
2,300 ug/L TPH-GRO
150 ug/L TPH-DRO
630 ug/L Benzene
N

	High-Resolution Assessment	**Figure 9**
Robinson Terminal North Alexandria, VA	June 2016	**E-W Cross Section C-C'**

	Robinson Terminal North Alexandria, VA	High-Resolution Assessment	June 2016
N-S Cross Section D-D'			**Figure 10**

	Robinson Terminal North Alexandria, VA	High-Resolution Assessment	June 2016
North Boundary E-E'			**Figure 11**

	Robinson Terminal North Alexandria, VA	High-Resolution Assessment	June 2016
South Boundary F-F'			Figure 12

	Robinson Terminal North Alexandria, VA	**WEST Boundary G-G'**
High-Resolution Assessment	June 2016	**Figure 13**

ATTACHMENT 5

LABORATORY REPORTS OF ANALYSIS (2016 AND 2017 SAMPLES)

Analytical Report for

Icor Ltd.

Certificate of Analysis No.: 16090718

Project Manager: Mike Bruzzesi

Project Name : Robinson Terminal North

Project Location: 500/501 N. Union St.

September 14, 2016

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
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800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



September 14, 2016

Mike Bruzzesi
Icor Ltd.
PO Box 406
Middleburg, VA 20118

Reference: PSS Work Order(s) No: **16090718**
Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Dear Mike Bruzzesi :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16090718**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 12, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090718

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/07/2016 at 01:35 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16090718-001	M1Hpt-03(1-2)	SOIL	09/06/16 15:45
16090718-002	M1Hpt-03(4-5)	SOIL	09/06/16 15:50
16090718-003	M1Hpt-04(1-2)	SOIL	09/06/16 16:00
16090718-004	M1Hpt-04(4-5)	SOIL	09/06/16 16:05
16090718-005	M1Hpt-06(1-2)	SOIL	09/06/16 15:15
16090718-006	M1Hpt-06(4-5)	SOIL	09/06/16 15:20
16090718-007	M1Hpt-07(1-2)	SOIL	09/06/16 14:05
16090718-008	M1Hpt-07(7-8)	SOIL	09/06/16 14:15
16090718-009	M1Hpt-08(4-5)	SOIL	09/06/16 10:55
16090718-010	M1Hpt-08(37.8-38.8)	SOIL	09/06/16 12:05
16090718-011	M1Hpt-10(24.5-25.5)	SOIL	09/06/16 10:10
16090718-012	M1Hpt-08-GW(37-40)	GROUND WATER	09/06/16 13:30

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090718

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-03(1-2) **Date/Time Sampled: 09/06/2016 15:45** **PSS Sample ID: 16090718-001**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 92**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Arsenic	**1.1**	mg/kg	0.52		1	09/08/16	09/09/16 19:07	1033
Beryllium	ND	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Cadmium	ND	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Chromium	**5.5**	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Copper	**4.2**	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Lead	**22**	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Mercury	ND	mg/kg	0.10		1	09/08/16	09/09/16 19:07	1033
Nickel	ND	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Selenium	ND	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Silver	ND	mg/kg	2.6		1	09/08/16	09/09/16 19:07	1033
Thallium	ND	mg/kg	2.1		1	09/08/16	09/09/16 19:07	1033
Zinc	ND	mg/kg	10		1	09/08/16	09/09/16 19:07	1033

Sample ID: M1Hpt-03(4-5) **Date/Time Sampled: 09/06/2016 15:50** **PSS Sample ID: 16090718-002**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 81**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**190**	mg/kg	0.44		1	09/08/16	09/09/16 19:40	1033

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-04(1-2) **Date/Time Sampled: 09/06/2016 16:00** **PSS Sample ID: 16090718-003**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 91**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Arsenic	**3.9**	mg/kg	0.41		1	09/08/16	09/09/16 19:46	1033
Beryllium	ND	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Cadmium	ND	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Chromium	**4.0**	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Copper	**6.7**	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Lead	**94**	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Mercury	**0.094**	mg/kg	0.082		1	09/08/16	09/09/16 19:46	1033
Nickel	ND	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Selenium	ND	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Silver	ND	mg/kg	2.0		1	09/08/16	09/09/16 19:46	1033
Thallium	ND	mg/kg	1.6		1	09/08/16	09/09/16 19:46	1033
Zinc	**16**	mg/kg	8.2		1	09/08/16	09/09/16 19:46	1033

Sample ID: M1Hpt-04(4-5) **Date/Time Sampled: 09/06/2016 16:05** **PSS Sample ID: 16090718-004**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 82**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**320**	mg/kg	4.1		10	09/08/16	09/12/16 14:21	1033

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-06(1-2) **Date/Time Sampled: 09/06/2016 15:15** **PSS Sample ID: 16090718-005**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 91**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Arsenic	**1.2**	mg/kg	0.50		1	09/08/16	09/09/16 20:26	1033
Beryllium	ND	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Cadmium	ND	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Chromium	**8.1**	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Copper	**6.0**	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Lead	**6.7**	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Mercury	**0.12**	mg/kg	0.10		1	09/08/16	09/09/16 20:26	1033
Nickel	**3.2**	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Selenium	ND	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Silver	ND	mg/kg	2.5		1	09/08/16	09/09/16 20:26	1033
Thallium	ND	mg/kg	2.0		1	09/08/16	09/09/16 20:26	1033
Zinc	**15**	mg/kg	10		1	09/08/16	09/09/16 20:26	1033

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-06(4-5) **Date/Time Sampled: 09/06/2016 15:20** **PSS Sample ID: 16090718-006**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 86**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	**17**	mg/kg	2.5		1	09/08/16	09/09/16 20:32	1033
Arsenic	**150**	mg/kg	0.50		1	09/08/16	09/09/16 20:32	1033
Beryllium	ND	mg/kg	2.5		1	09/08/16	09/09/16 20:32	1033
Cadmium	ND	mg/kg	2.5		1	09/08/16	09/09/16 20:32	1033
Chromium	**11**	mg/kg	2.5		1	09/08/16	09/09/16 20:32	1033
Copper	**410**	mg/kg	25		10	09/08/16	09/12/16 14:28	1033
Lead	**1,800**	mg/kg	25		10	09/08/16	09/12/16 14:28	1033
Mercury	**0.47**	mg/kg	0.10		1	09/08/16	09/09/16 20:32	1033
Nickel	**6.5**	mg/kg	2.5		1	09/08/16	09/09/16 20:32	1033
Selenium	**6.3**	mg/kg	2.5		1	09/08/16	09/09/16 20:32	1033
Silver	**3.3**	mg/kg	2.5		1	09/08/16	09/09/16 20:32	1033
Thallium	**2.4**	mg/kg	2.0		1	09/08/16	09/09/16 20:32	1033
Zinc	**370**	mg/kg	10		1	09/08/16	09/09/16 20:32	1033

Sample ID: M1Hpt-07(1-2) **Date/Time Sampled: 09/06/2016 14:05** **PSS Sample ID: 16090718-007**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 92**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**1.0**	mg/kg	0.47		1	09/08/16	09/09/16 20:39	1033

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07(7-8) **Date/Time Sampled: 09/06/2016 14:15** **PSS Sample ID: 16090718-008**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 83**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**59**	mg/kg	12		1	09/12/16	09/14/16 00:43	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**1,300,000**	ug/kg	12,000		100	09/08/16	09/08/16 16:00	1035

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07(7-8) **Date/Time Sampled: 09/06/2016 14:15** **PSS Sample ID: 16090718-008**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 83**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	1,900		100	09/12/16	09/12/16 19:29	1011
Benzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Bromochloromethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Bromodichloromethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Bromoform	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Bromomethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
2-Butanone (MEK)	ND	ug/kg	1,900		100	09/12/16	09/12/16 19:29	1011
Carbon Disulfide	ND	ug/kg	930		100	09/12/16	09/12/16 19:29	1011
Carbon Tetrachloride	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Chlorobenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Chloroethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Chloroform	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Chloromethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Cyclohexane	ND	ug/kg	1,900		100	09/12/16	09/12/16 19:29	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	3,700		100	09/12/16	09/12/16 19:29	1011
Dibromochloromethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,2-Dichlorobenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,3-Dichlorobenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,4-Dichlorobenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Dichlorodifluoromethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,1-Dichloroethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,2-Dichloroethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,1-Dichloroethene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,2-Dichloropropane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
cis-1,2-Dichloroethene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
cis-1,3-Dichloropropene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
trans-1,2-Dichloroethene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
trans-1,3-Dichloropropene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Ethylbenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07(7-8) **Date/Time Sampled: 09/06/2016 14:15** **PSS Sample ID: 16090718-008**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 83**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	1,900		100	09/12/16	09/12/16 19:29	1011
Isopropylbenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Methyl Acetate	ND	ug/kg	1,900		100	09/12/16	09/12/16 19:29	1011
Methylcyclohexane	ND	ug/kg	1,900		100	09/12/16	09/12/16 19:29	1011
Methylene Chloride	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
4-Methyl-2-Pentanone	ND	ug/kg	1,900		100	09/12/16	09/12/16 19:29	1011
Methyl-t-butyl ether	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Naphthalene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Styrene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Tetrachloroethene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Toluene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,2,3-Trichlorobenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,2,4-Trichlorobenzene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,1,1-Trichloroethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,1,2-Trichloroethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Trichloroethene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Trichlorofluoromethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
Vinyl Chloride	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011
m,p-Xylenes	ND	ug/kg	930		100	09/12/16	09/12/16 19:29	1011
o-Xylene	ND	ug/kg	460		100	09/12/16	09/12/16 19:29	1011

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(4-5) **Date/Time Sampled: 09/06/2016 10:55** **PSS Sample ID: 16090718-009**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 85**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	12		1	09/12/16	09/14/16 01:08	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**260**	ug/kg	120		1	09/08/16	09/08/16 14:28	1035

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(4-5) **Date/Time Sampled: 09/06/2016 10:55** **PSS Sample ID: 16090718-009**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 85**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	17		1	09/12/16	09/12/16 16:49	1011
Benzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Bromochloromethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Bromodichloromethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Bromoform	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Bromomethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
2-Butanone (MEK)	ND	ug/kg	17		1	09/12/16	09/12/16 16:49	1011
Carbon Disulfide	ND	ug/kg	8.6		1	09/12/16	09/12/16 16:49	1011
Carbon Tetrachloride	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Chlorobenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Chloroethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Chloroform	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Chloromethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Cyclohexane	ND	ug/kg	17		1	09/12/16	09/12/16 16:49	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	34		1	09/12/16	09/12/16 16:49	1011
Dibromochloromethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,2-Dichlorobenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,3-Dichlorobenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,4-Dichlorobenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Dichlorodifluoromethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,1-Dichloroethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,2-Dichloroethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,1-Dichloroethene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
cis-1,2-Dichloroethene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,2-Dichloropropane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
cis-1,3-Dichloropropene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
trans-1,2-Dichloroethene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
trans-1,3-Dichloropropene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Ethylbenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(4-5) **Date/Time Sampled: 09/06/2016 10:55** **PSS Sample ID: 16090718-009**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 85**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	17		1	09/12/16	09/12/16 16:49	1011
Isopropylbenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Methyl Acetate	ND	ug/kg	17		1	09/12/16	09/12/16 16:49	1011
Methylcyclohexane	ND	ug/kg	17		1	09/12/16	09/12/16 16:49	1011
Methylene Chloride	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
4-Methyl-2-Pentanone	ND	ug/kg	17		1	09/12/16	09/12/16 16:49	1011
Methyl-t-butyl ether	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Naphthalene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Styrene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Tetrachloroethene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Toluene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,2,3-Trichlorobenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,2,4-Trichlorobenzene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,1,1-Trichloroethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,1,2-Trichloroethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Trichloroethene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Trichlorofluoromethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
Vinyl Chloride	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011
m,p-Xylenes	ND	ug/kg	8.6		1	09/12/16	09/12/16 16:49	1011
o-Xylene	ND	ug/kg	4.3		1	09/12/16	09/12/16 16:49	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(37.8-38.8) **Date/Time Sampled: 09/06/2016 12:05** **PSS Sample ID: 16090718-010**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	15		1	09/12/16	09/14/16 01:08	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**160**	ug/kg	150		1	09/08/16	09/08/16 14:59	1035

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(37.8-38.8) **Date/Time Sampled: 09/06/2016 12:05** **PSS Sample ID: 16090718-010**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	**66**	ug/kg	27		1	09/12/16	09/12/16 17:29	1011
Benzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Bromochloromethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Bromodichloromethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Bromoform	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Bromomethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
2-Butanone (MEK)	ND	ug/kg	27		1	09/12/16	09/12/16 17:29	1011
Carbon Disulfide	ND	ug/kg	14		1	09/12/16	09/12/16 17:29	1011
Carbon Tetrachloride	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Chlorobenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Chloroethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Chloroform	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Chloromethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Cyclohexane	ND	ug/kg	27		1	09/12/16	09/12/16 17:29	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	55		1	09/12/16	09/12/16 17:29	1011
Dibromochloromethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,2-Dichlorobenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,3-Dichlorobenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,4-Dichlorobenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Dichlorodifluoromethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,1-Dichloroethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,2-Dichloroethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,1-Dichloroethene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,2-Dichloropropane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
cis-1,2-Dichloroethene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
cis-1,3-Dichloropropene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
trans-1,2-Dichloroethene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
trans-1,3-Dichloropropene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Ethylbenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(37.8-38.8) **Date/Time Sampled: 09/06/2016 12:05** **PSS Sample ID: 16090718-010**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	27		1	09/12/16	09/12/16 17:29	1011
Isopropylbenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Methyl Acetate	ND	ug/kg	27		1	09/12/16	09/12/16 17:29	1011
Methylcyclohexane	ND	ug/kg	27		1	09/12/16	09/12/16 17:29	1011
Methylene Chloride	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
4-Methyl-2-Pentanone	ND	ug/kg	27		1	09/12/16	09/12/16 17:29	1011
Methyl-t-butyl ether	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Naphthalene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Styrene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Tetrachloroethene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Toluene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,2,3-Trichlorobenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,2,4-Trichlorobenzene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,1,1-Trichloroethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,1,2-Trichloroethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Trichloroethene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Trichlorofluoromethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
Vinyl Chloride	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011
m,p-Xylenes	ND	ug/kg	14		1	09/12/16	09/12/16 17:29	1011
o-Xylene	ND	ug/kg	6.8		1	09/12/16	09/12/16 17:29	1011

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(37.8-38.8) **Date/Time Sampled: 09/06/2016 12:05** **PSS Sample ID: 16090718-010**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Acenaphthylene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Acetophenone	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Anthracene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Atrazine	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Benzo(a)anthracene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Benzo(a)pyrene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Benzo(b)fluoranthene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Benzo(g,h,i)perylene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Benzo(k)fluoranthene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Biphenyl (Diphenyl)	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Butyl benzyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
bis(2-chloroethoxy) methane	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
bis(2-chloroethyl) ether	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
bis(2-chloroisopropyl) ether	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
bis(2-ethylhexyl) phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
4-Bromophenylphenyl ether	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Di-n-butyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Carbazole	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Caprolactam	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
4-Chloro-3-methyl phenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
4-Chloroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2-Chloronaphthalene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2-Chlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
4-Chlorophenyl Phenyl ether	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Chrysene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Dibenz(a,h)Anthracene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Dibenzofuran	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
3,3-Dichlorobenzidine	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2,4-Dichlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(37.8-38.8) **Date/Time Sampled: 09/06/2016 12:05** **PSS Sample ID: 16090718-010**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Dimethyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2,4-Dimethylphenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
4,6-Dinitro-2-methyl phenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2,4-Dinitrophenol	ND	ug/kg	500		1	09/08/16	09/08/16 18:04	1055
2,4-Dinitrotoluene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2,6-Dinitrotoluene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Fluoranthene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Fluorene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Hexachlorobenzene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Hexachlorobutadiene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Hexachlorocyclopentadiene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Hexachloroethane	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Isophorone	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2-Methylnaphthalene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2-Methyl phenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
3&4-Methylphenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Naphthalene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2-Nitroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
3-Nitroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
4-Nitroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Nitrobenzene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2-Nitrophenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
4-Nitrophenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
N-Nitrosodi-n-propyl amine	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
N-Nitrosodiphenylamine	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Di-n-octyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Pentachlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Phenanthrene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08(37.8-38.8) **Date/Time Sampled: 09/06/2016 12:05** **PSS Sample ID: 16090718-010**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Pyrene	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
Pyridine	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2,4,5-Trichlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055
2,4,6-Trichlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 18:04	1055

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10(24.5-25.5) **Date/Time Sampled: 09/06/2016 10:10** **PSS Sample ID: 16090718-011**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**150**	mg/kg	15	DF	1	09/12/16	09/14/16 01:33	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**180**	ug/kg	150		1	09/08/16	09/08/16 15:30	1035

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10(24.5-25.5) **Date/Time Sampled: 09/06/2016 10:10** **PSS Sample ID: 16090718-011**
Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	**84**	ug/kg	27		1	09/12/16	09/12/16 18:09	1011
Benzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Bromochloromethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Bromodichloromethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Bromoform	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Bromomethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
2-Butanone (MEK)	ND	ug/kg	27		1	09/12/16	09/12/16 18:09	1011
Carbon Disulfide	ND	ug/kg	14		1	09/12/16	09/12/16 18:09	1011
Carbon Tetrachloride	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Chlorobenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Chloroethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Chloroform	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Chloromethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Cyclohexane	ND	ug/kg	27		1	09/12/16	09/12/16 18:09	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	55		1	09/12/16	09/12/16 18:09	1011
Dibromochloromethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,2-Dichlorobenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,3-Dichlorobenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,4-Dichlorobenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Dichlorodifluoromethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,1-Dichloroethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,2-Dichloroethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,1-Dichloroethene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,2-Dichloropropane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
cis-1,2-Dichloroethene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
cis-1,3-Dichloropropene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
trans-1,2-Dichloroethene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
trans-1,3-Dichloropropene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Ethylbenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10(24.5-25.5) **Date/Time Sampled: 09/06/2016 10:10** **PSS Sample ID: 16090718-011**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	27		1	09/12/16	09/12/16 18:09	1011
Isopropylbenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Methyl Acetate	ND	ug/kg	27		1	09/12/16	09/12/16 18:09	1011
Methylcyclohexane	ND	ug/kg	27		1	09/12/16	09/12/16 18:09	1011
Methylene Chloride	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
4-Methyl-2-Pentanone	ND	ug/kg	27		1	09/12/16	09/12/16 18:09	1011
Methyl-t-butyl ether	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Naphthalene	**10**	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Styrene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Tetrachloroethene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Toluene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,2,3-Trichlorobenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,2,4-Trichlorobenzene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,1,1-Trichloroethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,1,2-Trichloroethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Trichloroethene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Trichlorofluoromethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
Vinyl Chloride	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011
m,p-Xylenes	ND	ug/kg	14		1	09/12/16	09/12/16 18:09	1011
o-Xylene	ND	ug/kg	6.9		1	09/12/16	09/12/16 18:09	1011

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Sample ID: M1Hpt-10(24.5-25.5) | **Date/Time Sampled: 09/06/2016 10:10** | **PSS Sample ID: 16090718-011**
Matrix: SOIL | **Date/Time Received: 09/07/2016 13:35** | **% Solids: 67**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	**2,300**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Acenaphthylene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Acetophenone	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Anthracene	**3,400**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Atrazine	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Benzo(a)anthracene	**5,500**	ug/kg	1,200		5	09/08/16	09/09/16 13:11	1055
Benzo(a)pyrene	**5,200**	ug/kg	1,200		5	09/08/16	09/09/16 13:11	1055
Benzo(b)fluoranthene	**3,800**	ug/kg	1,200		5	09/08/16	09/09/16 13:11	1055
Benzo(g,h,i)perylene	**2,700**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Benzo(k)fluoranthene	**3,500**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Biphenyl (Diphenyl)	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Butyl benzyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
bis(2-chloroethoxy) methane	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
bis(2-chloroethyl) ether	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
bis(2-chloroisopropyl) ether	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
bis(2-ethylhexyl) phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
4-Bromophenylphenyl ether	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Di-n-butyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Carbazole	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Caprolactam	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
4-Chloro-3-methyl phenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
4-Chloroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2-Chloronaphthalene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2-Chlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
4-Chlorophenyl Phenyl ether	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Chrysene	**4,800**	ug/kg	1,200		5	09/08/16	09/09/16 13:11	1055
Dibenz(a,h)Anthracene	**1,200**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Dibenzofuran	**1,200**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
3,3-Dichlorobenzidine	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2,4-Dichlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10(24.5-25.5) | **Date/Time Sampled: 09/06/2016 10:10** | **PSS Sample ID: 16090718-011**
Matrix: SOIL | **Date/Time Received: 09/07/2016 13:35** | **% Solids: 67**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Dimethyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2,4-Dimethylphenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
4,6-Dinitro-2-methyl phenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2,4-Dinitrophenol	ND	ug/kg	500		1	09/08/16	09/08/16 20:53	1055
2,4-Dinitrotoluene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2,6-Dinitrotoluene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Fluoranthene	**8,700**	ug/kg	1,200		5	09/08/16	09/09/16 13:11	1055
Fluorene	**2,200**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Hexachlorobenzene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Hexachlorobutadiene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Hexachlorocyclopentadiene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Hexachloroethane	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Indeno(1,2,3-c,d)Pyrene	**3,100**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Isophorone	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2-Methylnaphthalene	**560**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2-Methyl phenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
3&4-Methylphenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Naphthalene	**570**	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2-Nitroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
3-Nitroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
4-Nitroaniline	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Nitrobenzene	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2-Nitrophenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
4-Nitrophenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
N-Nitrosodi-n-propyl amine	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
N-Nitrosodiphenylamine	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Di-n-octyl phthalate	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Pentachlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Phenanthrene	**8,200**	ug/kg	1,200		5	09/08/16	09/09/16 13:11	1055

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CERTIFICATE OF ANALYSIS

No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10(24.5-25.5) **Date/Time Sampled: 09/06/2016 10:10** **PSS Sample ID: 16090718-011**

Matrix: SOIL **Date/Time Received: 09/07/2016 13:35** **% Solids: 67**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
Pyrene	**7,400**	ug/kg	1,200		5	09/08/16	09/09/16 13:11	1055
Pyridine	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2,4,5-Trichlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055
2,4,6-Trichlorophenol	ND	ug/kg	250		1	09/08/16	09/08/16 20:53	1055

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No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08-GW(37-40) **Date/Time Sampled: 09/06/2016 13:30** **PSS Sample ID: 16090718-012**

Matrix: GROUND WATER **Date/Time Received: 09/07/2016 13:35**

Total Petroleum Hydrocarbons-GRO Analytical Method: SW-846 8015C Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/07/16	09/07/16 20:35	1035

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No: 16090718

Icor Ltd., Middleburg, VA

September 14, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08-GW(37-40) **Date/Time Sampled: 09/06/2016 13:30** **PSS Sample ID: 16090718-012**
Matrix: GROUND WATER **Date/Time Received: 09/07/2016 13:35**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

pH=4

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	**81**	ug/L	10		1	09/09/16	09/09/16 20:27	1011
Benzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Bromochloromethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Bromoform	ND	ug/L	5.0		1	09/09/16	09/09/16 20:27	1011
Bromomethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
2-Butanone (MEK)	**40**	ug/L	10		1	09/09/16	09/09/16 20:27	1011
Carbon Disulfide	ND	ug/L	10		1	09/09/16	09/09/16 20:27	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Chlorobenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Chloroethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Chloroform	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Chloromethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Cyclohexane	ND	ug/L	10		1	09/09/16	09/09/16 20:27	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/09/16	09/09/16 20:27	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Ethylbenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011

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No: 16090718

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September 14, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08-GW(37-40) **Date/Time Sampled: 09/06/2016 13:30** **PSS Sample ID: 16090718-012**

Matrix: GROUND WATER **Date/Time Received: 09/07/2016 13:35**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

pH=4

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/09/16	09/09/16 20:27	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Methyl Acetate	ND	ug/L	10		1	09/09/16	09/09/16 20:27	1011
Methylcyclohexane	ND	ug/L	10		1	09/09/16	09/09/16 20:27	1011
Methylene Chloride	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/09/16	09/09/16 20:27	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Naphthalene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Styrene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Toluene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Trichloroethene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/09/16	09/09/16 20:27	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/09/16	09/09/16 20:27	1011
o-Xylene	ND	ug/L	1.0		1	09/09/16	09/09/16 20:27	1011

Case Narrative Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090718

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

RCRA Metals

Batch: 135683

Matrix spike and/or matrix spike duplicate (MS/MSD) exceedances identified; see MS summary form.

TCL Volatile Organic Compounds

Batch: 135708

Surrogate exceedances identified; see surrogate summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16090718
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
ASTM D2216 05	M1Hpt-03(1-2)	Initial	16090718-001	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-03(4-5)	Initial	16090718-002	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-04(1-2)	Initial	16090718-003	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-04(4-5)	Initial	16090718-004	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-06(1-2)	Initial	16090718-005	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-06(4-5)	Initial	16090718-006	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-07(1-2)	Initial	16090718-007	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-07(7-8)	Initial	16090718-008	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-08(4-5)	Initial	16090718-009	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-08(37.8-38.8)	Initial	16090718-010	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
	M1Hpt-10(24.5-25.5)	Initial	16090718-011	1057	S	135584	135584	09/06/2016	09/07/2016 16:50	09/07/2016 16:50
SW-846 6020 A	M1Hpt-03(4-5)	Initial	16090718-002	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 19:40
	M1Hpt-07(1-2)	Initial	16090718-007	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 20:39
	62458-1-BKS	BKS	62458-1-BKS	1033	S	62458	135683	--------	09/08/2016 16:43	09/09/2016 19:01
	62458-1-BLK	BLK	62458-1-BLK	1033	S	62458	135683	--------	09/08/2016 16:43	09/09/2016 18:54
	M1Hpt-03(1-2) S	MS	16090718-001 S	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 19:14
	M1Hpt-03(1-2) SD	MSD	16090718-001 SD	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 19:20
	M1Hpt-04(4-5)	Reanalysis	16090718-004	1033	S	62458	135721	09/06/2016	09/08/2016 16:43	09/12/2016 14:21
SW-846 6020 A	M1Hpt-03(1-2)	Initial	16090718-001	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 19:07
	M1Hpt-04(1-2)	Initial	16090718-003	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 19:46
	M1Hpt-06(1-2)	Initial	16090718-005	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 20:26
	M1Hpt-06(4-5)	Initial	16090718-006	1033	S	62458	135683	09/06/2016	09/08/2016 16:43	09/09/2016 20:32
	M1Hpt-06(4-5)	Reanalysis	16090718-006	1033	S	62458	135721	09/06/2016	09/08/2016 16:43	09/12/2016 14:28
SW-846 8015 C	M1Hpt-07(7-8)	Initial	16090718-008	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/14/2016 00:43
	M1Hpt-08(4-5)	Initial	16090718-009	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/14/2016 01:08
	M1Hpt-08(37.8-38.8)	Initial	16090718-010	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/14/2016 01:08
	M1Hpt-10(24.5-25.5)	Initial	16090718-011	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/14/2016 01:33
	62496-1-BKS	BKS	62496-1-BKS	1045	S	62496	135735	--------	09/12/2016 11:32	09/13/2016 12:08

Analytical Data Package Information Summary

Work Order(s): 16090718
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8015 C	62496-1-BLK	BLK	62496-1-BLK	1045	S	62496	135735	--------	09/12/2016 11:32	09/13/2016 11:41
	62496-1-BSD	BSD	62496-1-BSD	1045	S	62496	135735	--------	09/12/2016 11:32	09/13/2016 12:41
	Disposal S	MS	16090716-001 S	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/13/2016 14:16
	Disposal SD	MSD	16090716-001 SD	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/13/2016 14:44
SW-846 8015C	M1Hpt-08-GW(37-40)	Initial	16090718-012	1035	W	62446	135586	09/06/2016	09/07/2016 14:34	09/07/2016 20:35
	62446-2-BKS	BKS	62446-2-BKS	1035	W	62446	135586	--------	09/07/2016 14:34	09/07/2016 17:37
	62446-2-BLK	BLK	62446-2-BLK	1035	W	62446	135586	--------	09/07/2016 14:34	09/07/2016 17:12
	Sys Eff S	MS	16090721-001 S	1035	W	62446	135586	09/07/2016	09/07/2016 14:34	09/07/2016 21:01
	Sys Eff SD	MSD	16090721-001 SD	1035	W	62446	135586	09/07/2016	09/07/2016 14:34	09/07/2016 21:26
	M1Hpt-07(7-8)	Initial	16090718-008	1035	S	62454	135613	09/06/2016	09/08/2016 07:55	09/08/2016 16:00
	M1Hpt-08(4-5)	Initial	16090718-009	1035	S	62454	135613	09/06/2016	09/08/2016 07:55	09/08/2016 14:28
	M1Hpt-08(37.8-38.8)	Initial	16090718-010	1035	S	62454	135613	09/06/2016	09/08/2016 07:55	09/08/2016 14:59
	M1Hpt-10(24.5-25.5)	Initial	16090718-011	1035	S	62454	135613	09/06/2016	09/08/2016 07:55	09/08/2016 15:30
	62454-2-BKS	BKS	62454-2-BKS	1035	S	62454	135613	--------	09/08/2016 07:55	09/08/2016 11:57
	62454-2-BLK	BLK	62454-2-BLK	1035	S	62454	135613	--------	09/08/2016 07:55	09/08/2016 10:25
	M1Hpt-08(4-5) S	MS	16090718-009 S	1035	S	62454	135613	09/06/2016	09/08/2016 07:55	09/08/2016 16:30
	M1Hpt-08(4-5) SD	MSD	16090718-009 SD	1035	S	62454	135613	09/06/2016	09/08/2016 07:55	09/08/2016 17:00
SW-846 8260 B	M1Hpt-08-GW(37-40)	Initial	16090718-012	1011	W	62494	135686	09/06/2016	09/09/2016 10:31	09/09/2016 20:27
	62494-1-BKS	BKS	62494-1-BKS	1011	W	62494	135686	--------	09/09/2016 10:31	09/09/2016 11:28
	62494-1-BLK	BLK	62494-1-BLK	1011	W	62494	135686	--------	09/09/2016 10:31	09/09/2016 12:10
	MW-1 S	MS	16090710-001 S	1011	W	62494	135686	09/06/2016	09/09/2016 10:31	09/09/2016 17:35
	MW-1 SD	MSD	16090710-001 SD	1011	W	62494	135686	09/06/2016	09/09/2016 10:31	09/09/2016 17:57
	M1Hpt-07(7-8)	Initial	16090718-008	1011	S	62514	135708	09/06/2016	09/12/2016 10:24	09/12/2016 19:29
	M1Hpt-08(4-5)	Initial	16090718-009	1011	S	62514	135708	09/06/2016	09/12/2016 10:24	09/12/2016 16:49
	M1Hpt-08(37.8-38.8)	Initial	16090718-010	1011	S	62514	135708	09/06/2016	09/12/2016 10:24	09/12/2016 17:29
	M1Hpt-10(24.5-25.5)	Initial	16090718-011	1011	S	62514	135708	09/06/2016	09/12/2016 10:24	09/12/2016 18:09
	62514-1-BKS	BKS	62514-1-BKS	1011	S	62514	135708	--------	09/12/2016 10:24	09/12/2016 13:27
	62514-1-BLK	BLK	62514-1-BLK	1011	S	62514	135708	--------	09/12/2016 10:24	09/12/2016 14:06

Analytical Data Package Information Summary

Work Order(s): 16090718
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	NEBBC-74, 75 S	MS	16090830-002 S	1011	S	62514	135708	08/31/2016	09/12/2016 10:24	09/12/2016 15:30
	NEBBC-74, 75 SD	MSD	16090830-002 SD	1011	S	62514	135708	08/31/2016	09/12/2016 10:24	09/12/2016 16:10
SW-846 8270 C	M1Hpt-08(37.8-38.8)	Initial	16090718-010	1055	S	62444	135647	09/06/2016	09/08/2016 08:51	09/08/2016 18:04
	M1Hpt-10(24.5-25.5)	Initial	16090718-011	1055	S	62444	135647	09/06/2016	09/08/2016 08:51	09/08/2016 20:53
	62444-1-BKS	BKS	62444-1-BKS	1055	S	62444	135647	--------	09/08/2016 08:51	09/08/2016 15:43
	62444-1-BLK	BLK	62444-1-BLK	1055	S	62444	135647	--------	09/08/2016 08:51	09/08/2016 15:15
	62444-1-BSD	BSD	62444-1-BSD	1055	S	62444	135647	--------	09/08/2016 08:51	09/08/2016 16:11
	1615-03 S	MS	16090805-001 S	1055	S	62444	135647	09/07/2016	09/08/2016 08:51	09/08/2016 16:39
	1615-03 SD	MSD	16090805-001 SD	1055	S	62444	135647	09/07/2016	09/08/2016 08:51	09/08/2016 17:07
	M1Hpt-10(24.5-25.5)	Reanalysis	16090718-011	1055	S	62444	135647	09/06/2016	09/08/2016 08:51	09/09/2016 13:11

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135735 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-008

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	74		34-133	%	09/14/16 00:43

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135613 Matrix: Soil Date Prep: 09/08/2016
PSS Sample ID: 16090718-008

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	93		50-122	%	09/08/16 16:00

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135708 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-008

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	174	*	82-126	%	09/12/16 19:29
Dibromofluoromethane	93		92-113	%	09/12/16 19:29
Toluene-D8	109	*	94-105	%	09/12/16 19:29

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135735 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	85		34-133	%	09/14/16 01:08

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135613 Matrix: Soil Date Prep: 09/08/2016
PSS Sample ID: 16090718-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	95		50-122	%	09/08/16 14:28

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135708 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	110		82-126	%	09/12/16 16:49
Dibromofluoromethane	98		92-113	%	09/12/16 16:49
Toluene-D8	98		94-105	%	09/12/16 16:49

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135647 Matrix: Soil Date Prep: 09/08/2016
PSS Sample ID: 16090718-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	75		32-107	%	09/08/16 18:04
2-Fluorophenol	72		34-113	%	09/08/16 18:04
Nitrobenzene-d5	78		35-123	%	09/08/16 18:04
Phenol-d6	75		34-120	%	09/08/16 18:04
Terphenyl-D14	90		46-154	%	09/08/16 18:04
2,4,6-Tribromophenol	80		31-113	%	09/08/16 18:04

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135735 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	70		34-133	%	09/14/16 01:08

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135613 Matrix: Soil Date Prep: 09/08/2016
PSS Sample ID: 16090718-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	92		50-122	%	09/08/16 14:59

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135708 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	119		82-126	%	09/12/16 17:29
Dibromofluoromethane	98		92-113	%	09/12/16 17:29
Toluene-D8	97		94-105	%	09/12/16 17:29

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135647 Matrix: Soil Date Prep: 09/08/2016
PSS Sample ID: 16090718-011

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	80		32-107	%	09/08/16 20:53
2-Fluorophenol	68		34-113	%	09/08/16 20:53
Nitrobenzene-d5	72		35-123	%	09/08/16 20:53
Phenol-d6	73		34-120	%	09/08/16 20:53
Terphenyl-D14	122		46-154	%	09/08/16 20:53
2,4,6-Tribromophenol	84		31-113	%	09/08/16 20:53

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135735 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-011

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	83		34-133	%	09/14/16 01:33

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135613 Matrix: Soil Date Prep: 09/08/2016
PSS Sample ID: 16090718-011

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	94		50-122	%	09/08/16 15:30

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135708 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090718-011

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	107		82-126	%	09/12/16 18:09
Dibromofluoromethane	96		92-113	%	09/12/16 18:09
Toluene-D8	97		94-105	%	09/12/16 18:09

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135586 Matrix: Ground Water Date Prep: 09/07/2016
PSS Sample ID: 16090718-012

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	82		55-114	%	09/07/16 20:35

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 135686 Matrix: Ground Water Date Prep: 09/09/2016
PSS Sample ID: 16090718-012

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		86-111	%	09/09/16 20:27
Dibromofluoromethane	101		91-119	%	09/09/16 20:27
Toluene-D8	97		90-117	%	09/09/16 20:27

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 135683 Matrix: Solid Date Prep: 09/08/16
MB Sample Id: 62458-1-BLK LCS Sample Id: 62458-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Antimony	<1.996	15.97	17.61	110	80-120	mg/kg	09/09/16 19:01	
Arsenic	<0.3991	15.97	15.99	100	80-120	mg/kg	09/09/16 19:01	
Beryllium	<1.996	15.97	16.22	102	80-120	mg/kg	09/09/16 19:01	
Cadmium	<1.996	15.97	16.10	101	80-120	mg/kg	09/09/16 19:01	
Chromium	<1.996	15.97	17.23	108	80-120	mg/kg	09/09/16 19:01	
Copper	<1.996	15.97	16.36	102	80-120	mg/kg	09/09/16 19:01	
Lead	<1.996	15.97	16.28	102	80-120	mg/kg	09/09/16 19:01	
Mercury	<0.07983	0.3991	0.3912	98	80-120	mg/kg	09/09/16 19:01	
Nickel	<1.996	15.97	15.53	97	80-120	mg/kg	09/09/16 19:01	
Selenium	<1.996	15.97	15.93	100	80-120	mg/kg	09/09/16 19:01	
Silver	<1.996	15.97	16.48	103	80-120	mg/kg	09/09/16 19:01	
Thallium	<1.597	15.97	14.07	88	80-120	mg/kg	09/09/16 19:01	
Zinc	<7.983	79.83	75.12	94	80-120	mg/kg	09/09/16 19:01	

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 135683 Matrix: Soil Date Prep: 09/08/16
Parent Sample Id: 16090718-001 MS Sample Id: 16090718-001 S MSD Sample Id: 16090718-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Antimony	<2.415	19.32	14.90	77	14.27	84	75-125	4	30	mg/kg	09/09/16 19:14	
Arsenic	1.106	19.32	17.46	85	17.31	95	75-125	1	30	mg/kg	09/09/16 19:14	
Beryllium	<2.415	19.32	18.91	98	17.93	105	75-125	5	30	mg/kg	09/09/16 19:14	
Cadmium	<2.415	19.32	18.60	96	18.11	106	75-125	3	30	mg/kg	09/09/16 19:14	
Chromium	5.483	19.32	25.63	104	25.35	116	75-125	1	30	mg/kg	09/09/16 19:14	
Copper	4.194	19.32	22.70	96	23.44	113	75-125	3	30	mg/kg	09/09/16 19:14	
Lead	21.79	19.32	37.50	81	82.80	357	75-125	75	30	mg/kg	09/09/16 19:14	XF
Mercury	<0.09661	0.4830	0.4975	103	0.4441	104	75-125	11	30	mg/kg	09/09/16 19:14	
Nickel	<2.415	19.32	19.33	100	19.10	112	75-125	1	30	mg/kg	09/09/16 19:14	
Selenium	<2.415	19.32	17.42	90	17.04	100	75-125	2	30	mg/kg	09/09/16 19:14	
Silver	<2.415	19.32	18.80	97	18.12	106	75-125	4	30	mg/kg	09/09/16 19:14	
Thallium	<1.932	19.32	17.50	91	15.77	92	75-125	10	20	mg/kg	09/09/16 19:14	
Zinc	<9.661	96.61	91.01	94	96.17	113	75-125	6	30	mg/kg	09/09/16 19:14	

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135735 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62496-1-BLK LCS Sample Id: 62496-1-BKS LCSD Sample Id: 62496-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.13	33.76	22.15	66	27.80	84	54-123	23	25	mg/kg	09/13/16 12:08	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	78		83		100		34-133	%	09/13/16 12:08

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.

Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3550C

Seq Number: 135647 Matrix: Solid Date Prep: 09/08/16

MB Sample Id: 62444-1-BLK LCS Sample Id: 62444-1-BKS LCSD Sample Id: 62444-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<166.6	1333	1106	83	1139	86	60-116	3	25	ug/kg	09/08/16 15:43	
Acenaphthylene	<166.6	1333	1159	87	1186	89	61-112	2	25	ug/kg	09/08/16 15:43	
Acetophenone	<166.6	1333	1108	83	1137	85	57-114	3	25	ug/kg	09/08/16 15:43	
Anthracene	<166.6	1333	1173	88	1195	90	66-115	2	25	ug/kg	09/08/16 15:43	
Atrazine	<166.6	1333	916.4	69	934.8	70	7-109	2	25	ug/kg	09/08/16 15:43	
Benzo(a)anthracene	<166.6	1333	1264	95	1285	97	71-113	2	25	ug/kg	09/08/16 15:43	
Benzo(a)pyrene	<166.6	1333	1351	101	1358	102	69-118	1	25	ug/kg	09/08/16 15:43	
Benzo(b)fluoranthene	<166.6	1333	1375	103	1292	97	65-126	6	25	ug/kg	09/08/16 15:43	
Benzo(g,h,i)perylene	<166.6	1333	1291	97	1323	99	69-112	2	25	ug/kg	09/08/16 15:43	
Benzo(k)fluoranthene	<166.6	1333	1275	96	1351	102	57-129	6	25	ug/kg	09/08/16 15:43	
Biphenyl (Diphenyl)	<166.6	1333	1060	80	1083	81	62-117	2	25	ug/kg	09/08/16 15:43	
Butyl benzyl phthalate	<166.6	1333	1385	104	1410	106	81-111	2	25	ug/kg	09/08/16 15:43	
bis(2-chloroethoxy) methane	<166.6	1333	1066	80	1088	82	56-119	2	25	ug/kg	09/08/16 15:43	
bis(2-chloroethyl) ether	<166.6	1333	1055	79	1089	82	55-107	3	25	ug/kg	09/08/16 15:43	
bis(2-chloroisopropyl) ether	<166.6	1333	1014	76	1032	78	44-103	2	25	ug/kg	09/08/16 15:43	
bis(2-ethylhexyl) phthalate	<166.6	1333	1378	103	1400	105	84-109	2	25	ug/kg	09/08/16 15:43	
4-Bromophenylphenyl ether	<166.6	1333	1107	83	1140	86	63-125	3	25	ug/kg	09/08/16 15:43	
Di-n-butyl phthalate	<166.6	1333	1300	98	1320	99	76-110	2	25	ug/kg	09/08/16 15:43	
Carbazole	<166.6	1333	1259	94	1270	95	58-133	1	25	ug/kg	09/08/16 15:43	
Caprolactam	<166.6	1333	1224	92	1267	95	51-122	3	25	ug/kg	09/08/16 15:43	
4-Chloro-3-methyl phenol	<166.6	1333	1228	92	1267	95	74-119	3	25	ug/kg	09/08/16 15:43	
4-Chloroaniline	<166.6	1333	1053	79	1074	81	45-107	2	25	ug/kg	09/08/16 15:43	
2-Chloronaphthalene	<166.6	1333	1058	79	1090	82	56-113	3	25	ug/kg	09/08/16 15:43	
2-Chlorophenol	<166.6	1333	1088	82	1119	84	59-113	3	25	ug/kg	09/08/16 15:43	
4-Chlorophenyl Phenyl ether	<166.6	1333	1061	80	1086	82	62-111	2	25	ug/kg	09/08/16 15:43	
Chrysene	<166.6	1333	1235	93	1252	94	72-114	1	25	ug/kg	09/08/16 15:43	
Dibenz(a,h)Anthracene	<166.6	1333	1398	105	1426	107	72-110	2	25	ug/kg	09/08/16 15:43	
Dibenzofuran	<166.6	1333	1117	84	1148	86	62-118	3	25	ug/kg	09/08/16 15:43	
3,3-Dichlorobenzidine	<166.6	1333	1637	123	1686	127	66-141	3	25	ug/kg	09/08/16 15:43	
2,4-Dichlorophenol	<166.6	1333	1147	86	1171	88	68-118	2	25	ug/kg	09/08/16 15:43	
Diethyl phthalate	<166.6	1333	1210	91	1257	94	61-113	4	25	ug/kg	09/08/16 15:43	
Dimethyl phthalate	<166.6	1333	1205	90	1246	94	69-109	3	25	ug/kg	09/08/16 15:43	
2,4-Dimethylphenol	<166.6	1333	1100	83	1129	85	57-122	3	25	ug/kg	09/08/16 15:43	
4,6-Dinitro-2-methyl phenol	<166.6	1333	1273	95	1332	100	50-134	5	25	ug/kg	09/08/16 15:43	
2,4-Dinitrophenol	<333.2	1333	871.7	65	945.4	71	24-144	8	25	ug/kg	09/08/16 15:43	
2,4-Dinitrotoluene	<166.6	1333	1189	89	1214	91	61-124	2	25	ug/kg	09/08/16 15:43	
2,6-Dinitrotoluene	<166.6	1333	1193	89	1224	92	59-124	3	25	ug/kg	09/08/16 15:43	
Fluoranthene	<166.6	1333	1249	94	1267	95	69-119	1	25	ug/kg	09/08/16 15:43	
Fluorene	<166.6	1333	1142	86	1183	89	65-115	4	25	ug/kg	09/08/16 15:43	
Hexachlorobenzene	<166.6	1333	1120	84	1138	85	63-118	2	25	ug/kg	09/08/16 15:43	
Hexachlorobutadiene	<166.6	1333	1041	78	1069	80	55-120	3	25	ug/kg	09/08/16 15:43	
Hexachlorocyclopentadiene	<166.6	1333	1245	93	1294	97	29-138	4	25	ug/kg	09/08/16 15:43	
Hexachloroethane	<166.6	1333	1078	81	1097	82	54-110	2	25	ug/kg	09/08/16 15:43	
Indeno(1,2,3-c,d)Pyrene	<166.6	1333	1267	95	1297	97	60-127	2	25	ug/kg	09/08/16 15:43	
Isophorone	<166.6	1333	1182	89	1212	91	57-116	3	25	ug/kg	09/08/16 15:43	
2-Methylnaphthalene	<166.6	1333	1124	84	1139	86	70-109	1	25	ug/kg	09/08/16 15:43	
2-Methyl phenol	<166.6	1333	1135	85	1174	88	59-118	3	25	ug/kg	09/08/16 15:43	
3&4-Methylphenol	<166.6	1333	1112	83	1152	87	59-113	4	25	ug/kg	09/08/16 15:43	
Naphthalene	<166.6	1333	1047	79	1071	80	59-108	2	25	ug/kg	09/08/16 15:43	
2-Nitroaniline	<166.6	1333	1151	86	1185	89	51-116	3	25	ug/kg	09/08/16 15:43	
3-Nitroaniline	<166.6	1333	1110	83	1149	86	57-111	3	25	ug/kg	09/08/16 15:43	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135647 Matrix: Solid Date Prep: 09/08/16
MB Sample Id: 62444-1-BLK LCS Sample Id: 62444-1-BKS LCSD Sample Id: 62444-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<166.6	1333	1279	96	1310	98	55-125	2	25	ug/kg	09/08/16 15:43	
Nitrobenzene	<166.6	1333	1014	76	1041	78	53-110	3	25	ug/kg	09/08/16 15:43	
2-Nitrophenol	<166.6	1333	1174	88	1221	92	58-124	4	25	ug/kg	09/08/16 15:43	
4-Nitrophenol	<166.6	1333	1236	93	1351	102	51-116	9	25	ug/kg	09/08/16 15:43	
N-Nitrosodi-n-propyl amine	<166.6	1333	1150	86	1172	88	60-98	2	25	ug/kg	09/08/16 15:43	
N-Nitrosodiphenylamine	<166.6	1333	1159	87	1195	90	65-111	3	25	ug/kg	09/08/16 15:43	
Di-n-octyl phthalate	<166.6	1333	1310	98	1307	98	69-120	0	25	ug/kg	09/08/16 15:43	
Pentachlorophenol	<166.6	1333	1276	96	1312	99	56-124	3	25	ug/kg	09/08/16 15:43	
Phenanthrene	<166.6	1333	1143	86	1170	88	67-117	2	25	ug/kg	09/08/16 15:43	
Phenol	<166.6	1333	1076	81	1107	83	58-114	3	25	ug/kg	09/08/16 15:43	
Pyrene	<166.6	1333	1150	86	1162	87	77-111	1	25	ug/kg	09/08/16 15:43	
Pyridine	<166.6	1333	939	70	957.4	72	37-110	2	25	ug/kg	09/08/16 15:43	
2,4,5-Trichlorophenol	<166.6	1333	1234	93	1272	96	64-114	3	25	ug/kg	09/08/16 15:43	
2,4,6-Trichlorophenol	<166.6	1333	1161	87	1202	90	60-125	3	25	ug/kg	09/08/16 15:43	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	86		83		83		32-107	%	09/08/16 15:43
2-Fluorophenol	94		82		82		34-113	%	09/08/16 15:43
Nitrobenzene-d5	92		84		85		35-123	%	09/08/16 15:43
Phenol-d6	90		82		83		34-120	%	09/08/16 15:43
Terphenyl-D14	91		93		92		46-154	%	09/08/16 15:43
2,4,6-Tribromophenol	80		92		93		31-113	%	09/08/16 15:43

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135586 Matrix: Water Date Prep: 09/07/16
MB Sample Id: 62446-2-BLK LCS Sample Id: 62446-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4565	91	74-132	ug/L	09/07/16 17:37	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	80		90		55-114	%	09/07/16 17:37

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135613 Matrix: Solid Date Prep: 09/08/16
MB Sample Id: 62454-2-BLK LCS Sample Id: 62454-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4851	97	75-123	ug/kg	09/08/16 11:57	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	92		110		50-122	%	09/08/16 11:57

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135613 Matrix: Soil Date Prep: 09/08/16
Parent Sample Id: 16090718-009 MS Sample Id: 16090718-009 S MSD Sample Id: 16090718-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	256	5767	4460	73	4817	79	31-140	8	30	ug/kg	09/08/16 16:30	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	108		110		50-122	%	09/08/16 16:30

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 135686 Matrix: Water Date Prep: 09/09/16

MB Sample Id: 62494-1-BLK LCS Sample Id: 62494-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<10.00	50.00	45.12	90	29-149	ug/L	09/09/16 11:28	
Benzene	<1.000	50.00	54.04	108	85-123	ug/L	09/09/16 11:28	
Bromochloromethane	<1.000	50.00	48.72	97	82-136	ug/L	09/09/16 11:28	
Bromodichloromethane	<1.000	50.00	56.88	114	88-133	ug/L	09/09/16 11:28	
Bromoform	<5.000	50.00	47.02	94	80-126	ug/L	09/09/16 11:28	
Bromomethane	<1.000	50.00	51.68	103	64-139	ug/L	09/09/16 11:28	
2-Butanone (MEK)	<10.00	50.00	36.86	74	39-135	ug/L	09/09/16 11:28	
Carbon Disulfide	<10.00	50.00	52.77	106	85-124	ug/L	09/09/16 11:28	
Carbon Tetrachloride	<1.000	50.00	48.49	97	81-138	ug/L	09/09/16 11:28	
Chlorobenzene	<1.000	50.00	52.84	106	85-120	ug/L	09/09/16 11:28	
Chloroethane	<1.000	50.00	54.33	109	75-129	ug/L	09/09/16 11:28	
Chloroform	<1.000	50.00	48.75	98	85-128	ug/L	09/09/16 11:28	
Chloromethane	<1.000	50.00	51.64	103	60-139	ug/L	09/09/16 11:28	
Cyclohexane	<10.00	50.00	51.23	102	55-131	ug/L	09/09/16 11:28	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	48.91	98	69-127	ug/L	09/09/16 11:28	
Dibromochloromethane	<1.000	50.00	49.22	98	82-127	ug/L	09/09/16 11:28	
1,2-Dibromoethane (EDB)	<1.000	50.00	53.89	108	82-121	ug/L	09/09/16 11:28	
1,2-Dichlorobenzene	<1.000	50.00	55.51	111	82-123	ug/L	09/09/16 11:28	
1,3-Dichlorobenzene	<1.000	50.00	54.61	109	81-123	ug/L	09/09/16 11:28	
1,4-Dichlorobenzene	<1.000	50.00	53.82	108	81-121	ug/L	09/09/16 11:28	
Dichlorodifluoromethane	<1.000	50.00	48.01	96	69-147	ug/L	09/09/16 11:28	
1,1-Dichloroethane	<1.000	50.00	50.92	102	83-123	ug/L	09/09/16 11:28	
1,2-Dichloroethane	<1.000	50.00	54.50	109	86-138	ug/L	09/09/16 11:28	
1,1-Dichloroethene	<1.000	50.00	58.69	117	85-127	ug/L	09/09/16 11:28	
cis-1,2-Dichloroethene	<1.000	50.00	55.29	111	87-127	ug/L	09/09/16 11:28	
1,2-Dichloropropane	<1.000	50.00	55.26	111	79-125	ug/L	09/09/16 11:28	
cis-1,3-Dichloropropene	<1.000	50.00	52.24	104	79-131	ug/L	09/09/16 11:28	
trans-1,3-Dichloropropene	<1.000	50.00	53.12	106	82-133	ug/L	09/09/16 11:28	
trans-1,2-Dichloroethene	<1.000	50.00	49.22	98	85-125	ug/L	09/09/16 11:28	
Ethylbenzene	<1.000	50.00	55.49	111	83-123	ug/L	09/09/16 11:28	
2-Hexanone	<10.00	50.00	45.97	92	37-137	ug/L	09/09/16 11:28	
Isopropylbenzene	<1.000	50.00	49.90	100	70-131	ug/L	09/09/16 11:28	
Methyl Acetate	<10.00	50.00	50.98	102	69-127	ug/L	09/09/16 11:28	
Methylcyclohexane	<10.00	50.00	51.73	103	75-129	ug/L	09/09/16 11:28	
Methylene Chloride	<1.000	50.00	52.05	104	86-124	ug/L	09/09/16 11:28	
4-Methyl-2-Pentanone	<5.000	50.00	45.01	90	39-143	ug/L	09/09/16 11:28	
Methyl-t-butyl ether	<1.000	50.00	44.39	89	75-134	ug/L	09/09/16 11:28	
Naphthalene	<1.000	50.00	49.63	99	61-118	ug/L	09/09/16 11:28	
Styrene	<1.000	50.00	48.55	97	80-120	ug/L	09/09/16 11:28	
1,1,2,2-Tetrachloroethane	<1.000	50.00	54.02	108	64-125	ug/L	09/09/16 11:28	
Tetrachloroethene	<1.000	50.00	54.54	109	83-138	ug/L	09/09/16 11:28	
Toluene	<1.000	50.00	55.80	112	88-126	ug/L	09/09/16 11:28	
1,2,3-Trichlorobenzene	<1.000	50.00	51.69	103	75-124	ug/L	09/09/16 11:28	
1,2,4-Trichlorobenzene	<1.000	50.00	59.06	118	77-131	ug/L	09/09/16 11:28	
1,1,1-Trichloroethane	<1.000	50.00	54.92	110	68-146	ug/L	09/09/16 11:28	
1,1,2-Trichloroethane	<1.000	50.00	55.88	112	85-124	ug/L	09/09/16 11:28	
Trichloroethene	<1.000	50.00	55.24	110	87-127	ug/L	09/09/16 11:28	
Trichlorofluoromethane	<5.000	50.00	56.59	113	77-147	ug/L	09/09/16 11:28	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	56.46	113	68-135	ug/L	09/09/16 11:28	
Vinyl Chloride	<1.000	50.00	51.60	103	74-138	ug/L	09/09/16 11:28	
m,p-Xylenes	<2.000	100	94.99	95	84-124	ug/L	09/09/16 11:28	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 135686 Matrix: Water Date Prep: 09/09/16
MB Sample Id: 62494-1-BLK LCS Sample Id: 62494-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	47.84	96	79-126	ug/L	09/09/16 11:28	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		100		86-111	%	09/09/16 11:28
Dibromofluoromethane	97		102		91-119	%	09/09/16 11:28
Toluene-D8	108		103		90-117	%	09/09/16 11:28

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030

Seq Number: 135708 Matrix: Solid Date Prep: 09/12/16

MB Sample Id: 62514-1-BLK LCS Sample Id: 62514-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	77.54	129	46-127	ug/kg	09/12/16 13:27	H
Benzene	<5.000	60.00	59.05	98	70-127	ug/kg	09/12/16 13:27	
Bromochloromethane	<5.000	60.00	53.57	89	68-122	ug/kg	09/12/16 13:27	
Bromodichloromethane	<5.000	60.00	47.82	80	68-122	ug/kg	09/12/16 13:27	
Bromoform	<5.000	60.00	49.46	82	57-127	ug/kg	09/12/16 13:27	
Bromomethane	<5.000	60.00	55.79	93	68-123	ug/kg	09/12/16 13:27	
2-Butanone (MEK)	<20.00	60.00	71.91	120	41-136	ug/kg	09/12/16 13:27	
Carbon Disulfide	<10.00	60.00	61.78	103	66-135	ug/kg	09/12/16 13:27	
Carbon Tetrachloride	<5.000	60.00	45.84	76	64-147	ug/kg	09/12/16 13:27	
Chlorobenzene	<5.000	60.00	54.66	91	70-121	ug/kg	09/12/16 13:27	
Chloroethane	<5.000	60.00	58.01	97	66-142	ug/kg	09/12/16 13:27	
Chloroform	<5.000	60.00	52.12	87	68-123	ug/kg	09/12/16 13:27	
Chloromethane	<5.000	60.00	66.80	111	65-136	ug/kg	09/12/16 13:27	
Cyclohexane	<20.00	60.00	61.71	103	62-138	ug/kg	09/12/16 13:27	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	50.96	85	55-122	ug/kg	09/12/16 13:27	
Dibromochloromethane	<5.000	60.00	49.76	83	61-122	ug/kg	09/12/16 13:27	
1,2-Dibromoethane (EDB)	<5.000	60.00	53.10	89	63-119	ug/kg	09/12/16 13:27	
1,2-Dichlorobenzene	<5.000	60.00	54.55	91	65-121	ug/kg	09/12/16 13:27	
1,3-Dichlorobenzene	<5.000	60.00	55.44	92	69-121	ug/kg	09/12/16 13:27	
1,4-Dichlorobenzene	<5.000	60.00	54.42	91	69-118	ug/kg	09/12/16 13:27	
Dichlorodifluoromethane	<5.000	60.00	49.90	83	53-162	ug/kg	09/12/16 13:27	
1,1-Dichloroethane	<5.000	60.00	58.02	97	70-127	ug/kg	09/12/16 13:27	
1,2-Dichloroethane	<5.000	60.00	49.07	82	68-118	ug/kg	09/12/16 13:27	
1,1-Dichloroethene	<5.000	60.00	58.56	98	69-133	ug/kg	09/12/16 13:27	
1,2-Dichloropropane	<5.000	60.00	55.72	93	70-122	ug/kg	09/12/16 13:27	
cis-1,2-Dichloroethene	<5.000	60.00	58.46	97	68-126	ug/kg	09/12/16 13:27	
cis-1,3-Dichloropropene	<5.000	60.00	51.93	87	68-121	ug/kg	09/12/16 13:27	
trans-1,2-Dichloroethene	<5.000	60.00	59.66	99	70-132	ug/kg	09/12/16 13:27	
trans-1,3-Dichloropropene	<5.000	60.00	49.26	82	67-115	ug/kg	09/12/16 13:27	
Ethylbenzene	<5.000	60.00	54.55	91	70-125	ug/kg	09/12/16 13:27	
2-Hexanone	<20.00	60.00	60.80	101	40-121	ug/kg	09/12/16 13:27	
Isopropylbenzene	<5.000	60.00	55.70	93	68-130	ug/kg	09/12/16 13:27	
Methyl Acetate	<20.00	60.00	68.09	113	60-125	ug/kg	09/12/16 13:27	
Methylcyclohexane	<20.00	60.00	53.21	89	62-150	ug/kg	09/12/16 13:27	
Methylene Chloride	<5.000	60.00	59.41	99	67-121	ug/kg	09/12/16 13:27	
4-Methyl-2-Pentanone	<20.00	60.00	59.20	99	48-117	ug/kg	09/12/16 13:27	
Methyl-t-butyl ether	<5.000	60.00	54.78	91	66-119	ug/kg	09/12/16 13:27	
Naphthalene	<5.000	60.00	53.27	89	54-115	ug/kg	09/12/16 13:27	
Styrene	<5.000	60.00	52.80	88	71-120	ug/kg	09/12/16 13:27	
1,1,2,2-Tetrachloroethane	<5.000	60.00	59.63	99	59-122	ug/kg	09/12/16 13:27	
Tetrachloroethene	<5.000	60.00	48.55	81	65-145	ug/kg	09/12/16 13:27	
Toluene	<5.000	60.00	52.04	87	69-129	ug/kg	09/12/16 13:27	
1,2,3-Trichlorobenzene	<5.000	60.00	48.62	81	60-114	ug/kg	09/12/16 13:27	
1,2,4-Trichlorobenzene	<5.000	60.00	49.37	82	64-115	ug/kg	09/12/16 13:27	
1,1,1-Trichloroethane	<5.000	60.00	47.79	80	65-139	ug/kg	09/12/16 13:27	
1,1,2-Trichloroethane	<5.000	60.00	55.62	93	64-125	ug/kg	09/12/16 13:27	
Trichloroethene	<5.000	60.00	50.31	84	69-133	ug/kg	09/12/16 13:27	
Trichlorofluoromethane	<5.000	60.00	47.54	79	59-153	ug/kg	09/12/16 13:27	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	49.70	83	62-139	ug/kg	09/12/16 13:27	
Vinyl Chloride	<5.000	60.00	70.46	117	69-142	ug/kg	09/12/16 13:27	
m,p-Xylenes	<10.00	120	108.6	91	71-124	ug/kg	09/12/16 13:27	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090718

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030
Seq Number: 135708
Matrix: Solid
Date Prep: 09/12/16
MB Sample Id: 62514-1-BLK
LCS Sample Id: 62514-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<5.000	60.00	52.79	88	72-123	ug/kg	09/12/16 13:27	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		97		82-126	%	09/12/16 13:27
Dibromofluoromethane	99		102		92-113	%	09/12/16 13:27
Toluene-D8	98		100		94-105	%	09/12/16 13:27

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: ICOR, LTD. *OFFICE LOC

*PROJECT MGR: M. BRUZZESE *PHONE NO.: 703-608-5469

EMAIL: LANDSTRATEGY.COM FAX NO:

*PROJECT NAME: ROBINSON TERMINAL NORTH PROJECT NO.

SITE LOCATION: 500/501 N. UNION ST. P.O. NO.:

SAMPLER(S): M. BRUZZESE DW CERT NO.

PSS Work Order #: 1600 40718 PAGE 1 OF 2

SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2) (3)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used	Analyses Method Requested: GRO / DRO 8015	VOCs 8260	SVOCs 8270	PPL METALS 6020	ARSENIC 6020	REMARKS
1	MiHpt-03 (1-2)	9/6/16	1545	SO	1	G				X			
2	MiHpt-03 (4-5)		1550	SO	1	G					X		
3	MiHpt-04 (1-2)		1600	SO	1	G				X			
4	MiHpt-04 (4-5)		1605	SO	1	G					X		
5	MiHpt-06 (1-2)		1515	SO	1	G				X			
6	MiHpt-06 (4-5)		1520	SO	1	G				X			
7	MiHpt-07 (1-2)		1405	SO	1	G					X		
8	MiHpt-07 (7-8)		1415	SO	4	G		X	X				
9	MiHpt-08 (4-5)		1055	SO	4	G		X	X				
10	MiHpt-08 (37.8-38.8)		1205	SO	5	G		X	X	X			

(5)

	Date	Time	
Relinquished By: (1)	9/7/16	0700	Received By:
Relinquished By: (2)	9/7	1335	Received By:
Relinquished By: (3)			Received By:
Relinquished By: (4)			Received By:

(4)

*Requested TAT (One TAT per COC)
☒ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:
COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

# of Coolers: 2
Custody Seal: ABS
Ice Present: ABS Temp: 5.4°C
Shipping Carrier: FTE

Special Instructions:

DW COMPLIANCE? YES ☐ EDD FORMAT TYPE

STATE RESULTS REPORTED TO:
MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 832-8047 • Fax 410) 788-8

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: ICOR, LTD. *OFFICE LOC

*PROJECT MGR: M. BRUZZESI *PHONE NO.: (703)608-5969

EMAIL: LANDSTRAT@AOL.COM FAX NO.:

*PROJECT NAME: ROBINSON TERMINAL NORTH PROJECT NO.:

SITE LOCATION: 500/501 N. UNION ST. P.O. NO.:

SAMPLER(S): M. BRUZZESI DW CERT NO.:

PSS Work Order #: 1609071B PAGE 2 OF 2

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	(3) Preservatives Used / Analysis/ Method Required: 6RO / DRO 8015	VOCs 8260	SVOCs 8270	PPL METALS 6020	ARSENIC 6020	GRO 8015	REMARKS
11	MiHpt-10 (24.5-25.5)	9/6/16	1010	SO	5	G	X	X	X				
12	MiHpt-08-GW (37-40)	↓	1330	GW	5	G		X			X		

(5)

Relinquished By: (1)	Date	Time	Received By:
	9/7/16	0700	TTE
Relinquished By: (2) TTE	Date 9/7	Time 1335	Received By:
Relinquished By: (3)	Date	Time	Received By
Relinquished By: (4)	Date	Time	Received By

(4)

Requested TAT (One TAT per COC): ☒ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

Special Instructions:

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

# of Coolers: 2

Custody Seal: ABS

Ice Present: YES Temp: 5.4 °C

Shipping Carrier: TTE

8630 Baltimore National Pike • Route 40 West – Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16090718	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/07/2016 01:35:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/12/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	4
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

COC agrees with sample labels?	Yes	Sampler Name	Mike Bruzzesi
Chain of Custody	Yes	MD DW Cert. No.	N/A

Sample Container

Appropriate for Specified Analysis?	Yes	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 12 Total No. of Containers Received 30

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16090718	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/07/2016 01:35:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/12/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:  Date: 09/07/2016

Rachel Davis

PM Review and Approval:  Date: 09/08/2016

Simon Crisp

Analytical Report for

Icor Ltd.

Certificate of Analysis No.: 16090815

Project Manager: Mike Bruzzesi

Project Name : Robinson Terminal North

Project Location: 500/501 N. Union St.

September 22, 2016

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
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800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



September 22, 2016

Mike Bruzzesi
Icor Ltd.
PO Box 406
Middleburg, VA 20118

Reference: PSS Work Order(s) No: **16090815**
Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Dear Mike Bruzzesi :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16090815**. This report version includes revised sample results to provide Dioxins results. This report cancels and supersedes report version 1.000 dated September 15, 2016.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 13, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090815

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/08/2016 at 01:00 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16090815-002	M1Hpt-08 (36.5-40)	GROUND WATER	09/07/16 08:30
16090815-003	ICOR-SB3 (10.5-11.5)	SOIL	09/07/16 08:25
16090815-004	M1Hpt-05 (1-2)	SOIL	09/07/16 10:05
16090815-005	M1Hpt-12 (1-2)	SOIL	09/07/16 12:50
16090815-006	M1Hpt-18 (1-2)	SOIL	09/07/16 13:30
16090815-007	M1Hpt-17 (1-2)	SOIL	09/07/16 13:05
16090815-008	M1Hpt-17 (4-5)	SOIL	09/07/16 13:10
16090815-009	M1Hpt-19 (1-2)	SOIL	09/07/16 15:00
16090815-010	M1Hpt-19 (4-5)	SOIL	09/07/16 15:05
16090815-011	ICOR-SB14 (1-2)	SOIL	09/07/16 13:55
16090815-012	ICOR-SB14 (4-5)	SOIL	09/07/16 14:00
16090815-013	ECS-B7 (1-2)	SOIL	09/07/16 14:45
16090815-014	ECS-B7 (5-6)	SOIL	09/07/16 14:50
16090815-015	ICOR-SB9	SOIL	09/07/16 15:10
16090815-016	M1Hpt-13 (1-2)	SOIL	09/07/16 15:15
16090815-017	M1Hpt-13 (4-5)	SOIL	09/07/16 15:20

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090815

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090815

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 (36.5-40) **Date/Time Sampled: 09/07/2016 08:30** **PSS Sample ID: 16090815-002**
Matrix: GROUND WATER **Date/Time Received: 09/08/2016 13:00**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.48**	mg/L	0.11		1	09/12/16	09/15/16 09:50	1045

Sample ID: ICOR-SB3 (10.5-11.5) **Date/Time Sampled: 09/07/2016 08:25** **PSS Sample ID: 16090815-003**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 85**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**13**	mg/kg	12		1	09/12/16	09/14/16 01:58	1045

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.060		1	09/09/16	09/12/16 10:09	1029
PCB-1221	ND	mg/kg	0.060		1	09/09/16	09/12/16 10:09	1029
PCB-1232	ND	mg/kg	0.060		1	09/09/16	09/12/16 10:09	1029
PCB-1242	ND	mg/kg	0.060		1	09/09/16	09/12/16 10:09	1029
PCB-1248	ND	mg/kg	0.060		1	09/09/16	09/12/16 10:09	1029
PCB-1254	ND	mg/kg	0.060		1	09/09/16	09/12/16 10:09	1029
PCB-1260	ND	mg/kg	0.060		1	09/09/16	09/12/16 10:09	1029

Sample ID: M1Hpt-05 (1-2) **Date/Time Sampled: 09/07/2016 10:05** **PSS Sample ID: 16090815-004**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 90**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**2.2**	mg/kg	0.52		1	09/12/16	09/12/16 19:00	1033

Sample ID: M1Hpt-12 (1-2) **Date/Time Sampled: 09/07/2016 12:50** **PSS Sample ID: 16090815-005**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 80**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**400**	mg/kg	5.6		10	09/12/16	09/13/16 15:21	1033

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CERTIFICATE OF ANALYSIS

No: 16090815

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-18 (1-2) **Date/Time Sampled: 09/07/2016 13:30** **PSS Sample ID: 16090815-006**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 84**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**12**	mg/kg	0.50		1	09/12/16	09/12/16 19:39	1033

Sample ID: M1Hpt-17 (1-2) **Date/Time Sampled: 09/07/2016 13:05** **PSS Sample ID: 16090815-007**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 84**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	**14**	mg/kg	2.6		1	09/12/16	09/12/16 20:12	1033
Arsenic	**670**	mg/kg	52		100	09/12/16	09/13/16 15:27	1033
Beryllium	ND	mg/kg	2.6		1	09/12/16	09/12/16 20:12	1033
Cadmium	**12**	mg/kg	2.6		1	09/12/16	09/12/16 20:12	1033
Chromium	**27**	mg/kg	26		10	09/12/16	09/13/16 15:34	1033
Copper	**6,900**	mg/kg	260		100	09/12/16	09/13/16 15:27	1033
Lead	**1,500**	mg/kg	260		100	09/12/16	09/13/16 15:27	1033
Mercury	**20**	mg/kg	1.0		10	09/12/16	09/13/16 15:34	1033
Nickel	**16**	mg/kg	2.6		1	09/12/16	09/12/16 20:12	1033
Selenium	**12**	mg/kg	2.6		1	09/12/16	09/12/16 20:12	1033
Silver	**16**	mg/kg	2.6		1	09/12/16	09/12/16 20:12	1033
Thallium	ND	mg/kg	21		10	09/12/16	09/13/16 15:34	1033
Zinc	**4,300**	mg/kg	1,000		100	09/12/16	09/13/16 15:27	1033

Sample ID: M1Hpt-17 (4-5) **Date/Time Sampled: 09/07/2016 13:10** **PSS Sample ID: 16090815-008**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 81**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**6.9**	mg/kg	0.60		1	09/12/16	09/12/16 20:18	1033

Sample ID: M1Hpt-19 (1-2) **Date/Time Sampled: 09/07/2016 15:00** **PSS Sample ID: 16090815-009**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 88**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**130**	mg/kg	0.50		1	09/12/16	09/12/16 20:25	1033

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Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-19 (4-5) **Date/Time Sampled: 09/07/2016 15:05** **PSS Sample ID: 16090815-010**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 84**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**480**	mg/kg	4.4		10	09/12/16	09/13/16 15:40	1033

Sample ID: ICOR-SB14 (1-2) **Date/Time Sampled: 09/07/2016 13:55** **PSS Sample ID: 16090815-011**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 85**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**9.1**	mg/kg	0.48		1	09/12/16	09/12/16 20:38	1033

Sample ID: ICOR-SB14 (4-5) **Date/Time Sampled: 09/07/2016 14:00** **PSS Sample ID: 16090815-012**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 83**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**9.2**	mg/kg	0.45		1	09/12/16	09/12/16 20:44	1033

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CERTIFICATE OF ANALYSIS

No: 16090815

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September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-B7 (1-2) **Date/Time Sampled: 09/07/2016 14:45** **PSS Sample ID: 16090815-013**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 89**

PP Metals | Analytical Method: SW-846 6020 A | Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Arsenic	**49**	mg/kg	0.50		1	09/12/16	09/12/16 20:51	1033
Beryllium	ND	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Cadmium	ND	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Chromium	**17**	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Copper	**39**	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Lead	**160**	mg/kg	2.5		1	09/12/16	09/13/16 14:27	1033
Mercury	**1.3**	mg/kg	0.10		1	09/12/16	09/13/16 14:27	1033
Nickel	**14**	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Selenium	ND	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Silver	ND	mg/kg	2.5		1	09/12/16	09/12/16 20:51	1033
Thallium	ND	mg/kg	2.0		1	09/12/16	09/13/16 14:27	1033
Zinc	**130**	mg/kg	10		1	09/12/16	09/12/16 20:51	1033

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Sample ID: ECS-B7 (1-2) **Date/Time Sampled: 09/07/2016 14:45** **PSS Sample ID: 16090815-013**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 89**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
gamma-BHC (Lindane)	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
beta-BHC	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
delta-BHC	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Heptachlor	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Aldrin	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Heptachlor epoxide	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
gamma-Chlordane	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
alpha-Chlordane	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
4,4-DDE	**15**	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Endosulfan I	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Dieldrin	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Endrin	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
4,4-DDD	**6.1**	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Endosulfan II	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
4,4-DDT	**7.0**	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Endrin aldehyde	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Methoxychlor	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Endosulfan sulfate	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Endrin ketone	ND	ug/kg	4.4		1	09/12/16	09/14/16 19:16	1029
Toxaphene	ND	ug/kg	110		1	09/12/16	09/14/16 19:16	1029
Chlordane	ND	ug/kg	110		1	09/12/16	09/14/16 19:16	1029

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September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-B7 (1-2) **Date/Time Sampled: 09/07/2016 14:45** **PSS Sample ID: 16090815-013**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 89**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.055		1	09/09/16	09/12/16 10:38	1029
PCB-1221	ND	mg/kg	0.055		1	09/09/16	09/12/16 10:38	1029
PCB-1232	ND	mg/kg	0.055		1	09/09/16	09/12/16 10:38	1029
PCB-1242	ND	mg/kg	0.055		1	09/09/16	09/12/16 10:38	1029
PCB-1248	ND	mg/kg	0.055		1	09/09/16	09/12/16 10:38	1029
PCB-1254	ND	mg/kg	0.055		1	09/09/16	09/12/16 10:38	1029
PCB-1260	ND	mg/kg	0.055		1	09/09/16	09/12/16 10:38	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	560		10	09/12/16	09/13/16 17:21	1029
Dicamba	ND	ug/kg	22		10	09/12/16	09/13/16 17:21	1029
MCPP	ND	ug/kg	22,000		10	09/12/16	09/13/16 17:21	1029
MCPA	ND	ug/kg	22,000		10	09/12/16	09/13/16 17:21	1029
Dichloroprop	ND	ug/kg	220		10	09/12/16	09/13/16 17:21	1029
2,4-D	ND	ug/kg	220		10	09/12/16	09/13/16 17:21	1029
2,4,5-TP (Silvex)	ND	ug/kg	22		10	09/12/16	09/13/16 17:21	1029
2,4,5-T	ND	ug/kg	22		10	09/12/16	09/13/16 17:21	1029
Dinoseb	ND	ug/kg	110		10	09/12/16	09/13/16 17:21	1029
2,4-DB	ND	ug/kg	220		10	09/12/16	09/13/16 17:21	1029

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No: 16090815

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-B7 (5-6) **Date/Time Sampled: 09/07/2016 14:50** **PSS Sample ID: 16090815-014**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 79**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

DF/HF - No. 2/diesel fuel and heavier fuel/oil patterns observed in sample.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**100**	mg/kg	13	DF	1	09/13/16	09/14/16 07:24	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	120		1	09/09/16	09/09/16 14:16	1035

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September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: ECS-B7 (5-6) | **Date/Time Sampled: 09/07/2016 14:50** | **PSS Sample ID: 16090815-014**
Matrix: SOIL | **Date/Time Received: 09/08/2016 13:00** | **% Solids: 79**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	23		1	09/12/16	09/12/16 18:49	1011
Benzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Bromochloromethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Bromodichloromethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Bromoform	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Bromomethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
2-Butanone (MEK)	ND	ug/kg	23		1	09/12/16	09/12/16 18:49	1011
Carbon Disulfide	ND	ug/kg	11		1	09/12/16	09/12/16 18:49	1011
Carbon Tetrachloride	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Chlorobenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Chloroethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Chloroform	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Chloromethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Cyclohexane	ND	ug/kg	23		1	09/12/16	09/12/16 18:49	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	46		1	09/12/16	09/12/16 18:49	1011
Dibromochloromethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,2-Dichlorobenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,3-Dichlorobenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,4-Dichlorobenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Dichlorodifluoromethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,1-Dichloroethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,2-Dichloroethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,1-Dichloroethene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,2-Dichloropropane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
cis-1,2-Dichloroethene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
cis-1,3-Dichloropropene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
trans-1,2-Dichloroethene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
trans-1,3-Dichloropropene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Ethylbenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011

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September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-B7 (5-6) **Date/Time Sampled: 09/07/2016 14:50** **PSS Sample ID: 16090815-014**

Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 79**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	23		1	09/12/16	09/12/16 18:49	1011
Isopropylbenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Methyl Acetate	ND	ug/kg	23		1	09/12/16	09/12/16 18:49	1011
Methylcyclohexane	ND	ug/kg	23		1	09/12/16	09/12/16 18:49	1011
Methylene Chloride	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
4-Methyl-2-Pentanone	ND	ug/kg	23		1	09/12/16	09/12/16 18:49	1011
Methyl-t-butyl ether	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Naphthalene	**260**	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Styrene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Tetrachloroethene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Toluene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,2,3-Trichlorobenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,2,4-Trichlorobenzene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,1,1-Trichloroethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,1,2-Trichloroethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Trichloroethene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Trichlorofluoromethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
Vinyl Chloride	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011
m,p-Xylenes	ND	ug/kg	11		1	09/12/16	09/12/16 18:49	1011
o-Xylene	ND	ug/kg	5.7		1	09/12/16	09/12/16 18:49	1011

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September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: ICOR-SB9 **Date/Time Sampled: 09/07/2016 15:10** **PSS Sample ID: 16090815-015**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 87**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.058		1	09/09/16	09/12/16 11:07	1029
PCB-1221	ND	mg/kg	0.058		1	09/09/16	09/12/16 11:07	1029
PCB-1232	ND	mg/kg	0.058		1	09/09/16	09/12/16 11:07	1029
PCB-1242	ND	mg/kg	0.058		1	09/09/16	09/12/16 11:07	1029
PCB-1248	ND	mg/kg	0.058		1	09/09/16	09/12/16 11:07	1029
PCB-1254	ND	mg/kg	0.058		1	09/09/16	09/12/16 11:07	1029
PCB-1260	ND	mg/kg	0.058		1	09/09/16	09/12/16 11:07	1029

Sample ID: M1Hpt-13 (1-2) **Date/Time Sampled: 09/07/2016 15:15** **PSS Sample ID: 16090815-016**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 85**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	**12**	mg/kg	2.6		1	09/12/16	09/12/16 20:57	1033
Arsenic	**810**	mg/kg	51		100	09/12/16	09/13/16 16:00	1033
Beryllium	ND	mg/kg	2.6		1	09/12/16	09/12/16 20:57	1033
Cadmium	**17**	mg/kg	2.6		1	09/12/16	09/12/16 20:57	1033
Chromium	**29**	mg/kg	2.6		1	09/12/16	09/12/16 20:57	1033
Copper	**11,000**	mg/kg	260		100	09/12/16	09/13/16 16:00	1033
Lead	**1,800**	mg/kg	260		100	09/12/16	09/13/16 16:00	1033
Mercury	**26**	mg/kg	10		100	09/12/16	09/13/16 16:00	1033
Nickel	**18**	mg/kg	2.6		1	09/12/16	09/12/16 20:57	1033
Selenium	**11**	mg/kg	2.6		1	09/12/16	09/12/16 20:57	1033
Silver	**16**	mg/kg	2.6		1	09/12/16	09/12/16 20:57	1033
Thallium	**6.5**	mg/kg	2.1		1	09/12/16	09/12/16 20:57	1033
Zinc	**7,200**	mg/kg	1,000		100	09/12/16	09/13/16 16:00	1033

Sample ID: M1Hpt-13 (4-5) **Date/Time Sampled: 09/07/2016 15:20** **PSS Sample ID: 16090815-017**
Matrix: SOIL **Date/Time Received: 09/08/2016 13:00** **% Solids: 86**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**32**	mg/kg	0.51		1	09/12/16	09/12/16 21:04	1033

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

Report Date: September 22, 2016

Project: 16090815

Submittal Date: 09/09/2016
Group Number: 1706194
PO Number: 16090815

Client Sample Description	Lancaster Labs (LL) #
16090815-001 ICOR-SB15 (1-2) Solid	8577668
16090815-009 M1Hpt-19 (1-2) Solid	8577669

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Phase Separation Science Attn: Report ATT:

Respectfully Submitted,



Stacy L. Hess
Project Manager

(717) 556-7236

Sample Description: 16090815-001 ICOR-SB15 (1-2) Solid
16090815

LL Sample # SW 8577668
LL Group # 1706194
Account # 09703

Project Name: 16090815

Collected: 09/07/2016 07:55

Submitted: 09/09/2016 18:08
Reported: 09/22/2016 11:35

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	
00111	Moisture	n.a.	10.9	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Description: 16090815-001 ICOR-SB15 (1-2) Solid
16090815

LL Sample # SW 8577668
LL Group # 1706194
Account # 09703

Project Name: 16090815

Collected: 09/07/2016 07:55

Submitted: 09/09/2016 18:08
Reported: 09/22/2016 11:35

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL	Dilution Factor
Dioxins/Furans	**SW-846 8290A Feb 2007 Rev 1**		ng/kg	ng/kg	
12937	2378-TCDD	1746-01-6	0.0670 JQ	0.0344	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	89	40 - 135

Dioxins/Furans Data Qualifiers:

B	*Detected in Method Blank*
U	*Undetected*
J	*Estimated concentration between Estimated Detection Limit and Minimum Reporting Level*
E	*Exceeds calibration range*
C	*Confirmed quantitation on secondary GC column*
Q	*EMPC - Estimated Maximum Possible Concentration*
F	*Interference is present*
S	*Saturation of detection signal*

EDL = Estimated Detection Limit

Sample Description: 16090815-001 ICOR-SB15 (1-2) Solid
16090815

LL Sample # SW 8577668
LL Group # 1706194
Account # 09703

Project Name: 16090815

Collected: 09/07/2016 07:55

Submitted: 09/09/2016 18:08
Reported: 09/22/2016 11:35

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12937	Dioxins/Furans in Solids-8290	SW-846 8290A Feb 2007 Rev 1	1	16257003	09/15/2016 03:16	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A Feb 2007 Rev 1	1	16257003	09/13/2016 16:15	Alex L Barton	1
00111	Moisture	SM 2540 G-1997	1	16264820008A	09/21/2016 01:54	Scott W Freisher	1

EDL = Estimated Detection Limit

Sample Description: 16090815-009 M1Hpt-19 (1-2) Solid
16090815

LL Sample # SW 8577669
LL Group # 1706194
Account # 09703

Project Name: 16090815

Collected: 09/07/2016 15:00

Submitted: 09/09/2016 18:08
Reported: 09/22/2016 11:35

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	
00111	Moisture	n.a.	12.6	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Description: 16090815-009 M1Hpt-19 (1-2) Solid
16090815

LL Sample # SW 8577669
LL Group # 1706194
Account # 09703

Project Name: 16090815

Collected: 09/07/2016 15:00

Submitted: 09/09/2016 18:08
Reported: 09/22/2016 11:35

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL	Dilution Factor
Dioxins/Furans	**SW-846 8290A Feb 2007 Rev 1**		ng/kg	ng/kg	
12937	2378-TCDD	1746-01-6	12.4	0.0404	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	90	40 - 135

Dioxins/Furans Data Qualifiers:

B	*Detected in Method Blank*
U	*Undetected*
J	*Estimated concentration between Estimated Detection Limit and Minimum Reporting Level*
E	*Exceeds calibration range*
C	*Confirmed quantitation on secondary GC column*
Q	*EMPC - Estimated Maximum Possible Concentration*
F	*Interference is present*
S	*Saturation of detection signal*

EDL = Estimated Detection Limit

Sample Description: 16090815-009 M1Hpt-19 (1-2) Solid
16090815

LL Sample # SW 8577669
LL Group # 1706194
Account # 09703

Project Name: 16090815

Collected: 09/07/2016 15:00

Submitted: 09/09/2016 18:08
Reported: 09/22/2016 11:35

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12937	Dioxins/Furans in Solids-8290	SW-846 8290A Feb 2007 Rev 1	1	16257003	09/15/2016 04:13	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A Feb 2007 Rev 1	1	16257003	09/13/2016 16:15	Alex L Barton	1
00111	Moisture	SM 2540 G-1997	1	16264820008A	09/21/2016 01:54	Scott W Freisher	1

EDL = Estimated Detection Limit

Quality Control Summary

Client Name: Phase Separation Science
Reported: 09/22/2016 11:35

Group Number: 1706194

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	EDL
	ng/kg	ng/kg
Batch number: 16257003	Sample number(s): 8577668-8577669	
2378-TCDD	N.D.	0.0170

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	%	%	%	%					
Batch number: 16264820008A	Sample number(s): 8577668-8577669								
Moisture	89.5	89.47			100		99-101		

Analysis Name	OPR Spike Added	OPR Conc	OPRD Spike Added	OPRD Conc	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
	ng/kg	ng/kg	ng/kg	ng/kg					
Batch number: 16257003	Sample number(s): 8577668-8577669								
2378-TCDD	20	17.72			89		67-158		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	%	%		
Batch number: 16264820008A	Sample number(s): 8577668-8577669 BKG: P581316			
Moisture	14.25	12.62	12*	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Dioxins/Furans in Solids-8290
Batch number: 16257003

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ / MRL.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Phase Separation Science Group Number: 1706194
Reported: 09/22/2016 11:35

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

	13C12-2378-TCDD
8577668	89
8577669	90
Blank	78
OPR	86
Limits:	40-135

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ / MRL.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

9703 170694 8577668-69

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Simon Crisp

W.O. No. : **16090815**
P.O. No. :
Project Number : N/A
Report To LOD : No 23 @ 9/8/16

Report Due On :09/15/16 05:00

Samples Transferred To:
Eurofins Lancaster Labs - PA
2425 New Holland Pike
Lancaster, PA 17601

Part of Eurofins. Transport manager (for courier) S
Phone : 717-656-2300

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
16090815-001	ICOR-SB15 (1-2)	09/07/16	07:55	Solid	Dioxins 2378 TCDD only	SW8290	4 OZ WM GLASS	COOL
16090815-009	M1Hpt-19 (1-2)	09/07/16	15:00	Solid	Dioxins 2378 TCDD only	SW8290	4 OZ WM GLASS	COOL

Data Deliverables Required: COA

Perform Q.C. on Sample :

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : LANCASTER COURIER

Condition Upon Receipt : _____

Comments : **DIOXINS - STD TAT PLEASE.**

Samples Relinquished By: _____ Date : 9-9-16 Time: 13:35 Samples Received By: _____

Samples Relinquished By: _____ Date 9-9-16 Time 1808 Samples Received By: _____

Samples Relinquished By: _____ Date: 9-9-16 Time: 1808 Samples Received By: _____

Sub-Contractor	Method	Matrix	Analyte Name
Eurofins Lancaster Labs - PA	SW8290	Solid	2,3,7,8-Tetrachlorodibenzo-p-

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 161663

Group Number(s): 1706194

Client: Phase Seperation

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	09/09/2016 18:08
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	MD		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 23:14 on 09/09/2016

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	2.3	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

eurofins | Lancaster Laboratories Environmental

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Case Narrative Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090815

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Sample(s) received at a temperature greater than 6 degrees C and ice was present.

Analytical:

RCRA Metals

Batch: 135714

Intermediate LLCCV has a thallium recovery of 131%, which is above the control limits of 70-130%. This affects samples 007 and 016, which cannot be rerun straight due to a high concentration of mercury.

Organochlorine Pesticides

Batch: 135800

The recoveries of 4,4-DDT and Methoxychlor in closing CCVs were 71% and 76%(80-120%) due to sample matrix. All samples were confirmed on second column.
Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16090815
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
ASTM D2216 05	ICOR-SB3 (10.5-11.5)	Initial	16090815-003	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-05 (1-2)	Initial	16090815-004	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-12 (1-2)	Initial	16090815-005	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-18 (1-2)	Initial	16090815-006	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-17 (1-2)	Initial	16090815-007	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-17 (4-5)	Initial	16090815-008	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-19 (1-2)	Initial	16090815-009	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-19 (4-5)	Initial	16090815-010	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	ICOR-SB14 (1-2)	Initial	16090815-011	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	ICOR-SB14 (4-5)	Initial	16090815-012	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	ECS-B7 (1-2)	Initial	16090815-013	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	ECS-B7 (5-6)	Initial	16090815-014	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	ICOR-SB9	Initial	16090815-015	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-13 (1-2)	Initial	16090815-016	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-13 (4-5)	Initial	16090815-017	1059	S	135699	135699	09/07/2016	09/12/2016 16:39	09/12/2016 16:39
SW-846 6020 A	M1Hpt-05 (1-2)	Initial	16090815-004	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 19:00
	M1Hpt-18 (1-2)	Initial	16090815-006	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 19:39
	M1Hpt-17 (4-5)	Initial	16090815-008	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 20:18
	M1Hpt-19 (1-2)	Initial	16090815-009	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 20:25
	ICOR-SB14 (1-2)	Initial	16090815-011	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 20:38
	ICOR-SB14 (4-5)	Initial	16090815-012	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 20:44
	M1Hpt-13 (4-5)	Initial	16090815-017	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 21:04
	62479-1-BKS	BKS	62479-1-BKS	1033	S	62479	135714	--------	09/12/2016 09:35	09/12/2016 18:53
	62479-1-BLK	BLK	62479-1-BLK	1033	S	62479	135714	--------	09/12/2016 09:35	09/12/2016 18:46
	M1Hpt-05 (1-2) S	MS	16090815-004 S	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 19:06
	M1Hpt-05 (1-2) SD	MSD	16090815-004 SD	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 19:13
	M1Hpt-12 (1-2)	Reanalysis	16090815-005	1033	S	62479	135765	09/07/2016	09/12/2016 09:35	09/13/2016 15:21
	M1Hpt-19 (4-5)	Reanalysis	16090815-010	1033	S	62479	135765	09/07/2016	09/12/2016 09:35	09/13/2016 15:40

Analytical Data Package Information Summary

Work Order(s): 16090815
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 6020 A	M1Hpt-17 (1-2)	Initial	16090815-007	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 20:12
	ECS-B7 (1-2)	Initial	16090815-013	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 20:51
	M1Hpt-13 (1-2)	Initial	16090815-016	1033	S	62479	135714	09/07/2016	09/12/2016 09:35	09/12/2016 20:57
	ECS-B7 (1-2)	Reanalysis	16090815-013	1033	S	62479	135765	09/07/2016	09/12/2016 09:35	09/13/2016 14:27
	M1Hpt-17 (1-2)	Reanalysis	16090815-007	1033	S	62479	135765	09/07/2016	09/12/2016 09:35	09/13/2016 15:27
	M1Hpt-13 (1-2)	Reanalysis	16090815-016	1033	S	62479	135765	09/07/2016	09/12/2016 09:35	09/13/2016 16:00
SW-846 8015 C	ICOR-SB3 (10.5-11.5)	Initial	16090815-003	1045	S	62496	135735	09/07/2016	09/12/2016 11:32	09/14/2016 01:58
	62496-1-BKS	BKS	62496-1-BKS	1045	S	62496	135735	--------	09/12/2016 11:32	09/13/2016 12:08
	62496-1-BLK	BLK	62496-1-BLK	1045	S	62496	135735	--------	09/12/2016 11:32	09/13/2016 11:41
	62496-1-BSD	BSD	62496-1-BSD	1045	S	62496	135735	--------	09/12/2016 11:32	09/13/2016 12:41
	Disposal S	MS	16090716-001 S	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/13/2016 14:16
	Disposal SD	MSD	16090716-001 SD	1045	S	62496	135735	09/06/2016	09/12/2016 11:32	09/13/2016 14:44
	M1Hpt-08 (36.5-40)	Initial	16090815-002	1045	W	62475	135782	09/07/2016	09/12/2016 08:39	09/15/2016 09:50
	62475-1-BKS	BKS	62475-1-BKS	1045	W	62475	135782	--------	09/12/2016 08:39	09/14/2016 14:25
	62475-1-BLK	BLK	62475-1-BLK	1045	W	62475	135782	--------	09/12/2016 08:39	09/14/2016 14:00
	62475-1-BSD	BSD	62475-1-BSD	1045	W	62475	135782	--------	09/12/2016 08:39	09/14/2016 14:25
	ECS-B7 (5-6)	Initial	16090815-014	1045	S	62505	135802	09/07/2016	09/13/2016 08:32	09/14/2016 07:24
	62505-1-BKS	BKS	62505-1-BKS	1045	S	62505	135802	--------	09/13/2016 08:32	09/14/2016 03:38
	62505-1-BLK	BLK	62505-1-BLK	1045	S	62505	135802	--------	09/13/2016 08:32	09/14/2016 03:13
	62505-1-BSD	BSD	62505-1-BSD	1045	S	62505	135802	--------	09/13/2016 08:32	09/14/2016 04:03
	1614-02 S	MS	16090903-001 S	1045	S	62505	135802	09/08/2016	09/13/2016 08:32	09/14/2016 03:38
	1614-02 SD	MSD	16090903-001 SD	1045	S	62505	135802	09/08/2016	09/13/2016 08:32	09/14/2016 04:03
SW-846 8015C	ECS-B7 (5-6)	Initial	16090815-014	1035	S	62486	135670	09/07/2016	09/09/2016 09:37	09/09/2016 14:16
	62486-2-BKS	BKS	62486-2-BKS	1035	S	62486	135670	--------	09/09/2016 09:37	09/09/2016 12:44
	62486-2-BLK	BLK	62486-2-BLK	1035	S	62486	135670	--------	09/09/2016 09:37	09/09/2016 11:44
	ECS-B7 (5-6) S	MS	16090815-014 S	1035	S	62486	135670	09/07/2016	09/09/2016 09:37	09/09/2016 18:19
	ECS-B7 (5-6) SD	MSD	16090815-014 SD	1035	S	62486	135670	09/07/2016	09/09/2016 09:37	09/09/2016 18:50
SW-846 8081 B	ECS-B7 (1-2)	Initial	16090815-013	1029	S	62498	135800	09/07/2016	09/12/2016 15:29	09/14/2016 19:16

Analytical Data Package Information Summary

Work Order(s): 16090815
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8081 B	62498-1-BKS	BKS	62498-1-BKS	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 22:31
	62498-1-BLK	BLK	62498-1-BLK	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 12:43
	62498-1-BSD	BSD	62498-1-BSD	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 22:03
	M1Hpt-16 (4-5) S	MS	16090912-005 S	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 14:08
	M1Hpt-16 (4-5) SD	MSD	16090912-005 SD	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 15:04
SW-846 8082 A	ICOR-SB3 (10.5-11.5)	Initial	16090815-003	1029	S	62469	135705	09/07/2016	09/09/2016 12:18	09/12/2016 10:09
	ECS-B7 (1-2)	Initial	16090815-013	1029	S	62469	135705	09/07/2016	09/09/2016 12:18	09/12/2016 10:38
	ICOR-SB9	Initial	16090815-015	1029	S	62469	135705	09/07/2016	09/09/2016 12:18	09/12/2016 11:07
	62469-1-BKS	BKS	62469-1-BKS	1029	S	62469	135705	--------	09/09/2016 12:18	09/12/2016 10:38
	62469-1-BLK	BLK	62469-1-BLK	1029	S	62469	135705	--------	09/09/2016 12:18	09/12/2016 10:09
	62469-1-BSD	BSD	62469-1-BSD	1029	S	62469	135705	--------	09/09/2016 12:18	09/12/2016 11:07
	NEBBC-74, 75 S	MS	16090830-002 S	1029	S	62469	135705	08/31/2016	09/09/2016 12:18	09/12/2016 11:36
	NEBBC-74, 75 SD	MSD	16090830-002 SD	1029	S	62469	135705	08/31/2016	09/09/2016 12:18	09/12/2016 12:05
SW-846 8151 A	ECS-B7 (1-2)	Initial	16090815-013	1029	S	62477	135724	09/07/2016	09/12/2016 09:33	09/13/2016 17:21
	62477-1-BKS	BKS	62477-1-BKS	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 10:23
	62477-1-BLK	BLK	62477-1-BLK	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 09:50
	62477-1-BSD	BSD	62477-1-BSD	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 10:55
	1614-02 S	MS	16090903-001 S	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 11:28
	1614-02 SD	MSD	16090903-001 SD	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 12:00
SW-846 8260 B	ECS-B7 (5-6)	Initial	16090815-014	1011	S	62514	135708	09/07/2016	09/12/2016 10:24	09/12/2016 18:49
	62514-1-BKS	BKS	62514-1-BKS	1011	S	62514	135708	--------	09/12/2016 10:24	09/12/2016 13:27
	62514-1-BLK	BLK	62514-1-BLK	1011	S	62514	135708	--------	09/12/2016 10:24	09/12/2016 14:06
	NEBBC-74, 75 S	MS	16090830-002 S	1011	S	62514	135708	08/31/2016	09/12/2016 10:24	09/12/2016 15:30
	NEBBC-74, 75 SD	MSD	16090830-002 SD	1011	S	62514	135708	08/31/2016	09/12/2016 10:24	09/12/2016 16:10

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QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135782 Matrix: Ground Water Date Prep: 09/12/2016
PSS Sample ID: 16090815-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	89		46-111	%	09/15/16 09:50

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/09/2016
PSS Sample ID: 16090815-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	96		61-150	%	09/12/16 10:09
Tetrachloro-m-xylene	87		42-142	%	09/12/16 10:09

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135735 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090815-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	94		34-133	%	09/14/16 01:58

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/09/2016
PSS Sample ID: 16090815-013

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	92		61-150	%	09/12/16 10:38
Tetrachloro-m-xylene	88		42-142	%	09/12/16 10:38

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090815-013

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	110		61-144	%	09/13/16 17:21

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QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090815-013

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	117		23-165	%	09/14/16 19:16
Tetrachloro-m-xylene	102		31-145	%	09/14/16 19:16

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135802 Matrix: Soil Date Prep: 09/13/2016
PSS Sample ID: 16090815-014

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	102		34-133	%	09/14/16 07:24

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135670 Matrix: Soil Date Prep: 09/09/2016
PSS Sample ID: 16090815-014

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	93		50-122	%	09/09/16 14:16

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135708 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090815-014

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		82-126	%	09/12/16 18:49
Dibromofluoromethane	96		92-113	%	09/12/16 18:49
Toluene-D8	100		94-105	%	09/12/16 18:49

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/09/2016
PSS Sample ID: 16090815-015

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	84		61-150	%	09/12/16 11:07
Tetrachloro-m-xylene	87		42-142	%	09/12/16 11:07

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

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QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 135714 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62479-1-BLK LCS Sample Id: 62479-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Antimony	<2.467	19.74	21.59	109	80-120	mg/kg	09/12/16 18:53	
Arsenic	<0.4934	19.74	21.14	107	80-120	mg/kg	09/12/16 18:53	
Beryllium	<2.467	19.74	19.80	100	80-120	mg/kg	09/12/16 18:53	
Cadmium	<2.467	19.74	19.96	101	80-120	mg/kg	09/12/16 18:53	
Chromium	<2.467	19.74	22.25	113	80-120	mg/kg	09/12/16 18:53	
Copper	<2.467	19.74	21.57	109	80-120	mg/kg	09/12/16 18:53	
Lead	<2.467	19.74	21.64	110	80-120	mg/kg	09/12/16 18:53	
Mercury	<0.09869	0.4934	0.5230	106	80-120	mg/kg	09/12/16 18:53	
Nickel	<2.467	19.74	20.33	103	80-120	mg/kg	09/12/16 18:53	
Selenium	<2.467	19.74	19.95	101	80-120	mg/kg	09/12/16 18:53	
Silver	<2.467	19.74	20.17	102	80-120	mg/kg	09/12/16 18:53	
Thallium	<1.974	19.74	17.68	90	80-120	mg/kg	09/12/16 18:53	
Zinc	<9.869	98.69	99.62	101	80-120	mg/kg	09/12/16 18:53	

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 135714 Matrix: Soil Date Prep: 09/12/16
Parent Sample Id: 16090815-004 MS Sample Id: 16090815-004 S MSD Sample Id: 16090815-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Antimony	<2.395	19.16	16.47	86	34.44	79	75-125	71	30	mg/kg	09/12/16 19:06	F
Arsenic	2.176	19.16	20.64	96	40.81	89	75-125	66	30	mg/kg	09/12/16 19:06	F
Beryllium	<2.395	19.16	18.45	96	36.81	85	75-125	66	30	mg/kg	09/12/16 19:06	F
Cadmium	<2.395	19.16	19.54	102	39.45	91	75-125	68	30	mg/kg	09/12/16 19:06	F
Chromium	6.477	19.16	28.90	117	57.12	116	75-125	66	30	mg/kg	09/12/16 19:06	F
Copper	7.813	19.16	28.29	107	55.22	109	75-125	64	30	mg/kg	09/12/16 19:06	F
Lead	285.9	19.16	308.3	117	610.9	747	75-125	66	30	mg/kg	09/12/16 19:06	XF
Mercury	<0.09579	0.4790	0.5221	109	1.088	100	75-125	70	30	mg/kg	09/12/16 19:06	F
Nickel	2.855	19.16	21.80	99	43.61	94	75-125	67	30	mg/kg	09/12/16 19:06	F
Selenium	<2.395	19.16	18.06	94	36.46	84	75-125	67	30	mg/kg	09/12/16 19:06	F
Silver	<2.395	19.16	19.58	102	40.32	93	75-125	69	30	mg/kg	09/12/16 19:06	F
Thallium	<1.916	19.16	17.06	89	35.14	81	75-125	69	20	mg/kg	09/12/16 19:06	F
Zinc	23.35	95.79	115.3	96	222.4	91	75-125	63	30	mg/kg	09/12/16 19:06	F

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QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62498-1-BLK LCS Sample Id: 62498-1-BKS LCSD Sample Id: 62498-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
alpha-BHC	<3.968	19.84	19.18	97	18.68	95	58-120	3	25	ug/kg	09/14/16 22:31	
gamma-BHC (Lindane)	<3.968	19.84	18.23	92	17.88	91	57-120	2	25	ug/kg	09/14/16 22:31	
beta-BHC	<3.968	19.84	19.34	97	18.15	92	59-118	6	25	ug/kg	09/14/16 22:31	
delta-BHC	<3.968	19.84	21.21	107	20.46	104	52-123	4	25	ug/kg	09/14/16 22:31	
Heptachlor	<3.968	19.84	19.10	96	18.46	94	44-130	3	25	ug/kg	09/14/16 22:31	
Aldrin	<3.968	19.84	18.93	95	18.42	93	59-123	3	25	ug/kg	09/14/16 22:31	
Heptachlor epoxide	<3.968	19.84	20.08	101	19.52	99	61-119	3	25	ug/kg	09/14/16 22:31	
gamma-Chlordane	<3.968	19.84	20.82	105	20.18	102	61-122	3	25	ug/kg	09/14/16 22:31	
alpha-Chlordane	<3.968	19.84	18.81	95	18.25	93	61-123	3	25	ug/kg	09/14/16 22:31	
4,4-DDE	<3.968	19.84	17.61	89	16.48	84	49-131	7	25	ug/kg	09/14/16 22:31	
Endosulfan I	<3.968	19.84	22.43	113	22.08	112	66-118	2	25	ug/kg	09/14/16 22:31	
Dieldrin	<3.968	19.84	19.98	101	19.35	98	60-122	3	25	ug/kg	09/14/16 22:31	
Endrin	<3.968	19.84	21.01	106	19.56	99	39-133	7	25	ug/kg	09/14/16 22:31	
4,4-DDD	<3.968	19.84	20.38	103	19.70	100	44-130	3	25	ug/kg	09/14/16 22:31	
Endosulfan II	<3.968	19.84	24.03	121	22.90	116	59-118	5	25	ug/kg	09/14/16 22:31	H
4,4-DDT	<3.968	19.84	23.59	119	21.58	109	28-134	9	25	ug/kg	09/14/16 22:31	
Endrin aldehyde	<3.968	19.84	21.35	108	20.31	103	51-129	5	25	ug/kg	09/14/16 22:31	
Methoxychlor	<3.968	19.84	21.59	109	19.78	100	33-135	9	25	ug/kg	09/14/16 22:31	
Endosulfan sulfate	<3.968	19.84	25.77	130	24.43	124	54-124	5	25	ug/kg	09/14/16 22:31	H
Endrin ketone	<3.968	19.84	22.82	115	21.82	111	58-123	4	25	ug/kg	09/14/16 22:31	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	109		127		117		23-165	%	09/14/16 22:31
Tetrachloro-m-xylene	111		98		95		31-145	%	09/14/16 22:31

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Solid Date Prep: 09/09/16
MB Sample Id: 62469-1-BLK LCS Sample Id: 62469-1-BKS LCSD Sample Id: 62469-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
PCB-1016	<0.05076	0.5076	0.3899	77	0.3929	79	60-110	1	25	mg/kg	09/12/16 10:38	
PCB-1260	<0.05076	0.5076	0.4672	92	0.4710	95	60-98	1	25	mg/kg	09/12/16 10:38	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	100		103		107		61-150	%	09/12/16 10:38
Tetrachloro-m-xylene	76		79		82		42-142	%	09/12/16 10:38

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QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62477-1-BLK LCS Sample Id: 62477-1-BKS LCSD Sample Id: 62477-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dalapon	<493.6	1481	1096	74	1186	80	66-117	8	25	ug/kg	09/13/16 10:23	
Dicamba	<19.74	59.23	66.44	112	66.50	112	73-126	0	25	ug/kg	09/13/16 10:23	
MCPP	<19740	59230	51110	86	50840	86	51-138	1	25	ug/kg	09/13/16 10:23	
MCPA	<19740	59230	51210	86	50770	85	70-133	1	25	ug/kg	09/13/16 10:23	
Dichloroprop	<197.4	592.3	664.5	112	650.1	109	88-162	2	25	ug/kg	09/13/16 10:23	
2,4-D	<197.4	592.3	668.5	113	654.7	110	66-133	2	25	ug/kg	09/13/16 10:23	
2,4,5-TP (Silvex)	<19.74	59.23	61.11	103	58.37	98	71-126	5	25	ug/kg	09/13/16 10:23	
2,4,5-T	<19.74	59.23	61.20	103	57.98	98	66-125	5	25	ug/kg	09/13/16 10:23	
Dinoseb	<98.72	296.2	245.8	83	233.9	79	52-101	5	25	ug/kg	09/13/16 10:23	
2,4-DB	<197.4	592.3	625.5	106	586.1	99	63-134	7	25	ug/kg	09/13/16 10:23	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	97		98		104		61-144	%	09/13/16 10:23

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135782 Matrix: Water Date Prep: 09/12/16
MB Sample Id: 62475-1-BLK LCS Sample Id: 62475-1-BKS LCSD Sample Id: 62475-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<0.1000	1.000	0.9411	94	0.8283	83	41-123	13	20	mg/L	09/14/16 14:25	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	78		89		77		46-111	%	09/14/16 14:25

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135735 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62496-1-BLK LCS Sample Id: 62496-1-BKS LCSD Sample Id: 62496-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.13	33.76	22.15	66	27.80	84	54-123	23	25	mg/kg	09/13/16 12:08	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	78		83		100		34-133	%	09/13/16 12:08

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135802 Matrix: Solid Date Prep: 09/13/16
MB Sample Id: 62505-1-BLK LCS Sample Id: 62505-1-BKS LCSD Sample Id: 62505-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.05	33.49	28.43	85	29.89	89	54-123	5	25	mg/kg	09/14/16 03:38	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	99		81		84		34-133	%	09/14/16 03:38

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135670 Matrix: Solid Date Prep: 09/09/16
MB Sample Id: 62486-2-BLK LCS Sample Id: 62486-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	5008	100	75-123	ug/kg	09/09/16 12:44	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	91		111		50-122	%	09/09/16 12:44

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135670 Matrix: Soil Date Prep: 09/09/16
Parent Sample Id: 16090815-014 MS Sample Id: 16090815-014 S MSD Sample Id: 16090815-014 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<123.6	6181	4919	80	5346	85	31-140	8	30	ug/kg	09/09/16 18:19	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	108		109		50-122	%	09/09/16 18:19

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030

Seq Number: 135708 Matrix: Solid Date Prep: 09/12/16

MB Sample Id: 62514-1-BLK LCS Sample Id: 62514-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	77.54	129	46-127	ug/kg	09/12/16 13:27	H
Benzene	<5.000	60.00	59.05	98	70-127	ug/kg	09/12/16 13:27	
Bromochloromethane	<5.000	60.00	53.57	89	68-122	ug/kg	09/12/16 13:27	
Bromodichloromethane	<5.000	60.00	47.82	80	68-122	ug/kg	09/12/16 13:27	
Bromoform	<5.000	60.00	49.46	82	57-127	ug/kg	09/12/16 13:27	
Bromomethane	<5.000	60.00	55.79	93	68-123	ug/kg	09/12/16 13:27	
2-Butanone (MEK)	<20.00	60.00	71.91	120	41-136	ug/kg	09/12/16 13:27	
Carbon Disulfide	<10.00	60.00	61.78	103	66-135	ug/kg	09/12/16 13:27	
Carbon Tetrachloride	<5.000	60.00	45.84	76	64-147	ug/kg	09/12/16 13:27	
Chlorobenzene	<5.000	60.00	54.66	91	70-121	ug/kg	09/12/16 13:27	
Chloroethane	<5.000	60.00	58.01	97	66-142	ug/kg	09/12/16 13:27	
Chloroform	<5.000	60.00	52.12	87	68-123	ug/kg	09/12/16 13:27	
Chloromethane	<5.000	60.00	66.80	111	65-136	ug/kg	09/12/16 13:27	
Cyclohexane	<20.00	60.00	61.71	103	62-138	ug/kg	09/12/16 13:27	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	50.96	85	55-122	ug/kg	09/12/16 13:27	
Dibromochloromethane	<5.000	60.00	49.76	83	61-122	ug/kg	09/12/16 13:27	
1,2-Dibromoethane (EDB)	<5.000	60.00	53.10	89	63-119	ug/kg	09/12/16 13:27	
1,2-Dichlorobenzene	<5.000	60.00	54.55	91	65-121	ug/kg	09/12/16 13:27	
1,3-Dichlorobenzene	<5.000	60.00	55.44	92	69-121	ug/kg	09/12/16 13:27	
1,4-Dichlorobenzene	<5.000	60.00	54.42	91	69-118	ug/kg	09/12/16 13:27	
Dichlorodifluoromethane	<5.000	60.00	49.90	83	53-162	ug/kg	09/12/16 13:27	
1,1-Dichloroethane	<5.000	60.00	58.02	97	70-127	ug/kg	09/12/16 13:27	
1,2-Dichloroethane	<5.000	60.00	49.07	82	68-118	ug/kg	09/12/16 13:27	
1,1-Dichloroethene	<5.000	60.00	58.56	98	69-133	ug/kg	09/12/16 13:27	
1,2-Dichloropropane	<5.000	60.00	55.72	93	70-122	ug/kg	09/12/16 13:27	
cis-1,2-Dichloroethene	<5.000	60.00	58.46	97	68-126	ug/kg	09/12/16 13:27	
cis-1,3-Dichloropropene	<5.000	60.00	51.93	87	68-121	ug/kg	09/12/16 13:27	
trans-1,2-Dichloroethene	<5.000	60.00	59.66	99	70-132	ug/kg	09/12/16 13:27	
trans-1,3-Dichloropropene	<5.000	60.00	49.26	82	67-115	ug/kg	09/12/16 13:27	
Ethylbenzene	<5.000	60.00	54.55	91	70-125	ug/kg	09/12/16 13:27	
2-Hexanone	<20.00	60.00	60.80	101	40-121	ug/kg	09/12/16 13:27	
Isopropylbenzene	<5.000	60.00	55.70	93	68-130	ug/kg	09/12/16 13:27	
Methyl Acetate	<20.00	60.00	68.09	113	60-125	ug/kg	09/12/16 13:27	
Methylcyclohexane	<20.00	60.00	53.21	89	62-150	ug/kg	09/12/16 13:27	
Methylene Chloride	<5.000	60.00	59.41	99	67-121	ug/kg	09/12/16 13:27	
4-Methyl-2-Pentanone	<20.00	60.00	59.20	99	48-117	ug/kg	09/12/16 13:27	
Methyl-t-butyl ether	<5.000	60.00	54.78	91	66-119	ug/kg	09/12/16 13:27	
Naphthalene	<5.000	60.00	53.27	89	54-115	ug/kg	09/12/16 13:27	
Styrene	<5.000	60.00	52.80	88	71-120	ug/kg	09/12/16 13:27	
1,1,2,2-Tetrachloroethane	<5.000	60.00	59.63	99	59-122	ug/kg	09/12/16 13:27	
Tetrachloroethene	<5.000	60.00	48.55	81	65-145	ug/kg	09/12/16 13:27	
Toluene	<5.000	60.00	52.04	87	69-129	ug/kg	09/12/16 13:27	
1,2,3-Trichlorobenzene	<5.000	60.00	48.62	81	60-114	ug/kg	09/12/16 13:27	
1,2,4-Trichlorobenzene	<5.000	60.00	49.37	82	64-115	ug/kg	09/12/16 13:27	
1,1,1-Trichloroethane	<5.000	60.00	47.79	80	65-139	ug/kg	09/12/16 13:27	
1,1,2-Trichloroethane	<5.000	60.00	55.62	93	64-125	ug/kg	09/12/16 13:27	
Trichloroethene	<5.000	60.00	50.31	84	69-133	ug/kg	09/12/16 13:27	
Trichlorofluoromethane	<5.000	60.00	47.54	79	59-153	ug/kg	09/12/16 13:27	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	49.70	83	62-139	ug/kg	09/12/16 13:27	
Vinyl Chloride	<5.000	60.00	70.46	117	69-142	ug/kg	09/12/16 13:27	
m,p-Xylenes	<10.00	120	108.6	91	71-124	ug/kg	09/12/16 13:27	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090815

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030
Seq Number: 135708
Matrix: Solid
Date Prep: 09/12/16
MB Sample Id: 62514-1-BLK
LCS Sample Id: 62514-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<5.000	60.00	52.79	88	72-123	ug/kg	09/12/16 13:27	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		97		82-126	%	09/12/16 13:27
Dibromofluoromethane	99		102		92-113	%	09/12/16 13:27
Toluene-D8	98		100		94-105	%	09/12/16 13:27

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

PSS Work Order #: 1609081S

PAGE 1 OF 2

*CLIENT: ICOR, LTD. *OFFICE LOC.

*PROJECT MGR: M. BRUZZESI *PHONE NO.: (703) 608-5969

EMAIL: LANDSTAT@AOL.COM FAX NO: ( )

*PROJECT NAME: RUBICON TERMINAL NORTH PROJECT NO:

SITE LOCATION: 500/501 N. UNION ST, P.O. NO.:

SAMPLER(S): M. BRUZZESI DW CERT NO.

Matrix Codes: SW=Surface Wtr, GW=Groundwater, DW=Drinking Wtr, WW=Waste Wtr, O=Oil, S=Soil, L=Liquid, SOL=Solid, A=Air, WI=Wipe

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	Preservatives Used:	Analysis/ Method Required (3) *	GRO 8015	DRO 8015	VOCs+NAPH 8260	SVOCs 8270	PPL METALS 6020	ARSENIC 6020	PEST 8081	HERB 8151	PCB 8082	2,3,7,8-TCDD 8280 or 8290	REMARKS
1	ICOR-SB15 (1-2)	9/7/16	0755	SO	1	G												X	
2	MiHpt-08 (36.5-40)		0830	GW	1					X									
3	ICOR-SB3 (10.5-11.5)		0825	SO	1					X							X		
4	MiHpt-05 (1-2)		1005	SO	1								X						
5	MiHpt-12 (1-2)		1250	SO	1								X						
6	MiHpt-18 (1-2)		1330	SO	1								X						
7	MiHpt-17 (1-2)		1305	SO	1							X							
8	MiHpt-17 (4-5)		1310	SO	1								X						
9	MiHpt-19 (1-2)		1500	SO	3								X					X	
10	MiHpt-19 (4-5)		1505	SO	1								X						

Relinquished By: (1)	Date: 9/8/16	Time: 0700	Received By: TTE
Relinquished By: (2) TTE	Date: 9/8	Time: 1300	Received By:
Relinquished By: (3)	Date:	Time:	Received By:
Relinquished By: (4)	Date:	Time:	Received By:

*Requested TAT (One TAT per COC)
☒ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:
COA QC SUMM CLP LIKE OTHER
☐ ☐ ☐

# of Coolers: 2
Custody Seal: ABS
Ice Present: YES Temp: 9.8°
Shipping Carrier: TTE

Special Instructions:

DW COMPLIANCE? YES ☐
EDD FORMAT TYPE:
STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

8830 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 938-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: ICOR, LTD *OFFICE LOC.: | PSS Work Order #: 1609081S | PAGE 2 OF 2

*PROJECT MGR: M. BRUZEK *PHONE NO.: (703) 608-5969

EMAIL: LANDLTD@AOL.COM FAX NO.:

*PROJECT NAME: ROLLISON TERMINAL NORTH PROJECT NO.:

SITE LOCATION: 500/501 N. UNION ST P.O. NO.:

SAMPLER(S): M. BRUZEK DW CERT NO.:

Matrix Codes: SW-Surface Wtr DW-Drinking Wtr GW-Ground Wtr WW-Waste Wtr B-Oil S-Soil L-Liquid SOL-Solid A-Air WI-Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	NO. CONTAINERS	SAMPLE TYPE C=COMP G=GRAB	(3) Analyses/Method Required: 6010 8015	8270 8015	VOA + NAP 8260	Fuels 8270	PPL METALS 6020	ARSENIC 6020	PEST 8081	HERB 8151	PCB 8082	2,3,7,8-TCDD BY 8290	REMARKS
11	ICOR-SB14 (1-2)	9/7/16	1355	SO	1	G					X						
12	ICOR-SB14 (4-5)		1400	SO	1						X						
13	ECS-[redacted]87 (1-2)		1445	SO	2					X		X	X	X			
14	ECS-37 (5-6)		1450	SO	5		X	X	X								
15	ICOR-SB9		1510	SO	1									X			
16	M.Hpt-13 (1-2)		1515	SO	1					X							
17	M.Hpt-13 (4-5)		1520	SO	1						X						

(5)

Relinquished By: (1)	Date	Time	Received By:
	9/8/16	0700	Gana
Relinquished By: (2) Gana	Date 9/8	Time 1300	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

*Requested TAT (One TAT per COC): ☒ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

Special Instructions

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

# of Coolers: 2

Custody Seal: ABS

Ice Present: YES Temp.: 9.8°C

Shipping Carrier: ITE

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 920-3047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16090815	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/08/2016 01:00:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/13/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	8
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	9
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

COC agrees with sample labels?	Yes	Sampler Name	Mike Bruzzesi
Chain of Custody	Yes	MD DW Cert. No.	N/A

Sample Container

Appropriate for Specified Analysis?	Yes	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 17 Total No. of Containers Received 24

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Phase Separation Science, Inc

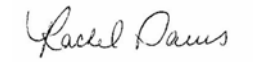
Sample Receipt Checklist

Work Order #	16090815	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/08/2016 01:00:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/13/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

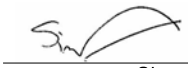
Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Sample(s) received at a temperature greater than 6 degrees C and ice was present.

Samples Inspected/Checklist Completed By:  Date: 09/08/2016

Rachel Davis

PM Review and Approval:  Date: 09/12/2016

Simon Crisp

Analytical Report for

Icor Ltd.

Certificate of Analysis No.: 16090912

Project Manager: Mike Bruzzesi

Project Name : Robinson Terminal North

Project Location: 500/501 N. Union St.

September 22, 2016

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



September 22, 2016

Mike Bruzzesi
Icor Ltd.
PO Box 406
Middleburg, VA 20118

Reference: PSS Work Order(s) No: **16090912**
Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Dear Mike Bruzzesi :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16090912**. This report version includes revised sample results to add Dioxins results. This report cancels and supersedes report version 1.000 dated September 16, 2016.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 14, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090912

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/09/2016 at 01:10 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16090912-001	M1Hpt-08-GW (36.5-40)	GROUND WATER	09/08/16 07:45
16090912-002	M1Hpt-10-GW (25-28.5)	GROUND WATER	09/08/16 08:00
16090912-003	M1Hpt-14-GW (25-28.5)	GROUND WATER	09/08/16 11:15
16090912-004	M1Hpt-16 (1-2)	SOIL	09/08/16 08:00
16090912-005	M1Hpt-16 (4-5)	SOIL	09/08/16 08:05
16090912-006	M1Hpt-16 (8-9)	SOIL	09/08/16 08:10
16090912-007	M1Hpt-15 (1-2)	SOIL	09/08/16 08:30
16090912-008	M1Hpt-15 (4-5)	SOIL	09/08/16 08:35
16090912-009	M1Hpt-14 (1-2)	SOIL	09/08/16 09:35
16090912-010	M1Hpt-14 (4-5)	SOIL	09/08/16 09:40
16090912-011	M1Hpt-14 (5-6)	SOIL	09/08/16 09:45
16090912-012	M1Hpt-14 (25-26)	SOIL	09/08/16 10:10
16090912-013	M1Hpt-20 (1.5-2.5)	SOIL	09/08/16 13:30
16090912-014	M1Hpt-20 (4-5)	SOIL	09/08/16 13:35

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090912

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08-GW (36.5-40) **Date/Time Sampled: 09/08/2016 07:45** **PSS Sample ID: 16090912-001**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

Oil and Grease — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Oil & Grease, Total Recovered	ND	mg/L	2.2		1	09/15/16	09/15/16 13:14	1022

Total Petroleum Hydrocarbons — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH	ND	mg/L	2.2		1	09/15/16	09/15/16 12:59	1022

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10-GW (25-28.5) **Date/Time Sampled: 09/08/2016 08:00** **PSS Sample ID: 16090912-002**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.55**	mg/L	0.11		1	09/13/16	09/15/16 12:50	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/15/16	09/15/16 12:28	1035

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10-GW (25-28.5) **Date/Time Sampled: 09/08/2016 08:00** **PSS Sample ID: 16090912-002**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	**38**	ug/L	10		1	09/13/16	09/13/16 22:32	1011
Benzene	**1.3**	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Bromochloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Bromoform	ND	ug/L	5.0		1	09/13/16	09/13/16 22:32	1011
Bromomethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/13/16	09/13/16 22:32	1011
Carbon Disulfide	ND	ug/L	10		1	09/13/16	09/13/16 22:32	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Chlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Chloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Chloroform	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Chloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Cyclohexane	ND	ug/L	10		1	09/13/16	09/13/16 22:32	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/13/16	09/13/16 22:32	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Ethylbenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10-GW (25-28.5) **Date/Time Sampled: 09/08/2016 08:00** **PSS Sample ID: 16090912-002**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/13/16	09/13/16 22:32	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Methyl Acetate	ND	ug/L	10		1	09/13/16	09/13/16 22:32	1011
Methylcyclohexane	ND	ug/L	10		1	09/13/16	09/13/16 22:32	1011
Methylene Chloride	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/13/16	09/13/16 22:32	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Naphthalene	**7.5**	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Styrene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Toluene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Trichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/13/16	09/13/16 22:32	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/13/16	09/13/16 22:32	1011
o-Xylene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:32	1011

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14-GW (25-28.5) **Date/Time Sampled: 09/08/2016 11:15** **PSS Sample ID: 16090912-003**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

Oil and Grease — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Oil & Grease, Total Recovered	ND	mg/L	2.4		1	09/15/16	09/15/16 13:14	1022

Total Petroleum Hydrocarbons — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH	ND	mg/L	2.4		1	09/15/16	09/15/16 12:59	1022

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/L	0.10		1	09/13/16	09/15/16 13:15	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/15/16	09/15/16 12:54	1035

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14-GW (25-28.5) **Date/Time Sampled: 09/08/2016 11:15** **PSS Sample ID: 16090912-003**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
Benzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Bromochloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Bromoform	ND	ug/L	5.0		1	09/13/16	09/13/16 22:53	1011
Bromomethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
Carbon Disulfide	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Chlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Chloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Chloroform	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Chloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Cyclohexane	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Ethylbenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14-GW (25-28.5) **Date/Time Sampled: 09/08/2016 11:15** **PSS Sample ID: 16090912-003**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Methyl Acetate	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
Methylcyclohexane	ND	ug/L	10		1	09/13/16	09/13/16 22:53	1011
Methylene Chloride	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/13/16	09/13/16 22:53	1011
Methyl-t-butyl ether	**5.7**	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Naphthalene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Styrene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Toluene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Trichloroethene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/13/16	09/13/16 22:53	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/13/16	09/13/16 22:53	1011
o-Xylene	ND	ug/L	1.0		1	09/13/16	09/13/16 22:53	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14-GW (25-28.5) **Date/Time Sampled: 09/08/2016 11:15** **PSS Sample ID: 16090912-003**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Acenaphthylene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Acetophenone	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Atrazine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Carbazole	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Caprolactam	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Chrysene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Dibenzofuran	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14-GW (25-28.5) **Date/Time Sampled: 09/08/2016 11:15** **PSS Sample ID: 16090912-003**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/13/16	09/14/16 06:20	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Fluorene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Hexachloroethane	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Isophorone	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Naphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Nitrobenzene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Phenanthrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14-GW (25-28.5) **Date/Time Sampled: 09/08/2016 11:15** **PSS Sample ID: 16090912-003**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 13:10**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
Pyridine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:20	1055

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-16 (1-2) **Date/Time Sampled: 09/08/2016 08:00** **PSS Sample ID: 16090912-004**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 83**

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
gamma-BHC (Lindane)	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
beta-BHC	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
delta-BHC	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Heptachlor	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Aldrin	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Heptachlor epoxide	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
gamma-Chlordane	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
alpha-Chlordane	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
4,4-DDE	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Endosulfan I	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Dieldrin	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Endrin	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
4,4-DDD	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Endosulfan II	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
4,4-DDT	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Endrin aldehyde	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Methoxychlor	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Endosulfan sulfate	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Endrin ketone	ND	ug/kg	4.7		1	09/12/16	09/14/16 20:40	1029
Toxaphene	ND	ug/kg	120		1	09/12/16	09/14/16 20:40	1029
Chlordane	ND	ug/kg	120		1	09/12/16	09/14/16 20:40	1029

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-16 (1-2) **Date/Time Sampled: 09/08/2016 08:00** **PSS Sample ID: 16090912-004**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 83**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C; Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.059		1	09/12/16	09/12/16 18:09	1029
PCB-1221	ND	mg/kg	0.059		1	09/12/16	09/12/16 18:09	1029
PCB-1232	ND	mg/kg	0.059		1	09/12/16	09/12/16 18:09	1029
PCB-1242	ND	mg/kg	0.059		1	09/12/16	09/12/16 18:09	1029
PCB-1248	ND	mg/kg	0.059		1	09/12/16	09/12/16 18:09	1029
PCB-1254	ND	mg/kg	0.059		1	09/12/16	09/12/16 18:09	1029
PCB-1260	ND	mg/kg	0.059		1	09/12/16	09/12/16 18:09	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	620		10	09/12/16	09/13/16 21:08	1029
Dicamba	ND	ug/kg	25		10	09/12/16	09/13/16 21:08	1029
MCPP	ND	ug/kg	25,000		10	09/12/16	09/13/16 21:08	1029
MCPA	ND	ug/kg	25,000		10	09/12/16	09/13/16 21:08	1029
Dichloroprop	ND	ug/kg	250		10	09/12/16	09/13/16 21:08	1029
2,4-D	ND	ug/kg	250		10	09/12/16	09/13/16 21:08	1029
2,4,5-TP (Silvex)	ND	ug/kg	25		10	09/12/16	09/13/16 21:08	1029
2,4,5-T	ND	ug/kg	25		10	09/12/16	09/13/16 21:08	1029
Dinoseb	ND	ug/kg	120		10	09/12/16	09/13/16 21:08	1029
2,4-DB	ND	ug/kg	250		10	09/12/16	09/13/16 21:08	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-16 (4-5) **Date/Time Sampled: 09/08/2016 08:05** **PSS Sample ID: 16090912-005**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 82**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
gamma-BHC (Lindane)	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
beta-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
delta-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Heptachlor	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Aldrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Heptachlor epoxide	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
gamma-Chlordane	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
alpha-Chlordane	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
4,4-DDE	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Endosulfan I	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Dieldrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Endrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
4,4-DDD	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Endosulfan II	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
4,4-DDT	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Endrin aldehyde	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Methoxychlor	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Endosulfan sulfate	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Endrin ketone	ND	ug/kg	4.9		1	09/12/16	09/14/16 16:56	1029
Toxaphene	ND	ug/kg	120		1	09/12/16	09/14/16 16:56	1029
Chlordane	ND	ug/kg	120		1	09/12/16	09/14/16 16:56	1029

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-16 (4-5) **Date/Time Sampled: 09/08/2016 08:05** **PSS Sample ID: 16090912-005**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 82**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C; Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.061		1	09/12/16	09/12/16 18:38	1029
PCB-1221	ND	mg/kg	0.061		1	09/12/16	09/12/16 18:38	1029
PCB-1232	ND	mg/kg	0.061		1	09/12/16	09/12/16 18:38	1029
PCB-1242	ND	mg/kg	0.061		1	09/12/16	09/12/16 18:38	1029
PCB-1248	ND	mg/kg	0.061		1	09/12/16	09/12/16 18:38	1029
PCB-1254	ND	mg/kg	0.061		1	09/12/16	09/12/16 18:38	1029
PCB-1260	ND	mg/kg	0.061		1	09/12/16	09/12/16 18:38	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	620		10	09/12/16	09/13/16 21:41	1029
Dicamba	ND	ug/kg	25		10	09/12/16	09/13/16 21:41	1029
MCPP	ND	ug/kg	25,000		10	09/12/16	09/13/16 21:41	1029
MCPA	ND	ug/kg	25,000		10	09/12/16	09/13/16 21:41	1029
Dichloroprop	ND	ug/kg	250		10	09/12/16	09/13/16 21:41	1029
2,4-D	ND	ug/kg	250		10	09/12/16	09/13/16 21:41	1029
2,4,5-TP (Silvex)	ND	ug/kg	25		10	09/12/16	09/13/16 21:41	1029
2,4,5-T	ND	ug/kg	25		10	09/12/16	09/13/16 21:41	1029
Dinoseb	ND	ug/kg	120		10	09/12/16	09/13/16 21:41	1029
2,4-DB	ND	ug/kg	250		10	09/12/16	09/13/16 21:41	1029

Sample ID: M1Hpt-16 (8-9) **Date/Time Sampled: 09/08/2016 08:10** **PSS Sample ID: 16090912-006**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 84**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**6.6**	mg/kg	0.56		1	09/12/16	09/13/16 18:53	1033

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 (1-2) **Date/Time Sampled: 09/08/2016 08:30** **PSS Sample ID: 16090912-007**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 73**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Arsenic	**9.6**	mg/kg	0.54		1	09/12/16	09/13/16 18:59	1033
Beryllium	ND	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Cadmium	ND	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Chromium	**15**	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Copper	**35**	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Lead	**100**	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Mercury	**0.61**	mg/kg	0.11		1	09/12/16	09/13/16 18:59	1033
Nickel	**12**	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Selenium	ND	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Silver	ND	mg/kg	2.7		1	09/12/16	09/13/16 18:59	1033
Thallium	ND	mg/kg	2.2		1	09/12/16	09/13/16 18:59	1033
Zinc	**83**	mg/kg	11		1	09/12/16	09/13/16 18:59	1033

Sample ID: M1Hpt-15 (4-5) **Date/Time Sampled: 09/08/2016 08:35** **PSS Sample ID: 16090912-008**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 83**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**1,800**	mg/kg	44		100	09/12/16	09/14/16 15:39	1033

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (1-2) **Date/Time Sampled: 09/08/2016 09:35** **PSS Sample ID: 16090912-009**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 89**

PP Metals | Analytical Method: SW-846 6020 A | Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	**18**	mg/kg	2.2		1	09/12/16	09/13/16 22:48	1033
Arsenic	**730**	mg/kg	8.9		20	09/12/16	09/14/16 15:45	1033
Beryllium	ND	mg/kg	2.2		1	09/12/16	09/13/16 22:48	1033
Cadmium	**7.7**	mg/kg	2.2		1	09/12/16	09/13/16 22:48	1033
Chromium	**16**	mg/kg	2.2		1	09/12/16	09/13/16 22:48	1033
Copper	**780**	mg/kg	45		20	09/12/16	09/14/16 15:45	1033
Lead	**380**	mg/kg	45		20	09/12/16	09/14/16 15:45	1033
Mercury	**18**	mg/kg	1.8		20	09/12/16	09/14/16 15:45	1033
Nickel	**12**	mg/kg	2.2		1	09/12/16	09/13/16 22:48	1033
Selenium	**5.0**	mg/kg	2.2		1	09/12/16	09/13/16 22:48	1033
Silver	**2.3**	mg/kg	2.2		1	09/12/16	09/13/16 22:48	1033
Thallium	**5.6**	mg/kg	1.8		1	09/12/16	09/13/16 22:48	1033
Zinc	**1,300**	mg/kg	180		20	09/12/16	09/14/16 15:45	1033

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (1-2) **Date/Time Sampled: 09/08/2016 09:35** **PSS Sample ID: 16090912-009**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 89**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
gamma-BHC (Lindane)	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
beta-BHC	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
delta-BHC	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Heptachlor	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Aldrin	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Heptachlor epoxide	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
gamma-Chlordane	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
alpha-Chlordane	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
4,4-DDE	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Endosulfan I	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Dieldrin	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Endrin	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
4,4-DDD	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Endosulfan II	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
4,4-DDT	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Endrin aldehyde	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Methoxychlor	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Endosulfan sulfate	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Endrin ketone	ND	ug/kg	4.5		1	09/12/16	09/14/16 21:07	1029
Toxaphene	ND	ug/kg	110		1	09/12/16	09/14/16 21:07	1029
Chlordane	ND	ug/kg	110		1	09/12/16	09/14/16 21:07	1029

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (1-2) **Date/Time Sampled: 09/08/2016 09:35** **PSS Sample ID: 16090912-009**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 89**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.056		1	09/12/16	09/12/16 18:38	1029
PCB-1221	ND	mg/kg	0.056		1	09/12/16	09/12/16 18:38	1029
PCB-1232	ND	mg/kg	0.056		1	09/12/16	09/12/16 18:38	1029
PCB-1242	ND	mg/kg	0.056		1	09/12/16	09/12/16 18:38	1029
PCB-1248	ND	mg/kg	0.056		1	09/12/16	09/12/16 18:38	1029
PCB-1254	ND	mg/kg	0.056		1	09/12/16	09/12/16 18:38	1029
PCB-1260	ND	mg/kg	0.056		1	09/12/16	09/12/16 18:38	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	540		10	09/12/16	09/13/16 22:13	1029
Dicamba	ND	ug/kg	22		10	09/12/16	09/13/16 22:13	1029
MCPP	ND	ug/kg	22,000		10	09/12/16	09/13/16 22:13	1029
MCPA	ND	ug/kg	22,000		10	09/12/16	09/13/16 22:13	1029
Dichloroprop	ND	ug/kg	220		10	09/12/16	09/13/16 22:13	1029
2,4-D	ND	ug/kg	220		10	09/12/16	09/13/16 22:13	1029
2,4,5-TP (Silvex)	ND	ug/kg	22		10	09/12/16	09/13/16 22:13	1029
2,4,5-T	ND	ug/kg	22		10	09/12/16	09/13/16 22:13	1029
Dinoseb	ND	ug/kg	110		10	09/12/16	09/13/16 22:13	1029
2,4-DB	ND	ug/kg	220		10	09/12/16	09/13/16 22:13	1029

Sample ID: M1Hpt-14 (4-5) **Date/Time Sampled: 09/08/2016 09:40** **PSS Sample ID: 16090912-010**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 85**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**93**	mg/kg	0.48		1	09/12/16	09/13/16 22:55	1033

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (5-6) **Date/Time Sampled: 09/08/2016 09:45** **PSS Sample ID: 16090912-011**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 83**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	**45**	ug/kg	19		1	09/15/16	09/15/16 19:37	1011
Benzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Bromochloromethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Bromodichloromethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Bromoform	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Bromomethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
2-Butanone (MEK)	ND	ug/kg	19		1	09/15/16	09/15/16 19:37	1011
Carbon Disulfide	ND	ug/kg	9.5		1	09/15/16	09/15/16 19:37	1011
Carbon Tetrachloride	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Chlorobenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Chloroethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Chloroform	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Chloromethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Cyclohexane	ND	ug/kg	19		1	09/15/16	09/15/16 19:37	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	38		1	09/15/16	09/15/16 19:37	1011
Dibromochloromethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,2-Dichlorobenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,3-Dichlorobenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,4-Dichlorobenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Dichlorodifluoromethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,1-Dichloroethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,2-Dichloroethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,1-Dichloroethene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,2-Dichloropropane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
cis-1,2-Dichloroethene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
cis-1,3-Dichloropropene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
trans-1,2-Dichloroethene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
trans-1,3-Dichloropropene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Ethylbenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (5-6) | **Date/Time Sampled: 09/08/2016 09:45** | **PSS Sample ID: 16090912-011**

Matrix: SOIL | **Date/Time Received: 09/09/2016 13:10** | **% Solids: 83**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	19		1	09/15/16	09/15/16 19:37	1011
Isopropylbenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Methyl Acetate	ND	ug/kg	19		1	09/15/16	09/15/16 19:37	1011
Methylcyclohexane	ND	ug/kg	19		1	09/15/16	09/15/16 19:37	1011
Methylene Chloride	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
4-Methyl-2-Pentanone	ND	ug/kg	19		1	09/15/16	09/15/16 19:37	1011
Methyl-t-butyl ether	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Naphthalene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Styrene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Tetrachloroethene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Toluene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,2,3-Trichlorobenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,2,4-Trichlorobenzene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,1,1-Trichloroethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,1,2-Trichloroethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Trichloroethene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Trichlorofluoromethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
Vinyl Chloride	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011
m,p-Xylenes	ND	ug/kg	9.5		1	09/15/16	09/15/16 19:37	1011
o-Xylene	ND	ug/kg	4.7		1	09/15/16	09/15/16 19:37	1011

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (25-26) **Date/Time Sampled: 09/08/2016 10:10** **PSS Sample ID: 16090912-012**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 85**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	12		1	09/14/16	09/16/16 03:28	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	110		1	09/12/16	09/13/16 01:29	1035

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Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (25-26) **Date/Time Sampled: 09/08/2016 10:10** **PSS Sample ID: 16090912-012**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 85**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	20		1	09/15/16	09/15/16 20:16	1011
Benzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Bromochloromethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Bromodichloromethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Bromoform	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Bromomethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
2-Butanone (MEK)	ND	ug/kg	20		1	09/15/16	09/15/16 20:16	1011
Carbon Disulfide	ND	ug/kg	10		1	09/15/16	09/15/16 20:16	1011
Carbon Tetrachloride	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Chlorobenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Chloroethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Chloroform	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Chloromethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Cyclohexane	ND	ug/kg	20		1	09/15/16	09/15/16 20:16	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	40		1	09/15/16	09/15/16 20:16	1011
Dibromochloromethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,2-Dichlorobenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,3-Dichlorobenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,4-Dichlorobenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Dichlorodifluoromethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,1-Dichloroethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,2-Dichloroethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,1-Dichloroethene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,2-Dichloropropane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
cis-1,2-Dichloroethene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
cis-1,3-Dichloropropene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
trans-1,2-Dichloroethene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
trans-1,3-Dichloropropene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Ethylbenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (25-26) **Date/Time Sampled: 09/08/2016 10:10** **PSS Sample ID: 16090912-012**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 85**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	20		1	09/15/16	09/15/16 20:16	1011
Isopropylbenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Methyl Acetate	ND	ug/kg	20		1	09/15/16	09/15/16 20:16	1011
Methylcyclohexane	ND	ug/kg	20		1	09/15/16	09/15/16 20:16	1011
Methylene Chloride	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
4-Methyl-2-Pentanone	ND	ug/kg	20		1	09/15/16	09/15/16 20:16	1011
Methyl-t-butyl ether	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Naphthalene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Styrene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Tetrachloroethene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Toluene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,2,3-Trichlorobenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,2,4-Trichlorobenzene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,1,1-Trichloroethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,1,2-Trichloroethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Trichloroethene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Trichlorofluoromethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
Vinyl Chloride	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011
m,p-Xylenes	ND	ug/kg	10		1	09/15/16	09/15/16 20:16	1011
o-Xylene	ND	ug/kg	5.0		1	09/15/16	09/15/16 20:16	1011

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (25-26) **Date/Time Sampled: 09/08/2016 10:10** **PSS Sample ID: 16090912-012**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 85**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Acenaphthylene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Acetophenone	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Anthracene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Atrazine	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Benzo(a)anthracene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Benzo(a)pyrene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Benzo(b)fluoranthene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Benzo(g,h,i)perylene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Benzo(k)fluoranthene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Biphenyl (Diphenyl)	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Butyl benzyl phthalate	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
bis(2-chloroethoxy) methane	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
bis(2-chloroethyl) ether	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
bis(2-chloroisopropyl) ether	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
bis(2-ethylhexyl) phthalate	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
4-Bromophenylphenyl ether	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Di-n-butyl phthalate	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Carbazole	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Caprolactam	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
4-Chloro-3-methyl phenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
4-Chloroaniline	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2-Chloronaphthalene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2-Chlorophenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
4-Chlorophenyl Phenyl ether	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Chrysene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Dibenz(a,h)Anthracene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Dibenzofuran	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
3,3-Dichlorobenzidine	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2,4-Dichlorophenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055

OFFICES:
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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (25-26) **Date/Time Sampled: 09/08/2016 10:10** **PSS Sample ID: 16090912-012**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 85**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Dimethyl phthalate	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2,4-Dimethylphenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
4,6-Dinitro-2-methyl phenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2,4-Dinitrophenol	ND	ug/kg	390		1	09/12/16	09/12/16 16:17	1055
2,4-Dinitrotoluene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2,6-Dinitrotoluene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Fluoranthene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Fluorene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Hexachlorobenzene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Hexachlorobutadiene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Hexachlorocyclopentadiene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Hexachloroethane	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Isophorone	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2-Methylnaphthalene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2-Methyl phenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
3&4-Methylphenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Naphthalene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2-Nitroaniline	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
3-Nitroaniline	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
4-Nitroaniline	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Nitrobenzene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2-Nitrophenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
4-Nitrophenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
N-Nitrosodi-n-propyl amine	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
N-Nitrosodiphenylamine	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Di-n-octyl phthalate	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Pentachlorophenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Phenanthrene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 (25-26) **Date/Time Sampled: 09/08/2016 10:10** **PSS Sample ID: 16090912-012**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 85**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Pyrene	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
Pyridine	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2,4,5-Trichlorophenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055
2,4,6-Trichlorophenol	ND	ug/kg	190		1	09/12/16	09/12/16 16:17	1055

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 (1.5-2.5) **Date/Time Sampled: 09/08/2016 13:30** **PSS Sample ID: 16090912-013**

Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 79**

PP Metals | Analytical Method: SW-846 6020 A | Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	**13**	mg/kg	2.6		1	09/12/16	09/13/16 23:01	1033
Arsenic	**480**	mg/kg	5.2		10	09/12/16	09/14/16 15:52	1033
Beryllium	ND	mg/kg	2.6		1	09/12/16	09/13/16 23:01	1033
Cadmium	**5.9**	mg/kg	2.6		1	09/12/16	09/13/16 23:01	1033
Chromium	**21**	mg/kg	2.6		1	09/12/16	09/14/16 14:45	1033
Copper	**1,400**	mg/kg	26		10	09/12/16	09/14/16 15:52	1033
Lead	**690**	mg/kg	26		10	09/12/16	09/14/16 15:52	1033
Mercury	**3.5**	mg/kg	1.0		10	09/12/16	09/14/16 15:52	1033
Nickel	**14**	mg/kg	2.6		1	09/12/16	09/13/16 23:01	1033
Selenium	**4.4**	mg/kg	2.6		1	09/12/16	09/13/16 23:01	1033
Silver	**4.5**	mg/kg	2.6		1	09/12/16	09/13/16 23:01	1033
Thallium	ND	mg/kg	2.1		1	09/12/16	09/13/16 23:01	1033
Zinc	**2,700**	mg/kg	100		10	09/12/16	09/14/16 15:52	1033

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CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 (1.5-2.5) **Date/Time Sampled: 09/08/2016 13:30** **PSS Sample ID: 16090912-013**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 79**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
gamma-BHC (Lindane)	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
beta-BHC	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
delta-BHC	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Heptachlor	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Aldrin	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Heptachlor epoxide	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
gamma-Chlordane	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
alpha-Chlordane	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
4,4-DDE	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Endosulfan I	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Dieldrin	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Endrin	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
4,4-DDD	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Endosulfan II	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
4,4-DDT	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Endrin aldehyde	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Methoxychlor	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Endosulfan sulfate	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Endrin ketone	ND	ug/kg	5.0		1	09/12/16	09/14/16 21:35	1029
Toxaphene	ND	ug/kg	120		1	09/12/16	09/14/16 21:35	1029
Chlordane	ND	ug/kg	120		1	09/12/16	09/14/16 21:35	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090912

Icor Ltd., Middleburg, VA

September 22, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 (1.5-2.5) **Date/Time Sampled: 09/08/2016 13:30** **PSS Sample ID: 16090912-013**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 79**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.062		1	09/12/16	09/12/16 19:07	1029
PCB-1221	ND	mg/kg	0.062		1	09/12/16	09/12/16 19:07	1029
PCB-1232	ND	mg/kg	0.062		1	09/12/16	09/12/16 19:07	1029
PCB-1242	ND	mg/kg	0.062		1	09/12/16	09/12/16 19:07	1029
PCB-1248	ND	mg/kg	0.062		1	09/12/16	09/12/16 19:07	1029
PCB-1254	ND	mg/kg	0.062		1	09/12/16	09/12/16 19:07	1029
PCB-1260	ND	mg/kg	0.062		1	09/12/16	09/12/16 19:07	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	650		10	09/12/16	09/13/16 22:46	1029
Dicamba	ND	ug/kg	26		10	09/12/16	09/13/16 22:46	1029
MCPP	ND	ug/kg	26,000		10	09/12/16	09/13/16 22:46	1029
MCPA	ND	ug/kg	26,000		10	09/12/16	09/13/16 22:46	1029
Dichloroprop	ND	ug/kg	260		10	09/12/16	09/13/16 22:46	1029
2,4-D	ND	ug/kg	260		10	09/12/16	09/13/16 22:46	1029
2,4,5-TP (Silvex)	ND	ug/kg	26		10	09/12/16	09/13/16 22:46	1029
2,4,5-T	ND	ug/kg	26		10	09/12/16	09/13/16 22:46	1029
Dinoseb	ND	ug/kg	130		10	09/12/16	09/13/16 22:46	1029
2,4-DB	ND	ug/kg	260		10	09/12/16	09/13/16 22:46	1029

Sample ID: M1Hpt-20 (4-5) **Date/Time Sampled: 09/08/2016 13:35** **PSS Sample ID: 16090912-014**
Matrix: SOIL **Date/Time Received: 09/09/2016 13:10** **% Solids: 87**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**5.8**	mg/kg	0.42		1	09/12/16	09/13/16 23:07	1033

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

Report Date: September 22, 2016

Project: W.O. No.: 16090912

Submittal Date: 09/12/2016
Group Number: 1707100
PO Number: 16090912

Client Sample Description	Lancaster Labs (LL) #
16090912-004 M1Hpt-16 (1-2) Solid	8581397
16090912-013 M1Hpt-20 (1.5-2.5) Solid	8581398

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To Phase Separation Science Attn: Report ATT:

Respectfully Submitted,

Stacy L. Hess
Project Manager

(717) 556-7236

Sample Description: 16090912-004 M1Hpt-16 (1-2) Solid
16090912

LL Sample # SW 8581397
LL Group # 1707100
Account # 09703

Project Name: W.O. No.: 16090912

Collected: 09/08/2016 08:00

Submitted: 09/12/2016 16:00
Reported: 09/22/2016 09:17

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	
00111	Moisture	n.a.	14.3	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Description: 16090912-004 M1Hpt-16 (1-2) Solid
16090912

LL Sample # SW 8581397
LL Group # 1707100
Account # 09703

Project Name: W.O. No.: 16090912

Collected: 09/08/2016 08:00

Submitted: 09/12/2016 16:00
Reported: 09/22/2016 09:17

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result		Dry EDL	Dilution Factor
Dioxins/Furans	**SW-846 8290A Feb 2007 Rev 1**		**ng/kg**		**ng/kg**	
12937	2378-TCDD	1746-01-6	0.115	J	0.0745	1

Labeled Compounds	**%Rec**	**Windows**
13C12-2378-TCDD	95	40 - 135

Dioxins/Furans Data Qualifiers:

B	*Detected in Method Blank*
U	*Undetected*
J	*Estimated concentration between Estimated Detection Limit and Minimum Reporting Level*
E	*Exceeds calibration range*
C	*Confirmed quantitation on secondary GC column*
Q	*EMPC - Estimated Maximum Possible Concentration*
F	*Interference is present*
S	*Saturation of detection signal*

EDL = Estimated Detection Limit

Sample Description: 16090912-004 M1Hpt-16 (1-2) Solid
16090912

LL Sample # SW 8581397
LL Group # 1707100
Account # 09703

Project Name: W.O. No.: 16090912

Collected: 09/08/2016 08:00

Submitted: 09/12/2016 16:00
Reported: 09/22/2016 09:17

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12937	Dioxins/Furans in Solids-8290	SW-846 8290A Feb 2007 Rev 1	1	16259006	09/19/2016 17:56	Michael A Ziegler	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A Feb 2007 Rev 1	1	16259006	09/15/2016 16:20	Alex L Barton	1
00111	Moisture	SM 2540 G-1997	1	16264820007A	09/20/2016 23:36	Scott W Freisher	1

EDL = Estimated Detection Limit

Sample Description: 16090912-013 M1Hpt-20 (1.5-2.5) Solid
16090912

LL Sample # SW 8581398
LL Group # 1707100
Account # 09703

Project Name: W.O. No.: 16090912

Collected: 09/08/2016 13:30

Submitted: 09/12/2016 16:00
Reported: 09/22/2016 09:17

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM 2540 G-1997**		%	%	
00111	Moisture	n.a.	14.6	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Description: 16090912-013 M1Hpt-20 (1.5-2.5) Solid
16090912

LL Sample # SW 8581398
LL Group # 1707100
Account # 09703

Project Name: W.O. No.: 16090912

Collected: 09/08/2016 13:30

Submitted: 09/12/2016 16:00
Reported: 09/22/2016 09:17

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL	Dilution Factor
Dioxins/Furans	**SW-846 8290A Feb 2007 Rev 1**		ng/kg	ng/kg	
12937	2378-TCDD	1746-01-6	0.691 J	0.0987	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	81	40 - 135

Dioxins/Furans Data Qualifiers:

B	*Detected in Method Blank*
U	*Undetected*
J	*Estimated concentration between Estimated Detection Limit and Minimum Reporting Level*
E	*Exceeds calibration range*
C	*Confirmed quantitation on secondary GC column*
Q	*EMPC - Estimated Maximum Possible Concentration*
F	*Interference is present*
S	*Saturation of detection signal*

EDL = Estimated Detection Limit

Sample Description: 16090912-013 M1Hpt-20 (1.5-2.5) Solid
16090912

LL Sample # SW 8581398
LL Group # 1707100
Account # 09703

Project Name: W.O. No.: 16090912

Collected: 09/08/2016 13:30

Submitted: 09/12/2016 16:00
Reported: 09/22/2016 09:17

Phase Separation Science
6630 Baltimore Nat'l Pike
Baltimore MD 21228

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12937	Dioxins/Furans in Solids-8290	SW-846 8290A Feb 2007 Rev 1	1	16259006	09/19/2016 18:53	Michael A Ziegler	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A Feb 2007 Rev 1	1	16259006	09/15/2016 16:20	Alex L Barton	1
00111	Moisture	SM 2540 G-1997	1	16264820007A	09/20/2016 23:36	Scott W Freisher	1

EDL = Estimated Detection Limit

Quality Control Summary

Client Name: Phase Separation Science
Reported: 09/22/2016 09:17

Group Number: 1707100

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	EDL
	ng/kg	ng/kg
Batch number: 16259006	Sample number(s): 8581397-8581398	
2378-TCDD	N.D.	0.0325

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	%	%	%	%					
Batch number: 16264820007A	Sample number(s): 8581397-8581398								
Moisture	89.5	89.48			100		99-101		

Analysis Name	OPR Spike Added	OPR Conc	OPRD Spike Added	OPRD Conc	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
	ng/kg	ng/kg	ng/kg	ng/kg					
Batch number: 16259006	Sample number(s): 8581397-8581398								
2378-TCDD	20	19.63			98		67-158		

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	%	%		
Batch number: 16264820007A	Sample number(s): 8581397-8581398 BKG: P577797			
Moisture	15.09	14.37	5	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Dioxins/Furans in Solids-8290
Batch number: 16259006

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ / MRL.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Phase Separation Science Group Number: 1707100
Reported: 09/22/2016 09:17

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

	13C12-2378-TCDD
8581397	95
8581398	81
Blank	86
OPR	83
Limits:	40-135

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ / MRL.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Account 09703 GROUP: 1707105 Sample #: 8581397-98

Chain of Custody Form for Subcontracted Analyses

Phase Separation Science, Inc
6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

For Questions or issues please contact: Simon Crisp

W.O. No. : **16090912**
P.O. No. :
Project Number : N/A
Report To LOD : No

Report Due On :09/16/16 05:00

Samples Transferred To:
Eurofins Lancaster Labs - PA
2425 New Holland Pike
Lancaster, PA 17601

Part of Eurofins. Transport manager (for courier) S
Phone : 717-656-2300

Lab Sample ID	Field Sample ID	Date Sampled	Time Sampled	Matrix	Analyses Required	Method	Type of Container	Preservative
16090912-004	M1Hpt-16 (1-2)	09/08/16	08:00	Solid	Dioxins 2378 TCDD only	SW8290	4 OZ WM GLASS	COOL
16090912-013	M1Hpt-20 (1.5-2.5)	09/08/16	13:30	Solid	Dioxins 2378 TCDD only	SW8290	4 OZ WM GLASS	COOL

Data Deliverables Required: COA

Perform Q.C. on Sample :

Send Report Attn : reporting@phaseonline.com

Send InvoiceAttn : invoicing@phaseonline.com

Airbill No.: _____ Carrier : LANCASTER COURIER

Condition Upon Receipt : _____

Comments : **DIOXINS - STD TAT PLEASE.**

Samples Relinquished By : _____ Date : 9/12/16 Time: 1140 Samples Received By : _____

Samples Relinquished By: _____ Date : 9/12/16 Time : 16:00 Samples Received By: _____

Samples Relinquished By: _____ Date: 9/12/16 Time: 16:00 Samples Received By: Cathy Murphy

Sub-Contractor	Method	Matrix	Analyte Name
Eurofins Lancaster Labs - PA	SW8290	Solid	2,3,7,8-Tetrachlorodibenzo-p-

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 161771

Group Number(s): 1707100

Client: Phase Separation

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	09/12/2016 16:00
Number of Packages:	1	Number of Projects:	1
State/Province of Origin:	MD		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Katherine Metzger (2241) at 18:38 on 09/12/2016

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	0.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T 717-656-2300
F 717-656-2681
www.LancasterLabs.cor

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Case Narrative Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090912

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

TAL Metals

Batch: 135733

Intermedate CCV had a chromium recovery of 111%, which is above the control limits of 90-110%. Only affects sample 009, which cannot be rerun straight due to a high mercury concentration.

Organochlorine Pesticides

Batch: 135800

The recoveries of 4,4-DDT and Methoxychlor in closing CCVs were 71% and 76%(80-120%) due to sample matrix. All samples were confirmed on second column.

Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16090912
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
ASTM D2216 05	M1Hpt-16 (1-2)	Initial	16090912-004	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-16 (4-5)	Initial	16090912-005	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-16 (8-9)	Initial	16090912-006	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-15 (1-2)	Initial	16090912-007	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-15 (4-5)	Initial	16090912-008	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-14 (1-2)	Initial	16090912-009	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-14 (4-5)	Initial	16090912-010	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-14 (5-6)	Initial	16090912-011	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-14 (25-26)	Initial	16090912-012	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-20 (1.5-2.5)	Initial	16090912-013	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-20 (4-5)	Initial	16090912-014	1059	S	135699	135699	09/08/2016	09/12/2016 16:39	09/12/2016 16:39
EPA 1664 A	M1Hpt-08-GW (36.5-40)	Initial	16090912-001	1022	W	135811	135811	09/08/2016	09/15/2016 13:14	09/15/2016 13:14
	M1Hpt-14-GW (25-28.5)	Initial	16090912-003	1022	W	135811	135811	09/08/2016	09/15/2016 13:14	09/15/2016 13:14
	135811-1-BKS	BKS	135811-1-BKS	1022	W	135811	135811	--------	09/15/2016 13:14	09/15/2016 13:14
	135811-1-BLK	BLK	135811-1-BLK	1022	W	135811	135811	--------	09/15/2016 13:14	09/15/2016 13:14
	135811-1-BSD	BSD	135811-1-BSD	1022	W	135811	135811	--------	09/15/2016 13:14	09/15/2016 13:14
EPA 1664 A	M1Hpt-08-GW (36.5-40)	Initial	16090912-001	1022	W	135809	135809	09/08/2016	09/15/2016 12:59	09/15/2016 12:59
	M1Hpt-14-GW (25-28.5)	Initial	16090912-003	1022	W	135809	135809	09/08/2016	09/15/2016 12:59	09/15/2016 12:59
	135809-1-BKS	BKS	135809-1-BKS	1022	W	135809	135809	--------	09/15/2016 12:59	09/15/2016 12:59
	135809-1-BLK	BLK	135809-1-BLK	1022	W	135809	135809	--------	09/15/2016 12:59	09/15/2016 12:59
	135809-1-BSD	BSD	135809-1-BSD	1022	W	135809	135809	--------	09/15/2016 12:59	09/15/2016 12:59
SW-846 6020 A	M1Hpt-16 (8-9)	Initial	16090912-006	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 18:53
	M1Hpt-14 (4-5)	Initial	16090912-010	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 22:55
	M1Hpt-20 (4-5)	Initial	16090912-014	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 23:07
	62501-1-BKS	BKS	62501-1-BKS	1033	S	62501	135733	--------	09/12/2016 17:09	09/13/2016 16:47

Analytical Data Package Information Summary

Work Order(s): 16090912
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 6020 A	62501-1-BLK	BLK	62501-1-BLK	1033	S	62501	135733	--------	09/12/2016 17:09	09/13/2016 16:40
	WCTP-06 S	MS	16090910-001 S	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 17:00
	WCTP-06 SD	MSD	16090910-001 SD	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 17:07
	M1Hpt-15 (4-5)	Reanalysis	16090912-008	1033	S	62501	135804	09/08/2016	09/12/2016 17:09	09/14/2016 15:39
SW-846 6020 A	M1Hpt-15 (1-2)	Initial	16090912-007	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 18:59
	M1Hpt-14 (1-2)	Initial	16090912-009	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 22:48
	M1Hpt-20 (1.5-2.5)	Initial	16090912-013	1033	S	62501	135733	09/08/2016	09/12/2016 17:09	09/13/2016 23:01
	M1Hpt-20 (1.5-2.5)	Reanalysis	16090912-013	1033	S	62501	135804	09/08/2016	09/12/2016 17:09	09/14/2016 14:45
	M1Hpt-14 (1-2)	Reanalysis	16090912-009	1033	S	62501	135804	09/08/2016	09/12/2016 17:09	09/14/2016 15:45
	M1Hpt-20 (1.5-2.5)	Reanalysis	16090912-013	1033	S	62501	135804	09/08/2016	09/12/2016 17:09	09/14/2016 15:52
SW-846 8015 C	M1Hpt-10-GW (25-28.5)	Initial	16090912-002	1045	W	62502	135830	09/08/2016	09/13/2016 08:19	09/15/2016 12:50
	M1Hpt-14-GW (25-28.5)	Initial	16090912-003	1045	W	62502	135830	09/08/2016	09/13/2016 08:19	09/15/2016 13:15
	62502-1-BKS	BKS	62502-1-BKS	1045	W	62502	135830	--------	09/13/2016 08:19	09/15/2016 11:35
	62502-1-BLK	BLK	62502-1-BLK	1045	W	62502	135830	--------	09/13/2016 08:19	09/15/2016 11:10
	62502-1-BSD	BSD	62502-1-BSD	1045	W	62502	135830	--------	09/13/2016 08:19	09/15/2016 13:15
	M1Hpt-14 (25-26)	Initial	16090912-012	1045	S	62529	135866	09/08/2016	09/14/2016 08:49	09/16/2016 03:28
	62529-1-BKS	BKS	62529-1-BKS	1045	S	62529	135866	--------	09/14/2016 08:49	09/16/2016 00:58
	62529-1-BLK	BLK	62529-1-BLK	1045	S	62529	135866	--------	09/14/2016 08:49	09/16/2016 00:33
	62529-1-BSD	BSD	62529-1-BSD	1045	S	62529	135866	--------	09/14/2016 08:49	09/16/2016 01:23
	11790-UST2-E-Bottom S	MS	16090911-001 S	1045	S	62529	135866	09/08/2016	09/14/2016 08:49	09/16/2016 00:58
	11790-UST2-E-Bottom SD	MSD	16090911-001 SD	1045	S	62529	135866	09/08/2016	09/14/2016 08:49	09/16/2016 01:23
SW-846 8015C	M1Hpt-14 (25-26)	Initial	16090912-012	1035	S	62513	135716	09/08/2016	09/12/2016 21:27	09/13/2016 01:29
	62513-2-BKS	BKS	62513-2-BKS	1035	S	62513	135716	--------	09/12/2016 21:27	09/12/2016 23:58
	62513-2-BLK	BLK	62513-2-BLK	1035	S	62513	135716	--------	09/12/2016 21:27	09/12/2016 23:28
	M1Hpt-22 (24-25) S	MS	16090921-009 S	1035	S	62513	135716	09/09/2016	09/12/2016 21:27	09/13/2016 07:04

Analytical Data Package Information Summary

Work Order(s): 16090912
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8015C	M1Hpt-22 (24-25) SD	MSD	16090921-009 SD	1035	S	62513	135716	09/09/2016	09/12/2016 21:27	09/13/2016 07:34
	M1Hpt-10-GW (25-28.5)	Initial	16090912-002	1035	W	62576	135835	09/08/2016	09/15/2016 09:18	09/15/2016 12:28
	M1Hpt-14-GW (25-28.5)	Initial	16090912-003	1035	W	62576	135835	09/08/2016	09/15/2016 09:18	09/15/2016 12:54
	62576-2-BKS	BKS	62576-2-BKS	1035	W	62576	135835	--------	09/15/2016 09:18	09/15/2016 11:37
	62576-2-BLK	BLK	62576-2-BLK	1035	W	62576	135835	--------	09/15/2016 09:18	09/15/2016 11:12
	M1Hpt-14-GW (25-28.5) S	MS	16090912-003 S	1035	W	62576	135835	09/08/2016	09/15/2016 09:18	09/15/2016 14:36
	M1Hpt-14-GW (25-28.5) SD	MSD	16090912-003 SD	1035	W	62576	135835	09/08/2016	09/15/2016 09:18	09/15/2016 15:01
SW-846 8081 B	M1Hpt-16 (1-2)	Initial	16090912-004	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 20:40
	M1Hpt-16 (4-5)	Initial	16090912-005	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 16:56
	M1Hpt-14 (1-2)	Initial	16090912-009	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 21:07
	M1Hpt-20 (1.5-2.5)	Initial	16090912-013	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 21:35
	62498-1-BKS	BKS	62498-1-BKS	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 22:31
	62498-1-BLK	BLK	62498-1-BLK	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 12:43
	62498-1-BSD	BSD	62498-1-BSD	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 22:03
	M1Hpt-16 (4-5) S	MS	16090912-005 S	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 14:08
	M1Hpt-16 (4-5) SD	MSD	16090912-005 SD	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 15:04
SW-846 8082 A	M1Hpt-16 (1-2)	Initial	16090912-004	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 18:09
	M1Hpt-16 (4-5)	Initial	16090912-005	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 18:38
	M1Hpt-14 (1-2)	Initial	16090912-009	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 18:38
	M1Hpt-20 (1.5-2.5)	Initial	16090912-013	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 19:07
	62499-1-BKS	BKS	62499-1-BKS	1029	S	62499	135705	--------	09/12/2016 15:33	09/12/2016 16:42
	62499-1-BLK	BLK	62499-1-BLK	1029	S	62499	135705	--------	09/12/2016 15:33	09/12/2016 16:13
	62499-1-BSD	BSD	62499-1-BSD	1029	S	62499	135705	--------	09/12/2016 15:33	09/12/2016 17:11
	M1Hpt-16 (4-5) S	MS	16090912-005 S	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 17:40
	M1Hpt-16 (4-5) SD	MSD	16090912-005 SD	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 18:09

Analytical Data Package Information Summary

Work Order(s): 16090912
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8151 A	M1Hpt-16 (1-2)	Initial	16090912-004	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 21:08
	M1Hpt-16 (4-5)	Initial	16090912-005	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 21:41
	M1Hpt-14 (1-2)	Initial	16090912-009	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 22:13
	M1Hpt-20 (1.5-2.5)	Initial	16090912-013	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 22:46
	62477-1-BKS	BKS	62477-1-BKS	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 10:23
	62477-1-BLK	BLK	62477-1-BLK	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 09:50
	62477-1-BSD	BSD	62477-1-BSD	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 10:55
	1614-02 S	MS	16090903-001 S	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 11:28
	1614-02 SD	MSD	16090903-001 SD	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 12:00
SW-846 8260 B	M1Hpt-10-GW (25-28.5)	Initial	16090912-002	1011	W	62544	135761	09/08/2016	09/13/2016 13:20	09/13/2016 22:32
	M1Hpt-14-GW (25-28.5)	Initial	16090912-003	1011	W	62544	135761	09/08/2016	09/13/2016 13:20	09/13/2016 22:53
	62544-1-BKS	BKS	62544-1-BKS	1011	W	62544	135761	--------	09/13/2016 13:20	09/13/2016 14:13
	62544-1-BLK	BLK	62544-1-BLK	1011	W	62544	135761	--------	09/13/2016 13:20	09/13/2016 14:55
	GP-4-Water S	MS	16090822-005 S	1011	W	62544	135761	09/08/2016	09/13/2016 13:20	09/13/2016 15:38
	GP-4-Water SD	MSD	16090822-005 SD	1011	W	62544	135761	09/08/2016	09/13/2016 13:20	09/13/2016 15:59
	M1Hpt-14 (5-6)	Initial	16090912-011	1011	S	62583	135847	09/08/2016	09/15/2016 10:59	09/15/2016 19:37
	M1Hpt-14 (25-26)	Initial	16090912-012	1011	S	62583	135847	09/08/2016	09/15/2016 10:59	09/15/2016 20:16
	62583-1-BKS	BKS	62583-1-BKS	1011	S	62583	135847	--------	09/15/2016 10:59	09/15/2016 12:58
	62583-1-BLK	BLK	62583-1-BLK	1011	S	62583	135847	--------	09/15/2016 10:59	09/15/2016 13:38
	WCTP-12 S	MS	16090910-007 S	1011	S	62583	135847	09/08/2016	09/15/2016 10:59	09/15/2016 14:58
	WCTP-12 SD	MSD	16090910-007 SD	1011	S	62583	135847	09/08/2016	09/15/2016 10:59	09/15/2016 15:38
SW-846 8270 C	M1Hpt-14 (25-26)	Initial	16090912-012	1055	S	62476	135707	09/08/2016	09/12/2016 08:41	09/12/2016 16:17
	62476-1-BKS	BKS	62476-1-BKS	1055	S	62476	135707	--------	09/12/2016 08:41	09/12/2016 13:29
	62476-1-BLK	BLK	62476-1-BLK	1055	S	62476	135707	--------	09/12/2016 08:41	09/12/2016 13:00
	62476-1-BSD	BSD	62476-1-BSD	1055	S	62476	135707	--------	09/12/2016 08:41	09/12/2016 13:57
	1614-02 S	MS	16090903-001 S	1055	S	62476	135707	09/08/2016	09/12/2016 08:41	09/12/2016 14:25
	1614-02 SD	MSD	16090903-001 SD	1055	S	62476	135707	09/08/2016	09/12/2016 08:41	09/12/2016 14:53

Analytical Data Package Information Summary

Work Order(s): 16090912
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8270 C	M1Hpt-14-GW (25-28.5)	Initial	16090912-003	1055	W	62510	135757	09/08/2016	09/13/2016 10:20	09/14/2016 06:20
	62510-1-BKS	BKS	62510-1-BKS	1055	W	62510	135757	--------	09/13/2016 10:20	09/13/2016 23:39
	62510-1-BLK	BLK	62510-1-BLK	1055	W	62510	135757	--------	09/13/2016 10:20	09/13/2016 23:11
	62510-1-BSD	BSD	62510-1-BSD	1055	W	62510	135757	--------	09/13/2016 10:20	09/14/2016 00:07

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135830 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090912-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	79		46-111	%	09/15/16 12:50

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 135761 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090912-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		86-111	%	09/13/16 22:32
Dibromofluoromethane	101		91-119	%	09/13/16 22:32
Toluene-D8	105		90-117	%	09/13/16 22:32

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135835 Matrix: Ground Water Date Prep: 09/15/2016
PSS Sample ID: 16090912-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	72		55-114	%	09/15/16 12:28

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135757 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090912-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	71		35-107	%	09/14/16 06:20
2-Fluorophenol	68		32-106	%	09/14/16 06:20
Nitrobenzene-d5	72		34-123	%	09/14/16 06:20
Phenol-d6	70		36-111	%	09/14/16 06:20
Terphenyl-D14	86		43-143	%	09/14/16 06:20
2,4,6-Tribromophenol	80		26-122	%	09/14/16 06:20

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135830 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090912-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	85		46-111	%	09/15/16 13:15

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 135761 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090912-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	104		86-111	%	09/13/16 22:53
Dibromofluoromethane	103		91-119	%	09/13/16 22:53
Toluene-D8	104		90-117	%	09/13/16 22:53

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135835 Matrix: Ground Water Date Prep: 09/15/2016
PSS Sample ID: 16090912-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	70		55-114	%	09/15/16 12:54

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	99		61-150	%	09/12/16 18:09
Tetrachloro-m-xylene	87		42-142	%	09/12/16 18:09

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	108		61-144	%	09/13/16 21:08

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	132		23-165	%	09/14/16 20:40
Tetrachloro-m-xylene	116		31-145	%	09/14/16 20:40

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	113		61-150	%	09/12/16 18:38
Tetrachloro-m-xylene	97		42-142	%	09/12/16 18:38

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	106		61-144	%	09/13/16 21:41

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	105		23-165	%	09/14/16 16:56
Tetrachloro-m-xylene	113		31-145	%	09/14/16 16:56

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	100		61-150	%	09/12/16 18:38
Tetrachloro-m-xylene	88		42-142	%	09/12/16 18:38

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	121		61-144	%	09/13/16 22:13

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	94		23-165	%	09/14/16 21:07
Tetrachloro-m-xylene	94		31-145	%	09/14/16 21:07

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135847 Matrix: Soil Date Prep: 09/15/2016
PSS Sample ID: 16090912-011

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	119		82-126	%	09/15/16 19:37
Dibromofluoromethane	104		92-113	%	09/15/16 19:37
Toluene-D8	99		94-105	%	09/15/16 19:37

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135707 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-012

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	87		32-107	%	09/12/16 16:17
2-Fluorophenol	86		34-113	%	09/12/16 16:17
Nitrobenzene-d5	91		35-123	%	09/12/16 16:17
Phenol-d6	87		34-120	%	09/12/16 16:17
Terphenyl-D14	107		46-154	%	09/12/16 16:17
2,4,6-Tribromophenol	83		31-113	%	09/12/16 16:17

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135866 Matrix: Soil Date Prep: 09/14/2016
PSS Sample ID: 16090912-012

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	83		34-133	%	09/16/16 03:28

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135716 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-012

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	93		50-122	%	09/13/16 01:29

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135847 Matrix: Soil Date Prep: 09/15/2016
PSS Sample ID: 16090912-012

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	111		82-126	%	09/15/16 20:16
Dibromofluoromethane	102		92-113	%	09/15/16 20:16
Toluene-D8	98		94-105	%	09/15/16 20:16

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-013

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	102		61-150	%	09/12/16 19:07
Tetrachloro-m-xylene	82		42-142	%	09/12/16 19:07

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-013

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	120		61-144	%	09/13/16 22:46

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090912-013

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	105		23-165	%	09/14/16 21:35
Tetrachloro-m-xylene	106		31-145	%	09/14/16 21:35

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: EPA 1664 A

Seq Number: 135809 Matrix: Water
MB Sample Id: 135809-1-BLK LCS Sample Id: 135809-1-BKS LCSD Sample Id: 135809-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH	<2.000	20.00	15.30	77	16.20	81	64-132	6	28	mg/L	09/15/16 12:59	

Analytical Method: EPA 1664 A

Seq Number: 135811 Matrix: Water
MB Sample Id: 135811-1-BLK LCS Sample Id: 135811-1-BKS LCSD Sample Id: 135811-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Oil & Grease, Total Recovered	<2.000	40.00	36.50	91	37.10	93	78-114	2	11	mg/L	09/15/16 13:14	

Analytical Method: SW-846 6020 A Prep Method: SW3050B

Seq Number: 135733 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62501-1-BLK LCS Sample Id: 62501-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Antimony	<2.376	19.01	19.76	104	80-120	mg/kg	09/13/16 16:47	
Arsenic	<0.4752	19.01	19.45	102	80-120	mg/kg	09/13/16 16:47	
Beryllium	<2.376	19.01	17.29	91	80-120	mg/kg	09/13/16 16:47	
Cadmium	<2.376	19.01	17.76	93	80-120	mg/kg	09/13/16 16:47	
Chromium	<2.376	19.01	19.92	105	80-120	mg/kg	09/13/16 16:47	
Copper	<2.376	19.01	19.25	101	80-120	mg/kg	09/13/16 16:47	
Lead	<2.376	19.01	18.38	97	80-120	mg/kg	09/13/16 16:47	
Mercury	<0.09505	0.4752	0.4610	97	80-120	mg/kg	09/13/16 16:47	
Nickel	<2.376	19.01	18.55	98	80-120	mg/kg	09/13/16 16:47	
Selenium	<2.376	19.01	17.46	92	80-120	mg/kg	09/13/16 16:47	
Silver	<2.376	19.01	18.14	95	80-120	mg/kg	09/13/16 16:47	
Thallium	<1.901	19.01	15.74	83	80-120	mg/kg	09/13/16 16:47	
Zinc	<9.505	95.05	89.44	94	80-120	mg/kg	09/13/16 16:47	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3550C

Seq Number: 135800 Matrix: Solid Date Prep: 09/12/16

MB Sample Id: 62498-1-BLK LCS Sample Id: 62498-1-BKS LCSD Sample Id: 62498-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
alpha-BHC	<3.968	19.84	19.18	97	18.68	95	58-120	3	25	ug/kg	09/14/16 22:31	
gamma-BHC (Lindane)	<3.968	19.84	18.23	92	17.88	91	57-120	2	25	ug/kg	09/14/16 22:31	
beta-BHC	<3.968	19.84	19.34	97	18.15	92	59-118	6	25	ug/kg	09/14/16 22:31	
delta-BHC	<3.968	19.84	21.21	107	20.46	104	52-123	4	25	ug/kg	09/14/16 22:31	
Heptachlor	<3.968	19.84	19.10	96	18.46	94	44-130	3	25	ug/kg	09/14/16 22:31	
Aldrin	<3.968	19.84	18.93	95	18.42	93	59-123	3	25	ug/kg	09/14/16 22:31	
Heptachlor epoxide	<3.968	19.84	20.08	101	19.52	99	61-119	3	25	ug/kg	09/14/16 22:31	
gamma-Chlordane	<3.968	19.84	20.82	105	20.18	102	61-122	3	25	ug/kg	09/14/16 22:31	
alpha-Chlordane	<3.968	19.84	18.81	95	18.25	93	61-123	3	25	ug/kg	09/14/16 22:31	
4,4-DDE	<3.968	19.84	17.61	89	16.48	84	49-131	7	25	ug/kg	09/14/16 22:31	
Endosulfan I	<3.968	19.84	22.43	113	22.08	112	66-118	2	25	ug/kg	09/14/16 22:31	
Dieldrin	<3.968	19.84	19.98	101	19.35	98	60-122	3	25	ug/kg	09/14/16 22:31	
Endrin	<3.968	19.84	21.01	106	19.56	99	39-133	7	25	ug/kg	09/14/16 22:31	
4,4-DDD	<3.968	19.84	20.38	103	19.70	100	44-130	3	25	ug/kg	09/14/16 22:31	
Endosulfan II	<3.968	19.84	24.03	121	22.90	116	59-118	5	25	ug/kg	09/14/16 22:31	H
4,4-DDT	<3.968	19.84	23.59	119	21.58	109	28-134	9	25	ug/kg	09/14/16 22:31	
Endrin aldehyde	<3.968	19.84	21.35	108	20.31	103	51-129	5	25	ug/kg	09/14/16 22:31	
Methoxychlor	<3.968	19.84	21.59	109	19.78	100	33-135	9	25	ug/kg	09/14/16 22:31	
Endosulfan sulfate	<3.968	19.84	25.77	130	24.43	124	54-124	5	25	ug/kg	09/14/16 22:31	H
Endrin ketone	<3.968	19.84	22.82	115	21.82	111	58-123	4	25	ug/kg	09/14/16 22:31	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	109		127		117		23-165	%	09/14/16 22:31
Tetrachloro-m-xylene	111		98		95		31-145	%	09/14/16 22:31

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/16
Parent Sample Id: 16090912-005 MS Sample Id: 16090912-005 S MSD Sample Id: 16090912-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
alpha-BHC	<4.849	24.24	24.26	100	23.53	97	56-114	3	30	ug/kg	09/14/16 14:08	
gamma-BHC (Lindane)	<4.849	24.24	24.78	102	23.86	98	55-116	4	30	ug/kg	09/14/16 14:08	
beta-BHC	<4.849	24.24	25.40	105	24.82	102	62-111	2	30	ug/kg	09/14/16 14:08	
delta-BHC	<4.849	24.24	24.39	101	23.75	98	52-122	3	30	ug/kg	09/14/16 14:08	
Heptachlor	<4.849	24.24	24.28	100	23.61	97	48-127	3	30	ug/kg	09/14/16 14:08	
Aldrin	<4.849	24.24	22.96	95	22.69	93	65-120	1	30	ug/kg	09/14/16 14:08	
Heptachlor epoxide	<4.849	24.24	23.70	98	23.54	97	61-118	1	30	ug/kg	09/14/16 14:08	
gamma-Chlordane	<4.849	24.24	24.37	101	24.83	102	56-126	2	30	ug/kg	09/14/16 14:08	
alpha-Chlordane	<4.849	24.24	22.11	91	22.26	92	54-127	1	30	ug/kg	09/14/16 14:08	
4,4-DDE	<4.849	24.24	23.44	97	23.94	98	52-124	2	30	ug/kg	09/14/16 14:08	
Endosulfan I	<4.849	24.24	24.88	103	24.96	103	61-123	0	30	ug/kg	09/14/16 14:08	
Dieldrin	<4.849	24.24	23.38	96	23.61	97	64-118	1	30	ug/kg	09/14/16 14:08	
Endrin	<4.849	24.24	26.34	109	26.03	107	51-122	1	30	ug/kg	09/14/16 14:08	
4,4-DDD	<4.849	24.24	26.21	108	27.13	112	48-119	3	30	ug/kg	09/14/16 14:08	
Endosulfan II	<4.849	24.24	24.52	101	25.44	105	59-118	4	30	ug/kg	09/14/16 14:08	
4,4-DDT	<4.849	24.24	23.93	99	25.17	103	35-148	5	30	ug/kg	09/14/16 14:08	
Endrin aldehyde	<4.849	24.24	22.95	95	23.92	98	48-123	4	30	ug/kg	09/14/16 14:08	
Methoxychlor	<4.849	24.24	22.68	94	23.70	97	40-137	4	30	ug/kg	09/14/16 14:08	
Endosulfan sulfate	<4.849	24.24	25.78	106	26.97	111	60-121	5	30	ug/kg	09/14/16 14:08	
Endrin ketone	<4.849	24.24	23.58	97	23.41	96	52-127	1	30	ug/kg	09/14/16 14:08	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	97		99		23-165	%	09/14/16 14:08
Tetrachloro-m-xylene	108		102		31-145	%	09/14/16 14:08

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62499-1-BLK LCS Sample Id: 62499-1-BKS LCSD Sample Id: 62499-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
PCB-1016	<0.04975	0.4975	0.4021	81	0.4006	81	60-110	0	25	mg/kg	09/12/16 16:42	
PCB-1260	<0.04975	0.4975	0.4793	96	0.4760	96	60-98	1	25	mg/kg	09/12/16 16:42	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	110		109		111		61-150	%	09/12/16 16:42
Tetrachloro-m-xylene	99		98		100		42-142	%	09/12/16 16:42

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/16
Parent Sample Id: 16090912-005 MS Sample Id: 16090912-005 S MSD Sample Id: 16090912-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
PCB-1016	<0.06079	0.6079	0.4876	80	0.4825	80	45-130	1	30	mg/kg	09/12/16 17:40	
PCB-1260	<0.06079	0.6079	0.5953	98	0.5894	97	30-125	1	30	mg/kg	09/12/16 17:40	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	111		111		61-150	%	09/12/16 17:40
Tetrachloro-m-xylene	95		96		42-142	%	09/12/16 17:40

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62477-1-BLK LCS Sample Id: 62477-1-BKS LCSD Sample Id: 62477-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dalapon	<493.6	1481	1096	74	1186	80	66-117	8	25	ug/kg	09/13/16 10:23	
Dicamba	<19.74	59.23	66.44	112	66.50	112	73-126	0	25	ug/kg	09/13/16 10:23	
MCPP	<19740	59230	51110	86	50840	86	51-138	1	25	ug/kg	09/13/16 10:23	
MCPA	<19740	59230	51210	86	50770	85	70-133	1	25	ug/kg	09/13/16 10:23	
Dichloroprop	<197.4	592.3	664.5	112	650.1	109	88-162	2	25	ug/kg	09/13/16 10:23	
2,4-D	<197.4	592.3	668.5	113	654.7	110	66-133	2	25	ug/kg	09/13/16 10:23	
2,4,5-TP (Silvex)	<19.74	59.23	61.11	103	58.37	98	71-126	5	25	ug/kg	09/13/16 10:23	
2,4,5-T	<19.74	59.23	61.20	103	57.98	98	66-125	5	25	ug/kg	09/13/16 10:23	
Dinoseb	<98.72	296.2	245.8	83	233.9	79	52-101	5	25	ug/kg	09/13/16 10:23	
2,4-DB	<197.4	592.3	625.5	106	586.1	99	63-134	7	25	ug/kg	09/13/16 10:23	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	97		98		104		61-144	%	09/13/16 10:23

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135830 Matrix: Water Date Prep: 09/13/16
MB Sample Id: 62502-1-BLK LCS Sample Id: 62502-1-BKS LCSD Sample Id: 62502-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<0.1000	1.000	0.5394	54	0.7449	74	41-123	32	20	mg/L	09/15/16 11:35	F

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	80		68		71		46-111	%	09/15/16 11:35

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3550C

Seq Number: 135866 Matrix: Solid Date Prep: 09/14/16

MB Sample Id: 62529-1-BLK LCS Sample Id: 62529-1-BKS LCSD Sample Id: 62529-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.11	33.70	28.99	86	34.10	102	54-123	16	25	mg/kg	09/16/16 00:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	86		82		96		34-133	%	09/16/16 00:58

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135707 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62476-1-BLK LCS Sample Id: 62476-1-BKS LCSD Sample Id: 62476-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<166.2	1330	1077	81	1085	82	60-116	1	25	ug/kg	09/12/16 13:29	
Acenaphthylene	<166.2	1330	1120	84	1134	85	61-112	1	25	ug/kg	09/12/16 13:29	
Acetophenone	<166.2	1330	1069	80	1081	81	57-114	1	25	ug/kg	09/12/16 13:29	
Anthracene	<166.2	1330	1131	85	1138	86	66-115	1	25	ug/kg	09/12/16 13:29	
Atrazine	<166.2	1330	1062	80	1083	81	7-109	2	25	ug/kg	09/12/16 13:29	
Benzo(a)anthracene	<166.2	1330	1199	90	1207	91	71-113	1	25	ug/kg	09/12/16 13:29	
Benzo(a)pyrene	<166.2	1330	1251	94	1273	96	69-118	2	25	ug/kg	09/12/16 13:29	
Benzo(b)fluoranthene	<166.2	1330	1259	95	1216	91	65-126	3	25	ug/kg	09/12/16 13:29	
Benzo(g,h,i)perylene	<166.2	1330	1093	82	1062	80	69-112	3	25	ug/kg	09/12/16 13:29	
Benzo(k)fluoranthene	<166.2	1330	1208	91	1337	101	57-129	10	25	ug/kg	09/12/16 13:29	
Biphenyl (Diphenyl)	<166.2	1330	1045	79	1048	79	62-117	0	25	ug/kg	09/12/16 13:29	
Butyl benzyl phthalate	<166.2	1330	1432	108	1461	110	81-111	2	25	ug/kg	09/12/16 13:29	
bis(2-chloroethoxy) methane	<166.2	1330	1032	78	1039	78	56-119	1	25	ug/kg	09/12/16 13:29	
bis(2-chloroethyl) ether	<166.2	1330	1029	77	1013	76	55-107	2	25	ug/kg	09/12/16 13:29	
bis(2-chloroisopropyl) ether	<166.2	1330	963.8	72	956.4	72	44-103	1	25	ug/kg	09/12/16 13:29	
bis(2-ethylhexyl) phthalate	<166.2	1330	1441	108	1457	110	84-109	1	25	ug/kg	09/12/16 13:29	H
4-Bromophenylphenyl ether	<166.2	1330	1097	82	1094	82	63-125	0	25	ug/kg	09/12/16 13:29	
Di-n-butyl phthalate	<166.2	1330	1247	94	1232	93	76-110	1	25	ug/kg	09/12/16 13:29	
Carbazole	<166.2	1330	1178	89	1182	89	58-133	0	25	ug/kg	09/12/16 13:29	
Caprolactam	<166.2	1330	1128	85	1159	87	51-122	3	25	ug/kg	09/12/16 13:29	
4-Chloro-3-methyl phenol	<166.2	1330	1186	89	1207	91	74-119	2	25	ug/kg	09/12/16 13:29	
4-Chloroaniline	<166.2	1330	992.7	75	1006	76	45-107	1	25	ug/kg	09/12/16 13:29	
2-Chloronaphthalene	<166.2	1330	1030	77	1039	78	56-113	1	25	ug/kg	09/12/16 13:29	
2-Chlorophenol	<166.2	1330	1057	79	1069	80	59-113	1	25	ug/kg	09/12/16 13:29	
4-Chlorophenyl Phenyl ether	<166.2	1330	1029	77	1050	79	62-111	2	25	ug/kg	09/12/16 13:29	
Chrysene	<166.2	1330	1175	88	1175	88	72-114	0	25	ug/kg	09/12/16 13:29	
Dibenz(a,h)Anthracene	<166.2	1330	1290	97	1255	94	72-110	3	25	ug/kg	09/12/16 13:29	
Dibenzofuran	<166.2	1330	1083	81	1102	83	62-118	2	25	ug/kg	09/12/16 13:29	
3,3-Dichlorobenzidine	<166.2	1330	1513	114	1523	115	66-141	1	25	ug/kg	09/12/16 13:29	
2,4-Dichlorophenol	<166.2	1330	1120	84	1128	85	68-118	1	25	ug/kg	09/12/16 13:29	
Diethyl phthalate	<166.2	1330	1171	88	1190	89	61-113	2	25	ug/kg	09/12/16 13:29	
Dimethyl phthalate	<166.2	1330	1161	87	1179	89	69-109	2	25	ug/kg	09/12/16 13:29	
2,4-Dimethylphenol	<166.2	1330	1087	82	1087	82	57-122	0	25	ug/kg	09/12/16 13:29	
4,6-Dinitro-2-methyl phenol	<166.2	1330	959.8	72	1008	76	50-134	5	25	ug/kg	09/12/16 13:29	
2,4-Dinitrophenol	<332.4	1330	611	46	673.4	51	24-144	10	25	ug/kg	09/12/16 13:29	
2,4-Dinitrotoluene	<166.2	1330	1112	84	1125	85	61-124	1	25	ug/kg	09/12/16 13:29	
2,6-Dinitrotoluene	<166.2	1330	1146	86	1161	87	59-124	1	25	ug/kg	09/12/16 13:29	
Fluoranthene	<166.2	1330	1164	88	1149	86	69-119	1	25	ug/kg	09/12/16 13:29	
Fluorene	<166.2	1330	1117	84	1129	85	65-115	1	25	ug/kg	09/12/16 13:29	
Hexachlorobenzene	<166.2	1330	1082	81	1092	82	63-118	1	25	ug/kg	09/12/16 13:29	
Hexachlorobutadiene	<166.2	1330	1035	78	1031	78	55-120	0	25	ug/kg	09/12/16 13:29	
Hexachlorocyclopentadiene	<166.2	1330	1030	77	1018	77	29-138	1	25	ug/kg	09/12/16 13:29	
Hexachloroethane	<166.2	1330	1044	78	1047	79	54-110	0	25	ug/kg	09/12/16 13:29	
Indeno(1,2,3-c,d)Pyrene	<166.2	1330	1060	80	1008	76	60-127	5	25	ug/kg	09/12/16 13:29	
Isophorone	<166.2	1330	1149	86	1152	87	57-116	0	25	ug/kg	09/12/16 13:29	
2-Methylnaphthalene	<166.2	1330	1094	82	1102	83	70-109	1	25	ug/kg	09/12/16 13:29	
2-Methyl phenol	<166.2	1330	1097	82	1114	84	59-118	2	25	ug/kg	09/12/16 13:29	
3&4-Methylphenol	<166.2	1330	1068	80	1089	82	59-113	2	25	ug/kg	09/12/16 13:29	
Naphthalene	<166.2	1330	1020	77	1027	77	59-108	1	25	ug/kg	09/12/16 13:29	
2-Nitroaniline	<166.2	1330	1090	82	1110	83	51-116	2	25	ug/kg	09/12/16 13:29	
3-Nitroaniline	<166.2	1330	1057	79	1084	82	57-111	3	25	ug/kg	09/12/16 13:29	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135707 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62476-1-BLK LCS Sample Id: 62476-1-BKS LCSD Sample Id: 62476-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<166.2	1330	1135	85	1182	89	55-125	4	25	ug/kg	09/12/16 13:29	
Nitrobenzene	<166.2	1330	989.7	74	995.7	75	53-110	1	25	ug/kg	09/12/16 13:29	
2-Nitrophenol	<166.2	1330	1131	85	1154	87	58-124	2	25	ug/kg	09/12/16 13:29	
4-Nitrophenol	<166.2	1330	1062	80	1096	82	51-116	3	25	ug/kg	09/12/16 13:29	
N-Nitrosodi-n-propyl amine	<166.2	1330	1090	82	1114	84	60-98	2	25	ug/kg	09/12/16 13:29	
N-Nitrosodiphenylamine	<166.2	1330	1136	85	1147	86	65-111	1	25	ug/kg	09/12/16 13:29	
Di-n-octyl phthalate	<166.2	1330	1364	103	1456	109	69-120	7	25	ug/kg	09/12/16 13:29	
Pentachlorophenol	<166.2	1330	1050	79	1074	81	56-124	2	25	ug/kg	09/12/16 13:29	
Phenanthrene	<166.2	1330	1100	83	1114	84	67-117	1	25	ug/kg	09/12/16 13:29	
Phenol	<166.2	1330	1034	78	1046	79	58-114	1	25	ug/kg	09/12/16 13:29	
Pyrene	<166.2	1330	1198	90	1237	93	77-111	3	25	ug/kg	09/12/16 13:29	
Pyridine	<166.2	1330	914.2	69	914.2	69	37-110	0	25	ug/kg	09/12/16 13:29	
2,4,5-Trichlorophenol	<166.2	1330	1181	89	1208	91	64-114	2	25	ug/kg	09/12/16 13:29	
2,4,6-Trichlorophenol	<166.2	1330	1131	85	1158	87	60-125	2	25	ug/kg	09/12/16 13:29	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	88		85		84		32-107	%	09/12/16 13:29
2-Fluorophenol	92		85		82		34-113	%	09/12/16 13:29
Nitrobenzene-d5	91		88		86		35-123	%	09/12/16 13:29
Phenol-d6	89		84		83		34-120	%	09/12/16 13:29
Terphenyl-D14	108		103		104		46-154	%	09/12/16 13:29
2,4,6-Tribromophenol	65		91		90		31-113	%	09/12/16 13:29

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.

Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C

Seq Number: 135757 Matrix: Water Date Prep: 09/13/16

MB Sample Id: 62510-1-BLK LCS Sample Id: 62510-1-BKS LCSD Sample Id: 62510-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<5.000	40.00	33.01	83	31.48	79	67-110	5	20	ug/L	09/13/16 23:39	
Acenaphthylene	<5.000	40.00	34.34	86	32.80	82	69-106	5	20	ug/L	09/13/16 23:39	
Acetophenone	<5.000	40.00	33.42	84	31.72	79	67-107	5	20	ug/L	09/13/16 23:39	
Anthracene	<5.000	40.00	35.28	88	33.12	83	79-108	6	20	ug/L	09/13/16 23:39	
Atrazine	<5.000	40.00	9.240	23	8.700	22	17-98	6	20	ug/L	09/13/16 23:39	
Benzo(a)anthracene	<5.000	40.00	37.32	93	34.77	87	76-109	7	20	ug/L	09/13/16 23:39	
Benzo(a)pyrene	<5.000	40.00	38.92	97	36.43	91	76-114	7	20	ug/L	09/13/16 23:39	
Benzo(b)fluoranthene	<5.000	40.00	37.80	95	35.00	88	67-121	8	20	ug/L	09/13/16 23:39	
Benzo(g,h,i)perylene	<5.000	40.00	38.65	97	37.75	94	75-107	2	20	ug/L	09/13/16 23:39	
Benzo(k)fluoranthene	<5.000	40.00	39.03	98	33.73	84	62-132	15	20	ug/L	09/13/16 23:39	
Biphenyl (Diphenyl)	<5.000	40.00	33.71	84	32.14	80	71-108	5	20	ug/L	09/13/16 23:39	
Butyl benzyl phthalate	<5.000	40.00	41.63	104	34.47	86	74-117	19	20	ug/L	09/13/16 23:39	
bis(2-chloroethoxy) methane	<5.000	40.00	31.39	78	30.42	76	69-111	3	20	ug/L	09/13/16 23:39	
bis(2-chloroethyl) ether	<5.000	40.00	31.03	78	29.87	75	62-103	4	20	ug/L	09/13/16 23:39	
bis(2-chloroisopropyl) ether	<5.000	40.00	29.31	73	27.87	70	50-103	5	20	ug/L	09/13/16 23:39	
bis(2-ethylhexyl) phthalate	<5.000	40.00	42.88	107	36.30	91	78-114	17	20	ug/L	09/13/16 23:39	
4-Bromophenylphenyl ether	<5.000	40.00	33.73	84	32.18	80	82-108	5	20	ug/L	09/13/16 23:39	L
Di-n-butyl phthalate	<5.000	40.00	39.42	99	36.92	92	71-115	7	20	ug/L	09/13/16 23:39	
Carbazole	<5.000	40.00	35.07	88	33.14	83	52-134	6	20	ug/L	09/13/16 23:39	
Caprolactam	<5.000	40.00	36.54	91	33.61	84	50-125	8	20	ug/L	09/13/16 23:39	
4-Chloro-3-methyl phenol	<5.000	40.00	37.69	94	35.71	89	72-121	5	20	ug/L	09/13/16 23:39	
4-Chloroaniline	<5.000	40.00	31.57	79	29.96	75	54-103	5	20	ug/L	09/13/16 23:39	
2-Chloronaphthalene	<5.000	40.00	31.73	79	30.41	76	66-105	4	20	ug/L	09/13/16 23:39	
2-Chlorophenol	<5.000	40.00	32.09	80	30.77	77	63-109	4	20	ug/L	09/13/16 23:39	
4-Chlorophenyl Phenyl ether	<5.000	40.00	32.89	82	31.29	78	73-100	5	20	ug/L	09/13/16 23:39	
Chrysene	<5.000	40.00	36.47	91	34.03	85	78-111	7	20	ug/L	09/13/16 23:39	
Dibenz(a,h)Anthracene	<5.000	40.00	39.74	99	39.54	99	76-106	1	20	ug/L	09/13/16 23:39	
Dibenzofuran	<5.000	40.00	33.61	84	31.97	80	70-111	5	20	ug/L	09/13/16 23:39	
3,3-Dichlorobenzidine	<5.000	40.00	50.58	126	49.22	123	79-132	3	20	ug/L	09/13/16 23:39	
2,4-Dichlorophenol	<5.000	40.00	34.77	87	33.41	84	65-118	4	20	ug/L	09/13/16 23:39	
Diethyl phthalate	<5.000	40.00	36.81	92	34.62	87	60-114	6	20	ug/L	09/13/16 23:39	
Dimethyl phthalate	<5.000	40.00	36.28	91	34.06	85	66-107	6	20	ug/L	09/13/16 23:39	
2,4-Dimethylphenol	<5.000	40.00	33.01	83	31.42	79	60-119	5	20	ug/L	09/13/16 23:39	
4,6-Dinitro-2-methyl phenol	<5.000	40.00	28.37	71	31.27	78	60-130	10	20	ug/L	09/13/16 23:39	
2,4-Dinitrophenol	<10.00	40.00	18.53	46	21.26	53	36-136	14	20	ug/L	09/13/16 23:39	
2,4-Dinitrotoluene	<5.000	40.00	34.39	86	32.55	81	70-119	5	20	ug/L	09/13/16 23:39	
2,6-Dinitrotoluene	<5.000	40.00	35.34	88	33.10	83	68-117	7	20	ug/L	09/13/16 23:39	
Fluoranthene	<5.000	40.00	37.43	94	35.98	90	79-112	4	20	ug/L	09/13/16 23:39	
Fluorene	<5.000	40.00	35.16	88	33.44	84	71-109	5	20	ug/L	09/13/16 23:39	
Hexachlorobenzene	<5.000	40.00	34.45	86	32.71	82	76-110	5	20	ug/L	09/13/16 23:39	
Hexachlorobutadiene	<5.000	40.00	32.17	80	31.39	78	64-113	2	20	ug/L	09/13/16 23:39	
Hexachlorocyclopentadiene	<5.000	40.00	27.75	69	31.33	78	49-124	12	20	ug/L	09/13/16 23:39	
Hexachloroethane	<5.000	40.00	31.26	78	30.50	76	62-105	2	20	ug/L	09/13/16 23:39	
Indeno(1,2,3-c,d)Pyrene	<5.000	40.00	36.70	92	35.67	89	69-120	3	20	ug/L	09/13/16 23:39	
Isophorone	<5.000	40.00	35.32	88	33.84	85	68-108	4	20	ug/L	09/13/16 23:39	
2-Methylnaphthalene	<5.000	40.00	34.55	86	32.93	82	64-117	5	20	ug/L	09/13/16 23:39	
2-Methyl phenol	<5.000	40.00	33.90	85	32.12	80	67-111	5	20	ug/L	09/13/16 23:39	
3&4-Methylphenol	<5.000	40.00	33.44	84	31.90	80	67-107	5	20	ug/L	09/13/16 23:39	
Naphthalene	<5.000	40.00	31.68	79	30.33	76	65-103	4	20	ug/L	09/13/16 23:39	
2-Nitroaniline	<5.000	40.00	33.61	84	31.39	78	59-114	7	20	ug/L	09/13/16 23:39	
3-Nitroaniline	<5.000	40.00	33.21	83	31.11	78	60-109	7	20	ug/L	09/13/16 23:39	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135757 Matrix: Water Date Prep: 09/13/16
MB Sample Id: 62510-1-BLK LCS Sample Id: 62510-1-BKS LCSD Sample Id: 62510-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<5.000	40.00	35.11	88	32.86	82	51-125	7	20	ug/L	09/13/16 23:39	
Nitrobenzene	<5.000	40.00	30.34	76	28.95	72	60-107	5	20	ug/L	09/13/16 23:39	
2-Nitrophenol	<5.000	40.00	33.65	84	32.78	82	65-119	3	20	ug/L	09/13/16 23:39	
4-Nitrophenol	<5.000	40.00	35.78	89	33.85	85	46-121	6	20	ug/L	09/13/16 23:39	
N-Nitrosodi-n-propyl amine	<5.000	40.00	33.55	84	32.07	80	60-98	5	20	ug/L	09/13/16 23:39	
N-Nitrosodiphenylamine	<5.000	40.00	35.08	88	32.90	82	68-106	6	20	ug/L	09/13/16 23:39	
Di-n-octyl phthalate	<5.000	40.00	41.63	104	30.03	75	69-120	32	20	ug/L	09/13/16 23:39	F
Pentachlorophenol	<5.000	40.00	33.00	83	32.09	80	63-119	3	20	ug/L	09/13/16 23:39	
Phenanthrene	<5.000	40.00	34.81	87	32.53	81	73-109	7	20	ug/L	09/13/16 23:39	
Phenol	<5.000	40.00	32.11	80	30.49	76	65-110	5	20	ug/L	09/13/16 23:39	
Pyrene	<5.000	40.00	33.79	84	27.81	70	78-111	19	20	ug/L	09/13/16 23:39	L
Pyridine	<5.000	40.00	26.81	67	25.55	64	47-105	5	20	ug/L	09/13/16 23:39	
2,4,5-Trichlorophenol	<5.000	40.00	36.19	90	34.56	86	69-114	5	20	ug/L	09/13/16 23:39	
2,4,6-Trichlorophenol	<5.000	40.00	33.30	83	31.50	79	68-118	6	20	ug/L	09/13/16 23:39	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	76		81		75		35-107	%	09/13/16 23:39
2-Fluorophenol	75		79		74		32-106	%	09/13/16 23:39
Nitrobenzene-d5	79		84		79		34-123	%	09/13/16 23:39
Phenol-d6	77		81		76		36-111	%	09/13/16 23:39
Terphenyl-D14	93		90		71		43-143	%	09/13/16 23:39
2,4,6-Tribromophenol	75		90		84		26-122	%	09/13/16 23:39

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135716 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62513-2-BLK LCS Sample Id: 62513-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4627	93	75-123	ug/kg	09/12/16 23:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	91		110		50-122	%	09/12/16 23:58

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135835 Matrix: Water Date Prep: 09/15/16
MB Sample Id: 62576-2-BLK LCS Sample Id: 62576-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4707	94	74-132	ug/L	09/15/16 11:37	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	71		81		55-114	%	09/15/16 11:37

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015C Prep Method: SW5030B

Seq Number: 135835 Matrix: Ground Water Date Prep: 09/15/16

Parent Sample Id: 16090912-003 MS Sample Id: 16090912-003 S MSD Sample Id: 16090912-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	3936	79	3736	75	49-137	5	25	ug/L	09/15/16 14:36	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	78		76		55-114	%	09/15/16 14:36

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 135761 Matrix: Water Date Prep: 09/13/16

MB Sample Id: 62544-1-BLK LCS Sample Id: 62544-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<10.00	50.00	51.91	104	29-149	ug/L	09/13/16 14:13	
Benzene	<1.000	50.00	52.69	105	85-123	ug/L	09/13/16 14:13	
Bromochloromethane	<1.000	50.00	48.61	97	82-136	ug/L	09/13/16 14:13	
Bromodichloromethane	<1.000	50.00	56.22	112	88-133	ug/L	09/13/16 14:13	
Bromoform	<5.000	50.00	47.41	95	80-126	ug/L	09/13/16 14:13	
Bromomethane	<1.000	50.00	45.81	92	64-139	ug/L	09/13/16 14:13	
2-Butanone (MEK)	<10.00	50.00	46.82	94	39-135	ug/L	09/13/16 14:13	
Carbon Disulfide	<10.00	50.00	53.20	106	85-124	ug/L	09/13/16 14:13	
Carbon Tetrachloride	<1.000	50.00	48.26	97	81-138	ug/L	09/13/16 14:13	
Chlorobenzene	<1.000	50.00	51.71	103	85-120	ug/L	09/13/16 14:13	
Chloroethane	<1.000	50.00	53.93	108	75-129	ug/L	09/13/16 14:13	
Chloroform	<1.000	50.00	48.93	98	85-128	ug/L	09/13/16 14:13	
Chloromethane	<1.000	50.00	51.22	102	60-139	ug/L	09/13/16 14:13	
Cyclohexane	<10.00	50.00	53.23	106	55-131	ug/L	09/13/16 14:13	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	46.16	92	69-127	ug/L	09/13/16 14:13	
Dibromochloromethane	<1.000	50.00	47.72	95	82-127	ug/L	09/13/16 14:13	
1,2-Dibromoethane (EDB)	<1.000	50.00	52.40	105	82-121	ug/L	09/13/16 14:13	
1,2-Dichlorobenzene	<1.000	50.00	53.86	108	82-123	ug/L	09/13/16 14:13	
1,3-Dichlorobenzene	<1.000	50.00	52.92	106	81-123	ug/L	09/13/16 14:13	
1,4-Dichlorobenzene	<1.000	50.00	51.45	103	81-121	ug/L	09/13/16 14:13	
Dichlorodifluoromethane	<1.000	50.00	58.97	118	69-147	ug/L	09/13/16 14:13	
1,1-Dichloroethane	<1.000	50.00	55.34	111	83-123	ug/L	09/13/16 14:13	
1,2-Dichloroethane	<1.000	50.00	52.83	106	86-138	ug/L	09/13/16 14:13	
1,1-Dichloroethene	<1.000	50.00	56.34	113	85-127	ug/L	09/13/16 14:13	
cis-1,2-Dichloroethene	<1.000	50.00	54.76	110	87-127	ug/L	09/13/16 14:13	
1,2-Dichloropropane	<1.000	50.00	53.76	108	79-125	ug/L	09/13/16 14:13	
cis-1,3-Dichloropropene	<1.000	50.00	50.88	102	79-131	ug/L	09/13/16 14:13	
trans-1,3-Dichloropropene	<1.000	50.00	50.41	101	82-133	ug/L	09/13/16 14:13	
trans-1,2-Dichloroethene	<1.000	50.00	52.28	105	85-125	ug/L	09/13/16 14:13	
Ethylbenzene	<1.000	50.00	54.16	108	83-123	ug/L	09/13/16 14:13	
2-Hexanone	<10.00	50.00	53.17	106	37-137	ug/L	09/13/16 14:13	
Isopropylbenzene	<1.000	50.00	48.37	97	70-131	ug/L	09/13/16 14:13	
Methyl Acetate	<10.00	50.00	51.21	102	69-127	ug/L	09/13/16 14:13	
Methylcyclohexane	<10.00	50.00	55.01	110	75-129	ug/L	09/13/16 14:13	
Methylene Chloride	<1.000	50.00	53.29	107	86-124	ug/L	09/13/16 14:13	
4-Methyl-2-Pentanone	<5.000	50.00	52.24	104	39-143	ug/L	09/13/16 14:13	
Methyl-t-butyl ether	<1.000	50.00	45.49	91	75-134	ug/L	09/13/16 14:13	
Naphthalene	<1.000	50.00	47.64	95	61-118	ug/L	09/13/16 14:13	
Styrene	<1.000	50.00	47.49	95	80-120	ug/L	09/13/16 14:13	
1,1,2,2-Tetrachloroethane	<1.000	50.00	50.93	102	64-125	ug/L	09/13/16 14:13	
Tetrachloroethene	<1.000	50.00	54.70	109	83-138	ug/L	09/13/16 14:13	
Toluene	<1.000	50.00	54.25	109	88-126	ug/L	09/13/16 14:13	
1,2,3-Trichlorobenzene	<1.000	50.00	49.23	98	75-124	ug/L	09/13/16 14:13	
1,2,4-Trichlorobenzene	<1.000	50.00	56.36	113	77-131	ug/L	09/13/16 14:13	
1,1,1-Trichloroethane	<1.000	50.00	55.33	111	68-146	ug/L	09/13/16 14:13	
1,1,2-Trichloroethane	<1.000	50.00	54.91	110	85-124	ug/L	09/13/16 14:13	
Trichloroethene	<1.000	50.00	54.34	109	87-127	ug/L	09/13/16 14:13	
Trichlorofluoromethane	<5.000	50.00	56.84	114	77-147	ug/L	09/13/16 14:13	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	57.60	115	68-135	ug/L	09/13/16 14:13	
Vinyl Chloride	<1.000	50.00	54.93	110	74-138	ug/L	09/13/16 14:13	
m,p-Xylenes	<2.000	100	94.49	94	84-124	ug/L	09/13/16 14:13	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 135761

Matrix: Water

Date Prep: 09/13/16

MB Sample Id: 62544-1-BLK

LCS Sample Id: 62544-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	47.97	96	79-126	ug/L	09/13/16 14:13	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		99		86-111	%	09/13/16 14:13
Dibromofluoromethane	101		105		91-119	%	09/13/16 14:13
Toluene-D8	103		104		90-117	%	09/13/16 14:13

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030

Seq Number: 135847 Matrix: Solid Date Prep: 09/15/16

MB Sample Id: 62583-1-BLK LCS Sample Id: 62583-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	74.88	125	46-127	ug/kg	09/15/16 12:58	
Benzene	<5.000	60.00	68.60	114	70-127	ug/kg	09/15/16 12:58	
Bromochloromethane	<5.000	60.00	61.39	102	68-122	ug/kg	09/15/16 12:58	
Bromodichloromethane	<5.000	60.00	60.43	101	68-122	ug/kg	09/15/16 12:58	
Bromoform	<5.000	60.00	58.33	97	57-127	ug/kg	09/15/16 12:58	
Bromomethane	<5.000	60.00	67.46	112	68-123	ug/kg	09/15/16 12:58	
2-Butanone (MEK)	<20.00	60.00	71.97	120	41-136	ug/kg	09/15/16 12:58	
Carbon Disulfide	<10.00	60.00	71.72	120	66-135	ug/kg	09/15/16 12:58	
Carbon Tetrachloride	<5.000	60.00	52.99	88	64-147	ug/kg	09/15/16 12:58	
Chlorobenzene	<5.000	60.00	66.33	111	70-121	ug/kg	09/15/16 12:58	
Chloroethane	<5.000	60.00	71.33	119	66-142	ug/kg	09/15/16 12:58	
Chloroform	<5.000	60.00	60.49	101	68-123	ug/kg	09/15/16 12:58	
Chloromethane	<5.000	60.00	79.54	133	65-136	ug/kg	09/15/16 12:58	
Cyclohexane	<20.00	60.00	70.16	117	62-138	ug/kg	09/15/16 12:58	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	58.56	98	55-122	ug/kg	09/15/16 12:58	
Dibromochloromethane	<5.000	60.00	57.68	96	61-122	ug/kg	09/15/16 12:58	
1,2-Dibromoethane (EDB)	<5.000	60.00	62.36	104	63-119	ug/kg	09/15/16 12:58	
1,2-Dichlorobenzene	<5.000	60.00	62.54	104	65-121	ug/kg	09/15/16 12:58	
1,3-Dichlorobenzene	<5.000	60.00	64.50	108	69-121	ug/kg	09/15/16 12:58	
1,4-Dichlorobenzene	<5.000	60.00	63.97	107	69-118	ug/kg	09/15/16 12:58	
Dichlorodifluoromethane	<5.000	60.00	57.47	96	53-162	ug/kg	09/15/16 12:58	
1,1-Dichloroethane	<5.000	60.00	65.68	109	70-127	ug/kg	09/15/16 12:58	
1,2-Dichloroethane	<5.000	60.00	56.17	94	68-118	ug/kg	09/15/16 12:58	
1,1-Dichloroethene	<5.000	60.00	68.72	115	69-133	ug/kg	09/15/16 12:58	
1,2-Dichloropropane	<5.000	60.00	71.66	119	70-122	ug/kg	09/15/16 12:58	
cis-1,2-Dichloroethene	<5.000	60.00	66.37	111	68-126	ug/kg	09/15/16 12:58	
cis-1,3-Dichloropropene	<5.000	60.00	63.86	106	68-121	ug/kg	09/15/16 12:58	
trans-1,2-Dichloroethene	<5.000	60.00	68.07	113	70-132	ug/kg	09/15/16 12:58	
trans-1,3-Dichloropropene	<5.000	60.00	60.25	100	67-115	ug/kg	09/15/16 12:58	
Ethylbenzene	<5.000	60.00	67.89	113	70-125	ug/kg	09/15/16 12:58	
2-Hexanone	<20.00	60.00	73.00	122	40-121	ug/kg	09/15/16 12:58	H
Isopropylbenzene	<5.000	60.00	67.13	112	68-130	ug/kg	09/15/16 12:58	
Methyl Acetate	<20.00	60.00	68.18	114	60-125	ug/kg	09/15/16 12:58	
Methylcyclohexane	<20.00	60.00	68.01	113	62-150	ug/kg	09/15/16 12:58	
Methylene Chloride	<5.000	60.00	67.92	113	67-121	ug/kg	09/15/16 12:58	
4-Methyl-2-Pentanone	<20.00	60.00	67.75	113	48-117	ug/kg	09/15/16 12:58	
Methyl-t-butyl ether	<5.000	60.00	55.14	92	66-119	ug/kg	09/15/16 12:58	
Naphthalene	<5.000	60.00	59.31	99	54-115	ug/kg	09/15/16 12:58	
Styrene	<5.000	60.00	63.86	106	71-120	ug/kg	09/15/16 12:58	
1,1,2,2-Tetrachloroethane	<5.000	60.00	71.81	120	59-122	ug/kg	09/15/16 12:58	
Tetrachloroethene	<5.000	60.00	60.13	100	65-145	ug/kg	09/15/16 12:58	
Toluene	<5.000	60.00	66.19	110	69-129	ug/kg	09/15/16 12:58	
1,2,3-Trichlorobenzene	<5.000	60.00	56.07	93	60-114	ug/kg	09/15/16 12:58	
1,2,4-Trichlorobenzene	<5.000	60.00	55.83	93	64-115	ug/kg	09/15/16 12:58	
1,1,1-Trichloroethane	<5.000	60.00	52.93	88	65-139	ug/kg	09/15/16 12:58	
1,1,2-Trichloroethane	<5.000	60.00	70.14	117	64-125	ug/kg	09/15/16 12:58	
Trichloroethene	<5.000	60.00	64.44	107	69-133	ug/kg	09/15/16 12:58	
Trichlorofluoromethane	<5.000	60.00	60.71	101	59-153	ug/kg	09/15/16 12:58	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	59.34	99	62-139	ug/kg	09/15/16 12:58	
Vinyl Chloride	<5.000	60.00	85.29	142	69-142	ug/kg	09/15/16 12:58	
m,p-Xylenes	<10.00	120	136	113	71-124	ug/kg	09/15/16 12:58	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090912

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030

Seq Number: 135847 Matrix: Solid Date Prep: 09/15/16

MB Sample Id: 62583-1-BLK LCS Sample Id: 62583-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<5.000	60.00	64.71	108	72-123	ug/kg	09/15/16 12:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	116		101		82-126	%	09/15/16 12:58
Dibromofluoromethane	97		97		92-113	%	09/15/16 12:58
Toluene-D8	96		102		94-105	%	09/15/16 12:58

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

PSS Work Order # 1609092 PAGE 1 OF 2

*CLIENT: ICOR, LTD. *OFFICE LOC

*PROJECT MGR: M. BRUZZESE *PHONE NO.: 703 608-5962

EMAIL: MANCTRAT@AOL.COM FAX NO. ( )

*PROJECT NAME: ROBINSON TERMINAL NORTH PROJECT NO.

SITE LOCATION: 500/501 N. UNION ST PO. NO.

SAMPLER(S): M. BRUZZESE DW CERT NO.

Matrix Codes: SW-Surface Wtr DW-Drinking Wtr GW-Ground Wtr WW-Waste Wtr O-Oil S-Soil L-Liquid SOL-Solid A-Air WI-Wipe

LAB NO	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX	NO. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservatives Used: Analysis Method (Required) ③ * DRO 8015	GRO 8015	VOCs+NAPH 8260	SVOCs 8270	PPL METALS 6020	ARSENIC 6020	PEST 8081	HERB 8151	PCBs 8082	2,3,7,8-TCDD Dioxin 8290	FOR TPH	REMARKS
1	M.Hpt-08-GW(36.5-40)	9/8/16	0745	GW	1	G											X	
2	M.Hpt-10-GW(25-28.5)		0800	GW	7		X	X	X									
3	M.Hpt-14-GW(25-28.5)		1115	GW	10		X	X	X	X							X	
4	M.Hpt-16 (1-2)		0800	SO	3							X	X	X	X			
5	M.Hpt-16 (4-5)		0805	SO	2							X	X	X				
6	M.Hpt-16 (8-9)		0810	SO	1						X							
7	M.Hpt-15 (1-2)		0830	SO	1					X								
8	M.Hpt-15 (4-5)		0825	SO	1						X							
9	M.Hpt-14 (1-2)		0935	SO	2					X		X	X	X				
10	M.Hpt-14 (4-5)	↓	0940	SO	1	↓					X							

	Date	Time	Received By:
Relinquished By (1)	9/8/16	0700	
Relinquished By (2)	9/9	1310	
Relinquished By (3)			
Relinquished By (4)			

*Requested TAT (One TAT per COC)
☒ 5-Day ☐ 4-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

# of Coolers: 3
Custody Seal: ABS
Ice Present: YES Temp: 3, 4.5½
Shipping Carrier: FTE

Data Deliverables Required:
COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

Special Instructions:

DW COMPLIANCE? YES ☐ EDD FORMAT TYPE

STATE RESULTS REPORTED TO:
MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) CLIENT: ICOF, LTD. *OFFICE LOC:
*PROJECT MGR: M. ZWEZEGI *PHONE NO.: (703) 608-5969
EMAIL: LANDSTRAT@AOL.COM FAX NO:
*PROJECT NAME: ROBINSON TERMINAL NORTH PROJECT NO:
SITE LOCATION: 500/501 N. UNION ST, PO NO:
SAMPLER(S): M. ZWEZEGI DW CERT NO:

PSS Work Order #: 1609091Z PAGE 2 OF 2

Matrix Codes: SW=Surface Wt DW=Drinking Wtr GW=Ground Wt WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2) (3) (4)

LAB NO	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (Use Codes)	No. CONTAINERS	SAMPLE TYPE C = COMP G = GRAB	Preservative Codes	Analysis Method Required: 6200 BOIL	8260 BOIL	VOC+NAP 8260	SVOC 8270	PPL METALS 6020	ARSENIC 6020	PEST 8081	HERB 8151	PCBs 8082	2,3,7,8-TCDD DIOX 1613B/1668	FOG + TPH	REMARKS
x4	11 MiHpt-14 (5-6)	9/8/16	0945	SO	3	G				X									
x4	12 MiHpt-14 (25-26)	↓	1010	SO	5	↓		X	X	X	X								
	13 MiHpt-20 (1.5-2.5)		1330	SO	3							X		X	X	X	X		
	14 MiHpt-20 (4-5)		1335	SO	1								X						

Page 72 of 74

(5)

Relinquished By: (1)	Date	Time	Received By:
	9/9/16	0700	
Relinquished By: (2)	Date	Time	Received By:
	9/9	1310	
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

*Requested TAT (One TAT per COC)
☒ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:
COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

# of Coolers: 3
Custody Seal: ABS
Ice Present: YES Temp: 3.4, 5.2
Shipping Carrier: FTE

Special Instructions:

DW COMPLIANCE? YES ☐
EDD FORMAT TYPE:
STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

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The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

Version 1.001

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16090912	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/09/2016 01:10:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/14/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	3
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	4
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	5
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

COC agrees with sample labels?	Yes	Sampler Name	Mike Bruzzesi
Chain of Custody	Yes	MD DW Cert. No.	N/A

Sample Container

Appropriate for Specified Analysis?	Yes	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 14 Total No. of Containers Received 43

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	N/A
Do VOA vials have zero headspace?		N/A
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16090912	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/09/2016 01:10:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/14/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:  Date: 09/09/2016

Rachel Davis

PM Review and Approval:  Date: 09/12/2016

Simon Crisp

Analytical Report for

Icor Ltd.

Certificate of Analysis No.: 16090921

Project Manager: Mike Bruzzesi

Project Name : Robinson Terminal North

Project Location: 500/501 N. Union St.

September 16, 2016

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.



September 16, 2016

Mike Bruzzesi
Icor Ltd.
PO Box 406
Middleburg, VA 20118

Reference: PSS Work Order(s) No: **16090921**
Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Dear Mike Bruzzesi :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16090921**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 14, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090921

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/09/2016 at 04:20 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16090921-001	M1Hpt-21 (1-2)	SOIL	09/09/16 07:40
16090921-002	M1Hpt-21 (4.5-5.5)	SOIL	09/09/16 07:45
16090921-003	M1Hpt-21 (9-10)	SOIL	09/09/16 07:55
16090921-004	M1Hpt-21 (24-25)	SOIL	09/09/16 08:20
16090921-005	M1Hpt-21 GW (25-28.5)	GROUND WATER	09/09/16 09:20
16090921-006	M1Hpt-22 (1-2)	SOIL	09/09/16 09:45
16090921-007	M1Hpt-22 (4-5)	SOIL	09/09/16 09:50
16090921-008	M1Hpt-22 (19-20)	SOIL	09/09/16 10:10
16090921-009	M1Hpt-22 (24-25)	SOIL	09/09/16 10:20
16090921-010	M1Hpt-22 GW (25-28.5)	GROUND WATER	09/09/16 12:10
16090921-011	M1Hpt-08-GW (36.5-40)	GROUND WATER	09/09/16 08:00
16090921-012	M1Hpt-10-GW (25-28.5)	GROUND WATER	09/09/16 08:15
16090921-013	M1Hpt-10-GW (25-28.5)	GROUND WATER	09/09/16 08:15

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090921

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (1-2) **Date/Time Sampled: 09/09/2016 07:40** **PSS Sample ID: 16090921-001**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
gamma-BHC (Lindane)	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
beta-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
delta-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Heptachlor	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Aldrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Heptachlor epoxide	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
gamma-Chlordane	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
alpha-Chlordane	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
4,4-DDE	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Endosulfan I	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Dieldrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Endrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
4,4-DDD	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Endosulfan II	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
4,4-DDT	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Endrin aldehyde	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Methoxychlor	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Endosulfan sulfate	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Endrin ketone	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:03	1029
Toxaphene	ND	ug/kg	120		1	09/12/16	09/14/16 22:03	1029
Chlordane	ND	ug/kg	120		1	09/12/16	09/14/16 22:03	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (1-2) **Date/Time Sampled: 09/09/2016 07:40** **PSS Sample ID: 16090921-001**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C; Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.061		1	09/12/16	09/12/16 16:13	1029
PCB-1221	ND	mg/kg	0.061		1	09/12/16	09/12/16 16:13	1029
PCB-1232	ND	mg/kg	0.061		1	09/12/16	09/12/16 16:13	1029
PCB-1242	ND	mg/kg	0.061		1	09/12/16	09/12/16 16:13	1029
PCB-1248	ND	mg/kg	0.061		1	09/12/16	09/12/16 16:13	1029
PCB-1254	ND	mg/kg	0.061		1	09/12/16	09/12/16 16:13	1029
PCB-1260	ND	mg/kg	0.061		1	09/12/16	09/12/16 16:13	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	600		10	09/12/16	09/13/16 23:18	1029
Dicamba	ND	ug/kg	24		10	09/12/16	09/13/16 23:18	1029
MCPP	ND	ug/kg	24,000		10	09/12/16	09/13/16 23:18	1029
MCPA	ND	ug/kg	24,000		10	09/12/16	09/13/16 23:18	1029
Dichloroprop	ND	ug/kg	240		10	09/12/16	09/13/16 23:18	1029
2,4-D	ND	ug/kg	240		10	09/12/16	09/13/16 23:18	1029
2,4,5-TP (Silvex)	ND	ug/kg	24		10	09/12/16	09/13/16 23:18	1029
2,4,5-T	**52**	ug/kg	24		10	09/12/16	09/13/16 23:18	1029
Dinoseb	ND	ug/kg	120		10	09/12/16	09/13/16 23:18	1029
2,4-DB	ND	ug/kg	240		10	09/12/16	09/13/16 23:18	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (4.5-5.5) **Date/Time Sampled: 09/09/2016 07:45** **PSS Sample ID: 16090921-002**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 82**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**7.7**	mg/kg	0.46		1	09/14/16	09/15/16 15:08	1033

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
gamma-BHC (Lindane)	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
beta-BHC	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
delta-BHC	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Heptachlor	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Aldrin	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Heptachlor epoxide	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
gamma-Chlordane	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
alpha-Chlordane	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
4,4-DDE	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Endosulfan I	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Dieldrin	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Endrin	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
4,4-DDD	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Endosulfan II	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
4,4-DDT	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Endrin aldehyde	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Methoxychlor	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Endosulfan sulfate	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Endrin ketone	ND	ug/kg	4.8		1	09/12/16	09/14/16 17:24	1029
Toxaphene	ND	ug/kg	120		1	09/12/16	09/14/16 17:24	1029
Chlordane	ND	ug/kg	120		1	09/12/16	09/14/16 17:24	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (4.5-5.5) **Date/Time Sampled: 09/09/2016 07:45** **PSS Sample ID: 16090921-002**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 82**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C; Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.060		1	09/12/16	09/12/16 16:42	1029
PCB-1221	ND	mg/kg	0.060		1	09/12/16	09/12/16 16:42	1029
PCB-1232	ND	mg/kg	0.060		1	09/12/16	09/12/16 16:42	1029
PCB-1242	ND	mg/kg	0.060		1	09/12/16	09/12/16 16:42	1029
PCB-1248	ND	mg/kg	0.060		1	09/12/16	09/12/16 16:42	1029
PCB-1254	ND	mg/kg	0.060		1	09/12/16	09/12/16 16:42	1029
PCB-1260	ND	mg/kg	0.060		1	09/12/16	09/12/16 16:42	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	640		10	09/12/16	09/14/16 00:23	1029
Dicamba	ND	ug/kg	26		10	09/12/16	09/14/16 00:23	1029
MCPP	ND	ug/kg	26,000		10	09/12/16	09/14/16 00:23	1029
MCPA	ND	ug/kg	26,000		10	09/12/16	09/14/16 00:23	1029
Dichloroprop	ND	ug/kg	260		10	09/12/16	09/14/16 00:23	1029
2,4-D	ND	ug/kg	260		10	09/12/16	09/14/16 00:23	1029
2,4,5-TP (Silvex)	ND	ug/kg	26		10	09/12/16	09/14/16 00:23	1029
2,4,5-T	**42**	ug/kg	26		10	09/12/16	09/14/16 00:23	1029
Dinoseb	ND	ug/kg	130		10	09/12/16	09/14/16 00:23	1029
2,4-DB	ND	ug/kg	260		10	09/12/16	09/14/16 00:23	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (9-10) **Date/Time Sampled: 09/09/2016 07:55** **PSS Sample ID: 16090921-003**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 84**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

LF/DF - Lighter fuel/oil and No. 2/diesel fuel patterns observed in sample.

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**49**	mg/kg	12	LF	1	09/14/16	09/16/16 03:53	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**760,000**	ug/kg	12,000		100	09/13/16	09/13/16 15:39	1035

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Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (9-10) **Date/Time Sampled: 09/09/2016 07:55** **PSS Sample ID: 16090921-003**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 84**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	1,900		100	09/15/16	09/16/16 05:34	1011
Benzene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Bromochloromethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Bromodichloromethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Bromoform	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Bromomethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
2-Butanone (MEK)	ND	ug/kg	1,900		100	09/15/16	09/16/16 05:34	1011
Carbon Disulfide	ND	ug/kg	970		100	09/15/16	09/16/16 05:34	1011
Carbon Tetrachloride	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Chlorobenzene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Chloroethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Chloroform	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Chloromethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Cyclohexane	**190,000**	ug/kg	97,000		5000	09/15/16	09/16/16 10:51	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	3,900		100	09/15/16	09/16/16 05:34	1011
Dibromochloromethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,2-Dichlorobenzene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,3-Dichlorobenzene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,4-Dichlorobenzene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Dichlorodifluoromethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,1-Dichloroethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,2-Dichloroethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,1-Dichloroethene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
cis-1,2-Dichloroethene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,2-Dichloropropane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
cis-1,3-Dichloropropene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
trans-1,2-Dichloroethene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
trans-1,3-Dichloropropene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Ethylbenzene	**8,500**	ug/kg	490		100	09/15/16	09/16/16 05:34	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (9-10) **Date/Time Sampled: 09/09/2016 07:55** **PSS Sample ID: 16090921-003**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 84**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	1,900		100	09/15/16	09/16/16 05:34	1011
Isopropylbenzene	**1,900**	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Methyl Acetate	ND	ug/kg	1,900		100	09/15/16	09/16/16 05:34	1011
Methylcyclohexane	**400,000**	ug/kg	97,000		5000	09/15/16	09/16/16 10:51	1011
Methylene Chloride	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
4-Methyl-2-Pentanone	ND	ug/kg	1,900		100	09/15/16	09/16/16 05:34	1011
Methyl-t-butyl ether	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Naphthalene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Styrene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Tetrachloroethene	**3,800**	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Toluene	**990**	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,2,3-Trichlorobenzene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,2,4-Trichlorobenzene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,1,1-Trichloroethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,1,2-Trichloroethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Trichloroethene	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Trichlorofluoromethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
Vinyl Chloride	ND	ug/kg	490		100	09/15/16	09/16/16 05:34	1011
m,p-Xylenes	**14,000**	ug/kg	970		100	09/15/16	09/16/16 05:34	1011
o-Xylene	**700**	ug/kg	490		100	09/15/16	09/16/16 05:34	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (24-25) **Date/Time Sampled: 09/09/2016 08:20** **PSS Sample ID: 16090921-004**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 82**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	12		1	09/14/16	09/16/16 04:18	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	120		1	09/12/16	09/13/16 02:00	1035

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September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (24-25) **Date/Time Sampled: 09/09/2016 08:20** **PSS Sample ID: 16090921-004**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 82**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	21		1	09/15/16	09/15/16 20:56	1011
Benzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Bromochloromethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Bromodichloromethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Bromoform	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Bromomethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
2-Butanone (MEK)	ND	ug/kg	21		1	09/15/16	09/15/16 20:56	1011
Carbon Disulfide	ND	ug/kg	10		1	09/15/16	09/15/16 20:56	1011
Carbon Tetrachloride	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Chlorobenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Chloroethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Chloroform	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Chloromethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Cyclohexane	ND	ug/kg	21		1	09/15/16	09/15/16 20:56	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	41		1	09/15/16	09/15/16 20:56	1011
Dibromochloromethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,2-Dichlorobenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,3-Dichlorobenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,4-Dichlorobenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Dichlorodifluoromethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,1-Dichloroethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,2-Dichloroethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,1-Dichloroethene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
cis-1,2-Dichloroethene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,2-Dichloropropane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
cis-1,3-Dichloropropene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
trans-1,2-Dichloroethene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
trans-1,3-Dichloropropene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Ethylbenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (24-25) **Date/Time Sampled: 09/09/2016 08:20** **PSS Sample ID: 16090921-004**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 82**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	21		1	09/15/16	09/15/16 20:56	1011
Isopropylbenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Methyl Acetate	ND	ug/kg	21		1	09/15/16	09/15/16 20:56	1011
Methylcyclohexane	ND	ug/kg	21		1	09/15/16	09/15/16 20:56	1011
Methylene Chloride	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
4-Methyl-2-Pentanone	ND	ug/kg	21		1	09/15/16	09/15/16 20:56	1011
Methyl-t-butyl ether	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Naphthalene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Styrene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Tetrachloroethene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Toluene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,2,3-Trichlorobenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,2,4-Trichlorobenzene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,1,1-Trichloroethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,1,2-Trichloroethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Trichloroethene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Trichlorofluoromethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
Vinyl Chloride	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011
m,p-Xylenes	ND	ug/kg	10		1	09/15/16	09/15/16 20:56	1011
o-Xylene	ND	ug/kg	5.2		1	09/15/16	09/15/16 20:56	1011

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Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (24-25) | **Date/Time Sampled: 09/09/2016 08:20** | **PSS Sample ID: 16090921-004**
Matrix: SOIL | **Date/Time Received: 09/09/2016 16:20** | **% Solids: 82**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Acenaphthylene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Acetophenone	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Anthracene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Atrazine	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Benzo(a)anthracene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Benzo(a)pyrene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Benzo(b)fluoranthene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Benzo(g,h,i)perylene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Benzo(k)fluoranthene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Biphenyl (Diphenyl)	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Butyl benzyl phthalate	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
bis(2-chloroethoxy) methane	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
bis(2-chloroethyl) ether	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
bis(2-chloroisopropyl) ether	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
bis(2-ethylhexyl) phthalate	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
4-Bromophenylphenyl ether	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Di-n-butyl phthalate	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Carbazole	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Caprolactam	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
4-Chloro-3-methyl phenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
4-Chloroaniline	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2-Chloronaphthalene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2-Chlorophenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
4-Chlorophenyl Phenyl ether	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Chrysene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Dibenz(a,h)Anthracene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Dibenzofuran	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
3,3-Dichlorobenzidine	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2,4-Dichlorophenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (24-25) **Date/Time Sampled: 09/09/2016 08:20** **PSS Sample ID: 16090921-004**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 82**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Dimethyl phthalate	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2,4-Dimethylphenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
4,6-Dinitro-2-methyl phenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2,4-Dinitrophenol	ND	ug/kg	400		1	09/12/16	09/12/16 16:46	1055
2,4-Dinitrotoluene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2,6-Dinitrotoluene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Fluoranthene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Fluorene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Hexachlorobenzene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Hexachlorobutadiene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Hexachlorocyclopentadiene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Hexachloroethane	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Isophorone	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2-Methylnaphthalene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2-Methyl phenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
3&4-Methylphenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Naphthalene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2-Nitroaniline	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
3-Nitroaniline	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
4-Nitroaniline	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Nitrobenzene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2-Nitrophenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
4-Nitrophenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
N-Nitrosodi-n-propyl amine	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
N-Nitrosodiphenylamine	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Di-n-octyl phthalate	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Pentachlorophenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Phenanthrene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 (24-25) **Date/Time Sampled: 09/09/2016 08:20** **PSS Sample ID: 16090921-004**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 82**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Pyrene	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
Pyridine	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2,4,5-Trichlorophenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055
2,4,6-Trichlorophenol	ND	ug/kg	200		1	09/12/16	09/12/16 16:46	1055

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 GW (25-28.5) **Date/Time Sampled: 09/09/2016 09:20** **PSS Sample ID: 16090921-005**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

Oil and Grease — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Oil & Grease, Total Recovered	ND	mg/L	2.3		1	09/15/16	09/15/16 13:14	1022

Total Petroleum Hydrocarbons — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH	ND	mg/L	2.3		1	09/15/16	09/15/16 12:59	1022

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/L	0.10		1	09/14/16	09/15/16 19:07	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/15/16	09/15/16 13:19	1035

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 GW (25-28.5) **Date/Time Sampled: 09/09/2016 09:20** **PSS Sample ID: 16090921-005**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
Benzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Bromochloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Bromoform	ND	ug/L	5.0		1	09/14/16	09/14/16 02:30	1011
Bromomethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
Carbon Disulfide	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Chlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Chloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Chloroform	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Chloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Cyclohexane	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Ethylbenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 GW (25-28.5) **Date/Time Sampled: 09/09/2016 09:20** **PSS Sample ID: 16090921-005**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Methyl Acetate	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
Methylcyclohexane	ND	ug/L	10		1	09/14/16	09/14/16 02:30	1011
Methylene Chloride	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/14/16	09/14/16 02:30	1011
Methyl-t-butyl ether	**5.9**	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Naphthalene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Styrene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Toluene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Trichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/14/16	09/14/16 02:30	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/14/16	09/14/16 02:30	1011
o-Xylene	ND	ug/L	1.0		1	09/14/16	09/14/16 02:30	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 GW (25-28.5) **Date/Time Sampled: 09/09/2016 09:20** **PSS Sample ID: 16090921-005**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Acenaphthylene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Acetophenone	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Atrazine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Carbazole	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Caprolactam	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Chrysene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Dibenzofuran	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 GW (25-28.5) **Date/Time Sampled: 09/09/2016 09:20** **PSS Sample ID: 16090921-005**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/13/16	09/14/16 06:48	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Fluorene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Hexachloroethane	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Isophorone	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Naphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Nitrobenzene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Phenanthrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 GW (25-28.5) **Date/Time Sampled: 09/09/2016 09:20** **PSS Sample ID: 16090921-005**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
Pyridine	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 06:48	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (1-2) **Date/Time Sampled: 09/09/2016 09:45** **PSS Sample ID: 16090921-006**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Arsenic	**2,500**	mg/kg	52		100	09/14/16	09/15/16 15:15	1033
Beryllium	ND	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Cadmium	ND	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Chromium	**22**	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Copper	**25**	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Lead	**69**	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Mercury	**0.26**	mg/kg	0.10		1	09/14/16	09/14/16 20:12	1033
Nickel	**22**	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Selenium	ND	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Silver	ND	mg/kg	2.6		1	09/14/16	09/14/16 20:12	1033
Thallium	ND	mg/kg	2.1		1	09/14/16	09/14/16 20:12	1033
Zinc	**79**	mg/kg	10		1	09/14/16	09/14/16 20:12	1033

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (1-2) **Date/Time Sampled: 09/09/2016 09:45** **PSS Sample ID: 16090921-006**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
gamma-BHC (Lindane)	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
beta-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
delta-BHC	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Heptachlor	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Aldrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Heptachlor epoxide	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
gamma-Chlordane	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
alpha-Chlordane	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
4,4-DDE	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Endosulfan I	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Dieldrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Endrin	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
4,4-DDD	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Endosulfan II	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
4,4-DDT	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Endrin aldehyde	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Methoxychlor	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Endosulfan sulfate	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Endrin ketone	ND	ug/kg	4.9		1	09/12/16	09/14/16 22:31	1029
Toxaphene	ND	ug/kg	120		1	09/12/16	09/14/16 22:31	1029
Chlordane	ND	ug/kg	120		1	09/12/16	09/14/16 22:31	1029

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (1-2) **Date/Time Sampled: 09/09/2016 09:45** **PSS Sample ID: 16090921-006**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C; Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.061		1	09/12/16	09/12/16 17:11	1029
PCB-1221	ND	mg/kg	0.061		1	09/12/16	09/12/16 17:11	1029
PCB-1232	ND	mg/kg	0.061		1	09/12/16	09/12/16 17:11	1029
PCB-1242	ND	mg/kg	0.061		1	09/12/16	09/12/16 17:11	1029
PCB-1248	ND	mg/kg	0.061		1	09/12/16	09/12/16 17:11	1029
PCB-1254	ND	mg/kg	0.061		1	09/12/16	09/12/16 17:11	1029
PCB-1260	ND	mg/kg	0.061		1	09/12/16	09/12/16 17:11	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	600		10	09/12/16	09/14/16 00:56	1029
Dicamba	ND	ug/kg	24		10	09/12/16	09/14/16 00:56	1029
MCPP	ND	ug/kg	24,000		10	09/12/16	09/14/16 00:56	1029
MCPA	ND	ug/kg	24,000		10	09/12/16	09/14/16 00:56	1029
Dichloroprop	ND	ug/kg	240		10	09/12/16	09/14/16 00:56	1029
2,4-D	ND	ug/kg	240		10	09/12/16	09/14/16 00:56	1029
2,4,5-TP (Silvex)	ND	ug/kg	24		10	09/12/16	09/14/16 00:56	1029
2,4,5-T	ND	ug/kg	24		10	09/12/16	09/14/16 00:56	1029
Dinoseb	ND	ug/kg	120		10	09/12/16	09/14/16 00:56	1029
2,4-DB	ND	ug/kg	240		10	09/12/16	09/14/16 00:56	1029

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (4-5) **Date/Time Sampled: 09/09/2016 09:50** **PSS Sample ID: 16090921-007**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 83**

Arsenic — Analytical Method: SW-846 6020 A — Preparation Method: 3050B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Arsenic	**810**	mg/kg	46		100	09/14/16	09/15/16 15:22	1033

Organochlorine Pesticides — Analytical Method: SW-846 8081 B — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
gamma-BHC (Lindane)	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
beta-BHC	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
delta-BHC	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Heptachlor	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Aldrin	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Heptachlor epoxide	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
gamma-Chlordane	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
alpha-Chlordane	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
4,4-DDE	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Endosulfan I	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Dieldrin	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Endrin	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
4,4-DDD	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Endosulfan II	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
4,4-DDT	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Endrin aldehyde	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Methoxychlor	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Endosulfan sulfate	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Endrin ketone	ND	ug/kg	4.7		1	09/12/16	09/14/16 17:52	1029
Toxaphene	ND	ug/kg	120		1	09/12/16	09/14/16 17:52	1029
Chlordane	ND	ug/kg	120		1	09/12/16	09/14/16 17:52	1029

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (4-5) **Date/Time Sampled: 09/09/2016 09:50** **PSS Sample ID: 16090921-007**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 83**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: SW3550C; Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	mg/kg	0.059		1	09/12/16	09/12/16 17:40	1029
PCB-1221	ND	mg/kg	0.059		1	09/12/16	09/12/16 17:40	1029
PCB-1232	ND	mg/kg	0.059		1	09/12/16	09/12/16 17:40	1029
PCB-1242	ND	mg/kg	0.059		1	09/12/16	09/12/16 17:40	1029
PCB-1248	ND	mg/kg	0.059		1	09/12/16	09/12/16 17:40	1029
PCB-1254	ND	mg/kg	0.059		1	09/12/16	09/12/16 17:40	1029
PCB-1260	ND	mg/kg	0.059		1	09/12/16	09/12/16 17:40	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/kg	580		10	09/12/16	09/14/16 01:28	1029
Dicamba	ND	ug/kg	23		10	09/12/16	09/14/16 01:28	1029
MCPP	ND	ug/kg	23,000		10	09/12/16	09/14/16 01:28	1029
MCPA	ND	ug/kg	23,000		10	09/12/16	09/14/16 01:28	1029
Dichloroprop	ND	ug/kg	230		10	09/12/16	09/14/16 01:28	1029
2,4-D	ND	ug/kg	230		10	09/12/16	09/14/16 01:28	1029
2,4,5-TP (Silvex)	ND	ug/kg	23		10	09/12/16	09/14/16 01:28	1029
2,4,5-T	ND	ug/kg	23		10	09/12/16	09/14/16 01:28	1029
Dinoseb	ND	ug/kg	120		10	09/12/16	09/14/16 01:28	1029
2,4-DB	ND	ug/kg	230		10	09/12/16	09/14/16 01:28	1029

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (19-20)	**Date/Time Sampled: 09/09/2016 10:10**	**PSS Sample ID: 16090921-008**
Matrix: SOIL	**Date/Time Received: 09/09/2016 16:20**	**% Solids: 81**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**71**	mg/kg	12		1	09/14/16	09/16/16 04:18	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**2,500**	ug/kg	120		1	09/12/16	09/13/16 02:30	1035

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (19-20) **Date/Time Sampled: 09/09/2016 10:10** **PSS Sample ID: 16090921-008**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	24,000		1000	09/15/16	09/16/16 10:11	1011
Benzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Bromochloromethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Bromodichloromethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Bromoform	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Bromomethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
2-Butanone (MEK)	ND	ug/kg	24,000		1000	09/15/16	09/16/16 10:11	1011
Carbon Disulfide	ND	ug/kg	12,000		1000	09/15/16	09/16/16 10:11	1011
Carbon Tetrachloride	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Chlorobenzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Chloroethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Chloroform	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Chloromethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Cyclohexane	**35,000**	ug/kg	24,000		1000	09/15/16	09/16/16 10:11	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	48,000		1000	09/15/16	09/16/16 10:11	1011
Dibromochloromethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,2-Dichlorobenzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,3-Dichlorobenzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,4-Dichlorobenzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Dichlorodifluoromethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,1-Dichloroethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,2-Dichloroethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,1-Dichloroethene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
cis-1,2-Dichloroethene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,2-Dichloropropane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
cis-1,3-Dichloropropene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
trans-1,2-Dichloroethene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
trans-1,3-Dichloropropene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Ethylbenzene	**15,000**	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (19-20) **Date/Time Sampled: 09/09/2016 10:10** **PSS Sample ID: 16090921-008**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	24,000		1000	09/15/16	09/16/16 10:11	1011
Isopropylbenzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Methyl Acetate	ND	ug/kg	24,000		1000	09/15/16	09/16/16 10:11	1011
Methylcyclohexane	**200,000**	ug/kg	24,000		1000	09/15/16	09/16/16 10:11	1011
Methylene Chloride	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
4-Methyl-2-Pentanone	ND	ug/kg	24,000		1000	09/15/16	09/16/16 10:11	1011
Methyl-t-butyl ether	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Naphthalene	**46,000**	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Styrene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Tetrachloroethene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Toluene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,2,3-Trichlorobenzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,2,4-Trichlorobenzene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,1,1-Trichloroethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,1,2-Trichloroethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Trichloroethene	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Trichlorofluoromethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
Vinyl Chloride	ND	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011
m,p-Xylenes	**18,000**	ug/kg	12,000		1000	09/15/16	09/16/16 10:11	1011
o-Xylene	**7,300**	ug/kg	6,000		1000	09/15/16	09/16/16 10:11	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (24-25) **Date/Time Sampled: 09/09/2016 10:20** **PSS Sample ID: 16090921-009**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/kg	12		1	09/14/16	09/16/16 04:43	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/kg	120		1	09/12/16	09/13/16 03:00	1035

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (24-25) **Date/Time Sampled: 09/09/2016 10:20** **PSS Sample ID: 16090921-009**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/kg	22		1	09/15/16	09/16/16 09:32	1011
Benzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Bromochloromethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Bromodichloromethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Bromoform	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Bromomethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
2-Butanone (MEK)	ND	ug/kg	22		1	09/15/16	09/16/16 09:32	1011
Carbon Disulfide	ND	ug/kg	11		1	09/15/16	09/16/16 09:32	1011
Carbon Tetrachloride	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Chlorobenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Chloroethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Chloroform	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Chloromethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Cyclohexane	ND	ug/kg	22		1	09/15/16	09/16/16 09:32	1011
1,2-Dibromo-3-Chloropropane	ND	ug/kg	44		1	09/15/16	09/16/16 09:32	1011
Dibromochloromethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,2-Dibromoethane (EDB)	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,2-Dichlorobenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,3-Dichlorobenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,4-Dichlorobenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Dichlorodifluoromethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,1-Dichloroethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,2-Dichloroethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,1-Dichloroethene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,2-Dichloropropane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
cis-1,2-Dichloroethene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
cis-1,3-Dichloropropene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
trans-1,2-Dichloroethene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
trans-1,3-Dichloropropene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Ethylbenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (24-25) **Date/Time Sampled: 09/09/2016 10:20** **PSS Sample ID: 16090921-009**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5035A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/kg	22		1	09/15/16	09/16/16 09:32	1011
Isopropylbenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Methyl Acetate	ND	ug/kg	22		1	09/15/16	09/16/16 09:32	1011
Methylcyclohexane	ND	ug/kg	22		1	09/15/16	09/16/16 09:32	1011
Methylene Chloride	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
4-Methyl-2-Pentanone	ND	ug/kg	22		1	09/15/16	09/16/16 09:32	1011
Methyl-t-butyl ether	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Naphthalene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Styrene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,1,2,2-Tetrachloroethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Tetrachloroethene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Toluene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,2,3-Trichlorobenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,2,4-Trichlorobenzene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,1,1-Trichloroethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,1,2-Trichloroethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Trichloroethene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Trichlorofluoromethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
Vinyl Chloride	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011
m,p-Xylenes	ND	ug/kg	11		1	09/15/16	09/16/16 09:32	1011
o-Xylene	ND	ug/kg	5.5		1	09/15/16	09/16/16 09:32	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (24-25) **Date/Time Sampled: 09/09/2016 10:20** **PSS Sample ID: 16090921-009**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Acenaphthylene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Acetophenone	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Anthracene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Atrazine	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Benzo(a)anthracene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Benzo(a)pyrene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Benzo(b)fluoranthene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Benzo(g,h,i)perylene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Benzo(k)fluoranthene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Biphenyl (Diphenyl)	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Butyl benzyl phthalate	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
bis(2-chloroethoxy) methane	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
bis(2-chloroethyl) ether	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
bis(2-chloroisopropyl) ether	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
bis(2-ethylhexyl) phthalate	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
4-Bromophenylphenyl ether	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Di-n-butyl phthalate	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Carbazole	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Caprolactam	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
4-Chloro-3-methyl phenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
4-Chloroaniline	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2-Chloronaphthalene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2-Chlorophenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
4-Chlorophenyl Phenyl ether	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Chrysene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Dibenz(a,h)Anthracene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Dibenzofuran	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
3,3-Dichlorobenzidine	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2,4-Dichlorophenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (24-25) **Date/Time Sampled: 09/09/2016 10:20** **PSS Sample ID: 16090921-009**
Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Dimethyl phthalate	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2,4-Dimethylphenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
4,6-Dinitro-2-methyl phenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2,4-Dinitrophenol	ND	ug/kg	410		1	09/12/16	09/12/16 17:14	1055
2,4-Dinitrotoluene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2,6-Dinitrotoluene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Fluoranthene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Fluorene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Hexachlorobenzene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Hexachlorobutadiene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Hexachlorocyclopentadiene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Hexachloroethane	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Isophorone	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2-Methylnaphthalene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2-Methyl phenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
3&4-Methylphenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Naphthalene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2-Nitroaniline	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
3-Nitroaniline	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
4-Nitroaniline	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Nitrobenzene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2-Nitrophenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
4-Nitrophenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
N-Nitrosodi-n-propyl amine	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
N-Nitrosodiphenylamine	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Di-n-octyl phthalate	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Pentachlorophenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Phenanthrene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 (24-25) **Date/Time Sampled: 09/09/2016 10:20** **PSS Sample ID: 16090921-009**

Matrix: SOIL **Date/Time Received: 09/09/2016 16:20** **% Solids: 81**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: SW3550C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Pyrene	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
Pyridine	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2,4,5-Trichlorophenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055
2,4,6-Trichlorophenol	ND	ug/kg	210		1	09/12/16	09/12/16 17:14	1055

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 GW (25-28.5) **Date/Time Sampled: 09/09/2016 12:10** **PSS Sample ID: 16090921-010**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

Oil and Grease — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Oil & Grease, Total Recovered	ND	mg/L	2.2		1	09/15/16	09/15/16 13:14	1022

Total Petroleum Hydrocarbons — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH	ND	mg/L	2.2		1	09/15/16	09/15/16 12:59	1022

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/L	0.10		1	09/14/16	09/15/16 18:42	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/15/16	09/15/16 13:45	1035

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 GW (25-28.5) **Date/Time Sampled: 09/09/2016 12:10** **PSS Sample ID: 16090921-010**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
Benzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Bromochloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Bromoform	ND	ug/L	5.0		1	09/14/16	09/14/16 03:59	1011
Bromomethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
Carbon Disulfide	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Chlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Chloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Chloroform	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Chloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Cyclohexane	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Ethylbenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011

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CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 GW (25-28.5) **Date/Time Sampled: 09/09/2016 12:10** **PSS Sample ID: 16090921-010**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Methyl Acetate	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
Methylcyclohexane	ND	ug/L	10		1	09/14/16	09/14/16 03:59	1011
Methylene Chloride	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/14/16	09/14/16 03:59	1011
Methyl-t-butyl ether	**4.8**	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Naphthalene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Styrene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Toluene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Trichloroethene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/14/16	09/14/16 03:59	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/14/16	09/14/16 03:59	1011
o-Xylene	ND	ug/L	1.0		1	09/14/16	09/14/16 03:59	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 GW (25-28.5) **Date/Time Sampled: 09/09/2016 12:10** **PSS Sample ID: 16090921-010**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Acenaphthylene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Acetophenone	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Atrazine	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Carbazole	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Caprolactam	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Chrysene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Dibenzofuran	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2,4-Dichlorophenol	**8.1**	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 GW (25-28.5) **Date/Time Sampled: 09/09/2016 12:10** **PSS Sample ID: 16090921-010**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/13/16	09/14/16 07:16	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Fluoranthene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Fluorene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Hexachloroethane	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Isophorone	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Naphthalene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Nitrobenzene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Phenanthrene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 GW (25-28.5) **Date/Time Sampled: 09/09/2016 12:10** **PSS Sample ID: 16090921-010**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Pyrene	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
Pyridine	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/13/16	09/14/16 07:16	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08-GW (36.5-40) **Date/Time Sampled: 09/09/2016 08:00** **PSS Sample ID: 16090921-011**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	**8.4**	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Acenaphthylene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Acetophenone	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Anthracene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Atrazine	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Benzo(a)anthracene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Benzo(a)pyrene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Benzo(b)fluoranthene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Benzo(g,h,i)perylene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Benzo(k)fluoranthene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Biphenyl (Diphenyl)	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Butyl benzyl phthalate	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
bis(2-chloroethoxy) methane	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
bis(2-chloroethyl) ether	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
bis(2-chloroisopropyl) ether	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
4-Bromophenylphenyl ether	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Di-n-butyl phthalate	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Carbazole	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Caprolactam	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
4-Chloro-3-methyl phenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
4-Chloroaniline	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2-Chloronaphthalene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2-Chlorophenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Chrysene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Dibenz(a,h)Anthracene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Dibenzofuran	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
3,3-Dichlorobenzidine	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2,4-Dichlorophenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08-GW (36.5-40) **Date/Time Sampled: 09/09/2016 08:00** **PSS Sample ID: 16090921-011**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Dimethyl phthalate	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2,4-Dimethylphenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2,4-Dinitrophenol	ND	ug/L	13		1	09/13/16	09/14/16 07:45	1055
2,4-Dinitrotoluene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2,6-Dinitrotoluene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Fluoranthene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Fluorene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Hexachlorobenzene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Hexachlorobutadiene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Hexachlorocyclopentadiene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Hexachloroethane	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Isophorone	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2-Methylnaphthalene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2-Methyl phenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
3&4-Methylphenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Naphthalene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2-Nitroaniline	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
3-Nitroaniline	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
4-Nitroaniline	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Nitrobenzene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2-Nitrophenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
4-Nitrophenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
N-Nitrosodiphenylamine	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Di-n-octyl phthalate	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Pentachlorophenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Phenanthrene	**8.9**	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08-GW (36.5-40) **Date/Time Sampled: 09/09/2016 08:00** **PSS Sample ID: 16090921-011**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Pyrene	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
Pyridine	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2,4,5-Trichlorophenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055
2,4,6-Trichlorophenol	ND	ug/L	6.3		1	09/13/16	09/14/16 07:45	1055

Sample ID: M1Hpt-10-GW (25-28.5) **Date/Time Sampled: 09/09/2016 08:15** **PSS Sample ID: 16090921-012**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

Oil and Grease — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Oil & Grease, Total Recovered	ND	mg/L	2.4		1	09/15/16	09/15/16 13:14	1022

Total Petroleum Hydrocarbons — Analytical Method: EPA 1664 A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH	ND	mg/L	2.4		1	09/15/16	09/15/16 12:59	1022

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10-GW (25-28.5) **Date/Time Sampled: 09/09/2016 08:15** **PSS Sample ID: 16090921-013**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Acenaphthylene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Acetophenone	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Anthracene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Atrazine	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Carbazole	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Caprolactam	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Chrysene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Dibenzofuran	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10-GW (25-28.5) **Date/Time Sampled: 09/09/2016 08:15** **PSS Sample ID: 16090921-013**
Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/14/16	09/15/16 01:00	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Fluoranthene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Fluorene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Hexachloroethane	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Isophorone	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Naphthalene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Nitrobenzene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Phenanthrene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16090921

Icor Ltd., Middleburg, VA

September 16, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-10-GW (25-28.5) **Date/Time Sampled: 09/09/2016 08:15** **PSS Sample ID: 16090921-013**

Matrix: GROUND WATER **Date/Time Received: 09/09/2016 16:20**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Pyrene	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
Pyridine	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/14/16	09/15/16 01:00	1055

Case Narrative Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16090921

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

Container label for COC sample M1Hpt-GW (25-28.5) reads M1Hpt-21 GW (25-28.5).
Amber container received for sample M1Hpt-10-GW (25-28.5) is mis-labelled but confimed per client, sampling date is 9/9/16, time 08:15 for all containers for this sample (internal IDs -012, -013).

Analytical:

RCRA Metals

Batch: 135862
Closing CCV had an arsenic recovery of 89%, which is below the control limits of 90-110%.

Total Petroleum Hydrocarbons-GRO

Batch: 135716
Surrogate recoveries affected by sample matrix.

Organochlorine Pesticides

Batch: 135800
The recoveries of 4,4-DDT and Methoxychlor in closing CCVs were 71% and 76%(80-120%) due to sample matrix. All samples were confirmed on second column.
Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

TCL Volatile Organic Compounds

Batch: 135849
Surrogate exceedances identified; see surrogate summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16090921
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
ASTM D2216 05	M1Hpt-21 (1-2)	Initial	16090921-001	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-21 (4.5-5.5)	Initial	16090921-002	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-21 (9-10)	Initial	16090921-003	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-21 (24-25)	Initial	16090921-004	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-22 (1-2)	Initial	16090921-006	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-22 (4-5)	Initial	16090921-007	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-22 (19-20)	Initial	16090921-008	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
	M1Hpt-22 (24-25)	Initial	16090921-009	1059	S	135699	135699	09/09/2016	09/12/2016 16:39	09/12/2016 16:39
EPA 1664 A	M1Hpt-21 GW (25-28.5)	Initial	16090921-005	1022	W	135811	135811	09/09/2016	09/15/2016 13:14	09/15/2016 13:14
	M1Hpt-22 GW (25-28.5)	Initial	16090921-010	1022	W	135811	135811	09/09/2016	09/15/2016 13:14	09/15/2016 13:14
	M1Hpt-10-GW (25-28.5)	Initial	16090921-012	1022	W	135811	135811	09/09/2016	09/15/2016 13:14	09/15/2016 13:14
	135811-1-BKS	BKS	135811-1-BKS	1022	W	135811	135811	--------	09/15/2016 13:14	09/15/2016 13:14
	135811-1-BLK	BLK	135811-1-BLK	1022	W	135811	135811	--------	09/15/2016 13:14	09/15/2016 13:14
	135811-1-BSD	BSD	135811-1-BSD	1022	W	135811	135811	--------	09/15/2016 13:14	09/15/2016 13:14
EPA 1664 A	M1Hpt-21 GW (25-28.5)	Initial	16090921-005	1022	W	135809	135809	09/09/2016	09/15/2016 12:59	09/15/2016 12:59
	M1Hpt-22 GW (25-28.5)	Initial	16090921-010	1022	W	135809	135809	09/09/2016	09/15/2016 12:59	09/15/2016 12:59
	M1Hpt-10-GW (25-28.5)	Initial	16090921-012	1022	W	135809	135809	09/09/2016	09/15/2016 12:59	09/15/2016 12:59
	135809-1-BKS	BKS	135809-1-BKS	1022	W	135809	135809	--------	09/15/2016 12:59	09/15/2016 12:59
	135809-1-BLK	BLK	135809-1-BLK	1022	W	135809	135809	--------	09/15/2016 12:59	09/15/2016 12:59
	135809-1-BSD	BSD	135809-1-BSD	1022	W	135809	135809	--------	09/15/2016 12:59	09/15/2016 12:59
SW-846 6020 A	62534-1-BKS	BKS	62534-1-BKS	1033	S	62534	135808	--------	09/14/2016 09:26	09/14/2016 19:33
	62534-1-BLK	BLK	62534-1-BLK	1033	S	62534	135808	--------	09/14/2016 09:26	09/14/2016 19:26
	M1Hpt-21 (4.5-5.5) S	MS	16090921-002 S	1033	S	62534	135808	09/09/2016	09/14/2016 09:26	09/14/2016 19:46
	M1Hpt-21 (4.5-5.5) SD	MSD	16090921-002 SD	1033	S	62534	135808	09/09/2016	09/14/2016 09:26	09/14/2016 19:52

Analytical Data Package Information Summary

Work Order(s): 16090921
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 6020 A	62534-1-BKS	Reanalysis	62534-1-BKS	1033	S	62534	135862	--------	09/14/2016 09:26	09/15/2016 15:02
	M1Hpt-21 (4.5-5.5)	Reanalysis	16090921-002	1033	S	62534	135862	09/09/2016	09/14/2016 09:26	09/15/2016 15:08
	M1Hpt-22 (4-5)	Reanalysis	16090921-007	1033	S	62534	135862	09/09/2016	09/14/2016 09:26	09/15/2016 15:22
SW-846 6020 A	M1Hpt-22 (1-2)	Initial	16090921-006	1033	S	62534	135808	09/09/2016	09/14/2016 09:26	09/14/2016 20:12
	M1Hpt-22 (1-2)	Reanalysis	16090921-006	1033	S	62534	135862	09/09/2016	09/14/2016 09:26	09/15/2016 15:15
SW-846 8015 C	M1Hpt-21 GW (25-28.5)	Initial	16090921-005	1045	W	62528	135784	09/09/2016	09/14/2016 08:47	09/15/2016 19:07
	M1Hpt-22 GW (25-28.5)	Initial	16090921-010	1045	W	62528	135784	09/09/2016	09/14/2016 08:47	09/15/2016 18:42
	62528-1-BKS	BKS	62528-1-BKS	1045	W	62528	135784	--------	09/14/2016 08:47	09/14/2016 13:11
	62528-1-BLK	BLK	62528-1-BLK	1045	W	62528	135784	--------	09/14/2016 08:47	09/14/2016 12:44
	62528-1-BSD	BSD	62528-1-BSD	1045	W	62528	135784	--------	09/14/2016 08:47	09/14/2016 13:11
	M1Hpt-21 (9-10)	Initial	16090921-003	1045	S	62529	135866	09/09/2016	09/14/2016 08:49	09/16/2016 03:53
	M1Hpt-21 (24-25)	Initial	16090921-004	1045	S	62529	135866	09/09/2016	09/14/2016 08:49	09/16/2016 04:18
	M1Hpt-22 (19-20)	Initial	16090921-008	1045	S	62529	135866	09/09/2016	09/14/2016 08:49	09/16/2016 04:18
	M1Hpt-22 (24-25)	Initial	16090921-009	1045	S	62529	135866	09/09/2016	09/14/2016 08:49	09/16/2016 04:43
	62529-1-BKS	BKS	62529-1-BKS	1045	S	62529	135866	--------	09/14/2016 08:49	09/16/2016 00:58
	62529-1-BLK	BLK	62529-1-BLK	1045	S	62529	135866	--------	09/14/2016 08:49	09/16/2016 00:33
	62529-1-BSD	BSD	62529-1-BSD	1045	S	62529	135866	--------	09/14/2016 08:49	09/16/2016 01:23
	11790-UST2-E-Bottom S	MS	16090911-001 S	1045	S	62529	135866	09/08/2016	09/14/2016 08:49	09/16/2016 00:58
	11790-UST2-E-Bottom SD	MSD	16090911-001 SD	1045	S	62529	135866	09/08/2016	09/14/2016 08:49	09/16/2016 01:23
SW-846 8015C	M1Hpt-21 (24-25)	Initial	16090921-004	1035	S	62513	135716	09/09/2016	09/12/2016 21:27	09/13/2016 02:00
	M1Hpt-22 (19-20)	Initial	16090921-008	1035	S	62513	135716	09/09/2016	09/12/2016 21:27	09/13/2016 02:30
	M1Hpt-22 (24-25)	Initial	16090921-009	1035	S	62513	135716	09/09/2016	09/12/2016 21:27	09/13/2016 03:00
	62513-2-BKS	BKS	62513-2-BKS	1035	S	62513	135716	--------	09/12/2016 21:27	09/12/2016 23:58
	62513-2-BLK	BLK	62513-2-BLK	1035	S	62513	135716	--------	09/12/2016 21:27	09/12/2016 23:28
	M1Hpt-22 (24-25) S	MS	16090921-009 S	1035	S	62513	135716	09/09/2016	09/12/2016 21:27	09/13/2016 07:04

Analytical Data Package Information Summary

Work Order(s): 16090921
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8015C	M1Hpt-22 (24-25) SD	MSD	16090921-009 SD	1035	S	62513	135716	09/09/2016	09/12/2016 21:27	09/13/2016 07:34
	M1Hpt-21 (9-10)	Initial	16090921-003	1035	S	62526	135740	09/09/2016	09/13/2016 08:05	09/13/2016 15:39
	62526-2-BKS	BKS	62526-2-BKS	1035	S	62526	135740	--------	09/13/2016 08:05	09/13/2016 10:36
	62526-2-BLK	BLK	62526-2-BLK	1035	S	62526	135740	--------	09/13/2016 08:05	09/13/2016 10:05
	N-Side S	MS	16091212-001 S	1035	S	62526	135740	09/01/2016	09/13/2016 08:05	09/13/2016 16:39
	N-Side SD	MSD	16091212-001 SD	1035	S	62526	135740	09/01/2016	09/13/2016 08:05	09/13/2016 17:09
	M1Hpt-21 GW (25-28.5)	Initial	16090921-005	1035	W	62576	135835	09/09/2016	09/15/2016 09:18	09/15/2016 13:19
	M1Hpt-22 GW (25-28.5)	Initial	16090921-010	1035	W	62576	135835	09/09/2016	09/15/2016 09:18	09/15/2016 13:45
	62576-2-BKS	BKS	62576-2-BKS	1035	W	62576	135835	--------	09/15/2016 09:18	09/15/2016 11:37
	62576-2-BLK	BLK	62576-2-BLK	1035	W	62576	135835	--------	09/15/2016 09:18	09/15/2016 11:12
	M1Hpt-14-GW (25-28.5) S	MS	16090912-003 S	1035	W	62576	135835	09/08/2016	09/15/2016 09:18	09/15/2016 14:36
	M1Hpt-14-GW (25-28.5) SD	MSD	16090912-003 SD	1035	W	62576	135835	09/08/2016	09/15/2016 09:18	09/15/2016 15:01
SW-846 8081 B	M1Hpt-21 (1-2)	Initial	16090921-001	1029	S	62498	135800	09/09/2016	09/12/2016 15:29	09/14/2016 22:03
	M1Hpt-21 (4.5-5.5)	Initial	16090921-002	1029	S	62498	135800	09/09/2016	09/12/2016 15:29	09/14/2016 17:24
	M1Hpt-22 (1-2)	Initial	16090921-006	1029	S	62498	135800	09/09/2016	09/12/2016 15:29	09/14/2016 22:31
	M1Hpt-22 (4-5)	Initial	16090921-007	1029	S	62498	135800	09/09/2016	09/12/2016 15:29	09/14/2016 17:52
	62498-1-BKS	BKS	62498-1-BKS	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 22:31
	62498-1-BLK	BLK	62498-1-BLK	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 12:43
	62498-1-BSD	BSD	62498-1-BSD	1029	S	62498	135800	--------	09/12/2016 15:29	09/14/2016 22:03
	M1Hpt-16 (4-5) S	MS	16090912-005 S	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 14:08
	M1Hpt-16 (4-5) SD	MSD	16090912-005 SD	1029	S	62498	135800	09/08/2016	09/12/2016 15:29	09/14/2016 15:04
SW-846 8082 A	M1Hpt-21 (1-2)	Initial	16090921-001	1029	S	62499	135705	09/09/2016	09/12/2016 15:33	09/12/2016 16:13
	M1Hpt-21 (4.5-5.5)	Initial	16090921-002	1029	S	62499	135705	09/09/2016	09/12/2016 15:33	09/12/2016 16:42
	M1Hpt-22 (1-2)	Initial	16090921-006	1029	S	62499	135705	09/09/2016	09/12/2016 15:33	09/12/2016 17:11
	M1Hpt-22 (4-5)	Initial	16090921-007	1029	S	62499	135705	09/09/2016	09/12/2016 15:33	09/12/2016 17:40
	62499-1-BKS	BKS	62499-1-BKS	1029	S	62499	135705	--------	09/12/2016 15:33	09/12/2016 16:42

Analytical Data Package Information Summary

Work Order(s): 16090921
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8082 A	62499-1-BLK	BLK	62499-1-BLK	1029	S	62499	135705	--------	09/12/2016 15:33	09/12/2016 16:13
	62499-1-BSD	BSD	62499-1-BSD	1029	S	62499	135705	--------	09/12/2016 15:33	09/12/2016 17:11
	M1Hpt-16 (4-5) S	MS	16090912-005 S	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 17:40
	M1Hpt-16 (4-5) SD	MSD	16090912-005 SD	1029	S	62499	135705	09/08/2016	09/12/2016 15:33	09/12/2016 18:09
SW-846 8151 A	M1Hpt-21 (1-2)	Initial	16090921-001	1029	S	62477	135724	09/09/2016	09/12/2016 09:33	09/13/2016 23:18
	M1Hpt-21 (4.5-5.5)	Initial	16090921-002	1029	S	62477	135724	09/09/2016	09/12/2016 09:33	09/14/2016 00:23
	M1Hpt-22 (1-2)	Initial	16090921-006	1029	S	62477	135724	09/09/2016	09/12/2016 09:33	09/14/2016 00:56
	M1Hpt-22 (4-5)	Initial	16090921-007	1029	S	62477	135724	09/09/2016	09/12/2016 09:33	09/14/2016 01:28
	62477-1-BKS	BKS	62477-1-BKS	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 10:23
	62477-1-BLK	BLK	62477-1-BLK	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 09:50
	62477-1-BSD	BSD	62477-1-BSD	1029	S	62477	135724	--------	09/12/2016 09:33	09/13/2016 10:55
	1614-02 S	MS	16090903-001 S	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 11:28
	1614-02 SD	MSD	16090903-001 SD	1029	S	62477	135724	09/08/2016	09/12/2016 09:33	09/13/2016 12:00
SW-846 8260 B	M1Hpt-21 GW (25-28.5)	Initial	16090921-005	1011	W	62545	135763	09/09/2016	09/14/2016 00:19	09/14/2016 02:30
	M1Hpt-22 GW (25-28.5)	Initial	16090921-010	1011	W	62545	135763	09/09/2016	09/14/2016 00:19	09/14/2016 03:59
	62545-1-BKS	BKS	62545-1-BKS	1011	W	62545	135763	--------	09/14/2016 00:19	09/14/2016 09:07
	62545-1-BLK	BLK	62545-1-BLK	1011	W	62545	135763	--------	09/14/2016 00:19	09/14/2016 02:08
	M1Hpt-21 GW (25-28.5) S	MS	16090921-005 S	1011	W	62545	135763	09/09/2016	09/14/2016 00:19	09/14/2016 02:52
	M1Hpt-21 GW (25-28.5) SD	MSD	16090921-005 SD	1011	W	62545	135763	09/09/2016	09/14/2016 00:19	09/14/2016 03:14
	M1Hpt-21 (24-25)	Initial	16090921-004	1011	S	62583	135847	09/09/2016	09/15/2016 10:59	09/15/2016 20:56
	62583-1-BKS	BKS	62583-1-BKS	1011	S	62583	135847	--------	09/15/2016 10:59	09/15/2016 12:58
	62583-1-BLK	BLK	62583-1-BLK	1011	S	62583	135847	--------	09/15/2016 10:59	09/15/2016 13:38
	WCTP-12 S	MS	16090910-007 S	1011	S	62583	135847	09/08/2016	09/15/2016 10:59	09/15/2016 14:58
	WCTP-12 SD	MSD	16090910-007 SD	1011	S	62583	135847	09/08/2016	09/15/2016 10:59	09/15/2016 15:38
	M1Hpt-21 (9-10)	Initial	16090921-003	1011	S	62584	135849	09/09/2016	09/15/2016 23:35	09/16/2016 05:34
	M1Hpt-22 (19-20)	Initial	16090921-008	1011	S	62584	135849	09/09/2016	09/15/2016 23:35	09/16/2016 10:11

Analytical Data Package Information Summary

Work Order(s): 16090921
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	M1Hpt-22 (24-25)	Initial	16090921-009	1011	S	62584	135849	09/09/2016	09/15/2016 23:35	09/16/2016 09:32
	62584-1-BKS	BKS	62584-1-BKS	1011	S	62584	135849	--------	09/15/2016 23:35	09/16/2016 02:15
	62584-1-BLK	BLK	62584-1-BLK	1011	S	62584	135849	--------	09/15/2016 23:35	09/16/2016 02:55
	NEBBC-72, 86-98 S	MS	16091201-003 S	1011	S	62584	135849	09/11/2016	09/15/2016 23:35	09/16/2016 04:15
	NEBBC-72, 86-98 SD	MSD	16091201-003 SD	1011	S	62584	135849	09/11/2016	09/15/2016 23:35	09/16/2016 04:54
	M1Hpt-21 (9-10)	Reanalysis	16090921-003	1011	S	62584	135849	09/09/2016	09/15/2016 23:35	09/16/2016 10:51
SW-846 8270 C	M1Hpt-21 (24-25)	Initial	16090921-004	1055	S	62476	135707	09/09/2016	09/12/2016 08:41	09/12/2016 16:46
	M1Hpt-22 (24-25)	Initial	16090921-009	1055	S	62476	135707	09/09/2016	09/12/2016 08:41	09/12/2016 17:14
	62476-1-BKS	BKS	62476-1-BKS	1055	S	62476	135707	--------	09/12/2016 08:41	09/12/2016 13:29
	62476-1-BLK	BLK	62476-1-BLK	1055	S	62476	135707	--------	09/12/2016 08:41	09/12/2016 13:00
	62476-1-BSD	BSD	62476-1-BSD	1055	S	62476	135707	--------	09/12/2016 08:41	09/12/2016 13:57
	1614-02 S	MS	16090903-001 S	1055	S	62476	135707	09/08/2016	09/12/2016 08:41	09/12/2016 14:25
	1614-02 SD	MSD	16090903-001 SD	1055	S	62476	135707	09/08/2016	09/12/2016 08:41	09/12/2016 14:53
	M1Hpt-21 GW (25-28.5)	Initial	16090921-005	1055	W	62510	135757	09/09/2016	09/13/2016 10:20	09/14/2016 06:48
	M1Hpt-22 GW (25-28.5)	Initial	16090921-010	1055	W	62510	135757	09/09/2016	09/13/2016 10:20	09/14/2016 07:16
	M1Hpt-08-GW (36.5-40)	Initial	16090921-011	1055	W	62510	135757	09/09/2016	09/13/2016 10:20	09/14/2016 07:45
	62510-1-BKS	BKS	62510-1-BKS	1055	W	62510	135757	--------	09/13/2016 10:20	09/13/2016 23:39
	62510-1-BLK	BLK	62510-1-BLK	1055	W	62510	135757	--------	09/13/2016 10:20	09/13/2016 23:11
	62510-1-BSD	BSD	62510-1-BSD	1055	W	62510	135757	--------	09/13/2016 10:20	09/14/2016 00:07
	M1Hpt-10-GW (25-28.5)	Initial	16090921-013	1055	W	62548	135843	09/09/2016	09/14/2016 13:02	09/15/2016 01:00
	62548-1-BKS	BKS	62548-1-BKS	1055	W	62548	135843	--------	09/14/2016 13:02	09/14/2016 21:41
	62548-1-BLK	BLK	62548-1-BLK	1055	W	62548	135843	--------	09/14/2016 13:02	09/14/2016 21:13
	62548-1-BSD	BSD	62548-1-BSD	1055	W	62548	135843	--------	09/14/2016 13:02	09/14/2016 22:10

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QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	95		61-150	%	09/12/16 16:13
Tetrachloro-m-xylene	82		42-142	%	09/12/16 16:13

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	113		61-144	%	09/13/16 23:18

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	110		23-165	%	09/14/16 22:03
Tetrachloro-m-xylene	104		31-145	%	09/14/16 22:03

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	95		61-150	%	09/12/16 16:42
Tetrachloro-m-xylene	89		42-142	%	09/12/16 16:42

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	108		61-144	%	09/14/16 00:23

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	113		23-165	%	09/14/16 17:24
Tetrachloro-m-xylene	116		31-145	%	09/14/16 17:24

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135866 Matrix: Soil Date Prep: 09/14/2016
PSS Sample ID: 16090921-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	75		34-133	%	09/16/16 03:53

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135740 Matrix: Soil Date Prep: 09/13/2016
PSS Sample ID: 16090921-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	90		50-122	%	09/13/16 15:39

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135849 Matrix: Soil Date Prep: 09/15/2016
PSS Sample ID: 16090921-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	115		82-126	%	09/16/16 05:34
Dibromofluoromethane	83	*	92-113	%	09/16/16 05:34
Toluene-D8	109	*	94-105	%	09/16/16 05:34

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135707 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	65		32-107	%	09/12/16 16:46
2-Fluorophenol	63		34-113	%	09/12/16 16:46
Nitrobenzene-d5	67		35-123	%	09/12/16 16:46
Phenol-d6	65		34-120	%	09/12/16 16:46
Terphenyl-D14	108		46-154	%	09/12/16 16:46
2,4,6-Tribromophenol	68		31-113	%	09/12/16 16:46

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135866 Matrix: Soil Date Prep: 09/14/2016
PSS Sample ID: 16090921-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	84		34-133	%	09/16/16 04:18

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135716 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	92		50-122	%	09/13/16 02:00

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135847 Matrix: Soil Date Prep: 09/15/2016
PSS Sample ID: 16090921-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	119		82-126	%	09/15/16 20:56
Dibromofluoromethane	99		92-113	%	09/15/16 20:56
Toluene-D8	97		94-105	%	09/15/16 20:56

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135757 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090921-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	69		35-107	%	09/14/16 06:48
2-Fluorophenol	68		32-106	%	09/14/16 06:48
Nitrobenzene-d5	71		34-123	%	09/14/16 06:48
Phenol-d6	71		36-111	%	09/14/16 06:48
Terphenyl-D14	88		43-143	%	09/14/16 06:48
2,4,6-Tribromophenol	84		26-122	%	09/14/16 06:48

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135784 Matrix: Ground Water Date Prep: 09/14/2016
PSS Sample ID: 16090921-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	70		46-111	%	09/15/16 19:07

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QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 135763 Matrix: Ground Water Date Prep: 09/14/2016
PSS Sample ID: 16090921-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		86-111	%	09/14/16 02:30
Dibromofluoromethane	101		91-119	%	09/14/16 02:30
Toluene-D8	101		90-117	%	09/14/16 02:30

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135835 Matrix: Ground Water Date Prep: 09/15/2016
PSS Sample ID: 16090921-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	70		55-114	%	09/15/16 13:19

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	101		61-150	%	09/12/16 17:11
Tetrachloro-m-xylene	81		42-142	%	09/12/16 17:11

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	123		61-144	%	09/14/16 00:56

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	107		23-165	%	09/14/16 22:31
Tetrachloro-m-xylene	94		31-145	%	09/14/16 22:31

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QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	104		61-150	%	09/12/16 17:40
Tetrachloro-m-xylene	92		42-142	%	09/12/16 17:40

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	108		61-144	%	09/14/16 01:28

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	127		23-165	%	09/14/16 17:52
Tetrachloro-m-xylene	118		31-145	%	09/14/16 17:52

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135866 Matrix: Soil Date Prep: 09/14/2016
PSS Sample ID: 16090921-008

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	75		34-133	%	09/16/16 04:18

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135716 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-008

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	84		50-122	%	09/13/16 02:30

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135849 Matrix: Soil Date Prep: 09/15/2016
PSS Sample ID: 16090921-008

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	99		82-126	%	09/16/16 10:11
Dibromofluoromethane	93		92-113	%	09/16/16 10:11
Toluene-D8	100		94-105	%	09/16/16 10:11

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135707 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	78		32-107	%	09/12/16 17:14
2-Fluorophenol	77		34-113	%	09/12/16 17:14
Nitrobenzene-d5	81		35-123	%	09/12/16 17:14
Phenol-d6	77		34-120	%	09/12/16 17:14
Terphenyl-D14	105		46-154	%	09/12/16 17:14
2,4,6-Tribromophenol	74		31-113	%	09/12/16 17:14

Analytical Method: SW-846 8015 C Prep Method: SW3550C
Seq Number: 135866 Matrix: Soil Date Prep: 09/14/2016
PSS Sample ID: 16090921-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	88		34-133	%	09/16/16 04:43

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135716 Matrix: Soil Date Prep: 09/12/2016
PSS Sample ID: 16090921-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	95		50-122	%	09/13/16 03:00

Analytical Method: SW-846 8260 B Prep Method: SW5035
Seq Number: 135849 Matrix: Soil Date Prep: 09/15/2016
PSS Sample ID: 16090921-009

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	109		82-126	%	09/16/16 09:32
Dibromofluoromethane	94		92-113	%	09/16/16 09:32
Toluene-D8	101		94-105	%	09/16/16 09:32

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135757 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090921-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	65		35-107	%	09/14/16 07:16
2-Fluorophenol	63		32-106	%	09/14/16 07:16
Nitrobenzene-d5	66		34-123	%	09/14/16 07:16
Phenol-d6	65		36-111	%	09/14/16 07:16
Terphenyl-D14	83		43-143	%	09/14/16 07:16
2,4,6-Tribromophenol	75		26-122	%	09/14/16 07:16

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135784 Matrix: Ground Water Date Prep: 09/14/2016
PSS Sample ID: 16090921-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	81		46-111	%	09/15/16 18:42

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 135763 Matrix: Ground Water Date Prep: 09/14/2016
PSS Sample ID: 16090921-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		86-111	%	09/14/16 03:59
Dibromofluoromethane	99		91-119	%	09/14/16 03:59
Toluene-D8	103		90-117	%	09/14/16 03:59

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135835 Matrix: Ground Water Date Prep: 09/15/2016
PSS Sample ID: 16090921-010

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	71		55-114	%	09/15/16 13:45

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135757 Matrix: Ground Water Date Prep: 09/13/2016
PSS Sample ID: 16090921-011

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	77		35-107	%	09/14/16 07:45
2-Fluorophenol	73		32-106	%	09/14/16 07:45
Nitrobenzene-d5	78		34-123	%	09/14/16 07:45
Phenol-d6	77		36-111	%	09/14/16 07:45
Terphenyl-D14	88		43-143	%	09/14/16 07:45
2,4,6-Tribromophenol	91		26-122	%	09/14/16 07:45

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135843 Matrix: Ground Water Date Prep: 09/14/2016
PSS Sample ID: 16090921-013

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	79		35-107	%	09/15/16 01:00
2-Fluorophenol	75		32-106	%	09/15/16 01:00
Nitrobenzene-d5	81		34-123	%	09/15/16 01:00
Phenol-d6	81		36-111	%	09/15/16 01:00
Terphenyl-D14	97		43-143	%	09/15/16 01:00
2,4,6-Tribromophenol	92		26-122	%	09/15/16 01:00

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: EPA 1664 A

Seq Number: 135809 Matrix: Water
MB Sample Id: 135809-1-BLK LCS Sample Id: 135809-1-BKS LCSD Sample Id: 135809-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH	<2.000	20.00	15.30	77	16.20	81	64-132	6	28	mg/L	09/15/16 12:59	

Analytical Method: EPA 1664 A

Seq Number: 135811 Matrix: Water
MB Sample Id: 135811-1-BLK LCS Sample Id: 135811-1-BKS LCSD Sample Id: 135811-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Oil & Grease, Total Recovered	<2.000	40.00	36.50	91	37.10	93	78-114	2	11	mg/L	09/15/16 13:14	

Analytical Method: SW-846 6020 A Prep Method: SW3050B

Seq Number: 135808 Matrix: Solid Date Prep: 09/14/16
MB Sample Id: 62534-1-BLK LCS Sample Id: 62534-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Antimony	<2.109	16.87	18.76	111	80-120	mg/kg	09/14/16 19:33	
Arsenic	<0.4218	16.87	18.76	111	80-120	mg/kg	09/15/16 15:02	
Beryllium	<2.109	16.87	18.48	110	80-120	mg/kg	09/14/16 19:33	
Cadmium	<2.109	16.87	16.82	100	80-120	mg/kg	09/14/16 19:33	
Chromium	<2.109	16.87	17.54	104	80-120	mg/kg	09/14/16 19:33	
Copper	<2.109	16.87	18.87	112	80-120	mg/kg	09/14/16 19:33	
Lead	<2.109	16.87	17.36	103	80-120	mg/kg	09/14/16 19:33	
Mercury	<0.08437	0.4218	0.4134	98	80-120	mg/kg	09/14/16 19:33	
Nickel	<2.109	16.87	17.91	106	80-120	mg/kg	09/14/16 19:33	
Selenium	<2.109	16.87	16.65	99	80-120	mg/kg	09/14/16 19:33	
Silver	<2.109	16.87	17.21	102	80-120	mg/kg	09/14/16 19:33	
Thallium	<1.687	16.87	14.87	88	80-120	mg/kg	09/14/16 19:33	
Zinc	<8.437	84.37	87.15	103	80-120	mg/kg	09/14/16 19:33	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 6020 A Prep Method: SW3050B
Seq Number: 135808 Matrix: Soil Date Prep: 09/14/16
Parent Sample Id: 16090921-002 MS Sample Id: 16090921-002 S MSD Sample Id: 16090921-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Antimony	<2.287	18.29	11.74	64	17.17	71	75-125	38	30	mg/kg	09/14/16 19:46	XF
Arsenic	8.790	18.29	30.92	121	33.84	104	75-125	9	30	mg/kg	09/14/16 19:46	
Beryllium	<2.287	18.29	18.92	103	23.39	97	75-125	21	30	mg/kg	09/14/16 19:46	
Cadmium	<2.287	18.29	18.06	99	22.53	94	75-125	22	30	mg/kg	09/14/16 19:46	
Chromium	24.52	18.29	42.74	100	46.71	92	75-125	9	30	mg/kg	09/14/16 19:46	
Copper	46.85	18.29	72.81	142	57.94	46	75-125	23	30	mg/kg	09/14/16 19:46	X
Lead	13.51	18.29	36.33	125	38.41	103	75-125	6	30	mg/kg	09/14/16 19:46	
Mercury	<0.09147	0.4573	0.5122	112	0.6022	100	75-125	16	30	mg/kg	09/14/16 19:46	
Nickel	18.45	18.29	48.25	163	48.81	126	75-125	1	30	mg/kg	09/14/16 19:46	X
Selenium	<2.287	18.29	16.02	88	21.32	89	75-125	28	30	mg/kg	09/14/16 19:46	
Silver	<2.287	18.29	18.00	98	22.93	95	75-125	24	30	mg/kg	09/14/16 19:46	
Thallium	<1.829	18.29	16.15	88	20.95	87	75-125	26	20	mg/kg	09/14/16 19:46	
Zinc	749.1	91.47	1208	502	1194	370	75-125	1	30	mg/kg	09/14/16 19:46	X

Analytical Method: SW-846 8081 B Prep Method: SW3550C
Seq Number: 135800 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62498-1-BLK LCS Sample Id: 62498-1-BKS LCSD Sample Id: 62498-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
alpha-BHC	<3.968	19.84	19.18	97	18.68	95	58-120	3	25	ug/kg	09/14/16 22:31	
gamma-BHC (Lindane)	<3.968	19.84	18.23	92	17.88	91	57-120	2	25	ug/kg	09/14/16 22:31	
beta-BHC	<3.968	19.84	19.34	97	18.15	92	59-118	6	25	ug/kg	09/14/16 22:31	
delta-BHC	<3.968	19.84	21.21	107	20.46	104	52-123	4	25	ug/kg	09/14/16 22:31	
Heptachlor	<3.968	19.84	19.10	96	18.46	94	44-130	3	25	ug/kg	09/14/16 22:31	
Aldrin	<3.968	19.84	18.93	95	18.42	93	59-123	3	25	ug/kg	09/14/16 22:31	
Heptachlor epoxide	<3.968	19.84	20.08	101	19.52	99	61-119	3	25	ug/kg	09/14/16 22:31	
gamma-Chlordane	<3.968	19.84	20.82	105	20.18	102	61-122	3	25	ug/kg	09/14/16 22:31	
alpha-Chlordane	<3.968	19.84	18.81	95	18.25	93	61-123	3	25	ug/kg	09/14/16 22:31	
4,4-DDE	<3.968	19.84	17.61	89	16.48	84	49-131	7	25	ug/kg	09/14/16 22:31	
Endosulfan I	<3.968	19.84	22.43	113	22.08	112	66-118	2	25	ug/kg	09/14/16 22:31	
Dieldrin	<3.968	19.84	19.98	101	19.35	98	60-122	3	25	ug/kg	09/14/16 22:31	
Endrin	<3.968	19.84	21.01	106	19.56	99	39-133	7	25	ug/kg	09/14/16 22:31	
4,4-DDD	<3.968	19.84	20.38	103	19.70	100	44-130	3	25	ug/kg	09/14/16 22:31	
Endosulfan II	<3.968	19.84	24.03	121	22.90	116	59-118	5	25	ug/kg	09/14/16 22:31	H
4,4-DDT	<3.968	19.84	23.59	119	21.58	109	28-134	9	25	ug/kg	09/14/16 22:31	
Endrin aldehyde	<3.968	19.84	21.35	108	20.31	103	51-129	5	25	ug/kg	09/14/16 22:31	
Methoxychlor	<3.968	19.84	21.59	109	19.78	100	33-135	9	25	ug/kg	09/14/16 22:31	
Endosulfan sulfate	<3.968	19.84	25.77	130	24.43	124	54-124	5	25	ug/kg	09/14/16 22:31	H
Endrin ketone	<3.968	19.84	22.82	115	21.82	111	58-123	4	25	ug/kg	09/14/16 22:31	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	109		127		117		23-165	%	09/14/16 22:31
Tetrachloro-m-xylene	111		98		95		31-145	%	09/14/16 22:31

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3550C
Seq Number: 135705 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62499-1-BLK LCS Sample Id: 62499-1-BKS LCSD Sample Id: 62499-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
PCB-1016	<0.04975	0.4975	0.4021	81	0.4006	81	60-110	0	25	mg/kg	09/12/16 16:42	
PCB-1260	<0.04975	0.4975	0.4793	96	0.4760	96	60-98	1	25	mg/kg	09/12/16 16:42	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	110		109		111		61-150	%	09/12/16 16:42
Tetrachloro-m-xylene	99		98		100		42-142	%	09/12/16 16:42

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 135724 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62477-1-BLK LCS Sample Id: 62477-1-BKS LCSD Sample Id: 62477-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dalapon	<493.6	1481	1096	74	1186	80	66-117	8	25	ug/kg	09/13/16 10:23	
Dicamba	<19.74	59.23	66.44	112	66.50	112	73-126	0	25	ug/kg	09/13/16 10:23	
MCPP	<19740	59230	51110	86	50840	86	51-138	1	25	ug/kg	09/13/16 10:23	
MCPA	<19740	59230	51210	86	50770	85	70-133	1	25	ug/kg	09/13/16 10:23	
Dichloroprop	<197.4	592.3	664.5	112	650.1	109	88-162	2	25	ug/kg	09/13/16 10:23	
2,4-D	<197.4	592.3	668.5	113	654.7	110	66-133	2	25	ug/kg	09/13/16 10:23	
2,4,5-TP (Silvex)	<19.74	59.23	61.11	103	58.37	98	71-126	5	25	ug/kg	09/13/16 10:23	
2,4,5-T	<19.74	59.23	61.20	103	57.98	98	66-125	5	25	ug/kg	09/13/16 10:23	
Dinoseb	<98.72	296.2	245.8	83	233.9	79	52-101	5	25	ug/kg	09/13/16 10:23	
2,4-DB	<197.4	592.3	625.5	106	586.1	99	63-134	7	25	ug/kg	09/13/16 10:23	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	97		98		104		61-144	%	09/13/16 10:23

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 135784 Matrix: Water Date Prep: 09/14/16
MB Sample Id: 62528-1-BLK LCS Sample Id: 62528-1-BKS LCSD Sample Id: 62528-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<0.1000	1.000	0.9247	92	0.8985	90	41-123	3	20	mg/L	09/14/16 13:11	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	84		89		87		46-111	%	09/14/16 13:11

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QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3550C

Seq Number: 135866 Matrix: Solid Date Prep: 09/14/16

MB Sample Id: 62529-1-BLK LCS Sample Id: 62529-1-BKS LCSD Sample Id: 62529-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<10.11	33.70	28.99	86	34.10	102	54-123	16	25	mg/kg	09/16/16 00:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	86		82		96		34-133	%	09/16/16 00:58

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3550C

Seq Number: 135707 Matrix: Solid Date Prep: 09/12/16

MB Sample Id: 62476-1-BLK LCS Sample Id: 62476-1-BKS LCSD Sample Id: 62476-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<166.2	1330	1077	81	1085	82	60-116	1	25	ug/kg	09/12/16 13:29	
Acenaphthylene	<166.2	1330	1120	84	1134	85	61-112	1	25	ug/kg	09/12/16 13:29	
Acetophenone	<166.2	1330	1069	80	1081	81	57-114	1	25	ug/kg	09/12/16 13:29	
Anthracene	<166.2	1330	1131	85	1138	86	66-115	1	25	ug/kg	09/12/16 13:29	
Atrazine	<166.2	1330	1062	80	1083	81	7-109	2	25	ug/kg	09/12/16 13:29	
Benzo(a)anthracene	<166.2	1330	1199	90	1207	91	71-113	1	25	ug/kg	09/12/16 13:29	
Benzo(a)pyrene	<166.2	1330	1251	94	1273	96	69-118	2	25	ug/kg	09/12/16 13:29	
Benzo(b)fluoranthene	<166.2	1330	1259	95	1216	91	65-126	3	25	ug/kg	09/12/16 13:29	
Benzo(g,h,i)perylene	<166.2	1330	1093	82	1062	80	69-112	3	25	ug/kg	09/12/16 13:29	
Benzo(k)fluoranthene	<166.2	1330	1208	91	1337	101	57-129	10	25	ug/kg	09/12/16 13:29	
Biphenyl (Diphenyl)	<166.2	1330	1045	79	1048	79	62-117	0	25	ug/kg	09/12/16 13:29	
Butyl benzyl phthalate	<166.2	1330	1432	108	1461	110	81-111	2	25	ug/kg	09/12/16 13:29	
bis(2-chloroethoxy) methane	<166.2	1330	1032	78	1039	78	56-119	1	25	ug/kg	09/12/16 13:29	
bis(2-chloroethyl) ether	<166.2	1330	1029	77	1013	76	55-107	2	25	ug/kg	09/12/16 13:29	
bis(2-chloroisopropyl) ether	<166.2	1330	963.8	72	956.4	72	44-103	1	25	ug/kg	09/12/16 13:29	
bis(2-ethylhexyl) phthalate	<166.2	1330	1441	108	1457	110	84-109	1	25	ug/kg	09/12/16 13:29	H
4-Bromophenylphenyl ether	<166.2	1330	1097	82	1094	82	63-125	0	25	ug/kg	09/12/16 13:29	
Di-n-butyl phthalate	<166.2	1330	1247	94	1232	93	76-110	1	25	ug/kg	09/12/16 13:29	
Carbazole	<166.2	1330	1178	89	1182	89	58-133	0	25	ug/kg	09/12/16 13:29	
Caprolactam	<166.2	1330	1128	85	1159	87	51-122	3	25	ug/kg	09/12/16 13:29	
4-Chloro-3-methyl phenol	<166.2	1330	1186	89	1207	91	74-119	2	25	ug/kg	09/12/16 13:29	
4-Chloroaniline	<166.2	1330	992.7	75	1006	76	45-107	1	25	ug/kg	09/12/16 13:29	
2-Chloronaphthalene	<166.2	1330	1030	77	1039	78	56-113	1	25	ug/kg	09/12/16 13:29	
2-Chlorophenol	<166.2	1330	1057	79	1069	80	59-113	1	25	ug/kg	09/12/16 13:29	
4-Chlorophenyl Phenyl ether	<166.2	1330	1029	77	1050	79	62-111	2	25	ug/kg	09/12/16 13:29	
Chrysene	<166.2	1330	1175	88	1175	88	72-114	0	25	ug/kg	09/12/16 13:29	
Dibenz(a,h)Anthracene	<166.2	1330	1290	97	1255	94	72-110	3	25	ug/kg	09/12/16 13:29	
Dibenzofuran	<166.2	1330	1083	81	1102	83	62-118	2	25	ug/kg	09/12/16 13:29	
3,3-Dichlorobenzidine	<166.2	1330	1513	114	1523	115	66-141	1	25	ug/kg	09/12/16 13:29	
2,4-Dichlorophenol	<166.2	1330	1120	84	1128	85	68-118	1	25	ug/kg	09/12/16 13:29	
Diethyl phthalate	<166.2	1330	1171	88	1190	89	61-113	2	25	ug/kg	09/12/16 13:29	
Dimethyl phthalate	<166.2	1330	1161	87	1179	89	69-109	2	25	ug/kg	09/12/16 13:29	
2,4-Dimethylphenol	<166.2	1330	1087	82	1087	82	57-122	0	25	ug/kg	09/12/16 13:29	
4,6-Dinitro-2-methyl phenol	<166.2	1330	959.8	72	1008	76	50-134	5	25	ug/kg	09/12/16 13:29	
2,4-Dinitrophenol	<332.4	1330	611	46	673.4	51	24-144	10	25	ug/kg	09/12/16 13:29	
2,4-Dinitrotoluene	<166.2	1330	1112	84	1125	85	61-124	1	25	ug/kg	09/12/16 13:29	
2,6-Dinitrotoluene	<166.2	1330	1146	86	1161	87	59-124	1	25	ug/kg	09/12/16 13:29	
Fluoranthene	<166.2	1330	1164	88	1149	86	69-119	1	25	ug/kg	09/12/16 13:29	
Fluorene	<166.2	1330	1117	84	1129	85	65-115	1	25	ug/kg	09/12/16 13:29	
Hexachlorobenzene	<166.2	1330	1082	81	1092	82	63-118	1	25	ug/kg	09/12/16 13:29	
Hexachlorobutadiene	<166.2	1330	1035	78	1031	78	55-120	0	25	ug/kg	09/12/16 13:29	
Hexachlorocyclopentadiene	<166.2	1330	1030	77	1018	77	29-138	1	25	ug/kg	09/12/16 13:29	
Hexachloroethane	<166.2	1330	1044	78	1047	79	54-110	0	25	ug/kg	09/12/16 13:29	
Indeno(1,2,3-c,d)Pyrene	<166.2	1330	1060	80	1008	76	60-127	5	25	ug/kg	09/12/16 13:29	
Isophorone	<166.2	1330	1149	86	1152	87	57-116	0	25	ug/kg	09/12/16 13:29	
2-Methylnaphthalene	<166.2	1330	1094	82	1102	83	70-109	1	25	ug/kg	09/12/16 13:29	
2-Methyl phenol	<166.2	1330	1097	82	1114	84	59-118	2	25	ug/kg	09/12/16 13:29	
3&4-Methylphenol	<166.2	1330	1068	80	1089	82	59-113	2	25	ug/kg	09/12/16 13:29	
Naphthalene	<166.2	1330	1020	77	1027	77	59-108	1	25	ug/kg	09/12/16 13:29	
2-Nitroaniline	<166.2	1330	1090	82	1110	83	51-116	2	25	ug/kg	09/12/16 13:29	
3-Nitroaniline	<166.2	1330	1057	79	1084	82	57-111	3	25	ug/kg	09/12/16 13:29	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3550C
Seq Number: 135707 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62476-1-BLK LCS Sample Id: 62476-1-BKS LCSD Sample Id: 62476-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<166.2	1330	1135	85	1182	89	55-125	4	25	ug/kg	09/12/16 13:29	
Nitrobenzene	<166.2	1330	989.7	74	995.7	75	53-110	1	25	ug/kg	09/12/16 13:29	
2-Nitrophenol	<166.2	1330	1131	85	1154	87	58-124	2	25	ug/kg	09/12/16 13:29	
4-Nitrophenol	<166.2	1330	1062	80	1096	82	51-116	3	25	ug/kg	09/12/16 13:29	
N-Nitrosodi-n-propyl amine	<166.2	1330	1090	82	1114	84	60-98	2	25	ug/kg	09/12/16 13:29	
N-Nitrosodiphenylamine	<166.2	1330	1136	85	1147	86	65-111	1	25	ug/kg	09/12/16 13:29	
Di-n-octyl phthalate	<166.2	1330	1364	103	1456	109	69-120	7	25	ug/kg	09/12/16 13:29	
Pentachlorophenol	<166.2	1330	1050	79	1074	81	56-124	2	25	ug/kg	09/12/16 13:29	
Phenanthrene	<166.2	1330	1100	83	1114	84	67-117	1	25	ug/kg	09/12/16 13:29	
Phenol	<166.2	1330	1034	78	1046	79	58-114	1	25	ug/kg	09/12/16 13:29	
Pyrene	<166.2	1330	1198	90	1237	93	77-111	3	25	ug/kg	09/12/16 13:29	
Pyridine	<166.2	1330	914.2	69	914.2	69	37-110	0	25	ug/kg	09/12/16 13:29	
2,4,5-Trichlorophenol	<166.2	1330	1181	89	1208	91	64-114	2	25	ug/kg	09/12/16 13:29	
2,4,6-Trichlorophenol	<166.2	1330	1131	85	1158	87	60-125	2	25	ug/kg	09/12/16 13:29	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	88		85		84		32-107	%	09/12/16 13:29
2-Fluorophenol	92		85		82		34-113	%	09/12/16 13:29
Nitrobenzene-d5	91		88		86		35-123	%	09/12/16 13:29
Phenol-d6	89		84		83		34-120	%	09/12/16 13:29
Terphenyl-D14	108		103		104		46-154	%	09/12/16 13:29
2,4,6-Tribromophenol	65		91		90		31-113	%	09/12/16 13:29

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135757 Matrix: Water Date Prep: 09/13/16
MB Sample Id: 62510-1-BLK LCS Sample Id: 62510-1-BKS LCSD Sample Id: 62510-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<5.000	40.00	33.01	83	31.48	79	67-110	5	20	ug/L	09/13/16 23:39	
Acenaphthylene	<5.000	40.00	34.34	86	32.80	82	69-106	5	20	ug/L	09/13/16 23:39	
Acetophenone	<5.000	40.00	33.42	84	31.72	79	67-107	5	20	ug/L	09/13/16 23:39	
Anthracene	<5.000	40.00	35.28	88	33.12	83	79-108	6	20	ug/L	09/13/16 23:39	
Atrazine	<5.000	40.00	9.240	23	8.700	22	17-98	6	20	ug/L	09/13/16 23:39	
Benzo(a)anthracene	<5.000	40.00	37.32	93	34.77	87	76-109	7	20	ug/L	09/13/16 23:39	
Benzo(a)pyrene	<5.000	40.00	38.92	97	36.43	91	76-114	7	20	ug/L	09/13/16 23:39	
Benzo(b)fluoranthene	<5.000	40.00	37.80	95	35.00	88	67-121	8	20	ug/L	09/13/16 23:39	
Benzo(g,h,i)perylene	<5.000	40.00	38.65	97	37.75	94	75-107	2	20	ug/L	09/13/16 23:39	
Benzo(k)fluoranthene	<5.000	40.00	39.03	98	33.73	84	62-132	15	20	ug/L	09/13/16 23:39	
Biphenyl (Diphenyl)	<5.000	40.00	33.71	84	32.14	80	71-108	5	20	ug/L	09/13/16 23:39	
Butyl benzyl phthalate	<5.000	40.00	41.63	104	34.47	86	74-117	19	20	ug/L	09/13/16 23:39	
bis(2-chloroethoxy) methane	<5.000	40.00	31.39	78	30.42	76	69-111	3	20	ug/L	09/13/16 23:39	
bis(2-chloroethyl) ether	<5.000	40.00	31.03	78	29.87	75	62-103	4	20	ug/L	09/13/16 23:39	
bis(2-chloroisopropyl) ether	<5.000	40.00	29.31	73	27.87	70	50-103	5	20	ug/L	09/13/16 23:39	
bis(2-ethylhexyl) phthalate	<5.000	40.00	42.88	107	36.30	91	78-114	17	20	ug/L	09/13/16 23:39	
4-Bromophenylphenyl ether	<5.000	40.00	33.73	84	32.18	80	82-108	5	20	ug/L	09/13/16 23:39	L
Di-n-butyl phthalate	<5.000	40.00	39.42	99	36.92	92	71-115	7	20	ug/L	09/13/16 23:39	
Carbazole	<5.000	40.00	35.07	88	33.14	83	52-134	6	20	ug/L	09/13/16 23:39	
Caprolactam	<5.000	40.00	36.54	91	33.61	84	50-125	8	20	ug/L	09/13/16 23:39	
4-Chloro-3-methyl phenol	<5.000	40.00	37.69	94	35.71	89	72-121	5	20	ug/L	09/13/16 23:39	
4-Chloroaniline	<5.000	40.00	31.57	79	29.96	75	54-103	5	20	ug/L	09/13/16 23:39	
2-Chloronaphthalene	<5.000	40.00	31.73	79	30.41	76	66-105	4	20	ug/L	09/13/16 23:39	
2-Chlorophenol	<5.000	40.00	32.09	80	30.77	77	63-109	4	20	ug/L	09/13/16 23:39	
4-Chlorophenyl Phenyl ether	<5.000	40.00	32.89	82	31.29	78	73-100	5	20	ug/L	09/13/16 23:39	
Chrysene	<5.000	40.00	36.47	91	34.03	85	78-111	7	20	ug/L	09/13/16 23:39	
Dibenz(a,h)Anthracene	<5.000	40.00	39.74	99	39.54	99	76-106	1	20	ug/L	09/13/16 23:39	
Dibenzofuran	<5.000	40.00	33.61	84	31.97	80	70-111	5	20	ug/L	09/13/16 23:39	
3,3-Dichlorobenzidine	<5.000	40.00	50.58	126	49.22	123	79-132	3	20	ug/L	09/13/16 23:39	
2,4-Dichlorophenol	<5.000	40.00	34.77	87	33.41	84	65-118	4	20	ug/L	09/13/16 23:39	
Diethyl phthalate	<5.000	40.00	36.81	92	34.62	87	60-114	6	20	ug/L	09/13/16 23:39	
Dimethyl phthalate	<5.000	40.00	36.28	91	34.06	85	66-107	6	20	ug/L	09/13/16 23:39	
2,4-Dimethylphenol	<5.000	40.00	33.01	83	31.42	79	60-119	5	20	ug/L	09/13/16 23:39	
4,6-Dinitro-2-methyl phenol	<5.000	40.00	28.37	71	31.27	78	60-130	10	20	ug/L	09/13/16 23:39	
2,4-Dinitrophenol	<10.00	40.00	18.53	46	21.26	53	36-136	14	20	ug/L	09/13/16 23:39	
2,4-Dinitrotoluene	<5.000	40.00	34.39	86	32.55	81	70-119	5	20	ug/L	09/13/16 23:39	
2,6-Dinitrotoluene	<5.000	40.00	35.34	88	33.10	83	68-117	7	20	ug/L	09/13/16 23:39	
Fluoranthene	<5.000	40.00	37.43	94	35.98	90	79-112	4	20	ug/L	09/13/16 23:39	
Fluorene	<5.000	40.00	35.16	88	33.44	84	71-109	5	20	ug/L	09/13/16 23:39	
Hexachlorobenzene	<5.000	40.00	34.45	86	32.71	82	76-110	5	20	ug/L	09/13/16 23:39	
Hexachlorobutadiene	<5.000	40.00	32.17	80	31.39	78	64-113	2	20	ug/L	09/13/16 23:39	
Hexachlorocyclopentadiene	<5.000	40.00	27.75	69	31.33	78	49-124	12	20	ug/L	09/13/16 23:39	
Hexachloroethane	<5.000	40.00	31.26	78	30.50	76	62-105	2	20	ug/L	09/13/16 23:39	
Indeno(1,2,3-c,d)Pyrene	<5.000	40.00	36.70	92	35.67	89	69-120	3	20	ug/L	09/13/16 23:39	
Isophorone	<5.000	40.00	35.32	88	33.84	85	68-108	4	20	ug/L	09/13/16 23:39	
2-Methylnaphthalene	<5.000	40.00	34.55	86	32.93	82	64-117	5	20	ug/L	09/13/16 23:39	
2-Methyl phenol	<5.000	40.00	33.90	85	32.12	80	67-111	5	20	ug/L	09/13/16 23:39	
3&4-Methylphenol	<5.000	40.00	33.44	84	31.90	80	67-107	5	20	ug/L	09/13/16 23:39	
Naphthalene	<5.000	40.00	31.68	79	30.33	76	65-103	4	20	ug/L	09/13/16 23:39	
2-Nitroaniline	<5.000	40.00	33.61	84	31.39	78	59-114	7	20	ug/L	09/13/16 23:39	
3-Nitroaniline	<5.000	40.00	33.21	83	31.11	78	60-109	7	20	ug/L	09/13/16 23:39	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135757 Matrix: Water Date Prep: 09/13/16
MB Sample Id: 62510-1-BLK LCS Sample Id: 62510-1-BKS LCSD Sample Id: 62510-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<5.000	40.00	35.11	88	32.86	82	51-125	7	20	ug/L	09/13/16 23:39	
Nitrobenzene	<5.000	40.00	30.34	76	28.95	72	60-107	5	20	ug/L	09/13/16 23:39	
2-Nitrophenol	<5.000	40.00	33.65	84	32.78	82	65-119	3	20	ug/L	09/13/16 23:39	
4-Nitrophenol	<5.000	40.00	35.78	89	33.85	85	46-121	6	20	ug/L	09/13/16 23:39	
N-Nitrosodi-n-propyl amine	<5.000	40.00	33.55	84	32.07	80	60-98	5	20	ug/L	09/13/16 23:39	
N-Nitrosodiphenylamine	<5.000	40.00	35.08	88	32.90	82	68-106	6	20	ug/L	09/13/16 23:39	
Di-n-octyl phthalate	<5.000	40.00	41.63	104	30.03	75	69-120	32	20	ug/L	09/13/16 23:39	F
Pentachlorophenol	<5.000	40.00	33.00	83	32.09	80	63-119	3	20	ug/L	09/13/16 23:39	
Phenanthrene	<5.000	40.00	34.81	87	32.53	81	73-109	7	20	ug/L	09/13/16 23:39	
Phenol	<5.000	40.00	32.11	80	30.49	76	65-110	5	20	ug/L	09/13/16 23:39	
Pyrene	<5.000	40.00	33.79	84	27.81	70	78-111	19	20	ug/L	09/13/16 23:39	L
Pyridine	<5.000	40.00	26.81	67	25.55	64	47-105	5	20	ug/L	09/13/16 23:39	
2,4,5-Trichlorophenol	<5.000	40.00	36.19	90	34.56	86	69-114	5	20	ug/L	09/13/16 23:39	
2,4,6-Trichlorophenol	<5.000	40.00	33.30	83	31.50	79	68-118	6	20	ug/L	09/13/16 23:39	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	76		81		75		35-107	%	09/13/16 23:39
2-Fluorophenol	75		79		74		32-106	%	09/13/16 23:39
Nitrobenzene-d5	79		84		79		34-123	%	09/13/16 23:39
Phenol-d6	77		81		76		36-111	%	09/13/16 23:39
Terphenyl-D14	93		90		71		43-143	%	09/13/16 23:39
2,4,6-Tribromophenol	75		90		84		26-122	%	09/13/16 23:39

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135843 Matrix: Water Date Prep: 09/14/16
MB Sample Id: 62548-1-BLK LCS Sample Id: 62548-1-BKS LCSD Sample Id: 62548-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<5.000	40.00	33.83	85	34.02	85	67-110	1	20	ug/L	09/14/16 21:41	
Acenaphthylene	<5.000	40.00	35.27	88	35.51	89	69-106	1	20	ug/L	09/14/16 21:41	
Acetophenone	<5.000	40.00	33.14	83	33.12	83	67-107	0	20	ug/L	09/14/16 21:41	
Anthracene	<5.000	40.00	30.28	76	29.36	73	79-108	3	20	ug/L	09/14/16 21:41	L
Atrazine	<5.000	40.00	31.15	78	32.10	80	17-98	3	20	ug/L	09/14/16 21:41	
Benzo(a)anthracene	<5.000	40.00	33.87	85	34.72	87	76-109	2	20	ug/L	09/14/16 21:41	
Benzo(a)pyrene	<5.000	40.00	34.57	86	35.10	88	76-114	2	20	ug/L	09/14/16 21:41	
Benzo(b)fluoranthene	<5.000	40.00	35.99	90	36.77	92	67-121	2	20	ug/L	09/14/16 21:41	
Benzo(g,h,i)perylene	<5.000	40.00	34.34	86	35.32	88	75-107	3	20	ug/L	09/14/16 21:41	
Benzo(k)fluoranthene	<5.000	40.00	34.90	87	34.32	86	62-132	2	20	ug/L	09/14/16 21:41	
Biphenyl (Diphenyl)	<5.000	40.00	33.71	84	33.95	85	71-108	1	20	ug/L	09/14/16 21:41	
Butyl benzyl phthalate	<5.000	40.00	37.25	93	37.68	94	74-117	1	20	ug/L	09/14/16 21:41	
bis(2-chloroethoxy) methane	<5.000	40.00	32.09	80	31.83	80	69-111	1	20	ug/L	09/14/16 21:41	
bis(2-chloroethyl) ether	<5.000	40.00	31.82	80	31.00	78	62-103	3	20	ug/L	09/14/16 21:41	
bis(2-chloroisopropyl) ether	<5.000	40.00	30.67	77	30.20	76	50-103	2	20	ug/L	09/14/16 21:41	
bis(2-ethylhexyl) phthalate	<5.000	40.00	38.07	95	38.80	97	78-114	2	20	ug/L	09/14/16 21:41	
4-Bromophenylphenyl ether	<5.000	40.00	32.52	81	32.03	80	82-108	2	20	ug/L	09/14/16 21:41	L
Di-n-butyl phthalate	<5.000	40.00	36.81	92	36.38	91	71-115	1	20	ug/L	09/14/16 21:41	
Carbazole	<5.000	40.00	36.56	91	36.40	91	52-134	0	20	ug/L	09/14/16 21:41	
Caprolactam	<5.000	40.00	35.24	88	35.68	89	50-125	1	20	ug/L	09/14/16 21:41	
4-Chloro-3-methyl phenol	<5.000	40.00	35.99	90	36.36	91	72-121	1	20	ug/L	09/14/16 21:41	
4-Chloroaniline	<5.000	40.00	31.45	79	32.39	81	54-103	3	20	ug/L	09/14/16 21:41	
2-Chloronaphthalene	<5.000	40.00	33.08	83	32.99	82	66-105	0	20	ug/L	09/14/16 21:41	
2-Chlorophenol	<5.000	40.00	33.14	83	32.45	81	63-109	2	20	ug/L	09/14/16 21:41	
4-Chlorophenyl Phenyl ether	<5.000	40.00	32.78	82	33.43	84	73-100	2	20	ug/L	09/14/16 21:41	
Chrysene	<5.000	40.00	33.98	85	35.48	89	78-111	4	20	ug/L	09/14/16 21:41	
Dibenz(a,h)Anthracene	<5.000	40.00	35.66	89	36.09	90	76-106	1	20	ug/L	09/14/16 21:41	
Dibenzofuran	<5.000	40.00	33.04	83	34.26	86	70-111	4	20	ug/L	09/14/16 21:41	
3,3-Dichlorobenzidine	<5.000	40.00	44.36	111	45.09	113	79-132	2	20	ug/L	09/14/16 21:41	
2,4-Dichlorophenol	<5.000	40.00	34.99	87	35.27	88	65-118	1	20	ug/L	09/14/16 21:41	
Diethyl phthalate	<5.000	40.00	37.39	93	38.21	96	60-114	2	20	ug/L	09/14/16 21:41	
Dimethyl phthalate	<5.000	40.00	37.16	93	37.82	95	66-107	2	20	ug/L	09/14/16 21:41	
2,4-Dimethylphenol	<5.000	40.00	32.57	81	32.15	80	60-119	1	20	ug/L	09/14/16 21:41	
4,6-Dinitro-2-methyl phenol	<5.000	40.00	38.66	97	39.02	98	60-130	1	20	ug/L	09/14/16 21:41	
2,4-Dinitrophenol	<10.00	40.00	29.40	74	30.27	76	36-136	3	20	ug/L	09/14/16 21:41	
2,4-Dinitrotoluene	<5.000	40.00	34.93	87	35.45	89	70-119	1	20	ug/L	09/14/16 21:41	
2,6-Dinitrotoluene	<5.000	40.00	37.77	94	38.90	97	68-117	3	20	ug/L	09/14/16 21:41	
Fluoranthene	<5.000	40.00	34.97	87	35.08	88	79-112	0	20	ug/L	09/14/16 21:41	
Fluorene	<5.000	40.00	35.21	88	36.23	91	71-109	3	20	ug/L	09/14/16 21:41	
Hexachlorobenzene	<5.000	40.00	32.39	81	31.39	78	76-110	3	20	ug/L	09/14/16 21:41	
Hexachlorobutadiene	<5.000	40.00	31.79	79	31.47	79	64-113	1	20	ug/L	09/14/16 21:41	
Hexachlorocyclopentadiene	<5.000	40.00	35.34	88	34.82	87	49-124	1	20	ug/L	09/14/16 21:41	
Hexachloroethane	<5.000	40.00	32.33	81	31.36	78	62-105	3	20	ug/L	09/14/16 21:41	
Indeno(1,2,3-c,d)Pyrene	<5.000	40.00	35.10	88	35.67	89	69-120	2	20	ug/L	09/14/16 21:41	
Isophorone	<5.000	40.00	34.61	87	35.81	90	68-108	3	20	ug/L	09/14/16 21:41	
2-Methylnaphthalene	<5.000	40.00	34.18	85	34.18	85	64-117	0	20	ug/L	09/14/16 21:41	
2-Methyl phenol	<5.000	40.00	34.06	85	33.93	85	67-111	0	20	ug/L	09/14/16 21:41	
3&4-Methylphenol	<5.000	40.00	33.96	85	34.53	86	67-107	2	20	ug/L	09/14/16 21:41	
Naphthalene	<5.000	40.00	32.08	80	31.97	80	65-103	0	20	ug/L	09/14/16 21:41	
2-Nitroaniline	<5.000	40.00	32.99	82	33.46	84	59-114	1	20	ug/L	09/14/16 21:41	
3-Nitroaniline	<5.000	40.00	32.78	82	34.06	85	60-109	4	20	ug/L	09/14/16 21:41	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 135843 Matrix: Water Date Prep: 09/14/16
MB Sample Id: 62548-1-BLK LCS Sample Id: 62548-1-BKS LCSD Sample Id: 62548-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<5.000	40.00	33.19	83	35.35	88	51-125	6	20	ug/L	09/14/16 21:41	
Nitrobenzene	<5.000	40.00	30.01	75	29.52	74	60-107	2	20	ug/L	09/14/16 21:41	
2-Nitrophenol	<5.000	40.00	34.31	86	34.68	87	65-119	1	20	ug/L	09/14/16 21:41	
4-Nitrophenol	<5.000	40.00	41.77	104	39.11	98	46-121	7	20	ug/L	09/14/16 21:41	
N-Nitrosodi-n-propyl amine	<5.000	40.00	34.60	87	34.54	86	60-98	0	20	ug/L	09/14/16 21:41	
N-Nitrosodiphenylamine	<5.000	40.00	35.26	88	35.34	88	68-106	0	20	ug/L	09/14/16 21:41	
Di-n-octyl phthalate	<5.000	40.00	38.14	95	36.80	92	69-120	4	20	ug/L	09/14/16 21:41	
Pentachlorophenol	<5.000	40.00	38.26	96	38.15	95	63-119	0	20	ug/L	09/14/16 21:41	
Phenanthrene	<5.000	40.00	37.53	94	39.28	98	73-109	5	20	ug/L	09/14/16 21:41	
Phenol	<5.000	40.00	32.91	82	32.52	81	65-110	1	20	ug/L	09/14/16 21:41	
Pyrene	<5.000	40.00	34.60	87	36.72	92	78-111	6	20	ug/L	09/14/16 21:41	
Pyridine	<5.000	40.00	27.95	70	27.24	68	47-105	3	20	ug/L	09/14/16 21:41	
2,4,5-Trichlorophenol	<5.000	40.00	33.74	84	33.49	84	69-114	1	20	ug/L	09/14/16 21:41	
2,4,6-Trichlorophenol	<5.000	40.00	38.41	96	39.90	100	68-118	4	20	ug/L	09/14/16 21:41	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	93		80		83		35-107	%	09/14/16 21:41
2-Fluorophenol	98		80		80		32-106	%	09/14/16 21:41
Nitrobenzene-d5	99		85		85		34-123	%	09/14/16 21:41
Phenol-d6	94		82		83		36-111	%	09/14/16 21:41
Terphenyl-D14	99		92		98		43-143	%	09/14/16 21:41
2,4,6-Tribromophenol	90		90		94		26-122	%	09/14/16 21:41

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135716 Matrix: Solid Date Prep: 09/12/16
MB Sample Id: 62513-2-BLK LCS Sample Id: 62513-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4627	93	75-123	ug/kg	09/12/16 23:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	91		110		50-122	%	09/12/16 23:58

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135740 Matrix: Solid Date Prep: 09/13/16
MB Sample Id: 62526-2-BLK LCS Sample Id: 62526-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4811	96	75-123	ug/kg	09/13/16 10:36	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	88		109		50-122	%	09/13/16 10:36

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 135835 Matrix: Water Date Prep: 09/15/16
MB Sample Id: 62576-2-BLK LCS Sample Id: 62576-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4707	94	74-132	ug/L	09/15/16 11:37	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	71		81		55-114	%	09/15/16 11:37

Analytical Method: SW-846 8015C Prep Method: SW5030
Seq Number: 135716 Matrix: Soil Date Prep: 09/12/16
Parent Sample Id: 16090921-009 MS Sample Id: 16090921-009 S MSD Sample Id: 16090921-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<123.5	6173	8015	130	321.3	5	31-140	185	30	ug/kg	09/13/16 07:04	XF

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	116		3	*	50-122	%	09/13/16 07:04

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 135763 Matrix: Water Date Prep: 09/14/16

MB Sample Id: 62545-1-BLK LCS Sample Id: 62545-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<10.00	50.00	51.27	103	29-149	ug/L	09/14/16 09:07	
Benzene	<1.000	50.00	63.05	126	85-123	ug/L	09/14/16 09:07	H
Bromochloromethane	<1.000	50.00	56.12	112	82-136	ug/L	09/14/16 09:07	
Bromodichloromethane	<1.000	50.00	64.12	128	88-133	ug/L	09/14/16 09:07	
Bromoform	<5.000	50.00	54.24	108	80-126	ug/L	09/14/16 09:07	
Bromomethane	<1.000	50.00	58.03	116	64-139	ug/L	09/14/16 09:07	
2-Butanone (MEK)	<10.00	50.00	42.04	84	39-135	ug/L	09/14/16 09:07	
Carbon Disulfide	<10.00	50.00	67.59	135	85-124	ug/L	09/14/16 09:07	H
Carbon Tetrachloride	<1.000	50.00	57.77	116	81-138	ug/L	09/14/16 09:07	
Chlorobenzene	<1.000	50.00	59.16	118	85-120	ug/L	09/14/16 09:07	
Chloroethane	<1.000	50.00	65.77	132	75-129	ug/L	09/14/16 09:07	H
Chloroform	<1.000	50.00	56.06	112	85-128	ug/L	09/14/16 09:07	
Chloromethane	<1.000	50.00	60.98	122	60-139	ug/L	09/14/16 09:07	
Cyclohexane	<10.00	50.00	63.03	126	55-131	ug/L	09/14/16 09:07	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	53.82	108	69-127	ug/L	09/14/16 09:07	
Dibromochloromethane	<1.000	50.00	55.83	112	82-127	ug/L	09/14/16 09:07	
1,2-Dibromoethane (EDB)	<1.000	50.00	60.83	122	82-121	ug/L	09/14/16 09:07	H
1,2-Dichlorobenzene	<1.000	50.00	60.30	121	82-123	ug/L	09/14/16 09:07	
1,3-Dichlorobenzene	<1.000	50.00	58.52	117	81-123	ug/L	09/14/16 09:07	
1,4-Dichlorobenzene	<1.000	50.00	58.07	116	81-121	ug/L	09/14/16 09:07	
Dichlorodifluoromethane	<1.000	50.00	67.78	136	69-147	ug/L	09/14/16 09:07	
1,1-Dichloroethane	<1.000	50.00	59.81	120	83-123	ug/L	09/14/16 09:07	
1,2-Dichloroethane	<1.000	50.00	63.27	127	86-138	ug/L	09/14/16 09:07	
1,1-Dichloroethene	<1.000	50.00	67.95	136	85-127	ug/L	09/14/16 09:07	H
cis-1,2-Dichloroethene	<1.000	50.00	62.95	126	87-127	ug/L	09/14/16 09:07	
1,2-Dichloropropane	<1.000	50.00	62.55	125	79-125	ug/L	09/14/16 09:07	
cis-1,3-Dichloropropene	<1.000	50.00	56.45	113	79-131	ug/L	09/14/16 09:07	
trans-1,3-Dichloropropene	<1.000	50.00	55.82	112	82-133	ug/L	09/14/16 09:07	
trans-1,2-Dichloroethene	<1.000	50.00	56.20	112	85-125	ug/L	09/14/16 09:07	
Ethylbenzene	<1.000	50.00	61.86	124	83-123	ug/L	09/14/16 09:07	H
2-Hexanone	<10.00	50.00	48.46	97	37-137	ug/L	09/14/16 09:07	
Isopropylbenzene	<1.000	50.00	55.16	110	70-131	ug/L	09/14/16 09:07	
Methyl Acetate	<10.00	50.00	63.15	126	69-127	ug/L	09/14/16 09:07	
Methylcyclohexane	<10.00	50.00	61.91	124	75-129	ug/L	09/14/16 09:07	
Methylene Chloride	<1.000	50.00	66.13	132	86-124	ug/L	09/14/16 09:07	H
4-Methyl-2-Pentanone	<5.000	50.00	47.14	94	39-143	ug/L	09/14/16 09:07	
Methyl-t-butyl ether	<1.000	50.00	44.18	88	75-134	ug/L	09/14/16 09:07	
Naphthalene	<1.000	50.00	52.83	106	61-118	ug/L	09/14/16 09:07	
Styrene	<1.000	50.00	53.99	108	80-120	ug/L	09/14/16 09:07	
1,1,2,2-Tetrachloroethane	<1.000	50.00	61.47	123	64-125	ug/L	09/14/16 09:07	
Tetrachloroethene	<1.000	50.00	61.96	124	83-138	ug/L	09/14/16 09:07	
Toluene	<1.000	50.00	62.41	125	88-126	ug/L	09/14/16 09:07	
1,2,3-Trichlorobenzene	<1.000	50.00	52.11	104	75-124	ug/L	09/14/16 09:07	
1,2,4-Trichlorobenzene	<1.000	50.00	58.82	118	77-131	ug/L	09/14/16 09:07	
1,1,1-Trichloroethane	<1.000	50.00	62.34	125	68-146	ug/L	09/14/16 09:07	
1,1,2-Trichloroethane	<1.000	50.00	64.10	128	85-124	ug/L	09/14/16 09:07	H
Trichloroethene	<1.000	50.00	62.32	125	87-127	ug/L	09/14/16 09:07	
Trichlorofluoromethane	<5.000	50.00	68.78	138	77-147	ug/L	09/14/16 09:07	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	70.58	141	68-135	ug/L	09/14/16 09:07	H
Vinyl Chloride	<1.000	50.00	64.94	130	74-138	ug/L	09/14/16 09:07	
m,p-Xylenes	<2.000	100	106.3	106	84-124	ug/L	09/14/16 09:07	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 135763 Matrix: Water Date Prep: 09/14/16

MB Sample Id: 62545-1-BLK LCS Sample Id: 62545-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	54.60	109	79-126	ug/L	09/14/16 09:07	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		99		86-111	%	09/14/16 09:07
Dibromofluoromethane	98		104		91-119	%	09/14/16 09:07
Toluene-D8	103		103		90-117	%	09/14/16 09:07

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030

Seq Number: 135847 Matrix: Solid Date Prep: 09/15/16

MB Sample Id: 62583-1-BLK LCS Sample Id: 62583-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	74.88	125	46-127	ug/kg	09/15/16 12:58	
Benzene	<5.000	60.00	68.60	114	70-127	ug/kg	09/15/16 12:58	
Bromochloromethane	<5.000	60.00	61.39	102	68-122	ug/kg	09/15/16 12:58	
Bromodichloromethane	<5.000	60.00	60.43	101	68-122	ug/kg	09/15/16 12:58	
Bromoform	<5.000	60.00	58.33	97	57-127	ug/kg	09/15/16 12:58	
Bromomethane	<5.000	60.00	67.46	112	68-123	ug/kg	09/15/16 12:58	
2-Butanone (MEK)	<20.00	60.00	71.97	120	41-136	ug/kg	09/15/16 12:58	
Carbon Disulfide	<10.00	60.00	71.72	120	66-135	ug/kg	09/15/16 12:58	
Carbon Tetrachloride	<5.000	60.00	52.99	88	64-147	ug/kg	09/15/16 12:58	
Chlorobenzene	<5.000	60.00	66.33	111	70-121	ug/kg	09/15/16 12:58	
Chloroethane	<5.000	60.00	71.33	119	66-142	ug/kg	09/15/16 12:58	
Chloroform	<5.000	60.00	60.49	101	68-123	ug/kg	09/15/16 12:58	
Chloromethane	<5.000	60.00	79.54	133	65-136	ug/kg	09/15/16 12:58	
Cyclohexane	<20.00	60.00	70.16	117	62-138	ug/kg	09/15/16 12:58	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	58.56	98	55-122	ug/kg	09/15/16 12:58	
Dibromochloromethane	<5.000	60.00	57.68	96	61-122	ug/kg	09/15/16 12:58	
1,2-Dibromoethane (EDB)	<5.000	60.00	62.36	104	63-119	ug/kg	09/15/16 12:58	
1,2-Dichlorobenzene	<5.000	60.00	62.54	104	65-121	ug/kg	09/15/16 12:58	
1,3-Dichlorobenzene	<5.000	60.00	64.50	108	69-121	ug/kg	09/15/16 12:58	
1,4-Dichlorobenzene	<5.000	60.00	63.97	107	69-118	ug/kg	09/15/16 12:58	
Dichlorodifluoromethane	<5.000	60.00	57.47	96	53-162	ug/kg	09/15/16 12:58	
1,1-Dichloroethane	<5.000	60.00	65.68	109	70-127	ug/kg	09/15/16 12:58	
1,2-Dichloroethane	<5.000	60.00	56.17	94	68-118	ug/kg	09/15/16 12:58	
1,1-Dichloroethene	<5.000	60.00	68.72	115	69-133	ug/kg	09/15/16 12:58	
1,2-Dichloropropane	<5.000	60.00	71.66	119	70-122	ug/kg	09/15/16 12:58	
cis-1,2-Dichloroethene	<5.000	60.00	66.37	111	68-126	ug/kg	09/15/16 12:58	
cis-1,3-Dichloropropene	<5.000	60.00	63.86	106	68-121	ug/kg	09/15/16 12:58	
trans-1,2-Dichloroethene	<5.000	60.00	68.07	113	70-132	ug/kg	09/15/16 12:58	
trans-1,3-Dichloropropene	<5.000	60.00	60.25	100	67-115	ug/kg	09/15/16 12:58	
Ethylbenzene	<5.000	60.00	67.89	113	70-125	ug/kg	09/15/16 12:58	
2-Hexanone	<20.00	60.00	73.00	122	40-121	ug/kg	09/15/16 12:58	H
Isopropylbenzene	<5.000	60.00	67.13	112	68-130	ug/kg	09/15/16 12:58	
Methyl Acetate	<20.00	60.00	68.18	114	60-125	ug/kg	09/15/16 12:58	
Methylcyclohexane	<20.00	60.00	68.01	113	62-150	ug/kg	09/15/16 12:58	
Methylene Chloride	<5.000	60.00	67.92	113	67-121	ug/kg	09/15/16 12:58	
4-Methyl-2-Pentanone	<20.00	60.00	67.75	113	48-117	ug/kg	09/15/16 12:58	
Methyl-t-butyl ether	<5.000	60.00	55.14	92	66-119	ug/kg	09/15/16 12:58	
Naphthalene	<5.000	60.00	59.31	99	54-115	ug/kg	09/15/16 12:58	
Styrene	<5.000	60.00	63.86	106	71-120	ug/kg	09/15/16 12:58	
1,1,2,2-Tetrachloroethane	<5.000	60.00	71.81	120	59-122	ug/kg	09/15/16 12:58	
Tetrachloroethene	<5.000	60.00	60.13	100	65-145	ug/kg	09/15/16 12:58	
Toluene	<5.000	60.00	66.19	110	69-129	ug/kg	09/15/16 12:58	
1,2,3-Trichlorobenzene	<5.000	60.00	56.07	93	60-114	ug/kg	09/15/16 12:58	
1,2,4-Trichlorobenzene	<5.000	60.00	55.83	93	64-115	ug/kg	09/15/16 12:58	
1,1,1-Trichloroethane	<5.000	60.00	52.93	88	65-139	ug/kg	09/15/16 12:58	
1,1,2-Trichloroethane	<5.000	60.00	70.14	117	64-125	ug/kg	09/15/16 12:58	
Trichloroethene	<5.000	60.00	64.44	107	69-133	ug/kg	09/15/16 12:58	
Trichlorofluoromethane	<5.000	60.00	60.71	101	59-153	ug/kg	09/15/16 12:58	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	59.34	99	62-139	ug/kg	09/15/16 12:58	
Vinyl Chloride	<5.000	60.00	85.29	142	69-142	ug/kg	09/15/16 12:58	
m,p-Xylenes	<10.00	120	136	113	71-124	ug/kg	09/15/16 12:58	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030
Seq Number: 135847 Matrix: Solid Date Prep: 09/15/16
MB Sample Id: 62583-1-BLK LCS Sample Id: 62583-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<5.000	60.00	64.71	108	72-123	ug/kg	09/15/16 12:58	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	116		101		82-126	%	09/15/16 12:58
Dibromofluoromethane	97		97		92-113	%	09/15/16 12:58
Toluene-D8	96		102		94-105	%	09/15/16 12:58

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030

Seq Number: 135849 Matrix: Solid Date Prep: 09/15/16

MB Sample Id: 62584-1-BLK LCS Sample Id: 62584-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<20.00	60.00	81.84	136	46-127	ug/kg	09/16/16 02:15	H
Benzene	<5.000	60.00	58.70	98	70-127	ug/kg	09/16/16 02:15	
Bromochloromethane	<5.000	60.00	52.06	87	68-122	ug/kg	09/16/16 02:15	
Bromodichloromethane	<5.000	60.00	50.95	85	68-122	ug/kg	09/16/16 02:15	
Bromoform	<5.000	60.00	51.61	86	57-127	ug/kg	09/16/16 02:15	
Bromomethane	<5.000	60.00	52.78	88	68-123	ug/kg	09/16/16 02:15	
2-Butanone (MEK)	<20.00	60.00	79.35	132	41-136	ug/kg	09/16/16 02:15	
Carbon Disulfide	<10.00	60.00	52.59	88	66-135	ug/kg	09/16/16 02:15	
Carbon Tetrachloride	<5.000	60.00	39.28	65	64-147	ug/kg	09/16/16 02:15	
Chlorobenzene	<5.000	60.00	58.32	97	70-121	ug/kg	09/16/16 02:15	
Chloroethane	<5.000	60.00	55.75	93	66-142	ug/kg	09/16/16 02:15	
Chloroform	<5.000	60.00	50.13	84	68-123	ug/kg	09/16/16 02:15	
Chloromethane	<5.000	60.00	50.98	85	65-136	ug/kg	09/16/16 02:15	
Cyclohexane	<20.00	60.00	55.21	92	62-138	ug/kg	09/16/16 02:15	
1,2-Dibromo-3-Chloropropane	<40.00	60.00	53.83	90	55-122	ug/kg	09/16/16 02:15	
Dibromochloromethane	<5.000	60.00	52.56	88	61-122	ug/kg	09/16/16 02:15	
1,2-Dibromoethane (EDB)	<5.000	60.00	57.09	95	63-119	ug/kg	09/16/16 02:15	
1,2-Dichlorobenzene	<5.000	60.00	56.41	94	65-121	ug/kg	09/16/16 02:15	
1,3-Dichlorobenzene	<5.000	60.00	55.88	93	69-121	ug/kg	09/16/16 02:15	
1,4-Dichlorobenzene	<5.000	60.00	54.89	91	69-118	ug/kg	09/16/16 02:15	
Dichlorodifluoromethane	<5.000	60.00	41.41	69	53-162	ug/kg	09/16/16 02:15	
1,1-Dichloroethane	<5.000	60.00	55.36	92	70-127	ug/kg	09/16/16 02:15	
1,2-Dichloroethane	<5.000	60.00	48.12	80	68-118	ug/kg	09/16/16 02:15	
1,1-Dichloroethene	<5.000	60.00	53.39	89	69-133	ug/kg	09/16/16 02:15	
1,2-Dichloropropane	<5.000	60.00	60.16	100	70-122	ug/kg	09/16/16 02:15	
cis-1,2-Dichloroethene	<5.000	60.00	54.50	91	68-126	ug/kg	09/16/16 02:15	
cis-1,3-Dichloropropene	<5.000	60.00	55.04	92	68-121	ug/kg	09/16/16 02:15	
trans-1,2-Dichloroethene	<5.000	60.00	54.33	91	70-132	ug/kg	09/16/16 02:15	
trans-1,3-Dichloropropene	<5.000	60.00	52.04	87	67-115	ug/kg	09/16/16 02:15	
Ethylbenzene	<5.000	60.00	58.93	98	70-125	ug/kg	09/16/16 02:15	
2-Hexanone	<20.00	60.00	72.99	122	40-121	ug/kg	09/16/16 02:15	H
Isopropylbenzene	<5.000	60.00	55.38	92	68-130	ug/kg	09/16/16 02:15	
Methyl Acetate	<20.00	60.00	70.50	118	60-125	ug/kg	09/16/16 02:15	
Methylcyclohexane	<20.00	60.00	53.01	88	62-150	ug/kg	09/16/16 02:15	
Methylene Chloride	<5.000	60.00	59.69	99	67-121	ug/kg	09/16/16 02:15	
4-Methyl-2-Pentanone	<20.00	60.00	67.77	113	48-117	ug/kg	09/16/16 02:15	
Methyl-t-butyl ether	<5.000	60.00	63.12	105	66-119	ug/kg	09/16/16 02:15	
Naphthalene	<5.000	60.00	59.28	99	54-115	ug/kg	09/16/16 02:15	
Styrene	<5.000	60.00	58.30	97	71-120	ug/kg	09/16/16 02:15	
1,1,2,2-Tetrachloroethane	<5.000	60.00	58.75	98	59-122	ug/kg	09/16/16 02:15	
Tetrachloroethene	<5.000	60.00	46.23	77	65-145	ug/kg	09/16/16 02:15	
Toluene	<5.000	60.00	56.25	94	69-129	ug/kg	09/16/16 02:15	
1,2,3-Trichlorobenzene	<5.000	60.00	49.35	82	60-114	ug/kg	09/16/16 02:15	
1,2,4-Trichlorobenzene	<5.000	60.00	46.97	78	64-115	ug/kg	09/16/16 02:15	
1,1,1-Trichloroethane	<5.000	60.00	41.16	69	65-139	ug/kg	09/16/16 02:15	
1,1,2-Trichloroethane	<5.000	60.00	58.70	98	64-125	ug/kg	09/16/16 02:15	
Trichloroethene	<5.000	60.00	51.75	86	69-133	ug/kg	09/16/16 02:15	
Trichlorofluoromethane	<5.000	60.00	39.59	66	59-153	ug/kg	09/16/16 02:15	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<5.000	60.00	44.26	74	62-139	ug/kg	09/16/16 02:15	
Vinyl Chloride	<5.000	60.00	54.73	91	69-142	ug/kg	09/16/16 02:15	
m,p-Xylenes	<10.00	120	136.6	114	71-124	ug/kg	09/16/16 02:15	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030
Seq Number: 135849
Matrix: Solid
Date Prep: 09/15/16
MB Sample Id: 62584-1-BLK
LCS Sample Id: 62584-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<5.000	60.00	62.23	104	72-123	ug/kg	09/16/16 02:15	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	106		97		82-126	%	09/16/16 02:15
Dibromofluoromethane	88	*	88	*	92-113	%	09/16/16 02:15
Toluene-D8	97		99		94-105	%	09/16/16 02:15

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.

Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 135763 Matrix: Ground Water Date Prep: 09/14/16

Parent Sample Id: 16090921-005 MS Sample Id: 16090921-005 S MSD Sample Id: 16090921-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acetone	<10.00	50.00	65.02	130	60.50	121	46-138	7	25	ug/L	09/14/16 02:52	
Benzene	<1.000	50.00	53.39	107	53.26	107	77-126	0	25	ug/L	09/14/16 02:52	
Bromochloromethane	<1.000	50.00	46.83	94	47.24	94	74-133	1	25	ug/L	09/14/16 02:52	
Bromodichloromethane	<1.000	50.00	54.68	109	55.25	111	79-130	1	25	ug/L	09/14/16 02:52	
Bromoform	<5.000	50.00	43.73	87	42.54	85	69-120	3	25	ug/L	09/14/16 02:52	
Bromomethane	<1.000	50.00	46.29	93	47.45	95	64-130	2	25	ug/L	09/14/16 02:52	
2-Butanone (MEK)	<10.00	50.00	48.86	98	48.47	97	34-126	1	25	ug/L	09/14/16 02:52	
Carbon Disulfide	<10.00	50.00	58.30	117	50.26	101	76-126	15	25	ug/L	09/14/16 02:52	
Carbon Tetrachloride	<1.000	50.00	49.22	98	49.37	99	77-137	0	25	ug/L	09/14/16 02:52	
Chlorobenzene	<1.000	50.00	51.02	102	50.40	101	74-120	1	25	ug/L	09/14/16 02:52	
Chloroethane	<1.000	50.00	55.16	110	54.49	109	68-133	1	25	ug/L	09/14/16 02:52	
Chloroform	<1.000	50.00	47.87	96	47.63	95	77-127	1	25	ug/L	09/14/16 02:52	
Chloromethane	<1.000	50.00	51.64	103	51.34	103	50-143	1	25	ug/L	09/14/16 02:52	
Cyclohexane	<10.00	50.00	54.97	110	54.67	109	53-139	1	25	ug/L	09/14/16 02:52	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	45.86	92	47.24	94	56-123	3	25	ug/L	09/14/16 02:52	
Dibromochloromethane	<1.000	50.00	46.66	93	46.37	93	70-125	1	25	ug/L	09/14/16 02:52	
1,2-Dibromoethane (EDB)	<1.000	50.00	52.96	106	52.59	105	69-121	1	25	ug/L	09/14/16 02:52	
1,2-Dichlorobenzene	<1.000	50.00	51.88	104	52.22	104	69-118	1	25	ug/L	09/14/16 02:52	
1,3-Dichlorobenzene	<1.000	50.00	51.49	103	51.44	103	68-119	0	25	ug/L	09/14/16 02:52	
1,4-Dichlorobenzene	<1.000	50.00	50.01	100	49.85	100	67-117	0	25	ug/L	09/14/16 02:52	
Dichlorodifluoromethane	<1.000	50.00	57.93	116	58.24	116	68-139	1	25	ug/L	09/14/16 02:52	
1,1-Dichloroethane	<1.000	50.00	54.96	110	52.36	105	78-126	5	25	ug/L	09/14/16 02:52	
1,2-Dichloroethane	<1.000	50.00	52.48	105	52.78	106	78-134	1	25	ug/L	09/14/16 02:52	
1,1-Dichloroethene	<1.000	50.00	59.38	119	50.47	101	78-125	16	25	ug/L	09/14/16 02:52	
cis-1,2-Dichloroethene	<1.000	50.00	53.16	106	54.19	108	78-128	2	25	ug/L	09/14/16 02:52	
1,2-Dichloropropane	<1.000	50.00	53.43	107	53.42	107	73-126	0	25	ug/L	09/14/16 02:52	
cis-1,3-Dichloropropene	<1.000	50.00	45.88	92	46.77	94	67-126	2	25	ug/L	09/14/16 02:52	
trans-1,3-Dichloropropene	<1.000	50.00	44.35	89	45.26	91	68-129	2	25	ug/L	09/14/16 02:52	
trans-1,2-Dichloroethene	<1.000	50.00	54.75	110	48.69	97	76-128	12	25	ug/L	09/14/16 02:52	
Ethylbenzene	<1.000	50.00	53.08	106	53.91	108	74-123	2	25	ug/L	09/14/16 02:52	
2-Hexanone	<10.00	50.00	58.58	117	58.85	118	38-125	0	25	ug/L	09/14/16 02:52	
Isopropylbenzene	<1.000	50.00	47.62	95	46.46	93	58-129	2	25	ug/L	09/14/16 02:52	
Methyl Acetate	<10.00	50.00	42.38	85	37.55	75	63-115	12	25	ug/L	09/14/16 02:52	
Methylcyclohexane	<10.00	50.00	55.44	111	55.15	110	69-130	1	25	ug/L	09/14/16 02:52	
Methylene Chloride	<1.000	50.00	57.01	114	47.42	95	76-124	18	25	ug/L	09/14/16 02:52	
4-Methyl-2-Pentanone	<5.000	50.00	56.02	112	56.84	114	35-123	1	25	ug/L	09/14/16 02:52	
Methyl-t-butyl ether	5.930	50.00	49.04	86	44.38	77	64-129	10	25	ug/L	09/14/16 02:52	
Naphthalene	<1.000	50.00	48.68	97	48.90	98	45-109	0	25	ug/L	09/14/16 02:52	
Styrene	<1.000	50.00	45.32	91	44.67	89	61-124	1	25	ug/L	09/14/16 02:52	
1,1,2,2-Tetrachloroethane	<1.000	50.00	53.17	106	51.91	104	47-130	2	25	ug/L	09/14/16 02:52	
Tetrachloroethene	<1.000	50.00	53.88	108	54.48	109	68-139	1	25	ug/L	09/14/16 02:52	
Toluene	<1.000	50.00	54.52	109	55.48	111	79-128	2	25	ug/L	09/14/16 02:52	
1,2,3-Trichlorobenzene	<1.000	50.00	48.22	96	48.71	97	48-122	1	25	ug/L	09/14/16 02:52	
1,2,4-Trichlorobenzene	<1.000	50.00	53.33	107	53.76	108	54-124	1	25	ug/L	09/14/16 02:52	
1,1,1-Trichloroethane	<1.000	50.00	54.25	109	54.55	109	73-140	1	25	ug/L	09/14/16 02:52	
1,1,2-Trichloroethane	<1.000	50.00	54.64	109	54.90	110	78-124	0	25	ug/L	09/14/16 02:52	
Trichloroethene	<1.000	50.00	54.21	108	54.84	110	77-131	1	25	ug/L	09/14/16 02:52	
Trichlorofluoromethane	<5.000	50.00	58.75	118	53.99	108	73-144	8	25	ug/L	09/14/16 02:52	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	60.14	120	51.26	103	65-140	16	25	ug/L	09/14/16 02:52	
Vinyl Chloride	<1.000	50.00	54.22	108	55.56	111	60-146	2	25	ug/L	09/14/16 02:52	
m,p-Xylenes	<2.000	100	90.48	90	90.46	90	75-125	0	25	ug/L	09/14/16 02:52	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16090921

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 135763 Matrix: Ground Water Date Prep: 09/14/16

Parent Sample Id: 16090921-005 MS Sample Id: 16090921-005 S MSD Sample Id: 16090921-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	46.06	92	45.10	90	69-126	2	25	ug/L	09/14/16 02:52	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		98		86-111	%	09/14/16 02:52
Dibromofluoromethane	101		102		91-119	%	09/14/16 02:52
Toluene-D8	104		105		90-117	%	09/14/16 02:52

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

PSS Work Order # 1609092 1 — PAGE 1 OF 2

*CLIENT: ICF, LTD. *OFFICE LOC.

*PROJECT MGR: MIKE ZEBERT *PHONE NO.: (703) 608-5969

EMAIL: LANOCERA@AOL.COM FAX NO.:

*PROJECT NAME: ZOLLICOFFER TERMINAL NORTH PROJECT NO.

SITE LOCATION: 500/501 N. UNION ST. P.O. NO.:

SAMPLER(S): MIKE ZEBERT DW CERT NO.

Matrix Codes: SW - Surface Water, UW - Untreated Water, GW - Ground Water, WW - Waste Water, O - Oil, S - Soil, L - Liquid, SLU - Sludge, A - Air, WI - Wipe

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE (C = COMP, G = GRAB)	Preservative Used	Analysis/Method Required (3) *	REMARKS
1	MW-21 (1-2)	9/9/16	0740	SO	2	G		6PB 8015, DRO 8015, VOC + NAP 8260, SVOC 8270, PCL METALS 6020, ARSENIC 6020, PEST 8081, HERB 8151, PCB 8082, 2,3,7,8-TCDD = 8290, EDB + TPH	
2	MW-21 (4.5-5.5)		0745	SO	2				
3	MW-21 (9-10)		0755	SO	5				
4	MW-21 (24-25)		0820	SO	5				
5	MW-6W (25-26.5)		0920	GW	7				
6	MW-22 (1-2)		0945	SO	2				
7	MW-22 (4-5)		0950	SO	2				
8	MW-22 (19-20)		1010	SO	5				
9	MW-22 (24-25)		1020	SO	5				
10	MW-22-GW (25-29.5)		1210	GW	7				

*10

	Date	Time	Received By
Relinquished By: (1)	9/9/16	1400	
Relinquished By: (2) Teodor Antonov	9/9/16	1620	
Relinquished By: (3)			
Relinquished By: (4)			

Requested TAT (One TAT per COC): ☒ 5 Day ☐ 3 Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

Special Instructions:

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE:

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

# of Coolers: 4

Custody Seal: YES

Ice Present: YES Temp: 1.8, 3.9

Shipping Carrier: FE

9030 Baltimore National Pike • Route 40 West • Ellicott City, Maryland 21228 • (410) 747-8720 • (800) 325-3047 • Fax (410) 750-8721

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

AG

Version 1.000

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1)

*CLIENT: ICOR, LTD *OFFICE LOC:

*PROJECT MGR: M. BRUZZESI *PHONE NO.: (703) 603-5969

EMAIL: LANDSTAT@AOL.COM FAX NO: ( )

*PROJECT NAME: ROBLOR TERMINAL NORTH PROJECT NO.:

SITE LOCATION: 500/501 N. UNION ST. P.O. NO.:

SAMPLER(S): M. BRUZZESI DW CERT NO.:

PSS Work Order #: 1609 0921 PAGE 2 OF 2

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	NO. CONTAINERS	SAMPLE TYPE (C=COMP, G=GRAB)	Preservative Used	Analysis/Method Required (3) * SVOCs 8270 / PCB + TPH	REMARKS
11	MWpt-08-GW (36.5-40)	9/9/16	0800	GW	1			X	
12	MWpt-10-GW (25-29.5)		0815					X X	

X / PCB + TPH

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Version 1.000

(5)

Relinquished By:	Date	Time	Received By:
	9/9/16	1400	Teodor Antonov
Relinquished By: (2) Teodor Antonov	9/9/16	1020	
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

*Requested TAT (One TAT per COC): ☒ 5-Day ☐ 3-Day ☐ 2-Day ☐ Next Day ☐ Emergency ☐ Other

# of Coolers: 4

Custody Seal: ABS

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER

Ice Present: PRES Temp: 11, 8, 7, 9°c

Shipping Carrier: FTE

Special Instructions:

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE

STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER

9130 Baltimore National Pike • Route 40 West • Ellicott City, Maryland 21042 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16090921	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/09/2016 04:20:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/14/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	7
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	8
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	9
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	11
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

COC agrees with sample labels?	No	Sampler Name	Mike Bruzzesi
Chain of Custody	Yes	MD DW Cert. No.	N/A

Sample Container

Appropriate for Specified Analysis?	No	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 13 Total No. of Containers Received 51

Preservation

Total Metals	(pH<2)	N/A
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Phase Separation Science, Inc

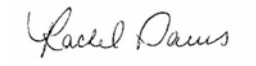
Sample Receipt Checklist

Work Order #	16090921	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/09/2016 04:20:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/14/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

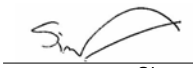
Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Container label for COC sample M1Hpt-GW (25-28.5) reads M1Hpt-21 GW (25-28.5).
Amber container received for sample M1Hpt-10-GW (25-28.5) is mis-labelled but confimed per client, sampling date is 9/9/16, time 08:15 for all containers for this sample (internal IDs -012, -013).

Samples Inspected/Checklist Completed By:  Date: 09/09/2016

Rachel Davis

PM Review and Approval:  Date: 09/13/2016

Simon Crisp

Analytical Report for

Icor Ltd.

Certificate of Analysis No.: 16092115

Project Manager: Mike Bruzzesi

Project Name : Robinson Terminal North

Project Location: 500/501 N. Union St.

September 29, 2016

Phase Separation Science, Inc.

6630 Baltimore National Pike
Baltimore, MD 21228
Phone: (410) 747-8770
Fax: (410) 788-8723

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MD 21228
410-747-8770
800-932-9047
FAX 410-788-8723

PHASE SEPARATION SCIENCE, INC.



September 29, 2016

Mike Bruzzesi
Icor Ltd.
PO Box 406
Middleburg, VA 20118

Reference: PSS Work Order(s) No: **16092115**
Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Dear Mike Bruzzesi :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16092115**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 26, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16092115

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/21/2016 at 02:45 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16092115-001	TEC-MW2	GROUND WATER	09/21/16 08:30
16092115-002	TEC-MW4	GROUND WATER	09/21/16 08:40
16092115-003	ECS-MW4	GROUND WATER	09/21/16 10:30
16092115-004	M1Hpt-15	GROUND WATER	09/21/16 11:45
16092115-005	M1Hpt-08	GROUND WATER	09/21/16 09:45
16092115-006	M1Hpt-07	GROUND WATER	09/21/16 12:20
16092115-007	M1Hpt-05	GROUND WATER	09/21/16 11:15

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: TEC-MW2 **Date/Time Sampled: 09/21/2016 08:30** **PSS Sample ID: 16092115-001**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.21**	mg/L	0.10		1	09/23/16	09/25/16 23:16	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/22/16	09/22/16 10:43	1035

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: TEC-MW2 **Date/Time Sampled: 09/21/2016 08:30** **PSS Sample ID: 16092115-001**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
Benzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Bromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Bromoform	ND	ug/L	5.0		1	09/23/16	09/23/16 19:52	1011
Bromomethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
Carbon Disulfide	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Chlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Chloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Chloroform	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Chloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Cyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Ethylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: TEC-MW2 **Date/Time Sampled: 09/21/2016 08:30** **PSS Sample ID: 16092115-001**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Methyl Acetate	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
Methylcyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 19:52	1011
Methylene Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/23/16	09/23/16 19:52	1011
Methyl-t-butyl ether	**2.5**	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Naphthalene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Styrene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Toluene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Trichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/23/16	09/23/16 19:52	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/23/16	09/23/16 19:52	1011
o-Xylene	ND	ug/L	1.0		1	09/23/16	09/23/16 19:52	1011

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/22/16	09/23/16 00:23	1033
Arsenic	**2.3**	ug/L	1.0		1	09/22/16	09/23/16 15:11	1033
Beryllium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:23	1033
Cadmium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:23	1033
Chromium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:23	1033
Copper	ND	ug/L	1.0		1	09/22/16	09/23/16 15:11	1033
Lead	**58**	ug/L	1.0		1	09/22/16	09/23/16 15:11	1033
Mercury	ND	ug/L	0.20		1	09/22/16	09/23/16 15:11	1033
Nickel	ND	ug/L	1.0		1	09/22/16	09/23/16 00:23	1033
Selenium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:23	1033
Silver	ND	ug/L	1.0		1	09/22/16	09/23/16 00:23	1033
Thallium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:23	1033
Zinc	ND	ug/L	20		1	09/22/16	09/23/16 15:11	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.21**	mg/L	0.10		1	09/23/16	09/25/16 23:16	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/22/16	09/22/16 12:51	1035

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
gamma-BHC (Lindane)	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
beta-BHC	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
delta-BHC	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Heptachlor	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Aldrin	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Heptachlor epoxide	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
gamma-Chlordane	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
alpha-Chlordane	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
4,4-DDE	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Endosulfan I	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Dieldrin	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Endrin	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
4,4-DDD	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Endosulfan II	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
4,4-DDT	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Endrin aldehyde	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Methoxychlor	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Endosulfan sulfate	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Endrin ketone	ND	ug/L	0.044		1	09/22/16	09/22/16 22:35	1029
Toxaphene	ND	ug/L	1.1		1	09/22/16	09/22/16 22:35	1029
Chlordane	ND	ug/L	1.1		1	09/22/16	09/22/16 22:35	1029

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.56		1	09/22/16	09/22/16 20:25	1029
PCB-1221	ND	ug/L	0.56		1	09/22/16	09/22/16 20:25	1029
PCB-1232	ND	ug/L	0.56		1	09/22/16	09/22/16 20:25	1029
PCB-1242	ND	ug/L	0.56		1	09/22/16	09/22/16 20:25	1029
PCB-1248	ND	ug/L	0.56		1	09/22/16	09/22/16 20:25	1029
PCB-1254	ND	ug/L	0.56		1	09/22/16	09/22/16 20:25	1029
PCB-1260	ND	ug/L	0.56		1	09/22/16	09/22/16 20:25	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	09/26/16	09/27/16 12:18	1029
Dicamba	ND	ug/L	0.19		10	09/26/16	09/27/16 12:18	1029
MCPP	ND	ug/L	190		10	09/26/16	09/27/16 12:18	1029
MCPA	ND	ug/L	190		10	09/26/16	09/27/16 12:18	1029
Dichloroprop	ND	ug/L	1.9		10	09/26/16	09/27/16 12:18	1029
2,4-D	ND	ug/L	1.9		10	09/26/16	09/27/16 12:18	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	09/26/16	09/27/16 12:18	1029
2,4,5-T	ND	ug/L	0.19		10	09/26/16	09/27/16 12:18	1029
Dinoseb	ND	ug/L	0.96		10	09/26/16	09/27/16 12:18	1029
2,4-DB	ND	ug/L	1.9		10	09/26/16	09/27/16 12:18	1029

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
Benzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Bromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Bromoform	ND	ug/L	5.0		1	09/23/16	09/23/16 20:14	1011
Bromomethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
Carbon Disulfide	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Chlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Chloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Chloroform	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Chloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Cyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Ethylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Methyl Acetate	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
Methylcyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 20:14	1011
Methylene Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/23/16	09/23/16 20:14	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Naphthalene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Styrene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Toluene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Trichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/23/16	09/23/16 20:14	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/23/16	09/23/16 20:14	1011
o-Xylene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:14	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Acenaphthylene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Acetophenone	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Anthracene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Atrazine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Carbazole	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Caprolactam	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Chrysene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Dibenzofuran	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/21/16	09/22/16 18:25	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Fluoranthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Fluorene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Hexachloroethane	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Isophorone	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Naphthalene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Nitrobenzene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Phenanthrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: TEC-MW4 **Date/Time Sampled: 09/21/2016 08:40** **PSS Sample ID: 16092115-002**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Pyrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
Pyridine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:25	1055

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No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/22/16	09/23/16 00:29	1033
Arsenic	**9.1**	ug/L	1.0		1	09/22/16	09/23/16 15:17	1033
Beryllium	ND	ug/L	1.0		1	09/22/16	09/23/16 15:17	1033
Cadmium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:29	1033
Chromium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:29	1033
Copper	ND	ug/L	1.0		1	09/22/16	09/23/16 15:17	1033
Lead	ND	ug/L	1.0		1	09/22/16	09/23/16 15:17	1033
Mercury	ND	ug/L	0.20		1	09/22/16	09/23/16 15:17	1033
Nickel	ND	ug/L	1.0		1	09/22/16	09/23/16 00:29	1033
Selenium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:29	1033
Silver	ND	ug/L	1.0		1	09/22/16	09/23/16 00:29	1033
Thallium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:29	1033
Zinc	ND	ug/L	20		1	09/22/16	09/23/16 15:17	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/L	0.10		1	09/23/16	09/25/16 23:41	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/22/16	09/22/16 13:17	1035

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No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
beta-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
delta-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Heptachlor	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Aldrin	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Heptachlor epoxide	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
gamma-Chlordane	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
alpha-Chlordane	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
4,4-DDE	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Endosulfan I	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Dieldrin	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Endrin	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
4,4-DDD	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Endosulfan II	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
4,4-DDT	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Endrin aldehyde	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Methoxychlor	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Endosulfan sulfate	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Endrin ketone	ND	ug/L	0.040		1	09/22/16	09/22/16 19:47	1029
Toxaphene	ND	ug/L	1.0		1	09/22/16	09/22/16 19:47	1029
Chlordane	ND	ug/L	1.0		1	09/22/16	09/22/16 19:47	1029

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/22/16	09/22/16 19:56	1029
PCB-1221	ND	ug/L	0.50		1	09/22/16	09/22/16 19:56	1029
PCB-1232	ND	ug/L	0.50		1	09/22/16	09/22/16 19:56	1029
PCB-1242	ND	ug/L	0.50		1	09/22/16	09/22/16 19:56	1029
PCB-1248	ND	ug/L	0.50		1	09/22/16	09/22/16 19:56	1029
PCB-1254	ND	ug/L	0.50		1	09/22/16	09/22/16 19:56	1029
PCB-1260	ND	ug/L	0.50		1	09/22/16	09/22/16 19:56	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	09/26/16	09/28/16 00:46	1029
Dicamba	ND	ug/L	0.19		10	09/26/16	09/28/16 00:46	1029
MCPP	ND	ug/L	190		10	09/26/16	09/28/16 00:46	1029
MCPA	ND	ug/L	190		10	09/26/16	09/28/16 00:46	1029
Dichloroprop	ND	ug/L	1.9		10	09/26/16	09/28/16 00:46	1029
2,4-D	ND	ug/L	1.9		10	09/26/16	09/28/16 00:46	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	09/26/16	09/28/16 00:46	1029
2,4,5-T	ND	ug/L	0.19		10	09/26/16	09/28/16 00:46	1029
Dinoseb	ND	ug/L	0.95		10	09/26/16	09/28/16 00:46	1029
2,4-DB	ND	ug/L	1.9		10	09/26/16	09/28/16 00:46	1029

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
Benzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Bromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Bromoform	ND	ug/L	5.0		1	09/23/16	09/23/16 20:36	1011
Bromomethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
Carbon Disulfide	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Chlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Chloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Chloroform	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Chloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Cyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Ethylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Methyl Acetate	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
Methylcyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 20:36	1011
Methylene Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/23/16	09/23/16 20:36	1011
Methyl-t-butyl ether	**3.7**	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Naphthalene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Styrene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Toluene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Trichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/23/16	09/23/16 20:36	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/23/16	09/23/16 20:36	1011
o-Xylene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:36	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Acenaphthylene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Acetophenone	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Anthracene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Atrazine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Carbazole	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Caprolactam	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Chrysene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Dibenzofuran	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/21/16	09/22/16 18:52	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Fluoranthene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Fluorene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Hexachloroethane	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Isophorone	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Naphthalene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Nitrobenzene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Phenanthrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: ECS-MW4 **Date/Time Sampled: 09/21/2016 10:30** **PSS Sample ID: 16092115-003**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Pyrene	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
Pyridine	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/22/16 18:52	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/22/16	09/23/16 00:35	1033
Arsenic	**51**	ug/L	1.0		1	09/22/16	09/23/16 15:23	1033
Beryllium	ND	ug/L	1.0		1	09/22/16	09/23/16 15:23	1033
Cadmium	**13**	ug/L	1.0		1	09/22/16	09/23/16 00:35	1033
Chromium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:35	1033
Copper	**12**	ug/L	1.0		1	09/22/16	09/23/16 15:23	1033
Lead	ND	ug/L	1.0		1	09/22/16	09/23/16 15:23	1033
Mercury	ND	ug/L	0.20		1	09/22/16	09/23/16 15:23	1033
Nickel	**3.4**	ug/L	1.0		1	09/22/16	09/23/16 00:35	1033
Selenium	**1.6**	ug/L	1.0		1	09/22/16	09/23/16 00:35	1033
Silver	ND	ug/L	1.0		1	09/22/16	09/23/16 00:35	1033
Thallium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:35	1033
Zinc	**3,800**	ug/L	2,000		100	09/22/16	09/26/16 17:08	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	ND	mg/L	0.10		1	09/23/16	09/25/16 23:41	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/22/16	09/22/16 13:42	1035

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
beta-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
delta-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Heptachlor	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Aldrin	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Heptachlor epoxide	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
gamma-Chlordane	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
alpha-Chlordane	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
4,4-DDE	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Endosulfan I	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Dieldrin	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Endrin	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
4,4-DDD	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Endosulfan II	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
4,4-DDT	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Endrin aldehyde	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Methoxychlor	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Endosulfan sulfate	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Endrin ketone	ND	ug/L	0.040		1	09/22/16	09/22/16 22:07	1029
Toxaphene	ND	ug/L	1.0		1	09/22/16	09/22/16 22:07	1029
Chlordane	ND	ug/L	1.0		1	09/22/16	09/22/16 22:07	1029

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/22/16	09/22/16 19:27	1029
PCB-1221	ND	ug/L	0.50		1	09/22/16	09/22/16 19:27	1029
PCB-1232	ND	ug/L	0.50		1	09/22/16	09/22/16 19:27	1029
PCB-1242	ND	ug/L	0.50		1	09/22/16	09/22/16 19:27	1029
PCB-1248	ND	ug/L	0.50		1	09/22/16	09/22/16 19:27	1029
PCB-1254	ND	ug/L	0.50		1	09/22/16	09/22/16 19:27	1029
PCB-1260	ND	ug/L	0.50		1	09/22/16	09/22/16 19:27	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	09/26/16	09/28/16 00:13	1029
Dicamba	ND	ug/L	0.19		10	09/26/16	09/28/16 00:13	1029
MCPP	**710**	ug/L	190		10	09/26/16	09/28/16 00:13	1029
MCPA	ND	ug/L	190		10	09/26/16	09/28/16 00:13	1029
Dichloroprop	ND	ug/L	1.9		10	09/26/16	09/28/16 00:13	1029
2,4-D	ND	ug/L	1.9		10	09/26/16	09/28/16 00:13	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	09/26/16	09/28/16 00:13	1029
2,4,5-T	ND	ug/L	0.19		10	09/26/16	09/28/16 00:13	1029
Dinoseb	ND	ug/L	0.95		10	09/26/16	09/28/16 00:13	1029
2,4-DB	ND	ug/L	1.9		10	09/26/16	09/28/16 00:13	1029

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
Benzene	**9.9**	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Bromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Bromoform	ND	ug/L	5.0		1	09/23/16	09/23/16 20:57	1011
Bromomethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
Carbon Disulfide	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Chlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Chloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Chloroform	**7.7**	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Chloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Cyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Ethylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Methyl Acetate	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
Methylcyclohexane	ND	ug/L	10		1	09/23/16	09/23/16 20:57	1011
Methylene Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/23/16	09/23/16 20:57	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Naphthalene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Styrene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Toluene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Trichloroethene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/23/16	09/23/16 20:57	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/23/16	09/23/16 20:57	1011
o-Xylene	ND	ug/L	1.0		1	09/23/16	09/23/16 20:57	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Acenaphthylene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Acetophenone	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Anthracene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Atrazine	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Carbazole	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Caprolactam	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Chrysene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Dibenzofuran	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/21/16	09/23/16 17:32	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Fluoranthene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Fluorene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Hexachloroethane	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Isophorone	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Naphthalene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Nitrobenzene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Phenanthrene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-15 **Date/Time Sampled: 09/21/2016 11:45** **PSS Sample ID: 16092115-004**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Pyrene	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
Pyridine	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 17:32	1055

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/22/16	09/23/16 00:41	1033
Arsenic	**6.3**	ug/L	1.0		1	09/22/16	09/23/16 15:29	1033
Beryllium	ND	ug/L	1.0		1	09/22/16	09/23/16 15:29	1033
Cadmium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:41	1033
Chromium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:41	1033
Copper	**5.8**	ug/L	1.0		1	09/22/16	09/23/16 15:29	1033
Lead	**24**	ug/L	1.0		1	09/22/16	09/23/16 15:29	1033
Mercury	ND	ug/L	0.20		1	09/22/16	09/23/16 15:29	1033
Nickel	**1.1**	ug/L	1.0		1	09/22/16	09/23/16 00:41	1033
Selenium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:41	1033
Silver	ND	ug/L	1.0		1	09/22/16	09/23/16 00:41	1033
Thallium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:41	1033
Zinc	**21**	ug/L	20		1	09/22/16	09/23/16 15:29	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.15**	mg/L	0.10		1	09/23/16	09/26/16 00:07	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	ND	ug/L	100		1	09/22/16	09/22/16 14:08	1035

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
gamma-BHC (Lindane)	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
beta-BHC	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
delta-BHC	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Heptachlor	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Aldrin	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Heptachlor epoxide	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
gamma-Chlordane	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
alpha-Chlordane	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
4,4-DDE	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Endosulfan I	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Dieldrin	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Endrin	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
4,4-DDD	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Endosulfan II	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
4,4-DDT	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Endrin aldehyde	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Methoxychlor	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Endosulfan sulfate	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Endrin ketone	ND	ug/L	0.40		10	09/22/16	09/26/16 15:07	1029
Toxaphene	ND	ug/L	10		10	09/22/16	09/26/16 15:07	1029
Chlordane	ND	ug/L	10		10	09/22/16	09/26/16 15:07	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/22/16	09/22/16 16:33	1029
PCB-1221	ND	ug/L	0.50		1	09/22/16	09/22/16 16:33	1029
PCB-1232	ND	ug/L	0.50		1	09/22/16	09/22/16 16:33	1029
PCB-1242	ND	ug/L	0.50		1	09/22/16	09/22/16 16:33	1029
PCB-1248	ND	ug/L	0.50		1	09/22/16	09/22/16 16:33	1029
PCB-1254	ND	ug/L	0.50		1	09/22/16	09/22/16 16:33	1029
PCB-1260	ND	ug/L	0.50		1	09/22/16	09/22/16 16:33	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	46		100	09/26/16	09/28/16 01:52	1029
Dicamba	ND	ug/L	1.9		100	09/26/16	09/28/16 01:52	1029
MCPP	ND	ug/L	1,900		100	09/26/16	09/28/16 01:52	1029
MCPA	ND	ug/L	1,900		100	09/26/16	09/28/16 01:52	1029
Dichloroprop	ND	ug/L	19		100	09/26/16	09/28/16 01:52	1029
2,4-D	ND	ug/L	19		100	09/26/16	09/28/16 01:52	1029
2,4,5-TP (Silvex)	ND	ug/L	1.9		100	09/26/16	09/28/16 01:52	1029
2,4,5-T	ND	ug/L	1.9		100	09/26/16	09/28/16 01:52	1029
Dinoseb	ND	ug/L	9.5		100	09/26/16	09/28/16 01:52	1029
2,4-DB	ND	ug/L	19		100	09/26/16	09/28/16 01:52	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
Benzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Bromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Bromoform	ND	ug/L	5.0		1	09/27/16	09/27/16 15:49	1011
Bromomethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
Carbon Disulfide	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Chlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Chloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Chloroform	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Chloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Cyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Ethylbenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Methyl Acetate	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
Methylcyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 15:49	1011
Methylene Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/27/16	09/27/16 15:49	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Naphthalene	**14**	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Styrene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Toluene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Trichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/27/16	09/27/16 15:49	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/27/16	09/27/16 15:49	1011
o-Xylene	ND	ug/L	1.0		1	09/27/16	09/27/16 15:49	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Acenaphthylene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Acetophenone	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Anthracene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Atrazine	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Benzo(a)anthracene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Benzo(a)pyrene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Benzo(b)fluoranthene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Benzo(g,h,i)perylene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Benzo(k)fluoranthene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Biphenyl (Diphenyl)	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Butyl benzyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
bis(2-chloroethyl) ether	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
4-Bromophenylphenyl ether	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Di-n-butyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Carbazole	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Caprolactam	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
4-Chloroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2-Chloronaphthalene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2-Chlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Chrysene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Dibenzofuran	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
3,3-Dichlorobenzidine	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2,4-Dichlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Dimethyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2,4-Dimethylphenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2,4-Dinitrophenol	ND	ug/L	11		1	09/21/16	09/23/16 17:59	1055
2,4-Dinitrotoluene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2,6-Dinitrotoluene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Fluoranthene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Fluorene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Hexachlorobenzene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Hexachlorobutadiene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Hexachlorocyclopentadiene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Hexachloroethane	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Isophorone	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2-Methylnaphthalene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2-Methyl phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
3&4-Methylphenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Naphthalene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2-Nitroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
3-Nitroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
4-Nitroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Nitrobenzene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2-Nitrophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
4-Nitrophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
N-Nitrosodiphenylamine	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Di-n-octyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Pentachlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Phenanthrene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-08 **Date/Time Sampled: 09/21/2016 09:45** **PSS Sample ID: 16092115-005**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Pyrene	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
Pyridine	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2,4,5-Trichlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055
2,4,6-Trichlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 17:59	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/22/16	09/23/16 00:47	1033
Arsenic	**7.5**	ug/L	1.0		1	09/22/16	09/23/16 15:36	1033
Beryllium	ND	ug/L	1.0		1	09/22/16	09/23/16 15:36	1033
Cadmium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:47	1033
Chromium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:47	1033
Copper	**5.6**	ug/L	1.0		1	09/22/16	09/23/16 15:36	1033
Lead	**1.6**	ug/L	1.0		1	09/22/16	09/23/16 15:36	1033
Mercury	ND	ug/L	0.20		1	09/22/16	09/23/16 15:36	1033
Nickel	ND	ug/L	1.0		1	09/22/16	09/23/16 00:47	1033
Selenium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:47	1033
Silver	ND	ug/L	1.0		1	09/22/16	09/23/16 00:47	1033
Thallium	ND	ug/L	1.0		1	09/22/16	09/23/16 00:47	1033
Zinc	**69**	ug/L	20		1	09/22/16	09/23/16 15:36	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**2.0**	mg/L	0.10		1	09/23/16	09/26/16 00:07	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**880**	ug/L	100		1	09/22/16	09/22/16 14:33	1035

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
gamma-BHC (Lindane)	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
beta-BHC	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
delta-BHC	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Heptachlor	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Aldrin	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Heptachlor epoxide	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
gamma-Chlordane	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
alpha-Chlordane	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
4,4-DDE	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Endosulfan I	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Dieldrin	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Endrin	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
4,4-DDD	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Endosulfan II	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
4,4-DDT	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Endrin aldehyde	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Methoxychlor	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Endosulfan sulfate	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Endrin ketone	ND	ug/L	0.044		1	09/22/16	09/22/16 21:39	1029
Toxaphene	ND	ug/L	1.1		1	09/22/16	09/22/16 21:39	1029
Chlordane	ND	ug/L	1.1		1	09/22/16	09/22/16 21:39	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.56		1	09/22/16	09/22/16 18:59	1029
PCB-1221	ND	ug/L	0.56		1	09/22/16	09/22/16 18:59	1029
PCB-1232	ND	ug/L	0.56		1	09/22/16	09/22/16 18:59	1029
PCB-1242	ND	ug/L	0.56		1	09/22/16	09/22/16 18:59	1029
PCB-1248	ND	ug/L	0.56		1	09/22/16	09/22/16 18:59	1029
PCB-1254	ND	ug/L	0.56		1	09/22/16	09/22/16 18:59	1029
PCB-1260	ND	ug/L	0.56		1	09/22/16	09/22/16 18:59	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	09/26/16	09/27/16 15:00	1029
Dicamba	ND	ug/L	0.19		10	09/26/16	09/27/16 15:00	1029
MCPP	ND	ug/L	190		10	09/26/16	09/27/16 15:00	1029
MCPA	ND	ug/L	190		10	09/26/16	09/27/16 15:00	1029
Dichloroprop	ND	ug/L	1.9		10	09/26/16	09/27/16 15:00	1029
2,4-D	ND	ug/L	1.9		10	09/26/16	09/27/16 15:00	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	09/26/16	09/27/16 15:00	1029
2,4,5-T	ND	ug/L	0.19		10	09/26/16	09/27/16 15:00	1029
Dinoseb	ND	ug/L	0.95		10	09/26/16	09/27/16 15:00	1029
2,4-DB	ND	ug/L	1.9		10	09/26/16	09/27/16 15:00	1029

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
Benzene	**25**	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Bromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Bromoform	ND	ug/L	5.0		1	09/27/16	09/27/16 17:15	1011
Bromomethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
Carbon Disulfide	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Chlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Chloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Chloroform	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Chloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Cyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Ethylbenzene	**61**	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds | Analytical Method: SW-846 8260 B | Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
Isopropylbenzene	**12**	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Methyl Acetate	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
Methylcyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 17:15	1011
Methylene Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/27/16	09/27/16 17:15	1011
Methyl-t-butyl ether	**1.0**	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Naphthalene	**830**	ug/L	10		10	09/27/16	09/28/16 12:56	1011
Styrene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Toluene	**3.7**	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Trichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/27/16	09/27/16 17:15	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011
m,p-Xylenes	**32**	ug/L	2.0		1	09/27/16	09/27/16 17:15	1011
o-Xylene	**32**	ug/L	1.0		1	09/27/16	09/27/16 17:15	1011

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No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	**36**	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Acenaphthylene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Acetophenone	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Anthracene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Atrazine	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Biphenyl (Diphenyl)	**7.0**	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Carbazole	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Caprolactam	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Chrysene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Dibenzofuran	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/21/16	09/23/16 18:52	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Fluoranthene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Fluorene	**8.2**	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Hexachloroethane	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Isophorone	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2-Methylnaphthalene	**40**	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Naphthalene	**200**	ug/L	25		5	09/21/16	09/26/16 14:49	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Nitrobenzene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Phenanthrene	**8.7**	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-07 **Date/Time Sampled: 09/21/2016 12:20** **PSS Sample ID: 16092115-006**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Pyrene	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
Pyridine	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/21/16	09/23/16 18:52	1055

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/22/16	09/23/16 00:53	1033
Arsenic	**560**	ug/L	100		100	09/22/16	09/26/16 17:14	1033
Beryllium	**22**	ug/L	1.0		1	09/22/16	09/23/16 15:42	1033
Cadmium	**52**	ug/L	1.0		1	09/22/16	09/23/16 00:53	1033
Chromium	**570**	ug/L	100		100	09/22/16	09/26/16 17:14	1033
Copper	**14,000**	ug/L	100		100	09/22/16	09/26/16 17:14	1033
Lead	**260**	ug/L	1.0		1	09/22/16	09/23/16 15:42	1033
Mercury	ND	ug/L	0.20		1	09/22/16	09/23/16 15:42	1033
Nickel	**2,000**	ug/L	100		100	09/22/16	09/26/16 17:14	1033
Selenium	**4.9**	ug/L	1.0		1	09/22/16	09/23/16 00:53	1033
Silver	ND	ug/L	1.0		1	09/22/16	09/23/16 00:53	1033
Thallium	**4.3**	ug/L	1.0		1	09/22/16	09/23/16 00:53	1033
Zinc	**35,000**	ug/L	2,000		100	09/22/16	09/26/16 17:14	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.52**	mg/L	0.10		1	09/23/16	09/26/16 00:32	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**810**	ug/L	100		1	09/22/16	09/22/16 14:58	1035

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**

Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
beta-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
delta-BHC	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Heptachlor	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Aldrin	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Heptachlor epoxide	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
gamma-Chlordane	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
alpha-Chlordane	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
4,4-DDE	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Endosulfan I	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Dieldrin	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Endrin	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
4,4-DDD	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Endosulfan II	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
4,4-DDT	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Endrin aldehyde	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Methoxychlor	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Endosulfan sulfate	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Endrin ketone	ND	ug/L	0.040		1	09/22/16	09/22/16 20:43	1029
Toxaphene	ND	ug/L	1.0		1	09/22/16	09/22/16 20:43	1029
Chlordane	ND	ug/L	1.0		1	09/22/16	09/22/16 20:43	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/22/16	09/22/16 17:03	1029
PCB-1221	ND	ug/L	0.50		1	09/22/16	09/22/16 17:03	1029
PCB-1232	ND	ug/L	0.50		1	09/22/16	09/22/16 17:03	1029
PCB-1242	ND	ug/L	0.50		1	09/22/16	09/22/16 17:03	1029
PCB-1248	ND	ug/L	0.50		1	09/22/16	09/22/16 17:03	1029
PCB-1254	ND	ug/L	0.50		1	09/22/16	09/22/16 17:03	1029
PCB-1260	ND	ug/L	0.50		1	09/22/16	09/22/16 17:03	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.6		10	09/26/16	09/27/16 23:08	1029
Dicamba	ND	ug/L	0.19		10	09/26/16	09/27/16 23:08	1029
MCPP	ND	ug/L	190		10	09/26/16	09/27/16 23:08	1029
MCPA	ND	ug/L	190		10	09/26/16	09/27/16 23:08	1029
Dichloroprop	ND	ug/L	1.9		10	09/26/16	09/27/16 23:08	1029
2,4-D	ND	ug/L	1.9		10	09/26/16	09/27/16 23:08	1029
2,4,5-TP (Silvex)	ND	ug/L	0.19		10	09/26/16	09/27/16 23:08	1029
2,4,5-T	ND	ug/L	0.19		10	09/26/16	09/27/16 23:08	1029
Dinoseb	ND	ug/L	0.95		10	09/26/16	09/27/16 23:08	1029
2,4-DB	ND	ug/L	1.9		10	09/26/16	09/27/16 23:08	1029

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
Benzene	**110**	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Bromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Bromoform	ND	ug/L	5.0		1	09/27/16	09/27/16 17:36	1011
Bromomethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
Carbon Disulfide	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Chlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Chloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Chloroform	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Chloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Cyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Ethylbenzene	**26**	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
Isopropylbenzene	**4.5**	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Methyl Acetate	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
Methylcyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 17:36	1011
Methylene Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/27/16	09/27/16 17:36	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Naphthalene	**170**	ug/L	10		10	09/27/16	09/28/16 13:18	1011
Styrene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Toluene	**2.4**	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Trichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/27/16	09/27/16 17:36	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011
m,p-Xylenes	**12**	ug/L	2.0		1	09/27/16	09/27/16 17:36	1011
o-Xylene	**23**	ug/L	1.0		1	09/27/16	09/27/16 17:36	1011

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Acenaphthylene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Acetophenone	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Anthracene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Atrazine	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Benzo(a)anthracene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Benzo(a)pyrene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Benzo(b)fluoranthene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Benzo(g,h,i)perylene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Benzo(k)fluoranthene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Biphenyl (Diphenyl)	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Butyl benzyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
bis(2-chloroethyl) ether	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
4-Bromophenylphenyl ether	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Di-n-butyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Carbazole	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Caprolactam	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
4-Chloroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2-Chloronaphthalene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2-Chlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Chrysene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Dibenzofuran	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
3,3-Dichlorobenzidine	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2,4-Dichlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Dimethyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2,4-Dimethylphenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2,4-Dinitrophenol	ND	ug/L	11		1	09/21/16	09/23/16 19:46	1055
2,4-Dinitrotoluene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2,6-Dinitrotoluene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Fluoranthene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Fluorene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Hexachlorobenzene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Hexachlorobutadiene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Hexachlorocyclopentadiene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Hexachloroethane	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Isophorone	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2-Methylnaphthalene	**16**	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2-Methyl phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
3&4-Methylphenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Naphthalene	**83**	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2-Nitroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
3-Nitroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
4-Nitroaniline	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Nitrobenzene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2-Nitrophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
4-Nitrophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
N-Nitrosodiphenylamine	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Di-n-octyl phthalate	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Pentachlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Phenanthrene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055

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CERTIFICATE OF ANALYSIS

No: 16092115

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-05 **Date/Time Sampled: 09/21/2016 11:15** **PSS Sample ID: 16092115-007**
Matrix: GROUND WATER **Date/Time Received: 09/21/2016 14:45**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Pyrene	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
Pyridine	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2,4,5-Trichlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055
2,4,6-Trichlorophenol	ND	ug/L	5.3		1	09/21/16	09/23/16 19:46	1055

Case Narrative Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16092115

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

Organochlorine Pesticides

Batch: 136034

Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

Chlorinated Herbicides

Batch: 136151

The recoveries of MCPP and MCPA in the closing CCV-R4 were 75% and 79% (80-120%). All samples were confirmed on second column.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Analytical Data Package Information Summary

Work Order(s): 16092115
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 6020 A	TEC-MW4	Initial	16092115-002	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/23/2016 00:23
	ECS-MW4	Initial	16092115-003	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/23/2016 00:29
	M1Hpt-15	Initial	16092115-004	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/23/2016 00:35
	M1Hpt-08	Initial	16092115-005	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/23/2016 00:41
	M1Hpt-07	Initial	16092115-006	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/23/2016 00:47
	M1Hpt-05	Initial	16092115-007	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/23/2016 00:53
	62666-1-BKS	BKS	62666-1-BKS	1033	W	62666	136043	--------	09/22/2016 10:57	09/22/2016 23:04
	62666-1-BLK	BLK	62666-1-BLK	1033	W	62666	136043	--------	09/22/2016 10:57	09/22/2016 22:58
	NSS Excavation S	MS	16092202-001 S	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/22/2016 23:16
	NSS Excavation SD	MSD	16092202-001 SD	1033	W	62666	136043	09/21/2016	09/22/2016 10:57	09/22/2016 23:22
	TEC-MW4	Reanalysis	16092115-002	1033	W	62666	136056	09/21/2016	09/22/2016 10:57	09/23/2016 15:11
	ECS-MW4	Reanalysis	16092115-003	1033	W	62666	136056	09/21/2016	09/22/2016 10:57	09/23/2016 15:17
	M1Hpt-15	Reanalysis	16092115-004	1033	W	62666	136056	09/21/2016	09/22/2016 10:57	09/23/2016 15:23
	M1Hpt-08	Reanalysis	16092115-005	1033	W	62666	136056	09/21/2016	09/22/2016 10:57	09/23/2016 15:29
	M1Hpt-07	Reanalysis	16092115-006	1033	W	62666	136056	09/21/2016	09/22/2016 10:57	09/23/2016 15:36
	M1Hpt-05	Reanalysis	16092115-007	1033	W	62666	136056	09/21/2016	09/22/2016 10:57	09/23/2016 15:42
	M1Hpt-15	Reanalysis	16092115-004	1033	W	62666	136114	09/21/2016	09/22/2016 10:57	09/26/2016 17:08
	M1Hpt-05	Reanalysis	16092115-007	1033	W	62666	136114	09/21/2016	09/22/2016 10:57	09/26/2016 17:14
SW-846 8015 C	TEC-MW2	Initial	16092115-001	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/25/2016 23:16
	TEC-MW4	Initial	16092115-002	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/25/2016 23:16
	ECS-MW4	Initial	16092115-003	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/25/2016 23:41
	M1Hpt-15	Initial	16092115-004	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/25/2016 23:41
	M1Hpt-08	Initial	16092115-005	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/26/2016 00:07
	M1Hpt-07	Initial	16092115-006	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/26/2016 00:07
	M1Hpt-05	Initial	16092115-007	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/26/2016 00:32
	62675-1-BKS	BKS	62675-1-BKS	1045	W	62675	136055	--------	09/23/2016 08:10	09/23/2016 11:50
	62675-1-BLK	BLK	62675-1-BLK	1045	W	62675	136055	--------	09/23/2016 08:10	09/23/2016 11:50
	62675-1-BSD	BSD	62675-1-BSD	1045	W	62675	136055	--------	09/23/2016 08:10	09/23/2016 12:15



Analytical Data Package Information Summary

Work Order(s): 16092115
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8015C	TEC-MW2	Initial	16092115-001	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 10:43
	TEC-MW4	Initial	16092115-002	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 12:51
	ECS-MW4	Initial	16092115-003	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 13:17
	M1Hpt-15	Initial	16092115-004	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 13:42
	M1Hpt-08	Initial	16092115-005	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 14:08
	M1Hpt-07	Initial	16092115-006	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 14:33
	M1Hpt-05	Initial	16092115-007	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 14:58
	62674-2-BKS	BKS	62674-2-BKS	1035	W	62674	136017	--------	09/22/2016 08:27	09/22/2016 12:00
	62674-2-BLK	BLK	62674-2-BLK	1035	W	62674	136017	--------	09/22/2016 08:27	09/22/2016 10:18
	TEC-MW2 S	MS	16092115-001 S	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 11:09
	TEC-MW2 SD	MSD	16092115-001 SD	1035	W	62674	136017	09/21/2016	09/22/2016 08:27	09/22/2016 11:34
SW-846 8081 B	TEC-MW4	Initial	16092115-002	1029	W	62668	136034	09/21/2016	09/22/2016 12:28	09/22/2016 22:35
	ECS-MW4	Initial	16092115-003	1029	W	62668	136034	09/21/2016	09/22/2016 12:28	09/22/2016 19:47
	M1Hpt-15	Initial	16092115-004	1029	W	62668	136034	09/21/2016	09/22/2016 12:28	09/22/2016 22:07
	M1Hpt-08	Initial	16092115-005	1029	W	62668	136034	09/21/2016	09/22/2016 12:28	09/26/2016 15:07
	M1Hpt-07	Initial	16092115-006	1029	W	62668	136034	09/21/2016	09/22/2016 12:28	09/22/2016 21:39
	M1Hpt-05	Initial	16092115-007	1029	W	62668	136034	09/21/2016	09/22/2016 12:28	09/22/2016 20:43
	62668-1-BKS	BKS	62668-1-BKS	1029	W	62668	136034	--------	09/22/2016 12:28	09/22/2016 23:31
	62668-1-BLK	BLK	62668-1-BLK	1029	W	62668	136034	--------	09/22/2016 12:28	09/22/2016 23:59
	62668-1-BSD	BSD	62668-1-BSD	1029	W	62668	136034	--------	09/22/2016 12:28	09/22/2016 23:03
SW-846 8082 A	TEC-MW4	Initial	16092115-002	1029	W	62667	136036	09/21/2016	09/22/2016 12:26	09/22/2016 20:25
	ECS-MW4	Initial	16092115-003	1029	W	62667	136036	09/21/2016	09/22/2016 12:26	09/22/2016 19:56
	M1Hpt-15	Initial	16092115-004	1029	W	62667	136036	09/21/2016	09/22/2016 12:26	09/22/2016 19:27
	M1Hpt-08	Initial	16092115-005	1029	W	62667	136036	09/21/2016	09/22/2016 12:26	09/22/2016 16:33
	M1Hpt-07	Initial	16092115-006	1029	W	62667	136036	09/21/2016	09/22/2016 12:26	09/22/2016 18:59
	M1Hpt-05	Initial	16092115-007	1029	W	62667	136036	09/21/2016	09/22/2016 12:26	09/22/2016 17:03
	62667-1-BKS	BKS	62667-1-BKS	1029	W	62667	136036	--------	09/22/2016 12:26	09/22/2016 15:35
	62667-1-BLK	BLK	62667-1-BLK	1029	W	62667	136036	--------	09/22/2016 12:26	09/22/2016 15:06

Analytical Data Package Information Summary

Work Order(s): 16092115
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8082 A	62667-1-BSD	BSD	62667-1-BSD	1029	W	62667	136036	--------	09/22/2016 12:26	09/22/2016 16:04
SW-846 8151 A	TEC-MW4	Initial	16092115-002	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/27/2016 12:18
	ECS-MW4	Initial	16092115-003	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/28/2016 00:46
	M1Hpt-15	Initial	16092115-004	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/28/2016 00:13
	M1Hpt-08	Initial	16092115-005	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/28/2016 01:52
	M1Hpt-07	Initial	16092115-006	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/27/2016 15:00
	M1Hpt-05	Initial	16092115-007	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/27/2016 23:08
	62706-1-BKS	BKS	62706-1-BKS	1029	W	62706	136151	--------	09/26/2016 10:57	09/27/2016 13:56
	62706-1-BLK	BLK	62706-1-BLK	1029	W	62706	136151	--------	09/26/2016 10:57	09/27/2016 13:23
	62706-1-BSD	BSD	62706-1-BSD	1029	W	62706	136151	--------	09/26/2016 10:57	09/27/2016 14:28
SW-846 8260 B	TEC-MW2	Initial	16092115-001	1011	W	62702	136066	09/21/2016	09/23/2016 08:58	09/23/2016 19:52
	TEC-MW4	Initial	16092115-002	1011	W	62702	136066	09/21/2016	09/23/2016 08:58	09/23/2016 20:14
	ECS-MW4	Initial	16092115-003	1011	W	62702	136066	09/21/2016	09/23/2016 08:58	09/23/2016 20:36
	M1Hpt-15	Initial	16092115-004	1011	W	62702	136066	09/21/2016	09/23/2016 08:58	09/23/2016 20:57
	62702-1-BKS	BKS	62702-1-BKS	1011	W	62702	136066	--------	09/23/2016 08:58	09/23/2016 10:07
	62702-1-BLK	BLK	62702-1-BLK	1011	W	62702	136066	--------	09/23/2016 08:58	09/23/2016 10:50
	MW-2 S	MS	16092117-005 S	1011	W	62702	136066	09/21/2016	09/23/2016 08:58	09/23/2016 14:06
	MW-2 SD	MSD	16092117-005 SD	1011	W	62702	136066	09/21/2016	09/23/2016 08:58	09/23/2016 14:28
	M1Hpt-08	Initial	16092115-005	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 15:49
	M1Hpt-07	Initial	16092115-006	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 17:15
	M1Hpt-05	Initial	16092115-007	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 17:36
	62733-1-BKS	BKS	62733-1-BKS	1011	W	62733	136140	--------	09/27/2016 11:17	09/27/2016 12:15
	62733-1-BLK	BLK	62733-1-BLK	1011	W	62733	136140	--------	09/27/2016 11:17	09/27/2016 12:57
	M1Hpt-08 S	MS	16092115-005 S	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 16:10
	M1Hpt-08 SD	MSD	16092115-005 SD	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 16:32
	62744-1-BLK	BLK	62744-1-BLK	1011	W	62744	136153	--------	09/28/2016 09:50	09/28/2016 12:29
	M1Hpt-07	Reanalysis	16092115-006	1011	W	62733	136153	09/21/2016	09/27/2016 11:17	09/28/2016 12:56
	M1Hpt-05	Reanalysis	16092115-007	1011	W	62733	136153	09/21/2016	09/27/2016 11:17	09/28/2016 13:18

Analytical Data Package Information Summary

Work Order(s): 16092115
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8270 C	TEC-MW4	Initial	16092115-002	1055	W	62636	136050	09/21/2016	09/21/2016 11:00	09/22/2016 18:25
	ECS-MW4	Initial	16092115-003	1055	W	62636	136050	09/21/2016	09/21/2016 11:00	09/22/2016 18:52
	62636-1-BKS	BKS	62636-1-BKS	1055	W	62636	136050	--------	09/21/2016 11:00	09/21/2016 22:27
	62636-1-BLK	BLK	62636-1-BLK	1055	W	62636	136050	--------	09/21/2016 11:00	09/21/2016 22:00
	62636-1-BSD	BSD	62636-1-BSD	1055	W	62636	136050	--------	09/21/2016 11:00	09/21/2016 22:54
	M1Hpt-15	Initial	16092115-004	1055	W	62636	136093	09/21/2016	09/21/2016 11:00	09/23/2016 17:32
	M1Hpt-08	Initial	16092115-005	1055	W	62636	136093	09/21/2016	09/21/2016 11:00	09/23/2016 17:59
	M1Hpt-07	Initial	16092115-006	1055	W	62636	136093	09/21/2016	09/21/2016 11:00	09/23/2016 18:52
	M1Hpt-05	Initial	16092115-007	1055	W	62636	136093	09/21/2016	09/21/2016 11:00	09/23/2016 19:46
	M1Hpt-07	Reanalysis	16092115-006	1055	W	62636	136093	09/21/2016	09/21/2016 11:00	09/26/2016 14:49

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	89		46-111	%	09/25/16 23:16

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	67		55-114	%	09/22/16 10:43

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136066 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		86-111	%	09/23/16 19:52
Dibromofluoromethane	102		91-119	%	09/23/16 19:52
Toluene-D8	105		90-117	%	09/23/16 19:52

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136034 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	86		43-150	%	09/22/16 22:35
Tetrachloro-m-xylene	52		40-126	%	09/22/16 22:35

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136036 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	79		39-154	%	09/22/16 20:25
Tetrachloro-m-xylene	63		35-131	%	09/22/16 20:25

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092115-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	113		64-126	%	09/27/16 12:18

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136050 Matrix: Ground Water Date Prep: 09/21/2016
PSS Sample ID: 16092115-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	74		35-107	%	09/22/16 18:25
2-Fluorophenol	70		32-106	%	09/22/16 18:25
Nitrobenzene-d5	69		34-123	%	09/22/16 18:25
Phenol-d6	71		36-111	%	09/22/16 18:25
Terphenyl-D14	111		43-143	%	09/22/16 18:25
2,4,6-Tribromophenol	78		26-122	%	09/22/16 18:25

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	76		46-111	%	09/25/16 23:16

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	68		55-114	%	09/22/16 12:51

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136066 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		86-111	%	09/23/16 20:14
Dibromofluoromethane	103		91-119	%	09/23/16 20:14
Toluene-D8	106		90-117	%	09/23/16 20:14

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136034 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	88		43-150	%	09/22/16 19:47
Tetrachloro-m-xylene	54		40-126	%	09/22/16 19:47

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136036 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	84		39-154	%	09/22/16 19:56
Tetrachloro-m-xylene	57		35-131	%	09/22/16 19:56

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092115-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	105		64-126	%	09/28/16 00:46

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136050 Matrix: Ground Water Date Prep: 09/21/2016
PSS Sample ID: 16092115-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	73		35-107	%	09/22/16 18:52
2-Fluorophenol	70		32-106	%	09/22/16 18:52
Nitrobenzene-d5	66		34-123	%	09/22/16 18:52
Phenol-d6	70		36-111	%	09/22/16 18:52
Terphenyl-D14	114		43-143	%	09/22/16 18:52
2,4,6-Tribromophenol	67		26-122	%	09/22/16 18:52

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	96		46-111	%	09/25/16 23:41

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	67		55-114	%	09/22/16 13:17

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136066 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	99		86-111	%	09/23/16 20:36
Dibromofluoromethane	100		91-119	%	09/23/16 20:36
Toluene-D8	103		90-117	%	09/23/16 20:36

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136034 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	97		43-150	%	09/22/16 22:07
Tetrachloro-m-xylene	73		40-126	%	09/22/16 22:07

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136036 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	77		39-154	%	09/22/16 19:27
Tetrachloro-m-xylene	67		35-131	%	09/22/16 19:27

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092115-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	105		64-126	%	09/28/16 00:13

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	84		46-111	%	09/25/16 23:41

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136093 Matrix: Ground Water Date Prep: 09/21/2016
PSS Sample ID: 16092115-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	68		35-107	%	09/23/16 17:32
2-Fluorophenol	67		32-106	%	09/23/16 17:32
Nitrobenzene-d5	65		34-123	%	09/23/16 17:32
Phenol-d6	65		36-111	%	09/23/16 17:32
Terphenyl-D14	91		43-143	%	09/23/16 17:32
2,4,6-Tribromophenol	70		26-122	%	09/23/16 17:32

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	67		55-114	%	09/22/16 13:42

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136066 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		86-111	%	09/23/16 20:57
Dibromofluoromethane	98		91-119	%	09/23/16 20:57
Toluene-D8	100		90-117	%	09/23/16 20:57

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136034 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	94		43-150	%	09/26/16 15:07
Tetrachloro-m-xylene	87		40-126	%	09/26/16 15:07

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QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136036 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	64		39-154	%	09/22/16 16:33
Tetrachloro-m-xylene	96		35-131	%	09/22/16 16:33

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092115-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	100		64-126	%	09/28/16 01:52

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	88		46-111	%	09/26/16 00:07

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136093 Matrix: Ground Water Date Prep: 09/21/2016
PSS Sample ID: 16092115-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	87		35-107	%	09/23/16 17:59
2-Fluorophenol	79		32-106	%	09/23/16 17:59
Nitrobenzene-d5	81		34-123	%	09/23/16 17:59
Phenol-d6	79		36-111	%	09/23/16 17:59
Terphenyl-D14	105		43-143	%	09/23/16 17:59
2,4,6-Tribromophenol	92		26-122	%	09/23/16 17:59

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	68		55-114	%	09/22/16 14:08

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QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/2016
PSS Sample ID: 16092115-005

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		86-111	%	09/27/16 15:49
Dibromofluoromethane	91		91-119	%	09/27/16 15:49
Toluene-D8	104		90-117	%	09/27/16 15:49

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136034 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	91		43-150	%	09/22/16 21:39
Tetrachloro-m-xylene	55		40-126	%	09/22/16 21:39

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136036 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	83		39-154	%	09/22/16 18:59
Tetrachloro-m-xylene	71		35-131	%	09/22/16 18:59

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092115-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	107		64-126	%	09/27/16 15:00

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	79		46-111	%	09/26/16 00:07

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136093 Matrix: Ground Water Date Prep: 09/21/2016
PSS Sample ID: 16092115-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	81		35-107	%	09/23/16 18:52
2-Fluorophenol	75		32-106	%	09/23/16 18:52
Nitrobenzene-d5	76		34-123	%	09/23/16 18:52
Phenol-d6	75		36-111	%	09/23/16 18:52
Terphenyl-D14	94		43-143	%	09/23/16 18:52
2,4,6-Tribromophenol	83		26-122	%	09/23/16 18:52

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	69		55-114	%	09/22/16 14:33

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/2016
PSS Sample ID: 16092115-006

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		86-111	%	09/27/16 17:15
Dibromofluoromethane	98		91-119	%	09/27/16 17:15
Toluene-D8	103		90-117	%	09/27/16 17:15

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136034 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	71		43-150	%	09/22/16 20:43
Tetrachloro-m-xylene	62		40-126	%	09/22/16 20:43

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136036 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	73		39-154	%	09/22/16 17:03
Tetrachloro-m-xylene	64		35-131	%	09/22/16 17:03

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092115-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	99		64-126	%	09/27/16 23:08

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092115-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	93		46-111	%	09/26/16 00:32

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136093 Matrix: Ground Water Date Prep: 09/21/2016
PSS Sample ID: 16092115-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	79		35-107	%	09/23/16 19:46
2-Fluorophenol	75		32-106	%	09/23/16 19:46
Nitrobenzene-d5	75		34-123	%	09/23/16 19:46
Phenol-d6	76		36-111	%	09/23/16 19:46
Terphenyl-D14	99		43-143	%	09/23/16 19:46
2,4,6-Tribromophenol	84		26-122	%	09/23/16 19:46

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/2016
PSS Sample ID: 16092115-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	69		55-114	%	09/22/16 14:58

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/2016
PSS Sample ID: 16092115-007

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	101		86-111	%	09/27/16 17:36
Dibromofluoromethane	91		91-119	%	09/27/16 17:36
Toluene-D8	108		90-117	%	09/27/16 17:36

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.

Robinson Terminal North

H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

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QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 6020 A Prep Method: SW3010A
Seq Number: 136043 Matrix: Water Date Prep: 09/22/16
MB Sample Id: 62666-1-BLK LCS Sample Id: 62666-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Antimony	<5.000	40.00	40.81	102	80-120	ug/L	09/22/16 23:04	
Arsenic	<1.000	40.00	43.81	110	80-120	ug/L	09/22/16 23:04	
Beryllium	<1.000	40.00	36.08	90	80-120	ug/L	09/22/16 23:04	
Cadmium	<1.000	40.00	39.45	99	80-120	ug/L	09/22/16 23:04	
Chromium	<1.000	40.00	38.91	97	80-120	ug/L	09/22/16 23:04	
Copper	<1.000	40.00	38.60	97	80-120	ug/L	09/22/16 23:04	
Lead	<1.000	40.00	41.41	104	80-120	ug/L	09/22/16 23:04	
Mercury	<0.2000	1.000	0.9800	98	80-120	ug/L	09/22/16 23:04	
Nickel	<1.000	40.00	38.61	97	80-120	ug/L	09/22/16 23:04	
Selenium	<1.000	40.00	37.10	93	80-120	ug/L	09/22/16 23:04	
Silver	<1.000	40.00	41.30	103	80-120	ug/L	09/22/16 23:04	
Thallium	<1.000	40.00	39.23	98	80-120	ug/L	09/22/16 23:04	
Zinc	<20.00	200	223.6	112	80-120	ug/L	09/22/16 23:04	

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136034 Matrix: Water Date Prep: 09/22/16
MB Sample Id: 62668-1-BLK LCS Sample Id: 62668-1-BKS LCSD Sample Id: 62668-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
alpha-BHC	<0.04000	0.2000	0.2115	106	0.1516	76	57-118	33	20	ug/L	09/22/16 23:31	F
gamma-BHC (Lindane)	<0.04000	0.2000	0.2204	110	0.1587	79	57-120	33	20	ug/L	09/22/16 23:31	F
beta-BHC	<0.04000	0.2000	0.2368	118	0.1639	82	56-113	36	20	ug/L	09/22/16 23:31	HF
delta-BHC	<0.04000	0.2000	0.2052	103	0.1462	73	48-125	34	20	ug/L	09/22/16 23:31	F
Heptachlor	<0.04000	0.2000	0.2140	107	0.1518	76	49-127	34	20	ug/L	09/22/16 23:31	F
Aldrin	<0.04000	0.2000	0.1994	100	0.1425	71	57-119	33	20	ug/L	09/22/16 23:31	F
Heptachlor epoxide	<0.04000	0.2000	0.2057	103	0.1470	74	62-116	33	20	ug/L	09/22/16 23:31	F
gamma-Chlordane	<0.04000	0.2000	0.2158	108	0.1540	77	59-116	33	20	ug/L	09/22/16 23:31	F
alpha-Chlordane	<0.04000	0.2000	0.1913	96	0.1367	68	68-109	33	20	ug/L	09/22/16 23:31	F
4,4-DDE	<0.04000	0.2000	0.2047	102	0.1446	72	49-122	34	20	ug/L	09/22/16 23:31	F
Endosulfan I	<0.04000	0.2000	0.2165	108	0.1545	77	71-108	33	20	ug/L	09/22/16 23:31	F
Dieldrin	<0.04000	0.2000	0.2586	129	0.1789	89	60-117	36	20	ug/L	09/22/16 23:31	HF
Endrin	<0.04000	0.2000	0.2425	121	0.1697	85	48-132	35	20	ug/L	09/22/16 23:31	F
4,4-DDD	<0.04000	0.2000	0.2256	113	0.1609	80	48-128	33	20	ug/L	09/22/16 23:31	F
Endosulfan II	<0.04000	0.2000	0.2161	108	0.1529	76	59-118	34	20	ug/L	09/22/16 23:31	F
4,4-DDT	<0.04000	0.2000	0.2394	120	0.1654	83	29-147	37	20	ug/L	09/22/16 23:31	F
Endrin aldehyde	<0.04000	0.2000	0.2044	102	0.1472	74	54-122	33	20	ug/L	09/22/16 23:31	F
Methoxychlor	<0.04000	0.2000	0.2237	112	0.1560	78	26-156	36	20	ug/L	09/22/16 23:31	F
Endosulfan sulfate	<0.04000	0.2000	0.2309	115	0.1624	81	57-130	35	20	ug/L	09/22/16 23:31	F
Endrin ketone	<0.04000	0.2000	0.2451	123	0.1721	86	55-123	35	20	ug/L	09/22/16 23:31	F

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	91		102		72		43-150	%	09/22/16 23:31
Tetrachloro-m-xylene	85		102		74		40-126	%	09/22/16 23:31

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136036 Matrix: Water Date Prep: 09/22/16
MB Sample Id: 62667-1-BLK LCS Sample Id: 62667-1-BKS LCSD Sample Id: 62667-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
PCB-1016	<0.5000	5.000	3.528	71	3.670	73	56-124	4	20	ug/L	09/22/16 15:35	
PCB-1260	<0.5000	5.000	4.403	88	4.490	90	61-103	2	20	ug/L	09/22/16 15:35	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	77		84		85		39-154	%	09/22/16 15:35
Tetrachloro-m-xylene	74		75		76		35-131	%	09/22/16 15:35

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Water Date Prep: 09/26/16
MB Sample Id: 62706-1-BLK LCS Sample Id: 62706-1-BKS LCSD Sample Id: 62706-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dalapon	<4.550	13.65	10.59	78	7.758	57	33-127	31	20	ug/L	09/27/16 13:56	F
Dicamba	<0.1880	0.5640	0.6157	109	0.5659	100	66-121	8	20	ug/L	09/27/16 13:56	
MCPP	<188	564	425.8	75	423.2	75	49-121	1	20	ug/L	09/27/16 13:56	
MCPA	<186	558	422.7	76	420.5	75	50-123	1	20	ug/L	09/27/16 13:56	
Dichloroprop	<1.880	5.640	5.769	102	5.750	102	79-132	0	20	ug/L	09/27/16 13:56	
2,4-D	<1.880	5.640	5.772	102	5.691	101	70-104	1	20	ug/L	09/27/16 13:56	
2,4,5-TP (Silvex)	<0.1900	0.5700	0.5007	88	0.4997	88	59-122	0	20	ug/L	09/27/16 13:56	
2,4,5-T	<0.1900	0.5700	0.4826	85	0.4665	82	49-136	3	20	ug/L	09/27/16 13:56	
Dinoseb	<0.9500	2.850	2.138	75	2.026	71	48-110	5	20	ug/L	09/27/16 13:56	
2,4-DB	<1.920	5.760	5.341	93	4.728	82	49-128	12	20	ug/L	09/27/16 13:56	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	106		101		108		64-126	%	09/27/16 13:56

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Water Date Prep: 09/23/16
MB Sample Id: 62675-1-BLK LCS Sample Id: 62675-1-BKS LCSD Sample Id: 62675-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<0.1000	1.000	0.8225	82	0.8037	80	41-123	2	20	mg/L	09/23/16 11:50	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	92		79		75		46-111	%	09/23/16 11:50

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.

Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C

Seq Number: 136050 Matrix: Water Date Prep: 09/21/16

MB Sample Id: 62636-1-BLK LCS Sample Id: 62636-1-BKS LCSD Sample Id: 62636-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<5.000	40.00	36.35	91	33.93	85	67-110	7	20	ug/L	09/21/16 22:27	
Acenaphthylene	<5.000	40.00	37.71	94	36.09	90	69-106	4	20	ug/L	09/21/16 22:27	
Acetophenone	<5.000	40.00	34.68	87	32.89	82	67-107	5	20	ug/L	09/21/16 22:27	
Anthracene	<5.000	40.00	38.11	95	35.28	88	79-108	8	20	ug/L	09/21/16 22:27	
Atrazine	<5.000	40.00	26.51	66	25.33	63	17-98	5	20	ug/L	09/21/16 22:27	
Benzo(a)anthracene	<5.000	40.00	37.58	94	35.19	88	76-109	7	20	ug/L	09/21/16 22:27	
Benzo(a)pyrene	<5.000	40.00	40.13	100	37.49	94	76-114	7	20	ug/L	09/21/16 22:27	
Benzo(b)fluoranthene	<5.000	40.00	41.56	104	38.74	97	67-121	7	20	ug/L	09/21/16 22:27	
Benzo(g,h,i)perylene	<5.000	40.00	41.13	103	33.86	85	75-107	19	20	ug/L	09/21/16 22:27	
Benzo(k)fluoranthene	<5.000	40.00	40.07	100	37.85	95	62-132	6	20	ug/L	09/21/16 22:27	
Biphenyl (Diphenyl)	<5.000	40.00	35.38	88	32.74	82	71-108	8	20	ug/L	09/21/16 22:27	
Butyl benzyl phthalate	<5.000	40.00	43.65	109	39.07	98	74-117	11	20	ug/L	09/21/16 22:27	
bis(2-chloroethoxy) methane	<5.000	40.00	33.66	84	31.72	79	69-111	6	20	ug/L	09/21/16 22:27	
bis(2-chloroethyl) ether	<5.000	40.00	32.12	80	30.72	77	62-103	4	20	ug/L	09/21/16 22:27	
bis(2-chloroisopropyl) ether	<5.000	40.00	30.55	76	29.10	73	50-103	5	20	ug/L	09/21/16 22:27	
bis(2-ethylhexyl) phthalate	<5.000	40.00	43.72	109	37.93	95	78-114	14	20	ug/L	09/21/16 22:27	
4-Bromophenylphenyl ether	<5.000	40.00	36.00	90	32.98	82	82-108	9	20	ug/L	09/21/16 22:27	
Di-n-butyl phthalate	<5.000	40.00	41.51	104	37.76	94	71-115	9	20	ug/L	09/21/16 22:27	
Carbazole	<5.000	40.00	38.08	95	35.55	89	52-134	7	20	ug/L	09/21/16 22:27	
Caprolactam	<5.000	40.00	36.68	92	34.37	86	50-125	7	20	ug/L	09/21/16 22:27	
4-Chloro-3-methyl phenol	<5.000	40.00	37.96	95	35.48	89	72-121	7	20	ug/L	09/21/16 22:27	
4-Chloroaniline	<5.000	40.00	33.88	85	31.95	80	54-103	6	20	ug/L	09/21/16 22:27	
2-Chloronaphthalene	<5.000	40.00	35.58	89	33.69	84	66-105	5	20	ug/L	09/21/16 22:27	
2-Chlorophenol	<5.000	40.00	33.65	84	32.61	82	63-109	3	20	ug/L	09/21/16 22:27	
4-Chlorophenyl Phenyl ether	<5.000	40.00	34.46	86	32.56	81	73-100	6	20	ug/L	09/21/16 22:27	
Chrysene	<5.000	40.00	37.14	93	35.17	88	78-111	5	20	ug/L	09/21/16 22:27	
Dibenz(a,h)Anthracene	<5.000	40.00	41.51	104	35.58	89	76-106	15	20	ug/L	09/21/16 22:27	
Dibenzofuran	<5.000	40.00	35.86	90	33.95	85	70-111	5	20	ug/L	09/21/16 22:27	
3,3-Dichlorobenzidine	<5.000	40.00	51.17	128	48.56	121	79-132	5	20	ug/L	09/21/16 22:27	
2,4-Dichlorophenol	<5.000	40.00	36.86	92	35.01	88	65-118	5	20	ug/L	09/21/16 22:27	
Diethyl phthalate	<5.000	40.00	38.86	97	36.22	91	60-114	7	20	ug/L	09/21/16 22:27	
Dimethyl phthalate	<5.000	40.00	37.49	94	35.08	88	66-107	7	20	ug/L	09/21/16 22:27	
2,4-Dimethylphenol	<5.000	40.00	37.11	93	34.17	85	60-119	8	20	ug/L	09/21/16 22:27	
4,6-Dinitro-2-methyl phenol	<5.000	40.00	30.71	77	31.16	78	60-130	1	20	ug/L	09/21/16 22:27	
2,4-Dinitrophenol	<10.00	40.00	19.10	48	21.91	55	36-136	14	20	ug/L	09/21/16 22:27	
2,4-Dinitrotoluene	<5.000	40.00	35.66	89	33.88	85	70-119	5	20	ug/L	09/21/16 22:27	
2,6-Dinitrotoluene	<5.000	40.00	37.68	94	34.98	87	68-117	7	20	ug/L	09/21/16 22:27	
Fluoranthene	<5.000	40.00	38.27	96	36.15	90	79-112	6	20	ug/L	09/21/16 22:27	
Fluorene	<5.000	40.00	37.90	95	35.62	89	71-109	6	20	ug/L	09/21/16 22:27	
Hexachlorobenzene	<5.000	40.00	35.52	89	32.46	81	76-110	9	20	ug/L	09/21/16 22:27	
Hexachlorobutadiene	<5.000	40.00	33.65	84	31.57	79	64-113	6	20	ug/L	09/21/16 22:27	
Hexachlorocyclopentadiene	<5.000	40.00	32.78	82	34.25	86	49-124	4	20	ug/L	09/21/16 22:27	
Hexachloroethane	<5.000	40.00	33.10	83	31.55	79	62-105	5	20	ug/L	09/21/16 22:27	
Indeno(1,2,3-c,d)Pyrene	<5.000	40.00	43.46	109	37.19	93	69-120	16	20	ug/L	09/21/16 22:27	
Isophorone	<5.000	40.00	36.92	92	34.69	87	68-108	6	20	ug/L	09/21/16 22:27	
2-Methylnaphthalene	<5.000	40.00	37.20	93	34.88	87	64-117	6	20	ug/L	09/21/16 22:27	
2-Methyl phenol	<5.000	40.00	35.67	89	34.38	86	67-111	4	20	ug/L	09/21/16 22:27	
3&4-Methylphenol	<5.000	40.00	35.57	89	34.03	85	67-107	4	20	ug/L	09/21/16 22:27	
Naphthalene	<5.000	40.00	34.12	85	31.98	80	65-103	6	20	ug/L	09/21/16 22:27	
2-Nitroaniline	<5.000	40.00	35.13	88	33.03	83	59-114	6	20	ug/L	09/21/16 22:27	
3-Nitroaniline	<5.000	40.00	35.56	89	34.77	87	60-109	2	20	ug/L	09/21/16 22:27	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136050 Matrix: Water Date Prep: 09/21/16
MB Sample Id: 62636-1-BLK LCS Sample Id: 62636-1-BKS LCSD Sample Id: 62636-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<5.000	40.00	37.27	93	36.70	92	51-125	2	20	ug/L	09/21/16 22:27	
Nitrobenzene	<5.000	40.00	31.34	78	29.81	75	60-107	5	20	ug/L	09/21/16 22:27	
2-Nitrophenol	<5.000	40.00	35.93	90	34.42	86	65-119	4	20	ug/L	09/21/16 22:27	
4-Nitrophenol	<5.000	40.00	35.50	89	35.06	88	46-121	1	20	ug/L	09/21/16 22:27	
N-Nitrosodi-n-propyl amine	<5.000	40.00	35.09	88	33.68	84	60-98	4	20	ug/L	09/21/16 22:27	
N-Nitrosodiphenylamine	<5.000	40.00	38.32	96	35.53	89	68-106	8	20	ug/L	09/21/16 22:27	
Di-n-octyl phthalate	<5.000	40.00	40.47	101	37.02	93	69-120	9	20	ug/L	09/21/16 22:27	
Pentachlorophenol	<5.000	40.00	35.06	88	33.77	84	63-119	4	20	ug/L	09/21/16 22:27	
Phenanthrene	<5.000	40.00	37.71	94	34.68	87	73-109	8	20	ug/L	09/21/16 22:27	
Phenol	<5.000	40.00	33.18	83	32.22	81	65-110	3	20	ug/L	09/21/16 22:27	
Pyrene	<5.000	40.00	36.89	92	33.54	84	78-111	10	20	ug/L	09/21/16 22:27	
Pyridine	<5.000	40.00	29.39	73	28.42	71	47-105	3	20	ug/L	09/21/16 22:27	
2,4,5-Trichlorophenol	<5.000	40.00	39.55	99	37.43	94	69-114	6	20	ug/L	09/21/16 22:27	
2,4,6-Trichlorophenol	<5.000	40.00	36.98	92	34.83	87	68-118	6	20	ug/L	09/21/16 22:27	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	83		80		74		35-107	%	09/21/16 22:27
2-Fluorophenol	90		78		72		32-106	%	09/21/16 22:27
Nitrobenzene-d5	87		83		75		34-123	%	09/21/16 22:27
Phenol-d6	84		79		74		36-111	%	09/21/16 22:27
Terphenyl-D14	101		90		81		43-143	%	09/21/16 22:27
2,4,6-Tribromophenol	74		87		78		26-122	%	09/21/16 22:27

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Water Date Prep: 09/22/16
MB Sample Id: 62674-2-BLK LCS Sample Id: 62674-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	5308	106	74-132	ug/L	09/22/16 12:00	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	68		77		55-114	%	09/22/16 12:00

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136017 Matrix: Ground Water Date Prep: 09/22/16
Parent Sample Id: 16092115-001 MS Sample Id: 16092115-001 S MSD Sample Id: 16092115-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	5151	103	4923	98	49-137	5	25	ug/L	09/22/16 11:09	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	76		77		55-114	%	09/22/16 11:09

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 136066 Matrix: Water Date Prep: 09/23/16

MB Sample Id: 62702-1-BLK LCS Sample Id: 62702-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<10.00	50.00	41.80	84	29-149	ug/L	09/23/16 10:07	
Benzene	<1.000	50.00	55.88	112	85-123	ug/L	09/23/16 10:07	
Bromochloromethane	<1.000	50.00	50.65	101	82-136	ug/L	09/23/16 10:07	
Bromodichloromethane	<1.000	50.00	58.89	118	88-133	ug/L	09/23/16 10:07	
Bromoform	<5.000	50.00	51.25	103	80-126	ug/L	09/23/16 10:07	
Bromomethane	<1.000	50.00	46.79	94	64-139	ug/L	09/23/16 10:07	
2-Butanone (MEK)	<10.00	50.00	34.25	69	39-135	ug/L	09/23/16 10:07	
Carbon Disulfide	<10.00	50.00	62.27	125	85-124	ug/L	09/23/16 10:07	H
Carbon Tetrachloride	<1.000	50.00	52.13	104	81-138	ug/L	09/23/16 10:07	
Chlorobenzene	<1.000	50.00	56.83	114	85-120	ug/L	09/23/16 10:07	
Chloroethane	<1.000	50.00	56.56	113	75-129	ug/L	09/23/16 10:07	
Chloroform	<1.000	50.00	50.68	101	85-128	ug/L	09/23/16 10:07	
Chloromethane	<1.000	50.00	52.24	104	60-139	ug/L	09/23/16 10:07	
Cyclohexane	<10.00	50.00	58.42	117	55-131	ug/L	09/23/16 10:07	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	50.13	100	69-127	ug/L	09/23/16 10:07	
Dibromochloromethane	<1.000	50.00	52.03	104	82-127	ug/L	09/23/16 10:07	
1,2-Dibromoethane (EDB)	<1.000	50.00	57.81	116	82-121	ug/L	09/23/16 10:07	
1,2-Dichlorobenzene	<1.000	50.00	59.15	118	82-123	ug/L	09/23/16 10:07	
1,3-Dichlorobenzene	<1.000	50.00	58.94	118	81-123	ug/L	09/23/16 10:07	
1,4-Dichlorobenzene	<1.000	50.00	58.28	117	81-121	ug/L	09/23/16 10:07	
Dichlorodifluoromethane	<1.000	50.00	64.11	128	69-147	ug/L	09/23/16 10:07	
1,1-Dichloroethane	<1.000	50.00	57.19	114	83-123	ug/L	09/23/16 10:07	
1,2-Dichloroethane	<1.000	50.00	55.15	110	86-138	ug/L	09/23/16 10:07	
1,1-Dichloroethene	<1.000	50.00	61.88	124	85-127	ug/L	09/23/16 10:07	
cis-1,2-Dichloroethene	<1.000	50.00	56.98	114	87-127	ug/L	09/23/16 10:07	
1,2-Dichloropropane	<1.000	50.00	57.34	115	79-125	ug/L	09/23/16 10:07	
cis-1,3-Dichloropropene	<1.000	50.00	54.36	109	79-131	ug/L	09/23/16 10:07	
trans-1,3-Dichloropropene	<1.000	50.00	53.89	108	82-133	ug/L	09/23/16 10:07	
trans-1,2-Dichloroethene	<1.000	50.00	57.47	115	85-125	ug/L	09/23/16 10:07	
Ethylbenzene	<1.000	50.00	58.74	117	83-123	ug/L	09/23/16 10:07	
2-Hexanone	<10.00	50.00	40.02	80	37-137	ug/L	09/23/16 10:07	
Isopropylbenzene	<1.000	50.00	55.43	111	70-131	ug/L	09/23/16 10:07	
Methyl Acetate	<10.00	50.00	54.51	109	69-127	ug/L	09/23/16 10:07	
Methylcyclohexane	<10.00	50.00	61.52	123	75-129	ug/L	09/23/16 10:07	
Methylene Chloride	<1.000	50.00	59.20	118	86-124	ug/L	09/23/16 10:07	
4-Methyl-2-Pentanone	<5.000	50.00	39.98	80	39-143	ug/L	09/23/16 10:07	
Methyl-t-butyl ether	<1.000	50.00	47.41	95	75-134	ug/L	09/23/16 10:07	
Naphthalene	<1.000	50.00	50.41	101	61-118	ug/L	09/23/16 10:07	
Styrene	<1.000	50.00	52.03	104	80-120	ug/L	09/23/16 10:07	
1,1,2,2-Tetrachloroethane	<1.000	50.00	58.34	117	64-125	ug/L	09/23/16 10:07	
Tetrachloroethene	<1.000	50.00	58.99	118	83-138	ug/L	09/23/16 10:07	
Toluene	<1.000	50.00	58.18	116	88-126	ug/L	09/23/16 10:07	
1,2,3-Trichlorobenzene	<1.000	50.00	51.75	104	75-124	ug/L	09/23/16 10:07	
1,2,4-Trichlorobenzene	<1.000	50.00	60.03	120	77-131	ug/L	09/23/16 10:07	
1,1,1-Trichloroethane	<1.000	50.00	57.65	115	68-146	ug/L	09/23/16 10:07	
1,1,2-Trichloroethane	<1.000	50.00	58.87	118	85-124	ug/L	09/23/16 10:07	
Trichloroethene	<1.000	50.00	57.47	115	87-127	ug/L	09/23/16 10:07	
Trichlorofluoromethane	<5.000	50.00	61.08	122	77-147	ug/L	09/23/16 10:07	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	64.70	129	68-135	ug/L	09/23/16 10:07	
Vinyl Chloride	<1.000	50.00	57.57	115	74-138	ug/L	09/23/16 10:07	
m,p-Xylenes	<2.000	100	101.1	101	84-124	ug/L	09/23/16 10:07	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 136066 Matrix: Water Date Prep: 09/23/16

MB Sample Id: 62702-1-BLK LCS Sample Id: 62702-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	52.80	106	79-126	ug/L	09/23/16 10:07	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	100		100		86-111	%	09/23/16 10:07
Dibromofluoromethane	98		99		91-119	%	09/23/16 10:07
Toluene-D8	103		101		90-117	%	09/23/16 10:07

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 136140 Matrix: Water Date Prep: 09/27/16

MB Sample Id: 62733-1-BLK LCS Sample Id: 62733-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<10.00	50.00	44.67	89	29-149	ug/L	09/27/16 12:15	
Benzene	<1.000	50.00	55.39	111	85-123	ug/L	09/27/16 12:15	
Bromochloromethane	<1.000	50.00	42.37	85	82-136	ug/L	09/27/16 12:15	
Bromodichloromethane	<1.000	50.00	56.39	113	88-133	ug/L	09/27/16 12:15	
Bromoform	<5.000	50.00	48.50	97	80-126	ug/L	09/27/16 12:15	
Bromomethane	<1.000	50.00	49.92	100	64-139	ug/L	09/27/16 12:15	
2-Butanone (MEK)	<10.00	50.00	28.86	58	39-135	ug/L	09/27/16 12:15	
Carbon Disulfide	<10.00	50.00	50.32	101	85-124	ug/L	09/27/16 12:15	
Carbon Tetrachloride	<1.000	50.00	50.60	101	81-138	ug/L	09/27/16 12:15	
Chlorobenzene	<1.000	50.00	55.13	110	85-120	ug/L	09/27/16 12:15	
Chloroethane	<1.000	50.00	57.19	114	75-129	ug/L	09/27/16 12:15	
Chloroform	<1.000	50.00	41.04	82	85-128	ug/L	09/27/16 12:15	L
Chloromethane	<1.000	50.00	52.63	105	60-139	ug/L	09/27/16 12:15	
Cyclohexane	<10.00	50.00	56.41	113	55-131	ug/L	09/27/16 12:15	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	45.28	91	69-127	ug/L	09/27/16 12:15	
Dibromochloromethane	<1.000	50.00	50.56	101	82-127	ug/L	09/27/16 12:15	
1,2-Dibromoethane (EDB)	<1.000	50.00	55.62	111	82-121	ug/L	09/27/16 12:15	
1,2-Dichlorobenzene	<1.000	50.00	56.73	113	82-123	ug/L	09/27/16 12:15	
1,3-Dichlorobenzene	<1.000	50.00	55.85	112	81-123	ug/L	09/27/16 12:15	
1,4-Dichlorobenzene	<1.000	50.00	55.35	111	81-121	ug/L	09/27/16 12:15	
Dichlorodifluoromethane	<1.000	50.00	62.60	125	69-147	ug/L	09/27/16 12:15	
1,1-Dichloroethane	<1.000	50.00	40.82	82	83-123	ug/L	09/27/16 12:15	L
1,2-Dichloroethane	<1.000	50.00	54.08	108	86-138	ug/L	09/27/16 12:15	
1,1-Dichloroethene	<1.000	50.00	59.42	119	85-127	ug/L	09/27/16 12:15	
cis-1,2-Dichloroethene	<1.000	50.00	44.72	89	87-127	ug/L	09/27/16 12:15	
1,2-Dichloropropane	<1.000	50.00	55.84	112	79-125	ug/L	09/27/16 12:15	
cis-1,3-Dichloropropene	<1.000	50.00	53.35	107	79-131	ug/L	09/27/16 12:15	
trans-1,3-Dichloropropene	<1.000	50.00	53.97	108	82-133	ug/L	09/27/16 12:15	
trans-1,2-Dichloroethene	<1.000	50.00	42.88	86	85-125	ug/L	09/27/16 12:15	
Ethylbenzene	<1.000	50.00	58.16	116	83-123	ug/L	09/27/16 12:15	
2-Hexanone	<10.00	50.00	45.02	90	37-137	ug/L	09/27/16 12:15	
Isopropylbenzene	<1.000	50.00	53.03	106	70-131	ug/L	09/27/16 12:15	
Methyl Acetate	<10.00	50.00	44.65	89	69-127	ug/L	09/27/16 12:15	
Methylcyclohexane	<10.00	50.00	59.89	120	75-129	ug/L	09/27/16 12:15	
Methylene Chloride	<1.000	50.00	48.73	97	86-124	ug/L	09/27/16 12:15	
4-Methyl-2-Pentanone	<5.000	50.00	44.59	89	39-143	ug/L	09/27/16 12:15	
Methyl-t-butyl ether	<1.000	50.00	38.03	76	75-134	ug/L	09/27/16 12:15	
Naphthalene	<1.000	50.00	48.16	96	61-118	ug/L	09/27/16 12:15	
Styrene	<1.000	50.00	49.71	99	80-120	ug/L	09/27/16 12:15	
1,1,2,2-Tetrachloroethane	<1.000	50.00	54.75	110	64-125	ug/L	09/27/16 12:15	
Tetrachloroethene	<1.000	50.00	59.72	119	83-138	ug/L	09/27/16 12:15	
Toluene	<1.000	50.00	58.42	117	88-126	ug/L	09/27/16 12:15	
1,2,3-Trichlorobenzene	<1.000	50.00	49.83	100	75-124	ug/L	09/27/16 12:15	
1,2,4-Trichlorobenzene	<1.000	50.00	58.26	117	77-131	ug/L	09/27/16 12:15	
1,1,1-Trichloroethane	<1.000	50.00	56.66	113	68-146	ug/L	09/27/16 12:15	
1,1,2-Trichloroethane	<1.000	50.00	56.79	114	85-124	ug/L	09/27/16 12:15	
Trichloroethene	<1.000	50.00	56.04	112	87-127	ug/L	09/27/16 12:15	
Trichlorofluoromethane	<5.000	50.00	57.82	116	77-147	ug/L	09/27/16 12:15	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	61.19	122	68-135	ug/L	09/27/16 12:15	
Vinyl Chloride	<1.000	50.00	57.14	114	74-138	ug/L	09/27/16 12:15	
m,p-Xylenes	<2.000	100	97.57	98	84-124	ug/L	09/27/16 12:15	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Water Date Prep: 09/27/16
MB Sample Id: 62733-1-BLK LCS Sample Id: 62733-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	50.82	102	79-126	ug/L	09/27/16 12:15	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		100		86-111	%	09/27/16 12:15
Dibromofluoromethane	99		99		91-119	%	09/27/16 12:15
Toluene-D8	105		103		90-117	%	09/27/16 12:15

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136153 Matrix: Water Date Prep: 09/28/16
MB Sample Id: 62744-1-BLK

Parameter	MB Result	LOD	RL	Units	Analysis Date	Flag
Naphthalene	ND	0.5000	1.000	ug/L	09/28/16 12:29	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.

Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/16

Parent Sample Id: 16092115-005 MS Sample Id: 16092115-005 S MSD Sample Id: 16092115-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acetone	<10.00	50.00	48.93	98	42.03	84	46-138	15	25	ug/L	09/27/16 16:10	
Benzene	<1.000	50.00	50.00	100	49.36	99	77-126	1	25	ug/L	09/27/16 16:10	
Bromochloromethane	<1.000	50.00	42.48	85	43.76	88	74-133	3	25	ug/L	09/27/16 16:10	
Bromodichloromethane	<1.000	50.00	51.70	103	49.35	99	79-130	5	25	ug/L	09/27/16 16:10	
Bromoform	<5.000	50.00	40.90	82	41.90	84	69-120	2	25	ug/L	09/27/16 16:10	
Bromomethane	<1.000	50.00	24.64	49	20.26	41	64-130	20	25	ug/L	09/27/16 16:10	X
2-Butanone (MEK)	<10.00	50.00	42.55	85	42.51	85	34-126	0	25	ug/L	09/27/16 16:10	
Carbon Disulfide	<10.00	50.00	40.54	81	45.53	91	76-126	12	25	ug/L	09/27/16 16:10	
Carbon Tetrachloride	<1.000	50.00	46.11	92	45.46	91	77-137	1	25	ug/L	09/27/16 16:10	
Chlorobenzene	<1.000	50.00	49.56	99	48.08	96	74-120	3	25	ug/L	09/27/16 16:10	
Chloroethane	<1.000	50.00	83.32	167	63.79	128	68-133	27	25	ug/L	09/27/16 16:10	XF
Chloroform	<1.000	50.00	42.45	85	42.92	86	77-127	1	25	ug/L	09/27/16 16:10	
Chloromethane	<1.000	50.00	49.67	99	45.21	90	50-143	9	25	ug/L	09/27/16 16:10	
Cyclohexane	<10.00	50.00	50.55	101	49.80	100	53-139	1	25	ug/L	09/27/16 16:10	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	43.61	87	46.28	93	56-123	6	25	ug/L	09/27/16 16:10	
Dibromochloromethane	<1.000	50.00	43.57	87	43.89	88	70-125	1	25	ug/L	09/27/16 16:10	
1,2-Dibromoethane (EDB)	<1.000	50.00	51.43	103	51.24	102	69-121	0	25	ug/L	09/27/16 16:10	
1,2-Dichlorobenzene	<1.000	50.00	50.58	101	50.95	102	69-118	1	25	ug/L	09/27/16 16:10	
1,3-Dichlorobenzene	<1.000	50.00	50.31	101	50.16	100	68-119	0	25	ug/L	09/27/16 16:10	
1,4-Dichlorobenzene	<1.000	50.00	48.86	98	49.03	98	67-117	0	25	ug/L	09/27/16 16:10	
Dichlorodifluoromethane	<1.000	50.00	53.15	106	50.35	101	68-139	5	25	ug/L	09/27/16 16:10	
1,1-Dichloroethane	<1.000	50.00	47.59	95	46.43	93	78-126	2	25	ug/L	09/27/16 16:10	
1,2-Dichloroethane	<1.000	50.00	46.89	94	47.54	95	78-134	1	25	ug/L	09/27/16 16:10	
1,1-Dichloroethene	<1.000	50.00	42.51	85	48.10	96	78-125	12	25	ug/L	09/27/16 16:10	
cis-1,2-Dichloroethene	<1.000	50.00	48.12	96	48.87	98	78-128	2	25	ug/L	09/27/16 16:10	
1,2-Dichloropropane	<1.000	50.00	51.04	102	49.18	98	73-126	4	25	ug/L	09/27/16 16:10	
cis-1,3-Dichloropropene	<1.000	50.00	46.80	94	44.98	90	67-126	4	25	ug/L	09/27/16 16:10	
trans-1,3-Dichloropropene	<1.000	50.00	45.63	91	44.39	89	68-129	3	25	ug/L	09/27/16 16:10	
trans-1,2-Dichloroethene	<1.000	50.00	47.79	96	47.12	94	76-128	1	25	ug/L	09/27/16 16:10	
Ethylbenzene	<1.000	50.00	51.89	104	49.97	100	74-123	4	25	ug/L	09/27/16 16:10	
2-Hexanone	<10.00	50.00	56.15	112	56.53	113	38-125	1	25	ug/L	09/27/16 16:10	
Isopropylbenzene	<1.000	50.00	45.52	91	47.04	94	58-129	3	25	ug/L	09/27/16 16:10	
Methyl Acetate	<10.00	50.00	33.02	66	37.29	75	63-115	12	25	ug/L	09/27/16 16:10	
Methylcyclohexane	<10.00	50.00	54.37	109	50.74	101	69-130	7	25	ug/L	09/27/16 16:10	
Methylene Chloride	<1.000	50.00	37.04	74	41.54	83	76-124	11	25	ug/L	09/27/16 16:10	X
4-Methyl-2-Pentanone	<5.000	50.00	54.41	109	54.39	109	35-123	0	25	ug/L	09/27/16 16:10	
Methyl-t-butyl ether	<1.000	50.00	39.54	79	39.66	79	64-129	0	25	ug/L	09/27/16 16:10	
Naphthalene	13.96	50.00	65.14	102	67.42	107	45-109	3	25	ug/L	09/27/16 16:10	
Styrene	<1.000	50.00	43.23	86	44.45	89	61-124	3	25	ug/L	09/27/16 16:10	
1,1,2,2-Tetrachloroethane	<1.000	50.00	49.82	100	51.31	103	47-130	3	25	ug/L	09/27/16 16:10	
Tetrachloroethene	<1.000	50.00	51.61	103	50.21	100	68-139	3	25	ug/L	09/27/16 16:10	
Toluene	<1.000	50.00	53.26	107	50.96	102	79-128	4	25	ug/L	09/27/16 16:10	
1,2,3-Trichlorobenzene	<1.000	50.00	47.32	95	47.82	96	48-122	1	25	ug/L	09/27/16 16:10	
1,2,4-Trichlorobenzene	<1.000	50.00	52.13	104	53.53	107	54-124	3	25	ug/L	09/27/16 16:10	
1,1,1-Trichloroethane	<1.000	50.00	49.36	99	49.52	99	73-140	0	25	ug/L	09/27/16 16:10	
1,1,2-Trichloroethane	<1.000	50.00	51.95	104	50.26	101	78-124	3	25	ug/L	09/27/16 16:10	
Trichloroethene	<1.000	50.00	51.61	103	49.01	98	77-131	5	25	ug/L	09/27/16 16:10	
Trichlorofluoromethane	<5.000	50.00	51.47	103	44.26	89	73-144	15	25	ug/L	09/27/16 16:10	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	43.89	88	48.47	97	65-140	10	25	ug/L	09/27/16 16:10	
Vinyl Chloride	<1.000	50.00	49.82	100	45.92	92	60-146	8	25	ug/L	09/27/16 16:10	
m,p-Xylenes	<2.000	100	88.49	88	86.56	87	75-125	2	25	ug/L	09/27/16 16:10	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092115

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/16

Parent Sample Id: 16092115-005 MS Sample Id: 16092115-005 S MSD Sample Id: 16092115-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	44.76	90	45.48	91	69-126	2	25	ug/L	09/27/16 16:10	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	97		100		86-111	%	09/27/16 16:10
Dibromofluoromethane	96		98		91-119	%	09/27/16 16:10
Toluene-D8	104		102		90-117	%	09/27/16 16:10

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: ICOR, LTD. *OFFICE LOC.

*PROJECT MGR: M. BRUZZESI *PHONE NO.: (703) 608-5969

EMAIL: LANDCHAT@AOL.COM FAX NO.: ( )

*PROJECT NAME: JOHNSON TERMINAL NORTH PROJECT NO.:

SITE LOCATION: 500/501 N. UNION ST. P.O NO.:

SAMPLER(S): M. BRUZZESI DW CERT NO.:

PSS Work Order #: 1009115 PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE (C = COMP, G = GRAB)	Preservatives Used	Analysis/ Method Required (3) * 8260	8270	VOC	Cu & Cr	PEST	HERB	PCB	PPL METALS	REMARKS
1	TEC-MW2	9/21/16	0830	GW	6	G		X	X	X						
2	TEC-MW4		0840		11			X	X	X	X	X	X	X	X	
3	EES-MW4		1030		11			X	X	X	X	X	X	X	X	
4	MiHot-15		1145		11			X	X	X	X	X	X	X	X	
5	MiHot-08		0945		11			X	X	X	X	X	X	X	X	
6	MiHot-07		1220		11			X	X	X	X	X	X	X	X	
7	MiHot-05		1115		11			X	X	X	X	X	X	X	X	

(5)

	Date	Time	
Relinquished By:	9/21/16	1310	Received By:
Relinquished By: (2) TTE	9/21	1445	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

*Requested TAT (One TAT per COC)
☒ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required:
COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER ____

# of Coolers: 5

Custody Seal: ABS

Ice Present: YES Temp: 8.9, 10.9, 10°C

Shipping Carrier: TTE

Special Instructions:

DW COMPLIANCE? YES ☐

EDD FORMAT TYPE ____

STATE RESULTS REPORTED TO:
MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER ____

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

Version 1.000

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16092115	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/21/2016 02:45:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/26/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	8
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

		Sampler Name	Mike Bruzzesi
COC agrees with sample labels?	Yes	MD DW Cert. No.	N/A
Chain of Custody	Yes		

Sample Container

		Custody Seal(s) Intact?	Not Applicable
Appropriate for Specified Analysis?	Yes	Seal(s) Signed / Dated	Not Applicable
Intact?	Yes		
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 7 Total No. of Containers Received 72

Preservation

Total Metals	(pH<2)	Yes
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By: Rachel Davis Date: 09/21/2016

Rachel Davis

PM Review and Approval: Date: 09/23/2016

Simon Crisp

Analytical Report for

Icor Ltd.

Certificate of Analysis No.: 16092211

Project Manager: Mike Bruzzesi

Project Name : Robinson Terminal North

Project Location: 500/501 N. Union St.

September 29, 2016

Phase Separation Science, Inc.

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PHASE SEPARATION SCIENCE, INC.



September 29, 2016

Mike Bruzzesi
Icor Ltd.
PO Box 406
Middleburg, VA 20118

Reference: PSS Work Order(s) No: **16092211**
Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Dear Mike Bruzzesi :

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Work Order(s) numbered **16092211**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 27, 2016, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt , the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Dan Prucnal

Dan Prucnal
Laboratory Manager

Sample Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16092211

The following samples were received under chain of custody by Phase Separation Science (PSS) on 09/22/2016 at 01:15 pm

Lab Sample Id	Sample Id	Matrix	Date/Time Collected
16092211-001	M1Hpt-20	GROUND WATER	09/21/16 13:40
16092211-002	M1Hpt-21	GROUND WATER	09/21/16 14:35
16092211-003	M1Hpt-22	GROUND WATER	09/21/16 14:45
16092211-004	M1Hpt-14	GROUND WATER	09/21/16 13:40

Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminates, and part 141.3, for the secondary drinking water contaminates.
5. Sample prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Method 180.1, The Determination of Turbidity by Nephelometry, recommends samples over 40 NTU be diluted until the turbidity falls below 40 units. Routine samples over 40 NTU may not be diluted as long as the data quality objectives are not affected.
8. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements.

Standard Flags/Abbreviations:

B	A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results Pending Final Confirmation.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is an estimate of the minimum amount of a substance that an analytical process can reliably detect. This value will remain constant across multiple similar instrumentation and among different analysts. An LOD is analyte and matrix specific.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
U	Not detected.

Certifications:

NELAP Certifications: PA 68-03330, VA 460156
State Certifications: MD 179, WV 303
Regulated Soil Permit: P330-12-00268
NSWC USCG Accepted Laboratory
LDBE MWAA LD1997-0041-2015

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-001**

Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/23/16	09/23/16 22:19	1033
Arsenic	**13**	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Beryllium	ND	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Cadmium	**7.4**	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Chromium	ND	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Copper	**12**	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Lead	**2.0**	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Mercury	ND	ug/L	0.20		1	09/23/16	09/23/16 22:19	1033
Nickel	**5.0**	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Selenium	**8.3**	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Silver	ND	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Thallium	ND	ug/L	1.0		1	09/23/16	09/23/16 22:19	1033
Zinc	**8,600**	ug/L	2,000		100	09/23/16	09/26/16 14:58	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.72**	mg/L	0.10		1	09/23/16	09/26/16 00:32	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**180**	ug/L	100		1	09/23/16	09/23/16 12:16	1035

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-001**

Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
beta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
delta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Heptachlor	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Aldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Heptachlor epoxide	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
gamma-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
alpha-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
4,4-DDE	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Endosulfan I	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Dieldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Endrin	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
4,4-DDD	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Endosulfan II	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
4,4-DDT	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Endrin aldehyde	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Methoxychlor	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Endosulfan sulfate	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Endrin ketone	ND	ug/L	0.040		1	09/23/16	09/26/16 13:14	1029
Toxaphene	ND	ug/L	1.0		1	09/23/16	09/26/16 13:14	1029
Chlordane	ND	ug/L	1.0		1	09/23/16	09/26/16 13:14	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-001**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/23/16	09/26/16 10:18	1029
PCB-1221	ND	ug/L	0.50		1	09/23/16	09/26/16 10:18	1029
PCB-1232	ND	ug/L	0.50		1	09/23/16	09/26/16 10:18	1029
PCB-1242	ND	ug/L	0.50		1	09/23/16	09/26/16 10:18	1029
PCB-1248	ND	ug/L	0.50		1	09/23/16	09/26/16 10:18	1029
PCB-1254	ND	ug/L	0.50		1	09/23/16	09/26/16 10:18	1029
PCB-1260	ND	ug/L	0.50		1	09/23/16	09/26/16 10:18	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	4.8		10	09/26/16	09/27/16 15:33	1029
Dicamba	**0.63**	ug/L	0.20		10	09/26/16	09/27/16 15:33	1029
MCPP	ND	ug/L	200		10	09/26/16	09/27/16 15:33	1029
MCPA	ND	ug/L	200		10	09/26/16	09/27/16 15:33	1029
Dichloroprop	ND	ug/L	2.0		10	09/26/16	09/27/16 15:33	1029
2,4-D	ND	ug/L	2.0		10	09/26/16	09/27/16 15:33	1029
2,4,5-TP (Silvex)	ND	ug/L	0.20		10	09/26/16	09/27/16 15:33	1029
2,4,5-T	ND	ug/L	0.20		10	09/26/16	09/27/16 15:33	1029
Dinoseb	ND	ug/L	1.0		10	09/26/16	09/27/16 15:33	1029
2,4-DB	ND	ug/L	2.0		10	09/26/16	09/27/16 15:33	1029

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September 29, 2016

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Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-001**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
Benzene	**14**	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Bromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Bromoform	ND	ug/L	5.0		1	09/27/16	09/27/16 18:41	1011
Bromomethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
Carbon Disulfide	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Chlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Chloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Chloroform	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Chloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Cyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Ethylbenzene	**1.4**	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011

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CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-001**

Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Methyl Acetate	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
Methylcyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 18:41	1011
Methylene Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/27/16	09/27/16 18:41	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Naphthalene	**67**	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Styrene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Toluene	**2.6**	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Trichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/27/16	09/27/16 18:41	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/27/16	09/27/16 18:41	1011
o-Xylene	**1.4**	ug/L	1.0		1	09/27/16	09/27/16 18:41	1011

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Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	**6.3**	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Acenaphthylene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Acetophenone	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Atrazine	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Carbazole	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Caprolactam	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Chrysene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Dibenzofuran	**11**	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055

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Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-20 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-001**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/26/16	09/26/16 19:38	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Fluorene	**12**	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Hexachloroethane	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Isophorone	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Naphthalene	**13**	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Nitrobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Phenanthrene	**10**	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055

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Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
Pyridine	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 19:38	1055

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No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**

Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/23/16	09/23/16 23:32	1033
Arsenic	**590**	ug/L	10		10	09/23/16	09/26/16 15:04	1033
Beryllium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Cadmium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Chromium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Copper	**1.4**	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Lead	ND	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Mercury	ND	ug/L	0.20		1	09/23/16	09/23/16 23:32	1033
Nickel	**2.1**	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Selenium	**3.3**	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Silver	ND	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Thallium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:32	1033
Zinc	ND	ug/L	20		1	09/23/16	09/23/16 23:32	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**1.7**	mg/L	0.11		1	09/23/16	09/26/16 00:57	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**7,500**	ug/L	100		1	09/23/16	09/23/16 13:33	1035

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Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
beta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
delta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Heptachlor	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Aldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Heptachlor epoxide	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
gamma-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
alpha-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
4,4-DDE	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Endosulfan I	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Dieldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Endrin	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
4,4-DDD	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Endosulfan II	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
4,4-DDT	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Endrin aldehyde	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Methoxychlor	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Endosulfan sulfate	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Endrin ketone	ND	ug/L	0.040		1	09/23/16	09/26/16 13:43	1029
Toxaphene	ND	ug/L	1.0		1	09/23/16	09/26/16 13:43	1029
Chlordane	ND	ug/L	1.0		1	09/23/16	09/26/16 13:43	1029

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/23/16	09/26/16 10:47	1029
PCB-1221	ND	ug/L	0.50		1	09/23/16	09/26/16 10:47	1029
PCB-1232	ND	ug/L	0.50		1	09/23/16	09/26/16 10:47	1029
PCB-1242	ND	ug/L	0.50		1	09/23/16	09/26/16 10:47	1029
PCB-1248	ND	ug/L	0.50		1	09/23/16	09/26/16 10:47	1029
PCB-1254	ND	ug/L	0.50		1	09/23/16	09/26/16 10:47	1029
PCB-1260	ND	ug/L	0.50		1	09/23/16	09/26/16 10:47	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	460		1000	09/26/16	09/29/16 12:05	1029
Dicamba	**23**	ug/L	19		1000	09/26/16	09/29/16 12:05	1029
MCPP	**85,000**	ug/L	19,000		1000	09/26/16	09/29/16 12:05	1029
MCPA	ND	ug/L	19,000		1000	09/26/16	09/29/16 12:05	1029
Dichloroprop	ND	ug/L	190		1000	09/26/16	09/29/16 12:05	1029
2,4-D	ND	ug/L	190		1000	09/26/16	09/29/16 12:05	1029
2,4,5-TP (Silvex)	ND	ug/L	19		1000	09/26/16	09/29/16 12:05	1029
2,4,5-T	ND	ug/L	19		1000	09/26/16	09/29/16 12:05	1029
Dinoseb	ND	ug/L	95		1000	09/26/16	09/29/16 12:05	1029
2,4-DB	ND	ug/L	190		1000	09/26/16	09/29/16 12:05	1029

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Icor Ltd., Middleburg, VA

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Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	50		5	09/27/16	09/27/16 19:02	1011
Benzene	**58**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Bromochloromethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Bromodichloromethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Bromoform	ND	ug/L	25		5	09/27/16	09/27/16 19:02	1011
Bromomethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
2-Butanone (MEK)	ND	ug/L	50		5	09/27/16	09/27/16 19:02	1011
Carbon Disulfide	ND	ug/L	50		5	09/27/16	09/27/16 19:02	1011
Carbon Tetrachloride	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Chlorobenzene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Chloroethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Chloroform	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Chloromethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Cyclohexane	**560**	ug/L	50		5	09/27/16	09/27/16 19:02	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	50		5	09/27/16	09/27/16 19:02	1011
Dibromochloromethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,2-Dibromoethane (EDB)	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,2-Dichlorobenzene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,3-Dichlorobenzene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Dichlorodifluoromethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,4-Dichlorobenzene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,1-Dichloroethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,2-Dichloroethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,1-Dichloroethene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
cis-1,2-Dichloroethene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,2-Dichloropropane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
cis-1,3-Dichloropropene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
trans-1,3-Dichloropropene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
trans-1,2-Dichloroethene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Ethylbenzene	**150**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011

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CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	50		5	09/27/16	09/27/16 19:02	1011
Isopropylbenzene	**17**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Methyl Acetate	ND	ug/L	50		5	09/27/16	09/27/16 19:02	1011
Methylcyclohexane	**460**	ug/L	50		5	09/27/16	09/27/16 19:02	1011
Methylene Chloride	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
4-Methyl-2-Pentanone	ND	ug/L	25		5	09/27/16	09/27/16 19:02	1011
Methyl-t-butyl ether	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Naphthalene	**6.4**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Styrene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Tetrachloroethene	**47**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Toluene	**45**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,2,3-Trichlorobenzene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,2,4-Trichlorobenzene	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,1,1-Trichloroethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
1,1,2-Trichloroethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Trichloroethene	**10**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Trichlorofluoromethane	ND	ug/L	25		5	09/27/16	09/27/16 19:02	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
Vinyl Chloride	ND	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011
m,p-Xylenes	**190**	ug/L	10		5	09/27/16	09/27/16 19:02	1011
o-Xylene	**9.1**	ug/L	5.0		5	09/27/16	09/27/16 19:02	1011

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Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Acenaphthylene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Acetophenone	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Atrazine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Carbazole	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Caprolactam	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2-Chlorophenol	**8.3**	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Chrysene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Dibenzofuran	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2,4-Dichlorophenol	**710**	ug/L	50		10	09/26/16	09/27/16 11:57	1055

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CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/26/16	09/26/16 20:04	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Fluorene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Hexachloroethane	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Isophorone	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Naphthalene	**35**	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Nitrobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Pentachlorophenol	**13**	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Phenanthrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055

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Icor Ltd., Middleburg, VA

September 29, 2016

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Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-21 **Date/Time Sampled: 09/21/2016 14:35** **PSS Sample ID: 16092211-002**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
Pyridine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2,4,5-Trichlorophenol	**53**	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:04	1055

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CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North

Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 **Date/Time Sampled: 09/21/2016 14:45** **PSS Sample ID: 16092211-003**

Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/23/16	09/23/16 23:38	1033
Arsenic	**180**	ug/L	5.0		5	09/23/16	09/26/16 15:10	1033
Beryllium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Cadmium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Chromium	**1.9**	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Copper	**2.4**	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Lead	**1.6**	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Mercury	ND	ug/L	0.20		1	09/23/16	09/23/16 23:38	1033
Nickel	**2.0**	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Selenium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Silver	ND	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Thallium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:38	1033
Zinc	**22**	ug/L	20		1	09/23/16	09/23/16 23:38	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.27**	mg/L	0.12		1	09/23/16	09/26/16 00:57	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**380**	ug/L	100		1	09/23/16	09/23/16 12:42	1035

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 **Date/Time Sampled: 09/21/2016 14:45** **PSS Sample ID: 16092211-003**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
beta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
delta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Heptachlor	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Aldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Heptachlor epoxide	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
gamma-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
alpha-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
4,4-DDE	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Endosulfan I	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Dieldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Endrin	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
4,4-DDD	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Endosulfan II	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
4,4-DDT	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Endrin aldehyde	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Methoxychlor	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Endosulfan sulfate	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Endrin ketone	ND	ug/L	0.040		1	09/23/16	09/26/16 14:11	1029
Toxaphene	ND	ug/L	1.0		1	09/23/16	09/26/16 14:11	1029
Chlordane	ND	ug/L	1.0		1	09/23/16	09/26/16 14:11	1029

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September 29, 2016

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Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C
Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/23/16	09/26/16 11:16	1029
PCB-1221	ND	ug/L	0.50		1	09/23/16	09/26/16 11:16	1029
PCB-1232	ND	ug/L	0.50		1	09/23/16	09/26/16 11:16	1029
PCB-1242	ND	ug/L	0.50		1	09/23/16	09/26/16 11:16	1029
PCB-1248	ND	ug/L	0.50		1	09/23/16	09/26/16 11:16	1029
PCB-1254	ND	ug/L	0.50		1	09/23/16	09/26/16 11:16	1029
PCB-1260	ND	ug/L	0.50		1	09/23/16	09/26/16 11:16	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	46		100	09/26/16	09/29/16 12:38	1029
Dicamba	ND	ug/L	1.9		100	09/26/16	09/29/16 12:38	1029
MCPP	ND	ug/L	1,900		100	09/26/16	09/29/16 12:38	1029
MCPA	ND	ug/L	1,900		100	09/26/16	09/29/16 12:38	1029
Dichloroprop	ND	ug/L	19		100	09/26/16	09/29/16 12:38	1029
2,4-D	ND	ug/L	19		100	09/26/16	09/29/16 12:38	1029
2,4,5-TP (Silvex)	ND	ug/L	1.9		100	09/26/16	09/29/16 12:38	1029
2,4,5-T	ND	ug/L	1.9		100	09/26/16	09/29/16 12:38	1029
Dinoseb	ND	ug/L	9.5		100	09/26/16	09/29/16 12:38	1029
2,4-DB	ND	ug/L	19		100	09/26/16	09/29/16 12:38	1029

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TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/27/16	09/27/16 19:24	1011
Benzene	**130**	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Bromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Bromoform	ND	ug/L	5.0		1	09/27/16	09/27/16 19:24	1011
Bromomethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/27/16	09/27/16 19:24	1011
Carbon Disulfide	ND	ug/L	10		1	09/27/16	09/27/16 19:24	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Chlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Chloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Chloroform	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Chloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Cyclohexane	**10**	ug/L	10		1	09/27/16	09/27/16 19:24	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/27/16	09/27/16 19:24	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Ethylbenzene	**1.6**	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011

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September 29, 2016

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Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 **Date/Time Sampled: 09/21/2016 14:45** **PSS Sample ID: 16092211-003**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/27/16	09/27/16 19:24	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Methyl Acetate	ND	ug/L	10		1	09/27/16	09/27/16 19:24	1011
Methylcyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 19:24	1011
Methylene Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/27/16	09/27/16 19:24	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Naphthalene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Styrene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Toluene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Trichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/27/16	09/27/16 19:24	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011
m,p-Xylenes	ND	ug/L	2.0		1	09/27/16	09/27/16 19:24	1011
o-Xylene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:24	1011

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Sample ID: M1Hpt-22 **Date/Time Sampled: 09/21/2016 14:45** **PSS Sample ID: 16092211-003**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Acenaphthylene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Acetophenone	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Atrazine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Carbazole	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Caprolactam	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Chrysene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Dibenzofuran	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2,4-Dichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055

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TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/26/16	09/26/16 20:31	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Fluorene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Hexachloroethane	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Isophorone	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Naphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Nitrobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Phenanthrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055

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Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-22 **Date/Time Sampled: 09/21/2016 14:45** **PSS Sample ID: 16092211-003**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
Pyridine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:31	1055

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PHASE SEPARATION SCIENCE, INC.



CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

PP Metals — Analytical Method: SW-846 6020 A — Preparation Method: 3010A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	09/23/16	09/23/16 23:45	1033
Arsenic	**12**	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Beryllium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Cadmium	**24**	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Chromium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Copper	**1,200**	ug/L	100		100	09/23/16	09/26/16 15:16	1033
Lead	ND	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Mercury	ND	ug/L	0.20		1	09/23/16	09/23/16 23:45	1033
Nickel	**16**	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Selenium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Silver	ND	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Thallium	ND	ug/L	1.0		1	09/23/16	09/23/16 23:45	1033
Zinc	**16,000**	ug/L	2,000		100	09/23/16	09/26/16 15:16	1033

Total Petroleum Hydrocarbons - DRO — Analytical Method: SW-846 8015 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-DRO (Diesel Range Organics)	**0.75**	mg/L	0.11		1	09/23/16	09/26/16 01:22	1045

Total Petroleum Hydrocarbons-GRO — Analytical Method: SW-846 8015C — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
TPH-GRO (Gasoline Range Organics)	**330**	ug/L	100		1	09/23/16	09/23/16 13:07	1035

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No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

Organochlorine Pesticides | Analytical Method: SW-846 8081 B | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
alpha-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
gamma-BHC (Lindane)	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
beta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
delta-BHC	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Heptachlor	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Aldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Heptachlor epoxide	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
gamma-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
alpha-Chlordane	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
4,4-DDE	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Endosulfan I	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Dieldrin	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Endrin	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
4,4-DDD	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Endosulfan II	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
4,4-DDT	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Endrin aldehyde	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Methoxychlor	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Endosulfan sulfate	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Endrin ketone	ND	ug/L	0.040		1	09/23/16	09/26/16 18:25	1029
Toxaphene	ND	ug/L	1.0		1	09/23/16	09/26/16 18:25	1029
Chlordane	ND	ug/L	1.0		1	09/23/16	09/26/16 18:25	1029

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No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

Polychlorinated Biphenyls — Analytical Method: SW-846 8082 A — Preparation Method: 3510C — Clean up Method: SW846 3665A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
PCB-1016	ND	ug/L	0.50		1	09/23/16	09/26/16 12:15	1029
PCB-1221	ND	ug/L	0.50		1	09/23/16	09/26/16 12:15	1029
PCB-1232	ND	ug/L	0.50		1	09/23/16	09/26/16 12:15	1029
PCB-1242	ND	ug/L	0.50		1	09/23/16	09/26/16 12:15	1029
PCB-1248	ND	ug/L	0.50		1	09/23/16	09/26/16 12:15	1029
PCB-1254	ND	ug/L	0.50		1	09/23/16	09/26/16 12:15	1029
PCB-1260	ND	ug/L	0.50		1	09/23/16	09/26/16 12:15	1029

Chlorinated Herbicides — Analytical Method: SW-846 8151 A — Preparation Method: 8151A

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Dalapon	ND	ug/L	46		100	09/26/16	09/29/16 13:11	1029
Dicamba	ND	ug/L	1.9		100	09/26/16	09/29/16 13:11	1029
MCPP	ND	ug/L	1,900		100	09/26/16	09/29/16 13:11	1029
MCPA	ND	ug/L	1,900		100	09/26/16	09/29/16 13:11	1029
Dichloroprop	ND	ug/L	19		100	09/26/16	09/29/16 13:11	1029
2,4-D	ND	ug/L	19		100	09/26/16	09/29/16 13:11	1029
2,4,5-TP (Silvex)	**4.4**	ug/L	1.9		100	09/26/16	09/29/16 13:11	1029
2,4,5-T	ND	ug/L	1.9		100	09/26/16	09/29/16 13:11	1029
Dinoseb	ND	ug/L	9.5		100	09/26/16	09/29/16 13:11	1029
2,4-DB	ND	ug/L	19		100	09/26/16	09/29/16 13:11	1029

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Icor Ltd., Middleburg, VA

September 29, 2016

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Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acetone	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
Benzene	**66**	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Bromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Bromodichloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Bromoform	ND	ug/L	5.0		1	09/27/16	09/27/16 19:46	1011
Bromomethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
2-Butanone (MEK)	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
Carbon Disulfide	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
Carbon Tetrachloride	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Chlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Chloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Chloroform	**1.4**	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Chloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Cyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
1,2-Dibromo-3-Chloropropane	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
Dibromochloromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,2-Dibromoethane (EDB)	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,3-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Dichlorodifluoromethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Ethylbenzene	**5.4**	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011

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CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Volatile Organic Compounds — Analytical Method: SW-846 8260 B — Preparation Method: 5030B

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
2-Hexanone	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
Isopropylbenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Methyl Acetate	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
Methylcyclohexane	ND	ug/L	10		1	09/27/16	09/27/16 19:46	1011
Methylene Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
4-Methyl-2-Pentanone	ND	ug/L	5.0		1	09/27/16	09/27/16 19:46	1011
Methyl-t-butyl ether	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Naphthalene	**37**	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Styrene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Tetrachloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Toluene	**5.6**	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,2,3-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,2,4-Trichlorobenzene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Trichloroethene	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Trichlorofluoromethane	ND	ug/L	5.0		1	09/27/16	09/27/16 19:46	1011
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
Vinyl Chloride	ND	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011
m,p-Xylenes	**2.8**	ug/L	2.0		1	09/27/16	09/27/16 19:46	1011
o-Xylene	**4.8**	ug/L	1.0		1	09/27/16	09/27/16 19:46	1011

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Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds Analytical Method: SW-846 8270 C Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Acenaphthene	**12**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Acenaphthylene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Acetophenone	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Anthracene	**6.3**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Atrazine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Benzo(a)anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Benzo(a)pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Benzo(b)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Benzo(g,h,i)perylene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Benzo(k)fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Biphenyl (Diphenyl)	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Butyl benzyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
bis(2-chloroethoxy) methane	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
bis(2-chloroethyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
bis(2-chloroisopropyl) ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
bis(2-ethylhexyl) phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
4-Bromophenylphenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Di-n-butyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Carbazole	**7.4**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Caprolactam	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
4-Chloro-3-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
4-Chloroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2-Chloronaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2-Chlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
4-Chlorophenyl Phenyl ether	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Chrysene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Dibenz(a,h)Anthracene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Dibenzofuran	**13**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
3,3-Dichlorobenzidine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2,4-Dichlorophenol	**13**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055

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CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**

Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds — Analytical Method: SW-846 8270 C — Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Diethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Dimethyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2,4-Dimethylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
4,6-Dinitro-2-methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2,4-Dinitrophenol	ND	ug/L	10		1	09/26/16	09/26/16 20:58	1055
2,4-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2,6-Dinitrotoluene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Fluoranthene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Fluorene	**18**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Hexachlorobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Hexachlorobutadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Hexachlorocyclopentadiene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Hexachloroethane	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Indeno(1,2,3-c,d)Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Isophorone	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2-Methylnaphthalene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2-Methyl phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
3&4-Methylphenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Naphthalene	**10**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
3-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
4-Nitroaniline	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Nitrobenzene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
4-Nitrophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
N-Nitrosodi-n-propyl amine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
N-Nitrosodiphenylamine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Di-n-octyl phthalate	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Pentachlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Phenanthrene	**21**	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055

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PHASE SEPARATION SCIENCE, INC.

CERTIFICATE OF ANALYSIS

No: 16092211

Icor Ltd., Middleburg, VA

September 29, 2016

Project Name: Robinson Terminal North
Project Location: 500/501 N. Union St.

Sample ID: M1Hpt-14 **Date/Time Sampled: 09/21/2016 13:40** **PSS Sample ID: 16092211-004**
Matrix: GROUND WATER **Date/Time Received: 09/22/2016 13:15**

TCL Semivolatile Organic Compounds | Analytical Method: SW-846 8270 C | Preparation Method: 3510C

	Result	Units	RL	Flag	Dil	Prepared	Analyzed	Analyst
Phenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Pyrene	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
Pyridine	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2,4,5-Trichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055
2,4,6-Trichlorophenol	ND	ug/L	5.0		1	09/26/16	09/26/16 20:58	1055

Case Narrative Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16092211

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

The analyses of chlorine, pH, dissolved oxygen, temperature and sulfite for drinking water and non-potable samples tested for compliance have a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

All sample receipt conditions were acceptable.

Analytical:

PP Metals

Batch: 136073

Matrix spike and/or matrix spike duplicate (MS/MSD) exceedances identified; see MS summary form.
The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration : zinc

Batch: 136095

Closing CCV had a copper recovery of 111% and a zinc recovery of 114%, which are above the control limits of 90-110%.

Organochlorine Pesticides

Batch: 136106

4,4-DDT and Methoxychlor in closing CCV was 74% and 77% due to sample matrix. All samples were confirmed on second column.
Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

Chlorinated Herbicides

Batch: 136151

Surrogate recoveries affected by sample dilution.
The recoveries of MCPP and MCPA in the closing CCV-R4 were 75% and 79% (80-120%). All samples were confirmed on second column.

TCL Semivolatile Organic Compounds

Batch: 136130

Laboratory control sample and/or laboratory control sample duplicate (LCS/LCSD) exceedances identified; see LCS summary form.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Case Narrative Summary

Client Name: Icor Ltd.

Project Name: Robinson Terminal North

Work Order Number(s): 16092211

Analytical Data Package Information Summary

Work Order(s): 16092211
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 6020 A	M1Hpt-20	Initial	16092211-001	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 22:19
	M1Hpt-21	Initial	16092211-002	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 23:32
	M1Hpt-22	Initial	16092211-003	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 23:38
	M1Hpt-14	Initial	16092211-004	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 23:45
	62687-1-BKS	BKS	62687-1-BKS	1033	W	62687	136073	--------	09/23/2016 10:46	09/23/2016 22:12
	62687-1-BLK	BLK	62687-1-BLK	1033	W	62687	136073	--------	09/23/2016 10:46	09/23/2016 22:06
	M1Hpt-20 S	MS	16092211-001 S	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 22:25
	M1Hpt-20 S	Reanalysis	16092211-001 S	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 22:25
	M1Hpt-20 SD	MSD	16092211-001 SD	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 22:56
	M1Hpt-20 SD	Reanalysis	16092211-001 SD	1033	W	62687	136073	09/21/2016	09/23/2016 10:46	09/23/2016 22:56
	M1Hpt-20	Reanalysis	16092211-001	1033	W	62687	136095	09/21/2016	09/23/2016 10:46	09/26/2016 14:58
	M1Hpt-21	Reanalysis	16092211-002	1033	W	62687	136095	09/21/2016	09/23/2016 10:46	09/26/2016 15:04
	M1Hpt-22	Reanalysis	16092211-003	1033	W	62687	136095	09/21/2016	09/23/2016 10:46	09/26/2016 15:10
	M1Hpt-14	Reanalysis	16092211-004	1033	W	62687	136095	09/21/2016	09/23/2016 10:46	09/26/2016 15:16
SW-846 8015 C	M1Hpt-20	Initial	16092211-001	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/26/2016 00:32
	M1Hpt-21	Initial	16092211-002	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/26/2016 00:57
	M1Hpt-22	Initial	16092211-003	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/26/2016 00:57
	M1Hpt-14	Initial	16092211-004	1045	W	62675	136055	09/21/2016	09/23/2016 08:10	09/26/2016 01:22
	62675-1-BKS	BKS	62675-1-BKS	1045	W	62675	136055	--------	09/23/2016 08:10	09/23/2016 11:50
	62675-1-BLK	BLK	62675-1-BLK	1045	W	62675	136055	--------	09/23/2016 08:10	09/23/2016 11:50
	62675-1-BSD	BSD	62675-1-BSD	1045	W	62675	136055	--------	09/23/2016 08:10	09/23/2016 12:15
SW-846 8015C	M1Hpt-20	Initial	16092211-001	1035	W	62688	136045	09/21/2016	09/23/2016 09:10	09/23/2016 12:16
	M1Hpt-21	Initial	16092211-002	1035	W	62688	136045	09/21/2016	09/23/2016 09:10	09/23/2016 13:33
	M1Hpt-22	Initial	16092211-003	1035	W	62688	136045	09/21/2016	09/23/2016 09:10	09/23/2016 12:42
	M1Hpt-14	Initial	16092211-004	1035	W	62688	136045	09/21/2016	09/23/2016 09:10	09/23/2016 13:07
	62688-2-BKS	BKS	62688-2-BKS	1035	W	62688	136045	--------	09/23/2016 09:10	09/23/2016 11:25
	62688-2-BLK	BLK	62688-2-BLK	1035	W	62688	136045	--------	09/23/2016 09:10	09/23/2016 11:00
	M1Hpt-20 S	MS	16092211-001 S	1035	W	62688	136045	09/21/2016	09/23/2016 09:10	09/23/2016 13:58

Analytical Data Package Information Summary

Work Order(s): 16092211
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8015C	M1Hpt-20 SD	MSD	16092211-001 SD	1035	W	62688	136045	09/21/2016	09/23/2016 09:10	09/23/2016 14:24
SW-846 8081 B	M1Hpt-20	Initial	16092211-001	1029	W	62692	136106	09/21/2016	09/23/2016 15:44	09/26/2016 13:14
	M1Hpt-21	Initial	16092211-002	1029	W	62692	136106	09/21/2016	09/23/2016 15:44	09/26/2016 13:43
	M1Hpt-22	Initial	16092211-003	1029	W	62692	136106	09/21/2016	09/23/2016 15:44	09/26/2016 14:11
	M1Hpt-14	Initial	16092211-004	1029	W	62692	136106	09/21/2016	09/23/2016 15:44	09/26/2016 18:25
	62692-1-BKS	BKS	62692-1-BKS	1029	W	62692	136106	--------	09/23/2016 15:44	09/26/2016 23:05
	62692-1-BLK	BLK	62692-1-BLK	1029	W	62692	136106	--------	09/23/2016 15:44	09/26/2016 22:09
	62692-1-BSD	BSD	62692-1-BSD	1029	W	62692	136106	--------	09/23/2016 15:44	09/26/2016 23:33
SW-846 8082 A	M1Hpt-20	Initial	16092211-001	1029	W	62693	136124	09/21/2016	09/23/2016 15:46	09/26/2016 10:18
	M1Hpt-21	Initial	16092211-002	1029	W	62693	136124	09/21/2016	09/23/2016 15:46	09/26/2016 10:47
	M1Hpt-22	Initial	16092211-003	1029	W	62693	136124	09/21/2016	09/23/2016 15:46	09/26/2016 11:16
	M1Hpt-14	Initial	16092211-004	1029	W	62693	136124	09/21/2016	09/23/2016 15:46	09/26/2016 12:15
	62693-1-BKS	BKS	62693-1-BKS	1029	W	62693	136124	--------	09/23/2016 15:46	09/26/2016 10:18
	62693-1-BLK	BLK	62693-1-BLK	1029	W	62693	136124	--------	09/23/2016 15:46	09/26/2016 09:49
	62693-1-BSD	BSD	62693-1-BSD	1029	W	62693	136124	--------	09/23/2016 15:46	09/26/2016 10:47
SW-846 8151 A	M1Hpt-20	Initial	16092211-001	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/27/2016 15:33
	M1Hpt-21	Initial	16092211-002	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/29/2016 12:05
	M1Hpt-22	Initial	16092211-003	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/29/2016 12:38
	M1Hpt-14	Initial	16092211-004	1029	W	62706	136151	09/21/2016	09/26/2016 10:57	09/29/2016 13:11
	62706-1-BKS	BKS	62706-1-BKS	1029	W	62706	136151	--------	09/26/2016 10:57	09/27/2016 13:56
	62706-1-BLK	BLK	62706-1-BLK	1029	W	62706	136151	--------	09/26/2016 10:57	09/27/2016 13:23
	62706-1-BSD	BSD	62706-1-BSD	1029	W	62706	136151	--------	09/26/2016 10:57	09/27/2016 14:28
SW-846 8260 B	M1Hpt-20	Initial	16092211-001	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 18:41
	M1Hpt-21	Initial	16092211-002	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 19:02
	M1Hpt-22	Initial	16092211-003	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 19:24
	M1Hpt-14	Initial	16092211-004	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 19:46
	62733-1-BKS	BKS	62733-1-BKS	1011	W	62733	136140	--------	09/27/2016 11:17	09/27/2016 12:15

Analytical Data Package Information Summary

Work Order(s): 16092211
Report Prepared For: Icor Ltd., Middleburg, VA
Project Name: Robinson Terminal North
Project Manager: Mike Bruzzesi

Method	Client Sample Id	Analysis Type	Lab Sample Id	Analyst	Mtx	Prep Batch	Analytical Batch	Sampled	Prepared	Analyzed
SW-846 8260 B	62733-1-BLK	BLK	62733-1-BLK	1011	W	62733	136140	--------	09/27/2016 11:17	09/27/2016 12:57
	M1Hpt-08 S	MS	16092115-005 S	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 16:10
	M1Hpt-08 SD	MSD	16092115-005 SD	1011	W	62733	136140	09/21/2016	09/27/2016 11:17	09/27/2016 16:32
SW-846 8270 C	M1Hpt-20	Initial	16092211-001	1055	W	62695	136130	09/21/2016	09/26/2016 09:06	09/26/2016 19:38
	M1Hpt-21	Initial	16092211-002	1055	W	62695	136130	09/21/2016	09/26/2016 09:06	09/26/2016 20:04
	M1Hpt-22	Initial	16092211-003	1055	W	62695	136130	09/21/2016	09/26/2016 09:06	09/26/2016 20:31
	M1Hpt-14	Initial	16092211-004	1055	W	62695	136130	09/21/2016	09/26/2016 09:06	09/26/2016 20:58
	62695-1-BKS	BKS	62695-1-BKS	1055	W	62695	136130	--------	09/26/2016 09:06	09/26/2016 16:57
	62695-1-BLK	BLK	62695-1-BLK	1055	W	62695	136130	--------	09/26/2016 09:06	09/26/2016 16:30
	62695-1-BSD	BSD	62695-1-BSD	1055	W	62695	136130	--------	09/26/2016 09:06	09/26/2016 17:24
	M1Hpt-21	Reanalysis	16092211-002	1055	W	62695	136130	09/21/2016	09/26/2016 09:06	09/27/2016 11:57

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136106 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	91		43-150	%	09/26/16 13:14
Tetrachloro-m-xylene	49		40-126	%	09/26/16 13:14

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136124 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	72		39-154	%	09/26/16 10:18
Tetrachloro-m-xylene	63		35-131	%	09/26/16 10:18

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	101		64-126	%	09/27/16 15:33

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	74		46-111	%	09/26/16 00:32

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136130 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	73		35-107	%	09/26/16 19:38
2-Fluorophenol	68		32-106	%	09/26/16 19:38
Nitrobenzene-d5	69		34-123	%	09/26/16 19:38
Phenol-d6	68		36-111	%	09/26/16 19:38
Terphenyl-D14	90		43-143	%	09/26/16 19:38
2,4,6-Tribromophenol	76		26-122	%	09/26/16 19:38

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136045 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	82		55-114	%	09/23/16 12:16

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/2016
PSS Sample ID: 16092211-001

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	99		86-111	%	09/27/16 18:41
Dibromofluoromethane	96		91-119	%	09/27/16 18:41
Toluene-D8	105		90-117	%	09/27/16 18:41

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136106 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	83		43-150	%	09/26/16 13:43
Tetrachloro-m-xylene	57		40-126	%	09/26/16 13:43

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136124 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	74		39-154	%	09/26/16 10:47
Tetrachloro-m-xylene	103		35-131	%	09/26/16 10:47

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	0	*	64-126	%	09/29/16 12:05

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	94		46-111	%	09/26/16 00:57

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136130 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	65		35-107	%	09/26/16 20:04
2-Fluorophenol	61		32-106	%	09/26/16 20:04
Nitrobenzene-d5	62		34-123	%	09/26/16 20:04
Phenol-d6	61		36-111	%	09/26/16 20:04
Terphenyl-D14	96		43-143	%	09/26/16 20:04
2,4,6-Tribromophenol	80		26-122	%	09/26/16 20:04

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136045 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	80		55-114	%	09/23/16 13:33

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/2016
PSS Sample ID: 16092211-002

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	97		86-111	%	09/27/16 19:02
Dibromofluoromethane	96		91-119	%	09/27/16 19:02
Toluene-D8	106		90-117	%	09/27/16 19:02

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136106 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	90		43-150	%	09/26/16 14:11
Tetrachloro-m-xylene	60		40-126	%	09/26/16 14:11

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136124 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	72		39-154	%	09/26/16 11:16
Tetrachloro-m-xylene	55		35-131	%	09/26/16 11:16

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	111		64-126	%	09/29/16 12:38

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	82		46-111	%	09/26/16 00:57

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136130 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	72		35-107	%	09/26/16 20:31
2-Fluorophenol	67		32-106	%	09/26/16 20:31
Nitrobenzene-d5	68		34-123	%	09/26/16 20:31
Phenol-d6	67		36-111	%	09/26/16 20:31
Terphenyl-D14	95		43-143	%	09/26/16 20:31
2,4,6-Tribromophenol	79		26-122	%	09/26/16 20:31

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136045 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	85		55-114	%	09/23/16 12:42

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/2016
PSS Sample ID: 16092211-003

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	103		86-111	%	09/27/16 19:24
Dibromofluoromethane	95		91-119	%	09/27/16 19:24
Toluene-D8	105		90-117	%	09/27/16 19:24

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136106 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	107		43-150	%	09/26/16 18:25
Tetrachloro-m-xylene	58		40-126	%	09/26/16 18:25

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136124 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	75		39-154	%	09/26/16 12:15
Tetrachloro-m-xylene	60		35-131	%	09/26/16 12:15

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	127	*	64-126	%	09/29/16 13:11

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
o-Terphenyl	84		46-111	%	09/26/16 01:22

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136130 Matrix: Ground Water Date Prep: 09/26/2016
PSS Sample ID: 16092211-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	69		35-107	%	09/26/16 20:58
2-Fluorophenol	64		32-106	%	09/26/16 20:58
Nitrobenzene-d5	64		34-123	%	09/26/16 20:58
Phenol-d6	66		36-111	%	09/26/16 20:58
Terphenyl-D14	89		43-143	%	09/26/16 20:58
2,4,6-Tribromophenol	80		26-122	%	09/26/16 20:58

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136045 Matrix: Ground Water Date Prep: 09/23/2016
PSS Sample ID: 16092211-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	82		55-114	%	09/23/16 13:07

Analytical Method: SW-846 8260 B Prep Method: SW5030B
Seq Number: 136140 Matrix: Ground Water Date Prep: 09/27/2016
PSS Sample ID: 16092211-004

Surrogate	%Rec	Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	105		86-111	%	09/27/16 19:46
Dibromofluoromethane	97		91-119	%	09/27/16 19:46
Toluene-D8	110		90-117	%	09/27/16 19:46

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 6020 A Prep Method: SW3010A
Seq Number: 136073 Matrix: Water Date Prep: 09/23/16
MB Sample Id: 62687-1-BLK LCS Sample Id: 62687-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Antimony	<5.000	40.00	41.71	104	80-120	ug/L	09/23/16 22:12	
Arsenic	<1.000	40.00	39.37	98	80-120	ug/L	09/23/16 22:12	
Beryllium	<1.000	40.00	45.07	113	80-120	ug/L	09/23/16 22:12	
Cadmium	<1.000	40.00	42.47	106	80-120	ug/L	09/23/16 22:12	
Chromium	<1.000	40.00	38.39	96	80-120	ug/L	09/23/16 22:12	
Copper	<1.000	40.00	37.66	94	80-120	ug/L	09/23/16 22:12	
Lead	<1.000	40.00	40.48	101	80-120	ug/L	09/23/16 22:12	
Mercury	<0.2000	1.000	0.9900	99	80-120	ug/L	09/23/16 22:12	
Nickel	<1.000	40.00	38.18	95	80-120	ug/L	09/23/16 22:12	
Selenium	<1.000	40.00	41.97	105	80-120	ug/L	09/23/16 22:12	
Silver	<1.000	40.00	41.91	105	80-120	ug/L	09/23/16 22:12	
Thallium	<1.000	40.00	37.01	93	80-120	ug/L	09/23/16 22:12	
Zinc	<20.00	200	188.1	94	80-120	ug/L	09/23/16 22:12	

Analytical Method: SW-846 6020 A Prep Method: SW3010A
Seq Number: 136073 Matrix: Ground Water Date Prep: 09/23/16
Parent Sample Id: 16092211-001 MS Sample Id: 16092211-001 S MSD Sample Id: 16092211-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Antimony	<5.000	40.00	44.35	111	42.92	107	75-125	3	25	ug/L	09/23/16 22:25	
Arsenic	13.48	40.00	55.45	105	51.81	96	75-125	7	25	ug/L	09/23/16 22:25	
Beryllium	<1.000	40.00	46.67	117	45.05	113	75-125	4	25	ug/L	09/23/16 22:25	
Cadmium	7.420	40.00	49.64	106	47.40	100	75-125	5	25	ug/L	09/23/16 22:25	
Chromium	<1.000	40.00	39.90	100	37.22	93	75-125	7	25	ug/L	09/23/16 22:25	
Copper	12.05	40.00	49.43	93	46.69	87	75-125	6	25	ug/L	09/23/16 22:25	
Lead	2.000	40.00	44.61	107	43.65	104	75-125	2	25	ug/L	09/23/16 22:25	
Mercury	<0.2000	1.000	1.150	115	1.140	114	75-125	1	25	ug/L	09/23/16 22:25	
Nickel	4.950	40.00	42.59	94	39.69	87	75-125	7	25	ug/L	09/23/16 22:25	
Selenium	8.300	40.00	44.84	91	44.38	90	75-125	1	25	ug/L	09/23/16 22:25	
Silver	<1.000	40.00	40.49	101	39.61	99	75-125	2	25	ug/L	09/23/16 22:25	
Thallium	<1.000	40.00	40.14	100	38.68	97	75-125	4	25	ug/L	09/23/16 22:25	
Zinc	6895	200	7698	402	7351	228	75-125	5	25	ug/L	09/23/16 22:25	X

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8081 B Prep Method: SW3510C
Seq Number: 136106 Matrix: Water Date Prep: 09/23/16
MB Sample Id: 62692-1-BLK LCS Sample Id: 62692-1-BKS LCSD Sample Id: 62692-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
alpha-BHC	<0.04000	0.2000	0.1865	93	0.1968	98	57-118	5	20	ug/L	09/26/16 23:05	
gamma-BHC (Lindane)	<0.04000	0.2000	0.1797	90	0.1946	97	57-120	8	20	ug/L	09/26/16 23:05	
beta-BHC	<0.04000	0.2000	0.1749	87	0.1903	95	56-113	8	20	ug/L	09/26/16 23:05	
delta-BHC	<0.04000	0.2000	0.2028	101	0.2250	113	48-125	10	20	ug/L	09/26/16 23:05	
Heptachlor	<0.04000	0.2000	0.1783	89	0.2046	102	49-127	14	20	ug/L	09/26/16 23:05	
Aldrin	<0.04000	0.2000	0.1772	89	0.1982	99	57-119	11	20	ug/L	09/26/16 23:05	
Heptachlor epoxide	<0.04000	0.2000	0.1872	94	0.2102	105	62-116	12	20	ug/L	09/26/16 23:05	
gamma-Chlordane	<0.04000	0.2000	0.1899	95	0.2158	108	59-116	13	20	ug/L	09/26/16 23:05	
alpha-Chlordane	<0.04000	0.2000	0.1712	86	0.1955	98	68-109	13	20	ug/L	09/26/16 23:05	
4,4-DDE	<0.04000	0.2000	0.1672	84	0.1898	95	49-122	13	20	ug/L	09/26/16 23:05	
Endosulfan I	<0.04000	0.2000	0.1948	97	0.2284	114	71-108	16	20	ug/L	09/26/16 23:05	H
Dieldrin	<0.04000	0.2000	0.1915	96	0.2251	113	60-117	16	20	ug/L	09/26/16 23:05	
Endrin	<0.04000	0.2000	0.1650	83	0.2095	105	48-132	24	20	ug/L	09/26/16 23:05	F
4,4-DDD	<0.04000	0.2000	0.1824	91	0.2115	106	48-128	15	20	ug/L	09/26/16 23:05	
Endosulfan II	<0.04000	0.2000	0.2115	106	0.2536	127	59-118	18	20	ug/L	09/26/16 23:05	H
4,4-DDT	<0.04000	0.2000	0.1772	89	0.2376	119	29-147	29	20	ug/L	09/26/16 23:05	F
Endrin aldehyde	<0.04000	0.2000	0.1684	84	0.1999	100	54-122	17	20	ug/L	09/26/16 23:05	
Methoxychlor	<0.04000	0.2000	0.1699	85	0.2298	115	26-156	30	20	ug/L	09/26/16 23:05	F
Endosulfan sulfate	<0.04000	0.2000	0.2121	106	0.2557	128	57-130	19	20	ug/L	09/26/16 23:05	
Endrin ketone	<0.04000	0.2000	0.2206	110	0.2678	134	55-123	19	20	ug/L	09/26/16 23:05	H

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	114		72		111		43-150	%	09/26/16 23:05
Tetrachloro-m-xylene	98		81		97		40-126	%	09/26/16 23:05

Analytical Method: SW-846 8082 A Prep Method: SW3510C
Seq Number: 136124 Matrix: Water Date Prep: 09/23/16
MB Sample Id: 62693-1-BLK LCS Sample Id: 62693-1-BKS LCSD Sample Id: 62693-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
PCB-1016	<0.5000	5.000	3.223	64	3.479	70	56-124	8	20	ug/L	09/26/16 10:18	
PCB-1260	<0.5000	5.000	4.075	82	4.486	90	61-103	10	20	ug/L	09/26/16 10:18	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
Decachlorobiphenyl	81		75		89		39-154	%	09/26/16 10:18
Tetrachloro-m-xylene	82		71		85		35-131	%	09/26/16 10:18

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8151 A Prep Method: SW8151A_PREP
Seq Number: 136151 Matrix: Water Date Prep: 09/26/16
MB Sample Id: 62706-1-BLK LCS Sample Id: 62706-1-BKS LCSD Sample Id: 62706-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Dalapon	<4.550	13.65	10.59	78	7.758	57	33-127	31	20	ug/L	09/27/16 13:56	F
Dicamba	<0.1880	0.5640	0.6157	109	0.5659	100	66-121	8	20	ug/L	09/27/16 13:56	
MCPP	<188	564	425.8	75	423.2	75	49-121	1	20	ug/L	09/27/16 13:56	
MCPA	<186	558	422.7	76	420.5	75	50-123	1	20	ug/L	09/27/16 13:56	
Dichloroprop	<1.880	5.640	5.769	102	5.750	102	79-132	0	20	ug/L	09/27/16 13:56	
2,4-D	<1.880	5.640	5.772	102	5.691	101	70-104	1	20	ug/L	09/27/16 13:56	
2,4,5-TP (Silvex)	<0.1900	0.5700	0.5007	88	0.4997	88	59-122	0	20	ug/L	09/27/16 13:56	
2,4,5-T	<0.1900	0.5700	0.4826	85	0.4665	82	49-136	3	20	ug/L	09/27/16 13:56	
Dinoseb	<0.9500	2.850	2.138	75	2.026	71	48-110	5	20	ug/L	09/27/16 13:56	
2,4-DB	<1.920	5.760	5.341	93	4.728	82	49-128	12	20	ug/L	09/27/16 13:56	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2,4-Dichlorophenylacetic Acid	106		101		108		64-126	%	09/27/16 13:56

Analytical Method: SW-846 8015 C Prep Method: SW3510C
Seq Number: 136055 Matrix: Water Date Prep: 09/23/16
MB Sample Id: 62675-1-BLK LCS Sample Id: 62675-1-BKS LCSD Sample Id: 62675-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-DRO (Diesel Range Organics)	<0.1000	1.000	0.8225	82	0.8037	80	41-123	2	20	mg/L	09/23/16 11:50	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
o-Terphenyl	92		79		75		46-111	%	09/23/16 11:50

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136130 Matrix: Water Date Prep: 09/26/16
MB Sample Id: 62695-1-BLK LCS Sample Id: 62695-1-BKS LCSD Sample Id: 62695-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Acenaphthene	<5.000	40.00	33.04	83	33.33	83	67-110	1	20	ug/L	09/26/16 16:57	
Acenaphthylene	<5.000	40.00	34.62	87	34.80	87	69-106	1	20	ug/L	09/26/16 16:57	
Acetophenone	<5.000	40.00	30.62	77	30.56	76	67-107	0	20	ug/L	09/26/16 16:57	
Anthracene	<5.000	40.00	33.81	85	33.98	85	79-108	1	20	ug/L	09/26/16 16:57	
Atrazine	<5.000	40.00	27.40	69	27.15	68	17-98	1	20	ug/L	09/26/16 16:57	
Benzo(a)anthracene	<5.000	40.00	33.12	83	33.21	83	76-109	0	20	ug/L	09/26/16 16:57	
Benzo(a)pyrene	<5.000	40.00	34.58	86	35.09	88	76-114	1	20	ug/L	09/26/16 16:57	
Benzo(b)fluoranthene	<5.000	40.00	38.27	96	38.23	96	67-121	0	20	ug/L	09/26/16 16:57	
Benzo(g,h,i)perylene	<5.000	40.00	25.03	63	27.69	69	75-107	10	20	ug/L	09/26/16 16:57	L
Benzo(k)fluoranthene	<5.000	40.00	37.82	95	38.20	96	62-132	1	20	ug/L	09/26/16 16:57	
Biphenyl (Diphenyl)	<5.000	40.00	30.80	77	30.97	77	71-108	1	20	ug/L	09/26/16 16:57	
Butyl benzyl phthalate	<5.000	40.00	38.71	97	39.44	99	74-117	2	20	ug/L	09/26/16 16:57	
bis(2-chloroethoxy) methane	<5.000	40.00	30.37	76	30.38	76	69-111	0	20	ug/L	09/26/16 16:57	
bis(2-chloroethyl) ether	<5.000	40.00	29.59	74	29.67	74	62-103	0	20	ug/L	09/26/16 16:57	
bis(2-chloroisopropyl) ether	<5.000	40.00	25.55	64	25.44	64	50-103	0	20	ug/L	09/26/16 16:57	
bis(2-ethylhexyl) phthalate	<5.000	40.00	38.84	97	39.68	99	78-114	2	20	ug/L	09/26/16 16:57	
4-Bromophenylphenyl ether	<5.000	40.00	32.19	80	32.18	80	82-108	0	20	ug/L	09/26/16 16:57	L
Di-n-butyl phthalate	<5.000	40.00	35.35	88	35.55	89	71-115	1	20	ug/L	09/26/16 16:57	
Carbazole	<5.000	40.00	34.66	87	34.55	86	52-134	0	20	ug/L	09/26/16 16:57	
Caprolactam	<5.000	40.00	29.23	73	29.86	75	50-125	2	20	ug/L	09/26/16 16:57	
4-Chloro-3-methyl phenol	<5.000	40.00	32.57	81	32.94	82	72-121	1	20	ug/L	09/26/16 16:57	
4-Chloroaniline	<5.000	40.00	29.06	73	29.50	74	54-103	2	20	ug/L	09/26/16 16:57	
2-Chloronaphthalene	<5.000	40.00	32.70	82	32.86	82	66-105	0	20	ug/L	09/26/16 16:57	
2-Chlorophenol	<5.000	40.00	31.76	79	31.68	79	63-109	0	20	ug/L	09/26/16 16:57	
4-Chlorophenyl Phenyl ether	<5.000	40.00	31.12	78	30.99	77	73-100	0	20	ug/L	09/26/16 16:57	
Chrysene	<5.000	40.00	33.15	83	33.10	83	78-111	0	20	ug/L	09/26/16 16:57	
Dibenz(a,h)Anthracene	<5.000	40.00	24.49	61	27.88	70	76-106	13	20	ug/L	09/26/16 16:57	L
Dibenzofuran	<5.000	40.00	32.62	82	32.80	82	70-111	1	20	ug/L	09/26/16 16:57	
3,3-Dichlorobenzidine	<5.000	40.00	43.17	108	43.29	108	79-132	0	20	ug/L	09/26/16 16:57	
2,4-Dichlorophenol	<5.000	40.00	32.91	82	33.47	84	65-118	2	20	ug/L	09/26/16 16:57	
Diethyl phthalate	<5.000	40.00	33.43	84	33.37	83	60-114	0	20	ug/L	09/26/16 16:57	
Dimethyl phthalate	<5.000	40.00	33.07	83	33.44	84	66-107	1	20	ug/L	09/26/16 16:57	
2,4-Dimethylphenol	<5.000	40.00	33.62	84	33.22	83	60-119	1	20	ug/L	09/26/16 16:57	
4,6-Dinitro-2-methyl phenol	<5.000	40.00	27.93	70	29.56	74	60-130	6	20	ug/L	09/26/16 16:57	
2,4-Dinitrophenol	<10.00	40.00	16.58	41	18.81	47	36-136	13	20	ug/L	09/26/16 16:57	
2,4-Dinitrotoluene	<5.000	40.00	31.73	79	32.25	81	70-119	2	20	ug/L	09/26/16 16:57	
2,6-Dinitrotoluene	<5.000	40.00	33.12	83	33.84	85	68-117	2	20	ug/L	09/26/16 16:57	
Fluoranthene	<5.000	40.00	34.39	86	33.89	85	79-112	1	20	ug/L	09/26/16 16:57	
Fluorene	<5.000	40.00	33.63	84	33.85	85	71-109	1	20	ug/L	09/26/16 16:57	
Hexachlorobenzene	<5.000	40.00	29.92	75	30.10	75	76-110	1	20	ug/L	09/26/16 16:57	L
Hexachlorobutadiene	<5.000	40.00	30.37	76	30.17	75	64-113	1	20	ug/L	09/26/16 16:57	
Hexachlorocyclopentadiene	<5.000	40.00	32.99	82	32.77	82	49-124	1	20	ug/L	09/26/16 16:57	
Hexachloroethane	<5.000	40.00	30.29	76	30.16	75	62-105	0	20	ug/L	09/26/16 16:57	
Indeno(1,2,3-c,d)Pyrene	<5.000	40.00	26.16	65	29.29	73	69-120	11	20	ug/L	09/26/16 16:57	L
Isophorone	<5.000	40.00	32.01	80	32.39	81	68-108	1	20	ug/L	09/26/16 16:57	
2-Methylnaphthalene	<5.000	40.00	33.20	83	33.52	84	64-117	1	20	ug/L	09/26/16 16:57	
2-Methyl phenol	<5.000	40.00	32.36	81	32.71	82	67-111	1	20	ug/L	09/26/16 16:57	
3&4-Methylphenol	<5.000	40.00	32.06	80	32.00	80	67-107	0	20	ug/L	09/26/16 16:57	
Naphthalene	<5.000	40.00	31.10	78	31.36	78	65-103	1	20	ug/L	09/26/16 16:57	
2-Nitroaniline	<5.000	40.00	29.79	74	30.26	76	59-114	2	20	ug/L	09/26/16 16:57	
3-Nitroaniline	<5.000	40.00	31.88	80	32.22	81	60-109	1	20	ug/L	09/26/16 16:57	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8270 C Prep Method: SW3510C
Seq Number: 136130 Matrix: Water Date Prep: 09/26/16
MB Sample Id: 62695-1-BLK LCS Sample Id: 62695-1-BKS LCSD Sample Id: 62695-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
4-Nitroaniline	<5.000	40.00	33.34	83	33.47	84	51-125	0	20	ug/L	09/26/16 16:57	
Nitrobenzene	<5.000	40.00	27.66	69	27.79	69	60-107	0	20	ug/L	09/26/16 16:57	
2-Nitrophenol	<5.000	40.00	33.03	83	34.20	86	65-119	3	20	ug/L	09/26/16 16:57	
4-Nitrophenol	<5.000	40.00	29.20	73	29.42	74	46-121	1	20	ug/L	09/26/16 16:57	
N-Nitrosodi-n-propyl amine	<5.000	40.00	30.65	77	30.82	77	60-98	1	20	ug/L	09/26/16 16:57	
N-Nitrosodiphenylamine	<5.000	40.00	34.54	86	34.74	87	68-106	1	20	ug/L	09/26/16 16:57	
Di-n-octyl phthalate	<5.000	40.00	41.92	105	42.83	107	69-120	2	20	ug/L	09/26/16 16:57	
Pentachlorophenol	<5.000	40.00	32.90	82	32.59	81	63-119	1	20	ug/L	09/26/16 16:57	
Phenanthrene	<5.000	40.00	33.59	84	33.41	84	73-109	1	20	ug/L	09/26/16 16:57	
Phenol	<5.000	40.00	30.78	77	30.83	77	65-110	0	20	ug/L	09/26/16 16:57	
Pyrene	<5.000	40.00	33.97	85	34.88	87	78-111	3	20	ug/L	09/26/16 16:57	
Pyridine	<5.000	40.00	27.80	70	27.94	70	47-105	1	20	ug/L	09/26/16 16:57	
2,4,5-Trichlorophenol	<5.000	40.00	35.55	89	36.24	91	69-114	2	20	ug/L	09/26/16 16:57	
2,4,6-Trichlorophenol	<5.000	40.00	34.50	86	34.42	86	68-118	0	20	ug/L	09/26/16 16:57	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units	Analysis Date
2-Fluorobiphenyl	89		79		78		35-107	%	09/26/16 16:57
2-Fluorophenol	93		77		77		32-106	%	09/26/16 16:57
Nitrobenzene-d5	86		76		75		34-123	%	09/26/16 16:57
Phenol-d6	86		77		76		36-111	%	09/26/16 16:57
Terphenyl-D14	104		89		90		43-143	%	09/26/16 16:57
2,4,6-Tribromophenol	78		82		81		26-122	%	09/26/16 16:57

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136045 Matrix: Water Date Prep: 09/23/16
MB Sample Id: 62688-2-BLK LCS Sample Id: 62688-2-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	<100	5000	4303	86	74-132	ug/L	09/23/16 11:25	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	79		88		55-114	%	09/23/16 11:25

Analytical Method: SW-846 8015C Prep Method: SW5030B
Seq Number: 136045 Matrix: Ground Water Date Prep: 09/23/16
Parent Sample Id: 16092211-001 MS Sample Id: 16092211-001 S MSD Sample Id: 16092211-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
TPH-GRO (Gasoline Range Organics	182.1	5000	5141	99	4769	92	49-137	8	25	ug/L	09/23/16 13:58	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units	Analysis Date
a,a,a-Trifluorotoluene	89		85		55-114	%	09/23/16 13:58

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B

Prep Method: SW5030B

Seq Number: 136140 Matrix: Water Date Prep: 09/27/16

MB Sample Id: 62733-1-BLK LCS Sample Id: 62733-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Acetone	<10.00	50.00	44.67	89	29-149	ug/L	09/27/16 12:15	
Benzene	<1.000	50.00	55.39	111	85-123	ug/L	09/27/16 12:15	
Bromochloromethane	<1.000	50.00	42.37	85	82-136	ug/L	09/27/16 12:15	
Bromodichloromethane	<1.000	50.00	56.39	113	88-133	ug/L	09/27/16 12:15	
Bromoform	<5.000	50.00	48.50	97	80-126	ug/L	09/27/16 12:15	
Bromomethane	<1.000	50.00	49.92	100	64-139	ug/L	09/27/16 12:15	
2-Butanone (MEK)	<10.00	50.00	28.86	58	39-135	ug/L	09/27/16 12:15	
Carbon Disulfide	<10.00	50.00	50.32	101	85-124	ug/L	09/27/16 12:15	
Carbon Tetrachloride	<1.000	50.00	50.60	101	81-138	ug/L	09/27/16 12:15	
Chlorobenzene	<1.000	50.00	55.13	110	85-120	ug/L	09/27/16 12:15	
Chloroethane	<1.000	50.00	57.19	114	75-129	ug/L	09/27/16 12:15	
Chloroform	<1.000	50.00	41.04	82	85-128	ug/L	09/27/16 12:15	L
Chloromethane	<1.000	50.00	52.63	105	60-139	ug/L	09/27/16 12:15	
Cyclohexane	<10.00	50.00	56.41	113	55-131	ug/L	09/27/16 12:15	
1,2-Dibromo-3-Chloropropane	<10.00	50.00	45.28	91	69-127	ug/L	09/27/16 12:15	
Dibromochloromethane	<1.000	50.00	50.56	101	82-127	ug/L	09/27/16 12:15	
1,2-Dibromoethane (EDB)	<1.000	50.00	55.62	111	82-121	ug/L	09/27/16 12:15	
1,2-Dichlorobenzene	<1.000	50.00	56.73	113	82-123	ug/L	09/27/16 12:15	
1,3-Dichlorobenzene	<1.000	50.00	55.85	112	81-123	ug/L	09/27/16 12:15	
1,4-Dichlorobenzene	<1.000	50.00	55.35	111	81-121	ug/L	09/27/16 12:15	
Dichlorodifluoromethane	<1.000	50.00	62.60	125	69-147	ug/L	09/27/16 12:15	
1,1-Dichloroethane	<1.000	50.00	40.82	82	83-123	ug/L	09/27/16 12:15	L
1,2-Dichloroethane	<1.000	50.00	54.08	108	86-138	ug/L	09/27/16 12:15	
1,1-Dichloroethene	<1.000	50.00	59.42	119	85-127	ug/L	09/27/16 12:15	
cis-1,2-Dichloroethene	<1.000	50.00	44.72	89	87-127	ug/L	09/27/16 12:15	
1,2-Dichloropropane	<1.000	50.00	55.84	112	79-125	ug/L	09/27/16 12:15	
cis-1,3-Dichloropropene	<1.000	50.00	53.35	107	79-131	ug/L	09/27/16 12:15	
trans-1,3-Dichloropropene	<1.000	50.00	53.97	108	82-133	ug/L	09/27/16 12:15	
trans-1,2-Dichloroethene	<1.000	50.00	42.88	86	85-125	ug/L	09/27/16 12:15	
Ethylbenzene	<1.000	50.00	58.16	116	83-123	ug/L	09/27/16 12:15	
2-Hexanone	<10.00	50.00	45.02	90	37-137	ug/L	09/27/16 12:15	
Isopropylbenzene	<1.000	50.00	53.03	106	70-131	ug/L	09/27/16 12:15	
Methyl Acetate	<10.00	50.00	44.65	89	69-127	ug/L	09/27/16 12:15	
Methylcyclohexane	<10.00	50.00	59.89	120	75-129	ug/L	09/27/16 12:15	
Methylene Chloride	<1.000	50.00	48.73	97	86-124	ug/L	09/27/16 12:15	
4-Methyl-2-Pentanone	<5.000	50.00	44.59	89	39-143	ug/L	09/27/16 12:15	
Methyl-t-butyl ether	<1.000	50.00	38.03	76	75-134	ug/L	09/27/16 12:15	
Naphthalene	<1.000	50.00	48.16	96	61-118	ug/L	09/27/16 12:15	
Styrene	<1.000	50.00	49.71	99	80-120	ug/L	09/27/16 12:15	
1,1,2,2-Tetrachloroethane	<1.000	50.00	54.75	110	64-125	ug/L	09/27/16 12:15	
Tetrachloroethene	<1.000	50.00	59.72	119	83-138	ug/L	09/27/16 12:15	
Toluene	<1.000	50.00	58.42	117	88-126	ug/L	09/27/16 12:15	
1,2,3-Trichlorobenzene	<1.000	50.00	49.83	100	75-124	ug/L	09/27/16 12:15	
1,2,4-Trichlorobenzene	<1.000	50.00	58.26	117	77-131	ug/L	09/27/16 12:15	
1,1,1-Trichloroethane	<1.000	50.00	56.66	113	68-146	ug/L	09/27/16 12:15	
1,1,2-Trichloroethane	<1.000	50.00	56.79	114	85-124	ug/L	09/27/16 12:15	
Trichloroethene	<1.000	50.00	56.04	112	87-127	ug/L	09/27/16 12:15	
Trichlorofluoromethane	<5.000	50.00	57.82	116	77-147	ug/L	09/27/16 12:15	
1,1,2-Trichloro-1,2,2-Trifluoroethane	<1.000	50.00	61.19	122	68-135	ug/L	09/27/16 12:15	
Vinyl Chloride	<1.000	50.00	57.14	114	74-138	ug/L	09/27/16 12:15	
m,p-Xylenes	<2.000	100	97.57	98	84-124	ug/L	09/27/16 12:15	

PHASE SEPARATION SCIENCE, INC.

QC Summary 16092211

Icor Ltd.
Robinson Terminal North

Analytical Method: SW-846 8260 B Prep Method: SW5030B

Seq Number: 136140 Matrix: Water Date Prep: 09/27/16

MB Sample Id: 62733-1-BLK LCS Sample Id: 62733-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
o-Xylene	<1.000	50.00	50.82	102	79-126	ug/L	09/27/16 12:15	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units	Analysis Date
4-Bromofluorobenzene	102		100		86-111	%	09/27/16 12:15
Dibromofluoromethane	99		99		91-119	%	09/27/16 12:15
Toluene-D8	105		103		90-117	%	09/27/16 12:15

F = RPD exceeded the laboratory control limits
X = Recovery of MS, MSD or both outside of QC Criteria
H= Recovery of BS,BSD or both exceeded the laboratory control limits
L = Recovery of BS,BSD or both below the laboratory control limits

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

(1) *CLIENT: ICOR, LTD. *OFFICE LOC.

*PROJECT MGR: M. BRUZZESI *PHONE NO.: (717) 608-5469

EMAIL: LANDSTRAT@AOL.COM FAX NO.: ( )

*PROJECT NAME: ROBINSON TERMINAL NORTH PROJECT NO.:

SITE LOCATION: 500/501 N. UNION ST P.O. NO.

SAMPLER(S): M. BRUZZESI DW CERT NO.:

PSS Work Order #: 1609221 1

PAGE 1 OF 1

Matrix Codes: SW=Surface Wtr DW=Drinking Wtr GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil L=Liquid SOL=Solid A=Air WI=Wipe

(2)

LAB NO.	*SAMPLE IDENTIFICATION	*DATE (SAMPLED)	*TIME (SAMPLED)	MATRIX (See Codes)	No. CONTAINERS	SAMPLE TYPE (C = COMP, G = GRAB)	Preservatives Used	Analysis/ Method Required (3) GRO	DRO	VOA	SVOC	PEST	HERB	PCB	PPL METALS	REMARKS
1	MiHpt-20	9/21/16	1340	GW	11	G		X	X	X	X	X	X	X	X	
2	MiHpt-21		1435		11			X	X	X	X	X	X	X	X	
3	MiHpt-22		1445		11			X	X	X	X	X	X	X	X	
4	MiHpt-14		1340		11			X	X	X	X	X	X	X	X	

(5)

Relinquished By: (1)	Date	Time	Received By:
	9/22/16	0800	Gaya
Relinquished By: (2) Gaya	Date 9/22	Time 1315	Received By:
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4) *Requested TAT (One TAT per COC)
☒ 5-Day ☐ 3-Day ☐ 2-Day
☐ Next Day ☐ Emergency ☐ Other

Data Deliverables Required: COA ☐ QC SUMM ☐ CLP LIKE ☐ OTHER ____

# of Coolers: 4
Custody Seal: ABS
Ice Present: YES Temp: 7.8.8.10°
Shipping Carrier: TTE

Special Instructions:

DW COMPLIANCE? YES ☐
EDD FORMAT TYPE
STATE RESULTS REPORTED TO: MD ☐ DE ☐ PA ☐ VA ☒ WV ☐ OTHER ____

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary. * = REQUIRED

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16092211	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/22/2016 01:15:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/27/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Shipping Container(s)

No. of Coolers 1

		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	7
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	8
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No
		Ice	Present
Custody Seal(s) Intact?	N/A	Temp (deg C)	10
Seal(s) Signed / Dated?	N/A	Temp Blank Present	No

Documentation

COC agrees with sample labels?	Yes	Sampler Name	Mike Bruzzesi
Chain of Custody	Yes	MD DW Cert. No.	N/A

Sample Container

Appropriate for Specified Analysis?	Yes	Custody Seal(s) Intact?	Not Applicable
Intact?	Yes	Seal(s) Signed / Dated	Not Applicable
Labeled and Labels Legible?	Yes		

Total No. of Samples Received 4 Total No. of Containers Received 44

Preservation

Total Metals	(pH<2)	Yes
Dissolved Metals, filtered within 15 minutes of collection	(pH<2)	N/A
Orthophosphorus, filtered within 15 minutes of collection		N/A
Cyanides	(pH>12)	N/A
Sulfide	(pH>9)	N/A
TOC, DOC (field filtered), COD, Phenols	(pH<2)	N/A
TOX, TKN, NH3, Total Phos	(pH<2)	N/A
VOC, BTEX (VOA Vials Rcvd Preserved)	(pH<2)	Yes
Do VOA vials have zero headspace?		Yes
624 VOC (Rcvd at least one unpreserved VOA vial)		N/A
524 VOC (Rcvd with trip blanks)	(pH<2)	N/A

Phase Separation Science, Inc

Sample Receipt Checklist

Work Order #	16092211	**Received By**	Rachel Davis
Client Name	Icor Ltd.	**Date Received**	09/22/2016 01:15:00 PM
Project Name	Robinson Terminal North	**Delivered By**	Trans Time Express
Disposal Date	10/27/2016	**Tracking No**	Not Applicable
		Logged In By	Rachel Davis

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, list sample ID, preservative added (reagent ID number) below as well as documentation of any client notification as well as client instructions. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C. Samples that are hand delivered on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that the chilling process has begun such as arrival on ice.

Samples Inspected/Checklist Completed By:  Date: 09/22/2016

Rachel Davis

PM Review and Approval:  Date: 09/23/2016

Simon Crisp