January 31, 2022

Via Sharefile

Mr. Sameh Abdellatif
Hazardous Waste Programs Branch
US Environmental Protection Agency Region 2
290 Broadway, 22nd Floor
New York, New York 10007-1866

Re: Fourth Quarter 2021 Progress Report
Hess Corporation – Former Port Reading Complex (HC-PR)
750 Cliff Road
Port Reading, Middlesex County, New Jersey
EPA ID No. NJD045445483
NJPDES Permit NJ0028878 & NJ0102709

Dear Mr. Park:

Enclosed please find the Fourth Quarter 2021 Progress Report for the above referenced site. This report was prepared by Earth Systems, Inc. on behalf of Hess Corporation. As required by Module II (D) of the Hazardous and Solid Waste Amendments (HSWA) Permit number NJD045445483, the enclosed report presents activities associated with the Solid Waste Management Units (SWMUs), including the North Landfarm, South Landfarm, and No. 1 Landfarm, all of the Areas of Concern (AOCs), Historic Spills (HSs), and Remediation Management Units (RMUs) identified at the Former Port Reading Complex.

Should you have any questions or comments relating to this report, please call me at 732-739-6444, extension 2305. I can also be reached via e-mail at ablake@earthsys.net. If you have any questions relating to the project and schedule moving forward, you can also contact Mr. John Schenkewitz of Hess Corporation at 609-406-3969.

Sincerely,
Earth Systems, Inc.

Amy Blake
Senior Project Manager

cc: Ms. Julia Galayda – NJDEP (via sharefile)
Mr. John Schenkewitz – Hess Corporation (electronic copy)
Mr. Rick Ofsanko – Earth Systems, Inc. (electronic copy)
Mr. John Virgie – Earth Systems, Inc. (electronic copy)
Mr. Andrew Park – USEPA (electronic copy)

FOURTH QUARTER 2021 PROGRESS REPORT

HESS CORPORATION - FORMER PORT READING COMPLEX
NORTH LANDFARM, NO. 1 LANDFARM, and SOUTH LANDFARM
SOLID WASTE MANAGEMENT UNITS (SWMUs), AREAS OF CONCERN (AOCs), HISTORIC SPILLS (HSs), AND COMBINED REMEDIATION MANAGEMENT UNITS

Hess Corporation – Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County New Jersey
EPA ID# NJD045445483

January 2022

Prepared for:

Hess Corporation
Trenton-Mercer Airport
601 Jack Stephan Way
West Trenton, New Jersey 08628

Prepared by:

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1.0 Introduction and Summary Table

Earth Systems, Inc. (Earth Systems) has been retained by Hess Corporation (Hess) to provide environmental consulting services for the Hess Corporation – Former Port Reading Complex (HC-PR) facility located at 750 Cliff Road in Port Reading (Woodbridge Township), Middlesex County, New Jersey. A United States Geological Survey (USGS) 7.5-minute series quadrangle map (Arthur Kill, New Jersey) depicting the site location, facility and associated land features is included as **Figure 1**. A Site Plan has been included as **Figure 2**.

This report documents the investigative and groundwater sampling activities completed in the Fourth Quarter 2021 at the Solid Waste Management Units (SWMUs), Areas of Concern (AOCs), Historic Spills (HSs) and Remediation Management Units (RMUs). Investigative and remedial activities included groundwater gauging, groundwater monitoring, soil investigation, Light Non-Aqueous Phase Liquid (LNAPL) monitoring and product recovery.

SUMMARY OF ACTIONS

Location	Case Number/ Description	Description and Dates of Action
AOC 1	North Landfarm	Quarterly Groundwater Monitoring – October 2021
AOC 2	South Landfarm	Quarterly Groundwater Monitoring – October 2021
AOC 3	No. 1 Landfarm	Quarterly Groundwater Monitoring / Leachate and Soil Sampling – October 2021
AOC 10	Truck Loading Rack	Monthly Groundwater Gauging Events, LNAPL Recovery (Passive & Active) – Conducted as Needed, & Annual Groundwater Monitoring – December 2021
AOC 12	Smith Creek and Detention Basin	Site Annual Groundwater Monitoring – December 2021
AOC 14a	TM Monitoring Wells	Monthly Groundwater Gauging Events & Annual Groundwater Monitoring – December 2021
AOC 103	Fire Pits / Fire Training Area	Monthly Groundwater Gauging Events, Annual Groundwater Monitoring – December 2021, Remedial Investigation Activities
TRMU	Tankfield Remediation Management Unit	Monthly Groundwater Gauging Events & Annual Groundwater Monitoring – December 2021
SRMU	Southern Remediation Management Unit	Monthly Groundwater Gauging Events & Annual Groundwater Monitoring – December 2021
ALL	Industrial Site Recovery Act (ISRA)	Site Annual Groundwater Monitoring – December 2021 & Remedial Investigation Activities

2.0 ISRA and Regulatory Requirements Update

A Preliminary Assessment Report (PAR) was submitted to the New Jersey Department of Environmental Protection (NJDEP) and the United States Environmental Protection Agency (USEPA) on October 9, 2015. A total of 117 AOCs were identified in the PAR (**Figures 3.1** through **3.5**). Of the total number of AOCs identified at the site, the PAR indicated 62 AOCs required further investigation. The Site Investigation Report (SIR) was submitted to the NJDEP and the USEPA on November 7, 2015 and approved on August 24, 2021. The NJDEP provided several comment letters on the SIR. The following table lists the dates of the comment letters and responses:

NJDEP Comment Letter Date	Response to Comment (RTC) Date
August 10, 2017	**December 20, 2017**
June 9, 2020	**July 31, 2020**
December 6, 2018 (Ann Charles NJDEP)	**October 19, 2020**
December 6, 2018 (Jill Monroe NJDEP)	**October 19, 2020**
November 17, 2020	**February 17, 2021**

The SIR comments will be addressed in the Site or AOC specific Remedial Investigation Workplan / Remedial Investigation Report (RIW/RIR) report(s).

RIWs summarizing proposed remedial investigation activities for selected priority AOCs were initially submitted in 2016. Several supplemental RIWs were also submitted in 2021. As discussed during the Q3 Quarterly meeting, “At Risk” investigation activities began in October 2021 and are currently ongoing (see **Appendix A** for meeting minutes). Please note that “At Risk” work refers to investigation activities that are proposed in a RIW that is submitted to the NJDEP and EPA for review. If the NJDEP and EPA are unable to review the RIW within a 90-day timeframe, the proposed investigation activities will be conducted “At Risk” once the allotted review timeframe concludes. At the completion of all RI activities (once delineation is complete), a final RIR will be submitted that will document all investigation data and observations.

The following is a summary of submittals for all priority AOCs and AOC groupings, which have been identified by the NJDEP and USEPA:

AOC 1 – North Landfarm

- Remedial Investigation Workplan / Remedial Action Workplan (RIW/RAW) submitted to NJDEP/USEPA in the Third Quarter (Q3) 2016
- Comments received from NJDEP/EPA North Landfarm RAW 2018
- 90% Soil Remediation Action Design for the engineering controls submitted to the NJDEP/USEPA April 2020

- 100% Soil Remediation Action Design is currently in process with a targeted submittal in Q2 2022
- Updated Groundwater Sampling Plan being prepared for submittal in 2022, pending approval of the No. 1 Landfarm Groundwater sampling plan (see below)

AOC 2 – South Landfarm

- RIW/RAW submitted to NJDEP/USEPA in Q3 2016
- Comments received from NJDEP/USEPA South Landfarm RAW 2019
- Response is being completed and will be submitted in 2022
- Updated Groundwater Monitoring Plan being prepared for submittal in 2022, pending approval of the No. 1 Landfarm Groundwater sampling plan (see below)

AOC 3 – No. 1 Landfarm

- RIW/RAW submitted to NJDEP/USEPA in Q3 2016
- Comments received from NJDEP/USEPA No. 1 Landfarm RAW 2018
- 100% Soil Remediation Action Design for the engineering controls was submitted to the NJDEP Q3 2019
- NJDEP/USEPA approved the 100% design in April 2020
- Permits were submitted for the final design in June 2020, September 2020, and October 2020 (see **Section 4.3** for permits summary)
- Updated Groundwater Sampling Plan submitted to NJDEP/USEPA in Q3 2021 (currently being reviewed by NJDEP/EPA)
- Construction remedial closure activities began in October 2021 and are ongoing

AOC 10 – Truck Loading Rack, AOC 57 – Day Tankfield
AREA AOCs – AOC 29 – Mixing Basin, AOC 43 – Truck Unloading Area, AOC 110 – Oil/Water Separator, AOC 111 – Chemical Storage Area, AOC 82 – Former Incinerator Building, AOC 86 - Truck Rack VRU, and AOC 109 – Truck Rack Sump

- RIW/RAW submitted to NJDEP/USEPA in Q3 2016 (AOC 10 only)
- Comments received from NJDEP/USEPA Q1 and Q2 2017
- Response to Comments (RTC) submitted in Q3 2017
- RIW/RAW Approved Q4 2017 and Q3 2018
- Monitoring well installation on-site conducted in Q4 2018
- Soil investigation conducted in Q3 2019
- Monitoring well installation off-site conducted in Q4 2019
- Supplementary revised RIW was submitted on Q2 2021 (all AOCs specified above)
- “At Risk” Remedial Investigation (RI) activities began December 2021 and are ongoing
- Annual Groundwater sampling conducted December 2021

AOC 11a – Administration Building; AOC 78 – Administration Building Drainage Channel

- RIW/RAW submitted to NJDEP/EPA in Q1 2016 and approved by NJDEP/USEPA Q2 2017
- RI activities began in Q3 2017 and are currently ongoing
- Indoor air sampling was conducted in Q3 2020 and Q1 2021
- As discussed during the January 5, 2022 biweekly meeting between the NJDEP, EPA, Hess, and Buckeye; a meeting and subsequent Site visit is in the process of being coordinated to discuss offsite groundwater delineation for AOC 11a
- Annual Groundwater sampling conducted December 2021

AOC 12 – Smith Creek and Detention Basin

- RIW/RAW submitted to NJDEP/EPA Q3 2016
- Comments received from the NJDEP/USEPA in Q1 2017
- RTC submitted in Q2 and Q4 2017
- RIW/RAW approved by NJDEP/USEPA Q2 2018
- Sediment and surface water investigation conducted in 2018 and 2019
- Soil investigation and monitoring well installation (on and off-site) conducted in Q3 2019
- Supplementary revised RIW was submitted Q3 2021 (currently being reviewed by NJDEP/EPA)
- Annual Groundwater sampling conducted December 2021

AOC 19 – QC Laboratory

- RIW/RAW submitted to NJDEP/EPA Q2 2016 and approved Q2 2016
- Remedial Investigation Report / Remedial Action Report (RIR/RAR) submitted to NJDEP/USEPA Q2 2017
- Comments received from the NJDEP/USEPA in Q3 2017
- RTC submitted Q3 2017
- Revised RIR/RAR submitted to NJDEP/USEPA Q1 2018
- NJDEP/USEPA meeting in Q2 2018
- Revised RIR/RAR submitted in Q3 2019 and approved in Q4 2019
- Remedial Action Permits (RAPs) for soil and groundwater submitted to NJDEP Site Remediation (January 6, 2021) for review prior to submittal
- Deed notice approved by NJDEP/USEPA in Q1 2021 and was filed with the Middlesex County Departments
- Meeting was held with NJDEP/USEPA on May 18, 2021 and some additional supplemental sampling was requested prior to submitting the RAPs to NJDEP permitting
- Groundwater sampling was conducted on July 1, 2021
- Final RAPs were submitted to NJDEP Bureau of Remedial Action Permitting in Q3 2021 (review is still in process)

AOC 103 – Fire Pits/Fire Training Area (Part of AOC Group – Proposed Future Solar Field Area)

- Site Investigation Workplan (SIW) submitted to NJDEP/USEPA Q2 2019
- Comments received from NJDEP/USEPA in Q2 2019
- Teleconference and quarterly progress meeting with NJDEP/USEPA Q2 2019
- RTC submitted on June 24, 2019
- Revised SIW submitted in Q4 2019 and approved by NJDEP/USEPA Q4 2019
- Seven (7) groundwater monitoring wells installed and sampled in Q1 2020
- A PowerPoint presentation summarizing the investigation and recommendations for further investigation was provided to the NJDEP/USEPA on April 9, 2020 and discussed during a teleconference on June 29, 2020
- NJDEP provided additional comments on July 7, 2020 and RTC was submitted to the NJDEP on August 18, 2020
- RIW submitted to NJDEP/EPA in Q1 2021
- NJDEP provided comments on July 28, 2021 and a meeting was held to discuss the comments on August 16, 2021
- RTC was submitted to NJDEP/USEPA on September 28, 2021
- RIW was approved on October 12, 2021
- RI activities began November 2021 and are ongoing
- Annual Groundwater sampling conducted December 2021

AOC 16b – Marine Terminal Loading Area, AOC 85 – Marine VRU (RIW also includes area AOCs)

- Marine Area RIW submitted to NJDEP/USEPA Q3 2021
- “At Risk” RI activities scheduled to begin in Q1 2022
- Annual Groundwater sampling conducted December 2021

Tankfields – AOC 6 – HSWA UST, AOC 14a – First Tankfield, AOC 46 – Slop Gasoline Unloading Area, AOC 53 – Second Tankfield, AOC 54 – Third Tankfield, and AOC 56 – Second Reserve Tankfield

- RIW/RAW submitted to NJDEP/USEPA Q2 2021
- “At Risk” RI activities scheduled to begin in Q1 2022
- Annual Groundwater sampling conducted December 2021

Former Refining Area Remediation Management Unit - AOC-9 Alkylation Unit (Sewer Line), AOC-18 Dimersol Unit, AOC-20a T1600-A and T-1600B Transformers, AOC-20b T510-A and T510-B Transformers, AOC-25 X-1950A and X-1950B (Alkylation Neutralization Basin), AOC-26 D-1104 (MEA Sump, AOC-27 EADC Sump, AOC-28 Cooling Water Tower, AOC-30 Sulfur Pit, AOC-31 Brine Pit, AOC-32 X-1951 (SRU Neutralization Basin), AOC-38 NH3 Truck Loading Rack/Ammonia Area, AOC-39 EADC Truck Unloading Area, AOC-40 Fresh Acid Unloading Area, AOC-45 Former Sulfur Recovery Unit Truck Loading Rack, AOC-47 Bleach Truck Unloading Area, AOC-58 Former Chemical Storage Area, AOC-59 API Storage Area, AOC-60 Avenue B Tank Field, AOC-80 Former Crude Topping Unit, AOC-88 Compressor Building, AOC-89

Cracking Tower, AOC-92 TK-701A and TK-701B, AOC-96 Boiler Area, AOC-99 Chemical Storage Area, AOC-117 Diesel Powered Emergency Generator - Millwright's Shop

- RIW/RAW submitted to NJDEP/USEPA Q2 2021
- "At Risk" RI activities scheduled to begin in Q1 2022
- Annual Groundwater sampling conducted December 2021

2.1 Groundwater Gauging

HC-PR conducts monthly gauging events as part of the Interim Remedial Measures (IRMs) at the site. Monthly gauging events target monitoring wells with a history of LNAPL or sheen, and wells in close proximity to LNAPL or sheen detections. During the Fourth Quarter, HC-PR conducts an annual Sitewide monitoring well gauging event.

Bi-Weekly Gauging

Groundwater gauging is currently conducted for the following thirty-four (34) monitoring wells: (PL-1RR, PL-2, PL-3R, PL-4RR, PL-5R, PL-6R, PL-7, PL-8R, PL-9R, TF-1, TF-2, TF-3, TM-6R, TM-7, TR-1R, TR-2R, TR-3RR, TR-3D, TR-3DD, TR-4R, TR-4D, TR-4DD, TR-5, TR-5D, TR-5DD, TR-6, TR-6D, FA-1, FA-2, FA-3, FA-4, FA-5, FA-6, and FA-7), two (2) recovery sumps (TR-Sump-1 and TR-Sump-2), the interceptor trench, and six (6) surface water gauges (DB-SW, LN-SW, L1-SW, SC-SG-1, SC-SG-1A, and SC-SG-2).

All monitoring wells are gauged by utilizing a Solinist oil/water interface probe and measured from a surveyor's mark (present on the top of the inner casing) to the top of the groundwater table.

During the Q4 of 2021, bi-weekly gauging was conducted in October, November, and December (summarized below). The results of the gauging activities are provided in **Table 1**. Historic LNAPL levels are summarized in **Table 2**.

For reference purposes, all site monitoring well documentation has been compiled into a comprehensive Well Manual. As of the date of this report preparation, the current version of the approved Well Manual is dated November 19, 2021. The Well Manual is revised as new wells are installed at the site and re-dated pursuant to agreements between USEPA, NJDEP, Earth Systems, and Hess. The Well Manual includes the following:

- Master Well Construction Details Summary Table
- Well Permits
- Well Records
- Geologic Well Logs
- Form B's

The results of the Q4 2021 monthly groundwater gauging events are summarized below:

- During the October 2021 gauging events, a measurable thickness of LNAPL was encountered in the interceptor trench and two monitoring wells, PL-5R and FA-5. The LNAPL thickness observed in the monitoring wells ranged from 0.02 (FA-5) to 0.30 feet (PL-5R). A discontinuous sheen was encountered in the interceptor trench and monitoring wells FA-3, PL-1RR, TF-1, TF-2, and TR-2R. Please note that a discontinuous sheen is defined as an observable amount of product on the surface of the water table that is broken or intermittent and does not cover the majority of the water surface and measures less than 0.25 mm thick.
- During the November 2021 gauging events, a measurable thickness of LNAPL was encountered in three monitoring wells, PL-5R (0.05 feet), FA-5 (0.04 feet), and TF-2 (0.02 feet). A discontinuous sheen was encountered in the interceptor trench and monitoring wells FA-3, PL-1RR, TF-1, and TR-2R.
- During the December 2021 gauging events, a discontinuous sheen was encountered in the interceptor trench and monitoring wells FA-3, PL-1RR, TF-2 and TR-2R. A measurable thickness of LNAPL was encountered in two monitoring wells PL-5R (0.03 feet) and FA-5 (0.12 feet).

An analysis of groundwater elevations indicate that groundwater flow direction is generally to the south and east, consistent with historic groundwater flow direction on the Site, as documented in the Conceptual Site Model (CSM).

2.2 LNAPL IRM

Currently, passive LNAPL recovery methods and scheduled vacuum extraction events are being utilized at the site. Absorbent socks are placed in impacted wells and replaced as necessary. All used socks are placed in a 55-gallon drum staged on-site. Once at capacity, the drum is removed from the HC-PR site and disposed of at a licensed waste disposal facility. Vacuum extraction events are scheduled, as necessary, to address LNAPL observed in the interceptor trench and any monitoring well with significant measurable product. No vacuum extraction events were conducted during the Q4 of 2021 as there was no measurable LNAPL observed at the interceptor trench. Passive recovery of LNAPL was utilized for monitoring wells in Q4 2021.

3.0 Groundwater Monitoring

On October 13, 14, and 15, 2021, groundwater samples were collected via low-flow sampling methodology in accordance with the NJDEP's *Field Sampling Procedures Manual (FSPM)* at the three (3) Landfarm locations (No.1, North, and South Landfarms).

Samples were collected in laboratory supplied glassware and transferred to SGS Laboratories (SGS) of Dayton, New Jersey (NJ NELAP Certification No. 12129) under strict chain of custody procedures.

Analytical results will be provided in the Semi-Annual Report only, which will be submitted in January 2022. The results of the gauging activities are provided in **Table 4** and on **Figures 4a, 4b,** and **4c**.

3.1 Annual Groundwater Sampling

The annual groundwater sampling event was conducted in December 2021. The groundwater gauging data is summarized on **Table 4**. Groundwater contour maps are included as **Figures 4a**, **4b**, and **4c**. Annual groundwater samples were collected from the following monitoring wells:

AOC ID	AOC Description	Monitoring Wells Sampled
AOC 3	No. 1 Landfarm	SP-1, SP-2, SP-3
AOC 5	Aeration Basin	AB-1, AB-3, AB-4R, AB-4D AB-5, AB-6
AOC 10	Truck Loading Rack	TR-1R, TR-2R, TR-3RR, TR-3D, TR-3DD, TR-4R, TR-4D[2], TR-4DD, TR-5, TR-5D, TR-5DD, TR-6, TR-6D, PER-1, SC-1, SC-1D, SC-1DD, SC-2, SC-2D, SC-2DD, SC-2DDD, SC-3, SC-3D, SC-3DD, SC-3DDD, SC-4, SC-4D, SC-4DD
AOC 11a	Administration Building	AD-1, AD-2, AD-2DD, AD-3, AD-3D, AD-4, AD-5, AD-5D, AD-6, AD-8, AD-9D, AD-9DD, AD-10, AD-10DD
AOC 12	Detention Basin & Smith Creek	PER-2, PER-2D, PER-2DD, PER-3, PER-3D, PER-9, PER-9D, PER-9DD, PER-10, PER-10D
AOC 14a	First Tankfield	TM-1, TM-2, TM-3, TM-4, LPG-1, LPG-2, PER-4, PER-5
AOC 16b	Marine Terminal Loading Area	PER-7, PER-8, TL-1, TL-2, TL-3
AOC 19	QC Laboratory	MW-1, MW-2, MW-3, MW-4, PER-6R
TRMU	Tankfield Remediation Mgmt Unit	TF-1, TF-2[1], TF-3, SM-1
SRMU	Southern Remediation Mgmt Unit	PL-1RR, PL-2, PL-3R, PL-4RR, PL-5R[1], PL-6R, PL-7[2], PL-8R, PL-9R, TM-5, TM-6R, TM-7
AOC 103	Fire Fighting Training Area/Fire Pits	FA-1, FA-2, FA-3, FA-4, FA-5[1], FA-6, FA-7

[1]Groundwater samples were not collected from these monitoring wells due to LNAPL present or the identification of an intermittent sheen.
[2]Groundwater samples were not collected from this monitoring well due to the well being damaged.

3.2 Low Flow Sampling Methodology

Prior to groundwater purging, the placement of the pump intake was determined by water level, screen depth, and contaminants of concern. The depth of the pump was recorded on the low-flow field worksheets. These field worksheets are included in **Appendix B**. Groundwater purging was conducted at each monitoring well utilizing a Monsoon submersible pump with Teflon-lined ¼ inch polyethylene tubing. Groundwater field parameters were collected using a Horiba U-52 water quality meter and flow cell. The Horiba U-52 was calibrated by both the rental company as well as Earth Systems field personnel. The Horiba was calibrated in accordance with the manufacturer's instructions and in accordance with Earth Systems' Standard Operating Procedures. All calibration documentation is included in **Appendix B**. The field parameters which were monitored include temperature, conductivity, dissolved oxygen, turbidity, redox potential, and pH. Groundwater elevation measurements were collected utilizing a Solinist oil/water interface probe. Groundwater elevations were recorded prior to pump placement and continuously during well purging. The total depth of the well was measured either 48 hours prior to well sampling or at the conclusion of well sampling, as noted in the well sampling field sheets included in **Appendix B**. During well purging, the monitored parameters were measured every 5 minutes until 3 consecutive stable readings were recorded. In accordance with the *FSPM* Section 6.9.2.2.5.2, the following values were utilized to determine stability for the monitored parameters:

- pH +/- 0.1 unit
- Specific Conductance +/- 3%
- Temperature +/- 3%
- Dissolved Oxygen +/- 10%
- Turbidity +/- 10% for values greater than 1 NTU
- ORP +/- 10 millivolts
- Water level drawdown <0.3 feet

The parameter readings and the water level drawdown were recorded on the low-flow field worksheets, which are included in **Appendix B**. No variances were applied during the sampling event.

Prior to, and at the completion of groundwater sampling of each monitoring well, the Horiba U-52 water quality meter, flow cell, and submersible pump were properly decontaminated using Alconox and a distilled or deionized water rinse. Tubing was discarded after the sampling of each monitoring well and was not reused.

Following well water purging and stabilization, groundwater samples were collected and placed into laboratory provided containers. All groundwater samples were collected directly from the tubing, after being disconnected from the flow cell. All samples were appropriately labeled, logged, and placed into a cooler with ice prior to submittal to the laboratory. Quality control samples, including trip blanks and field blanks, were collected and submitted for analysis to evaluate the potential for cross contamination.

Samples were collected in laboratory supplied glassware and transferred to Alpha Analytical (Alpha) of Westborough, Massachusetts (NJ NELAP Certification No. MA935) under strict chain of custody procedures.

3.2.1 Annual Sampling Summary – AOC 3 – No. 1 Landfarm

In December 2021, groundwater samples were collected from monitoring wells SP-1 through SP-3, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Analytical results from the December 2020 AOC 1 – No. 1 Landfarm groundwater sampling event are summarized in **Table 5** and on **Figure 8**.

Analytical results from the sampling event identified the presence of several metals exceeding their respective GWQS in all three monitoring wells. Tetrachloroethene (PCE) was detected at concentrations exceeding the GWQS in monitoring well SP-2. Bis(2-ethylhexyl)phthalate was detected at concentrations exceeding the GWQS in monitoring well SP-3. No other VOC or SVOC compounds were identified exceeding their respective GWQS. The following table summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SP-1			SP-2			SP-3		
Lab Sample ID:		L2168634-04			L2168634-03			L2168383-08		
Date Sampled:		12/14/2021			12/14/2021			12/13/2021		
Matrix:		WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS										
Tetrachloroethene	1	ND		0.18	**1.6**		**0.18**	ND		0.18
SEMIVOLATILE ORGANICS BY GC/MS										
Bis(2-ethylhexyl)phthalate	3	ND		1.5	ND		1.5	**4.6**		**1.5**
TOTAL METALS										
Aluminum, Total	200	**9410**		**32.7**	**4520**		**32.7**	31.8		3.27
Arsenic, Total	3	**19.64**		**1.65**	**12.99**		**1.65**	**11.09**		**0.165**
Iron, Total	300	**24600**		**191**	**20800**		**191**	**37300**		**19.1**
Lead, Total	5	**82.5**		**3.43**	**22.75**		**3.43**	0.4662	J	0.343
Manganese, Total	50	**285.8**		**4.4**	**86.7**		**4.4**	**451.9**		**0.44**

- J – estimated concentration, ND – non-detect

3.2.2 Annual Sampling Summary – AOC 5 – Aeration Basins

In December 2021, groundwater samples were collected from monitoring wells AB-1, AB-3, AB-4R, AB-4D, AB-5, and AB-6, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Groundwater samples were collected at shallow and intermediate intervals. Analytical results from the December 2021 AOC 5 – Aeration Basins groundwater sampling event are summarized in **Table 6** and on **Figure 9**.

Benzene was detected in the groundwater samples collected from monitoring wells AB-3 and AB-6 at concentrations exceeding the GWQS. 1,4-Dioxane was detected in the groundwater samples collected from monitoring wells AB-4D and AB-5 at concentrations exceeding the GWQS. Ammonia was detected in the groundwater samples collected from the monitoring wells AB-3, AB-4R, and AB-4D at concentrations exceeding the GWQS.

Select metals were detected at concentrations exceeding the GWQS in groundwater samples collected from all monitoring wells. The following table summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AB-1			AB-3			AB-4R			AB-4D			AB-5			AB-6		
Lab Sample ID:		L2166200-12			L2166200-09			L2166200-07			L2166200-06			L2166200-08			L2168151-04		
Date Sampled:		12/2/2021			12/2/2021			12/2/2021			12/2/2021			12/2/2021			12/10/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																			
Benzene	1	ND		0.08	**3.4**		**0.08**	ND		0.08	ND		0.08	ND		0.08	**2.2**		**0.08**
SEMIVOLATILE ORGANICS BY GC/MS-SIM																			
1,4-Dioxane	0.4	ND		0.0314	0.231		0.0314	0.24		0.0303	**14.1**		**0.0471**	**2.63**		**0.0339**	ND		0.0314
TOTAL METALS																			
Aluminum, Total	200	**391**		**3.27**	**228**		**3.27**	55		3.27	12		3.27	48.3		3.27	**382**		**3.27**
Arsenic, Total	3	**6.837**		**0.165**	1.069		0.165	1.353		0.165	0.9168		0.165	1.397		0.165	1.313		0.165
Iron, Total	300	**2810**		**19.1**	**664**		**19.1**	**6780**		**19.1**	27.1	J	19.1	**3390**		**19.1**	**1720**		**19.1**
Lead, Total	5	1.213		0.343	0.519	J	0.343	ND		0.343	ND		0.343	0.7673	J	0.343	**5.134**		**0.343**
Manganese, Total	50	**68.44**		**0.44**	19.1		0.44	**106.5**		**0.44**	3.043		0.44	**69.56**		**0.44**	35.24		0.44
Sodium, Total	50000	37400		29.3	**832000**		**293**	**1220000**		**1460**	**4850000**		**1460**	5200		29.3	**123000**		**29.3**
GENERAL CHEMISTRY																			
Nitrogen, Ammonia	3000	148		24	**4550**		**48**	**13300**		**24**	**12000**		**24**	396		24	68.6	J	24

- J – estimated concentration, ND – non-detect

3.2.3 Annual Sampling Summary – AOC 10 – Truck Loading Rack

In December 2021, groundwater samples were collected from monitoring wells TR-1R, TR-2R, TR-3RR, TR-3D, TR-3DD, TR-4R, TR-4DD, TR-5, TR-5D, TR-5DD, TR-6, TR-6D, PER-1, SC-1, SC-1D, SC-1DD, SC-2, SC-2D, SC-2DD, SC-2DDD, SC-3, SC-3D, SC-3DD, SC-3DDD, SC-4, SC-4D, and SC-4DD, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Groundwater samples were collected from shallow, intermediate, and deep groundwater monitoring wells. Analytical results from the December 2020 AOC 10 – Truck Loading Rack groundwater sampling event are summarized in **Table 7** and on **Figures 10a through 10d**.

Analytical results identified the presence of targeted VOCs and SVOCs at concentrations exceeding their respective GWQS in groundwater samples collected from several shallow, intermediate, and deep monitoring wells. Targeted metals were identified exceeding the GWQS in all groundwater samples. Ammonia was detected at concentrations exceeding the GWQS in groundwater samples collected from several monitoring wells. The following tables summarize the analytical results.

<u>Shallow Groundwater Analytical Results</u>

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TR-1R			TR-2R			TR-3RR			TR-4R			TR-5			TR-6			PER-1		
Lab Sample ID:		L2167075-06			L2167075-07			L2165318-01			L2168151-08			L2165318-07			L2166615-03			L2165570-06		
Date Sampled:		12/7/2021			12/7/2021			11/29/2021			12/10/2021			11/29/2021			12/3/2021			11/30/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																						
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		0.68	ND		3.4	ND		2.7	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.9	ND		4.5	ND		3.6	ND		0.18
Benzene	1	ND		0.08	**6.6**		**0.08**	0.88		0.08	**43**		**0.4**	**2700**		**2**	**750**		**1.6**	ND		0.08
1,1-Dichloroethene	1	**1.3**		**0.17**	ND		0.17	ND		0.17	ND		0.84	ND		4.2	ND		3.4	ND		0.17
Trichloroethene	1	ND		0.18	ND		0.18	**1.1**		**0.18**	ND		0.88	ND		4.4	ND		3.5	ND		0.18
Methyl tert butyl ether	70	ND		0.17	18		0.17	**140**		**0.17**	ND		0.83	**250**		**4.2**	**2300**		**3.3**	ND		0.17
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	ND		0.94	ND		4.7	ND		3.7	ND		0.19
Tert-Butyl Alcohol	100	ND		1.4	60		1.4	**4900**		**14**	ND		7	**5200**		**35**	**5400**		**28**	ND		1.4
SEMIVOLATILE ORGANICS BY GC/MS-SIM																						
Benzo(a)anthracene	0.1	0.03	J	0.02	**0.14**		**0.02**	ND		0.02	0.04	J	0.02	0.03	J	0.02	0.03	J	0.02	ND		0.02
1,4-Dioxane	0.4	0.348		0.0314	ND		0.0303	0.218		0.0326	ND		0.0314	0.104	J	0.0314	0.0954	J	0.0339	ND		0.0314
TOTAL METALS																						
Aluminum, Total	200	**221**		**3.27**	183		3.27	**316**		**3.27**	**287**		**3.27**	**632000**		**32.7**	78.2		3.27	190		3.27
Antimony, Total	6	ND		0.429	2.816	J	0.429	ND		0.429	ND		0.429	**113.2**		**4.29**	0.57	J	0.429	ND		0.429
Arsenic, Total	3	0.8376		0.165	1.118		0.165	1.768		0.165	2.14		0.165	**128.2**		**1.65**	**3.718**		**0.165**	1.258		0.165
Beryllium, Total	1	ND		0.107	ND		0.107	ND		0.107	ND		0.107	**12.2**		**1.07**	ND		0.107	ND		0.107
Cadmium, Total	4	0.1236	J	0.0599	0.079	J	0.0599	0.0856	J	0.0599	0.062	J	0.0599	**19.37**		**0.599**	ND		0.0599	0.6974		0.0599
Chromium, Total	70	1.924		0.178	1.564		0.178	0.9331	J	0.178	1.413		0.178	**762.4**		**1.78**	0.7681	J	0.178	0.4495	J	0.178
Cobalt, Total	100	0.2614	J	0.163	ND		0.163	0.5457		0.163	0.2158	J	0.163	**205.9**		**1.63**	0.4242	J	0.163	1.231		0.163
Iron, Total	300	**432**		**19.1**	191		19.1	**1040**		**19.1**	**982**		**19.1**	**275000**		**191**	**7810**		**19.1**	**360**		**19.1**
Lead, Total	5	1.232		0.343	1.598		0.343	1.623		0.343	2.469		0.343	**2320**		**3.43**	0.5776	J	0.343	1.452		0.343
Manganese, Total	50	35.12		0.44	3.576		0.44	**730.9**		**0.44**	**62.11**		**0.44**	**9956**		**4.4**	**648.2**		**0.44**	**1969**		**0.44**
Nickel, Total	100	1.255	J	0.556	1.06	J	0.556	2.134		0.556	1.094	J	0.556	**1511**		**5.56**	2.811		0.556	5.778		0.556
Selenium, Total	40	ND		1.73	ND		1.73	ND		1.73	ND		1.73	**245**		**17.3**	ND		1.73	ND		1.73
Sodium, Total	50000	40500		29.3	**138000**		**29.3**	29100		29.3	**148000**		**29.3**	**266000**		**293**	10600		29.3	27900		29.3
Thallium, Total	2	ND		0.143	ND		0.143	ND		0.143	ND		0.143	**10.47**		**1.43**	ND		0.143	ND		0.143
Zinc, Total	2000	20.42		3.41	10.83		3.41	36.84		3.41	40.33		3.41	**3552**		**34.1**	35.59		3.41	11.86		3.41

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SC-1			SC-2			SC-3			SC-4		
Lab Sample ID:		L2166830-01			L2166830-07			L2166830-11			L2166830-08		
Date Sampled:		12/6/2021			12/6/2021			12/6/2021			12/6/2021		
Matrix:		WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS													
Benzene	1	**2.3**		**0.08**	**12**		**0.08**	ND		0.08	ND		0.08
Methyl tert butyl ether	70	ND		0.17	ND		0.17	ND		0.17	0.29	J	0.17
Tert-Butyl Alcohol	100	13		1.4	3.7	J	1.4	1.7	J	1.4	ND		1.4
SEMIVOLATILE ORGANICS BY GC/MS-SIM													
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01	ND		0.01
1,4-Dioxane	0.4	**0.442**		**0.0303**	0.0965	J	0.0303	ND		0.0314	0.16		0.0339
TOTAL METALS													
Aluminum, Total	200	71.9	J	32.7	102		3.27	5.34	J	3.27	179		3.27
Arsenic, Total	3	**6.7**		**1.65**	**5.58**		**0.165**	1.09		0.165	0.8239		0.165
Beryllium, Total	1	ND		1.07	ND		0.107	ND		0.107	ND		0.107
Iron, Total	300	**137000**		**191**	**109000**		**19.1**	**22200**		**19.1**	**12500**		**19.1**
Lead, Total	5	ND		3.43	ND		0.343	ND		0.343	1.675		0.343
Manganese, Total	50	**8568**		**4.4**	**768.7**		**0.44**	**2046**		**0.44**	**204.1**		**0.44**
Sodium, Total	50000	**2610000**		**293**	**1330000**		**293**	**1000000**		**293**	**329000**		**29.3**
GENERAL CHEMISTRY													
Nitrogen, Ammonia	3000	**27700**		**240**	**14100**		**48**	**3980**		**24**	2930		24

- J – estimated concentration, ND – non-detect

Intermediate & Deep Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TR-3D			TR-3DD			TR-4D			TR-4DD			TR-5D			TR-5DD			TR-6D		
Lab Sample ID:		L2165318-02			L2165318-03			L2168151-09			L2168151-10			L2165318-04			L2165318-06			L2165318-08		
Date Sampled:		11/29/2021			11/29/2021			12/10/2021			12/10/2021			11/29/2021			11/29/2021			11/29/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																						
1,2-Dichloropropane	1	ND		68	ND		0.14	ND		0.14	ND		0.14	ND		0.68	ND		0.14	**1.1**		**0.14**
Tetrachloroethene	1	ND		90	ND		0.18	ND		0.18	ND		0.18	ND		0.9	ND		0.18	**2.8**		**0.18**
Benzene	1	ND		40	0.14	J	0.08	ND		0.08	ND		0.08	**12**		**0.4**	ND		0.08	0.36	J	0.08
1,1-Dichloroethene	1	ND		84	0.93		0.17	ND		0.17	**2**		**0.17**	**2.7**		**0.84**	ND		0.17	**3.2**		**0.17**
Trichloroethene	1	**6100**		**88**	0.74		0.18	ND		0.18	**1.6**		**0.18**	**1.1**	J	**0.88**	ND		0.18	**1.6**		**0.18**
Methyl tert butyl ether	70	**100000**		**83**	21		0.17	**250**	E	**0.17**	0.58	J	0.17	**840**		**0.83**	6.8		0.17	1.7		0.17
cis-1,2-Dichloroethene	70	**100**	J	**94**	2.6		0.19	ND		0.19	3.8		0.19	1.2	J	0.94	ND		0.19	3.6		0.19
Tert-Butyl Alcohol	100	**87000**		**700**	32		1.4	**15000**	E	**1.4**	ND		1.4	**9800**		**28**	ND		1.4	ND		1.4
SEMIVOLATILE ORGANICS BY GC/MS-SIM																						
Benzo(a)anthracene	0.1	ND		0.02	0.02	J	0.02	0.04	J	0.02	0.03	J	0.02	ND		0.02	ND		0.02	0.02	J	0.02
1,4-Dioxane	0.4	**3.32**		**0.0314**	**1.79**		**0.0326**	**1.8**		**0.0314**	**1.25**		**0.0314**	**4.89**		**0.0314**	**5.83**		**0.0314**	**1.65**		**0.0303**
TOTAL METALS																						
Aluminum, Total	200	124		3.27	**401**		**3.27**	**2210**		**3.27**	**288**		**3.27**	**287**		**3.27**	29.3		3.27	**349**		**3.27**
Antimony, Total	6	ND		0.429	0.7064	J	0.429	1.3	J	0.429	0.4736	J	0.429	ND		0.429	ND		0.429	0.5646	J	0.429
Arsenic, Total	3	1.406		0.165	0.4582	J	0.165	1.219		0.165	0.9851		0.165	0.671		0.165	0.1828	J	0.165	0.3236	J	0.165
Beryllium, Total	1	ND		0.107	0.116	J	0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107
Cadmium, Total	4	ND		0.0599	ND		0.0599	0.6187		0.0599	0.324		0.0599	ND		0.0599	ND		0.0599	ND		0.0599
Chromium, Total	70	17.45		0.178	29.51		0.178	10.65		0.178	1.287		0.178	2.409		0.178	ND		0.178	5.534		0.178
Cobalt, Total	100	1.817		0.163	1.523		0.163	1.647		0.163	7.179		0.163	2.557		0.163	0.2156	J	0.163	0.6206		0.163
Iron, Total	300	**1410**		**19.1**	**5650**		**19.1**	**3090**		**19.1**	**1530**		**19.1**	**1660**		**19.1**	**3620**		**19.1**	**305**		**19.1**
Lead, Total	5	ND		0.343	0.8515	J	0.343	**18.75**		**0.343**	2.756		0.343	0.4301	J	0.343	ND		0.343	1.732		0.343
Manganese, Total	50	**1945**		**0.44**	**114.7**		**0.44**	**1167**		**0.44**	**99.47**		**0.44**	**102.2**		**0.44**	**88.24**		**0.44**	8.937		0.44
Nickel, Total	100	18.16		0.556	17.55		0.556	6.699		0.556	6.468		0.556	5.47		0.556	1.132	J	0.556	5.683		0.556
Selenium, Total	40	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73
Sodium, Total	50000	**175000**		**29.3**	**55200**		**29.3**	**86700**		**29.3**	**58600**		**29.3**	**77400**		**29.3**	41800		29.3	**76700**		**29.3**
Thallium, Total	2	ND		0.143	ND		0.143	ND		0.143	0.2439	J	0.143	ND		0.143	ND		0.143	ND		0.143
Zinc, Total	2000	17.46		3.41	31.64		3.41	143.1		3.41	62.64		3.41	19.28		3.41	ND		3.41	25.98		3.41

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SC-1D			SC-1DD			SC-2D			SC-2DD			SC-2DDD			SC-3D			SC-3DD			SC-3DDD			SC-4D			SC-4DD		
Lab Sample ID:		L2166830-04			L2166830-02			L2166830-03			L2166830-05			L2166830-06			L2166830-09			L2166830-10			L2167075-04			L2167075-02			L2167075-03		
Date Sampled:		12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/7/2021			12/7/2021			12/7/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																															
Benzene	1	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08
Methyl tert butyl ether	70	1.2		0.17	0.69	J	0.17	1.4		0.17	ND		0.17	ND		0.17	**120**		**0.17**	2.4		0.17	ND		0.17	0.48	J	0.17	8.9		0.17
Tert-Butyl Alcohol	100	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4	**270**		**1.4**	5.7	J	1.4	6.9	J	1.4	88		1.4	**140**		**1.4**
SEMIVOLATILE ORGANICS BY GC/MS-SIM																															
1,4-Dioxane	0.4	**0.623**		**0.0303**	**0.59**		**0.0314**	**0.788**		**0.0314**	ND		0.0303	ND		0.0303	**3.06**		**0.0326**	0.15		0.0326	ND		0.0314	**37.1**		**0.0314**	**35.2**		**0.0339**
TOTAL METALS																															
Aluminum, Total	200	**409**		**3.27**	**501**		**3.27**	**870**		**3.27**	**1580**		**3.27**	141		3.27	7.64	J	3.27	ND		16.4	18.9	J	16.4	**296**		**3.27**	81.4		3.27
Arsenic, Total	3	1.129		0.165	0.3704	J	0.165	1.535		0.165	1.996		0.165	0.4041	J	0.165	2.324		0.165	ND		0.825	2.666		0.825	**4.976**		**0.165**	**3.875**		**0.165**
Beryllium, Total	1	0.137	J	0.107	0.1506	J	0.107	ND		0.107	0.1931	J	0.107	0.6155		0.107	ND		0.107	**1.219**	J	**0.535**	**3.408**		**0.535**	ND		0.107	ND		0.107
Iron, Total	300	**1770**		**19.1**	**5240**		**19.1**	**2200**		**19.1**	**16000**		**19.1**	**43900**		**19.1**	**2760**		**19.1**	**733000**		**95.5**	**961000**		**95.5**	**1640**		**19.1**	**4700**		**19.1**
Lead, Total	5	1.542		0.343	1.016		0.343	2.013		0.343	**28.28**		**0.343**	0.423	J	0.343	ND		0.343	ND		1.715	ND		1.715	0.8191	J	0.343	0.3543	J	0.343
Manganese, Total	50	38.9		0.44	**105.7**		**0.44**	**78.92**		**0.44**	**442**		**0.44**	**990**		**0.44**	**111**		**0.44**	**16230**		**2.2**	**20940**		**2.2**	**76.83**		**0.44**	**194.8**		**0.44**
Sodium, Total	50000	**86400**		**29.3**	43300		29.3	**865000**		**293**	**182000**		**29.3**	**97100**		**29.3**	**742000**		**293**	**2490000**		**146**	**2050000**		**146**	**853000**		**293**	**1140000**		**293**
GENERAL CHEMISTRY																															
Nitrogen, Ammonia	3000	1000		48	107	J	48	**3010**		**48**	322	J	120	128	J	48	**4540**		**24**	656		24	461		24	**3090**		**48**	**5820**		**24**

- J – estimated concentration, ND – non-detect

3.2.4 Annual Sampling Summary – AOC 11a – Administration Building

In December 2021, groundwater samples were collected from monitoring wells AD-1, AD-2, AD-2DD, AD-3, AD-3D, AD-4, AD-5, AD-5D, AD-6, AD-8, AD-9D, AD-9DD, AD-10, and AD-10DD, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Groundwater samples were collected from shallow, intermediate, and deep groundwater monitoring wells. Analytical results from the December 2020 AOC 11a – Administration Building groundwater sampling event are summarized in **Table 8** and on **Figures 11a** through **11c**.

Analytical results identified the presence of targeted VOCs, SVOCs, and metals at concentrations exceeding their respective GWQS in groundwater samples collected from several shallow, intermediate, and deep monitoring wells. Targeted VOCs and SVOCs were not detected above the GWQS in the groundwater samples collected from monitoring wells AD-6, AD-8, and AD-10DD. Ammonia was detected in concentrations exceeding the GWQS in groundwater samples collected from monitoring wells AD-4 and AD-10. The following tables summarize the analytical results.

<u>Shallow Groundwater Analytical Results</u>

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AD-1			AD-2			AD-3			AD-4			AD-5			AD-6			AD-8			AD-10		
Lab Sample ID:		L2167075-09			L2165906-04			L2167782-02			L2165906-01			L2165906-07			L2167075-08			L2166615-02			L2165906-05		
Date Sampled:		12/7/2021			12/1/2021			12/9/2021			12/1/2021			12/1/2021			12/7/2021			12/3/2021			12/1/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																									
1,1-Dichloroethane	50	ND		0.21	320		21	ND		0.21	ND		5.2	ND		4.2	ND		0.21	ND		0.21	14	J	10
1,2-Dichloropropane	1	ND		0.14	39	J	14	ND		0.14	ND		3.4	ND		2.7	ND		0.14	ND		0.14	ND		6.8
1,1,2-Trichloroethane	3	ND		0.14	15	J	14	ND		0.14	ND		3.6	ND		2.9	ND		0.14	ND		0.14	ND		7.2
Tetrachloroethene	1	ND		0.18	190		18	ND		0.18	ND		4.5	540		3.6	ND		0.18	ND		0.18	ND		9
Chlorobenzene	50	ND		0.18	ND		18	ND		0.18	2200		4.4	15		3.6	ND		0.18	ND		0.18	6500		8.9
1,2-Dichloroethane	2	ND		0.13	ND		13	ND		0.13	5.9	J	3.3	ND		2.6	ND		0.13	ND		0.13	ND		6.6
1,1,1-Trichloroethane	30	ND		0.16	10000		16	ND		0.16	ND		4	ND		3.2	ND		0.16	ND		0.16	ND		7.9
Benzene	1	ND		0.08	ND		8	ND		0.08	29		2	ND		1.6	ND		0.08	0.25	J	0.08	56		4
Ethylbenzene	700	ND		0.17	ND		17	ND		0.17	ND		4.2	ND		3.3	ND		0.17	ND		0.17	7500		8.4
Vinyl chloride	1	ND		0.07	34		7.1	ND		0.07	ND		1.8	13		1.4	ND		0.07	ND		0.07	70		3.6
1,1-Dichloroethene	1	ND		0.17	8100		17	ND		0.17	ND		4.2	3.8	J	3.4	ND		0.17	ND		0.17	48		8.4
Trichloroethene	1	ND		0.18	61		18	ND		0.18	ND		4.4	270		3.5	ND		0.18	ND		0.18	10	J	8.8
1,2-Dichlorobenzene	600	ND		0.18	ND		18	ND		0.18	55	J	4.6	150		3.7	ND		0.18	ND		0.18	2600		9.2
1,3-Dichlorobenzene	600	ND		0.19	ND		19	ND		0.19	98		4.6	ND		3.7	ND		0.19	ND		0.19	1000		9.3
1,4-Dichlorobenzene	75	ND		0.19	ND		19	ND		0.19	290		4.7	66		3.7	ND		0.19	ND		0.19	6300		9.4
Xylenes, Total	1000	ND		0.33	ND		33	ND		0.33	ND		8.3	ND		6.6	ND		0.33	ND		0.33	24000		17
cis-1,2-Dichloroethene	70	ND		0.19	ND		19	ND		0.19	ND		4.7	2100		3.7	ND		0.19	ND		0.19	160		9.4
1,2,4-Trichlorobenzene	9	ND		0.22	ND		22	ND		0.22	ND		5.5	70		4.4	ND		0.22	ND		0.22	200		11
SEMIVOLATILE ORGANICS BY GC/MS-SIM																									
Benzo(a)anthracene	0.1	0.02	J	0.02	0.03	J	0.02	0.04	J	0.02	0.03	J	0.02	0.02	J	0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	0.04	J	0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	ND		0.01	ND		0.01	0.1	J	0.01	ND		0.01	0.02	J	0.01	ND		0.01	ND		0.01	ND		0.01
Indeno(1,2,3-cd)pyrene	0.2	ND		0.01	ND		0.01	0.06	J	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
1,4-Dioxane	0.4	48.8		0.0314	11900		3.26	ND		0.0314	4.1		0.0326	0.596		0.0314	ND		0.0314	ND		0.0326	160		0.0605
TOTAL METALS																									
Aluminum, Total	200	12.4		3.27	9.22	J	3.27	10600		32.7	112		3.27	20.4		3.27	58.3		3.27	1920		3.27	204		3.27
Arsenic, Total	3	0.4364	J	0.165	4.99		0.165	3.049	J	1.65	36.05		0.165	0.4023	J	0.165	1.489		0.165	2.71		0.165	14.82		0.165
Beryllium, Total	1	ND		0.107	ND		0.107	2.306	J	1.07	ND		0.107	ND		0.107	0.1382	J	0.107	0.1642	J	0.107	1.124		0.107
Cadmium, Total	4	0.1783	J	0.0599	ND		0.0599	25.32		0.599	1.026		0.0599	0.1679	J	0.0599	0.515		0.0599	0.1626	J	0.0599	0.0872	J	0.0599
Iron, Total	300	211		19.1	18600		19.1	10000		191	31600		19.1	63.8		19.1	110		19.1	2420		19.1	102000		19.1
Lead, Total	5	ND		0.343	ND		0.343	117.6		3.43	1.229		0.343	ND		0.343	0.4312	J	0.343	2.585		0.343	0.4433	J	0.343
Manganese, Total	50	68.05		0.44	24980		4.4	5146		4.4	2934		0.44	1408		0.44	1278		0.44	287.9		0.44	62760		4.4
Sodium, Total	50000	193000		29.3	489000		293	8020		293	422000		29.3	274000		29.3	109000		29.3	111000		29.3	529000		293
GENERAL CHEMISTRY																									
Nitrogen, Ammonia	3000	33	J	24	87.5		24	335	J	120	3070		24	74	J	24	64.4	J	24	2520		240	4900		24

- J – estimated concentration, ND – non-detect

Intermediate & Deep Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AD-2DD			AD-3D			AD-5D			AD-9D			AD-9DD			AD-10DD		
Lab Sample ID:		L2165906-03			L2167782-01			L2165906-02			L2165906-06			L2165906-08			L2165570-07		
Date Sampled:		12/1/2021			12/9/2021			12/1/2021			12/1/2021			12/1/2021			11/30/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																			
1,1-Dichloroethane	50	6.7		0.21	16		0.21	**360**		**10**	5.4		0.42	ND		0.21	ND		0.21
1,2-Dichloropropane	1	0.42	J	0.14	ND		0.14	**28**	J	**6.8**	0.36	J	0.27	ND		0.14	ND		0.14
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		7.2	ND		0.29	ND		0.14	ND		0.14
Tetrachloroethene	1	1		0.18	0.42	J	0.18	**100**		**9**	**240**		**0.36**	0.46	J	0.18	0.25	J	0.18
Chlorobenzene	50	2.2		0.18	ND		0.18	39		8.9	22		0.36	1.9		0.18	0.32	J	0.18
1,2-Dichloroethane	2	**2.1**		**0.13**	ND		0.13	**8.8**	J	**6.6**	ND		0.26	ND		0.13	0.52		0.13
1,1,1-Trichloroethane	30	ND		0.16	0.2	J	0.16	**690**		**7.9**	1.1		0.32	ND		0.16	ND		0.16
Benzene	1	0.34	J	0.08	0.08	J	0.08	**4.3**	J	**4**	0.25	J	0.16	ND		0.08	ND		0.08
Ethylbenzene	700	ND		0.17	ND		0.17	ND		8.4	3.8		0.33	1.8		0.17	ND		0.17
Vinyl chloride	1	0.72		0.07	0.18	J	0.07	**46**		**3.6**	**3.2**		**0.14**	ND		0.07	0.34		0.07
1,1-Dichloroethene	1	**19**		**0.17**	**14**		**0.17**	**4300**		**8.4**	**16**		**0.34**	0.27	J	0.17	0.47	J	0.17
Trichloroethene	1	**1.6**		**0.18**	**6.3**		**0.18**	**41**		**8.8**	**59**		**0.35**	**1.3**		**0.18**	0.66		0.18
1,2-Dichlorobenzene	600	2.5		0.18	ND		0.18	230		9.2	100		0.37	3.5		0.18	1.9	J	0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		9.3	4.2	J	0.37	0.42	J	0.19	0.22	J	0.19
1,4-Dichlorobenzene	75	0.46	J	0.19	ND		0.19	**82**	J	**9.4**	60		0.37	2.8		0.19	0.78	J	0.19
Xylenes, Total	1000	ND		0.33	ND		0.33	ND		17	13		0.66	6		0.33	ND		0.33
cis-1,2-Dichloroethene	70	3.6		0.19	3.7		0.19	15	J	9.4	**130**		**0.37**	0.98		0.19	0.64		0.19
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	**60**	J	**11**	**45**		**0.44**	0.56	J	0.22	1.4	J	0.22
SEMIVOLATILE ORGANICS BY GC/MS-SIM																			
Benzo(a)anthracene	0.1	0.09	J	0.02	ND		0.02	**0.11**		**0.02**	0.04	J	0.02	**0.25**		**0.02**	0.03	J	0.02
Benzo(a)pyrene	0.1	**0.14**		**0.02**	ND		0.02	0.1	J	0.02	0.04	J	0.02	**0.44**		**0.02**	ND		0.02
Benzo(b)fluoranthene	0.2	**0.35**		**0.01**	ND		0.01	0.18		0.01	0.09	J	0.01	**0.81**		**0.01**	0.02	J	0.01
Indeno(1,2,3-cd)pyrene	0.2	**0.2**		**0.01**	ND		0.01	0.11		0.01	0.07	J	0.01	**0.55**		**0.01**	ND		0.01
1,4-Dioxane	0.4	**44**		**0.0326**	**73.3**		**0.0326**	**5190**		**3.26**	**10.8**		**0.0314**	**0.753**		**0.0314**	0.337		0.0303
TOTAL METALS																			
Aluminum, Total	200	51.2		3.27	11.2		3.27	64.4		3.27	ND		16.4	25.5		3.27	14.9		3.27
Arsenic, Total	3	1.289		0.165	0.406	J	0.165	1.323		0.165	ND		0.825	**4.2**		**0.165**	1.945		0.165
Beryllium, Total	1	ND		0.107	ND		0.107	ND		0.107	ND		0.535	ND		0.107	ND		0.107
Cadmium, Total	4	0.066	J	0.0599	0.0955	J	0.0599	1.008		0.0599	ND		0.2995	ND		0.0599	ND		0.0599
Iron, Total	300	**1620**		**19.1**	41.8	J	19.1	**1060**		**19.1**	**318**		**95.5**	**24300**		**19.1**	**19700**		**19.1**
Lead, Total	5	ND		0.343	ND		0.343	1.012		0.343	ND		1.715	2.626		0.343	ND		0.343
Manganese, Total	50	**276.8**		**0.44**	**70.36**		**0.44**	**5371**		**0.44**	**1133**		**2.2**	**786.2**		**0.44**	**989.8**		**0.44**
Sodium, Total	50000	**121000**		**29.3**	**369000**		**29.3**	**220000**		**29.3**	**175000**		**146**	**60200**		**29.3**	**61700**		**29.3**
GENERAL CHEMISTRY																			
Nitrogen, Ammonia	3000	60.4	J	24	94.6		24	240		24	48.7	J	24	81.3		24	82.2		24

- J – estimated concentration, ND – non-detect

3.2.5 Annual Sampling Summary – AOC 12 – Detention Basin & Smith Creek

In December 2021, groundwater samples were collected from monitoring wells SM-1, PER-2, PER-2D, PER-2DD, PER-3, PER-3D, PER-9, PER-9D, PER-9DD, PER-10, and PER-10D, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Groundwater samples were collected from shallow, intermediate, and deep groundwater monitoring wells. Analytical results from the December 2020 AOC 12 – Detention Basin and Smith Creek groundwater sampling event are summarized in **Table 9** and on **Figure 12**.

Analytical results identified the presence of targeted VOCs, SVOCs, and metals at concentrations exceeding their respective GWQS in groundwater samples collected from several shallow, intermediate, and deep monitoring wells. Targeted VOCs and SVOCs were not detected above the GWQS in the groundwater samples collected from monitoring wells PER-2, PER-3, PER-9, PER-10, and PER-9DD. Targeted metals were detected above the GWQS in all groundwater samples. Ammonia was detected above the GWQS in groundwater samples collected from several wells. The following tables summarize the analytical results.

Shallow Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SM-1			PER-2			PER-3			PER-9			PER-10		
Lab Sample ID:		L2168383-04			L2166615-07			L2167782-04			L2168151-03			L2166200-10		
Date Sampled:		12/13/2021			12/3/2021			12/9/2021			12/10/2021			12/2/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																
Methyl tert butyl ether	70	0.48	J	0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Tert-Butyl Alcohol	100	12		1.4	ND		1.4	8.3	J	1.4	5.3	J	1.4	2.1	J	1.4
SEMIVOLATILE ORGANICS BY GC/MS																
Bis(2-ethylhexyl)phthalate	3	**5**		**1.5**	ND		1.5	2.1	J	1.5	1.5	J	1.5	ND		1.5
SEMIVOLATILE ORGANICS BY GC/MS-SIM																
Benzo(a)anthracene	0.1	**0.11**		**0.02**	ND		0.02	ND		0.02	0.04	J	0.02	0.04	J	0.02
Benzo(a)pyrene	0.1	**0.12**		**0.02**	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	**0.31**		**0.01**	ND		0.01	ND		0.01	0.02	J	0.01	0.02	J	0.01
1,4-Dioxane	0.4	ND		0.0326	ND		0.0314	0.104	J	0.0326	ND		0.0326	ND		0.0314
TOTAL METALS																
Aluminum, Total	200	**2230**		**3.27**	103		3.27	46.5		3.27	147		3.27	24		3.27
Arsenic, Total	3	**9.05**		**0.165**	0.5774		0.165	1.732		0.165	1.026		0.165	0.6336		0.165
Beryllium, Total	1	0.116	J	0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107
Iron, Total	300	**12000**		**19.1**	**6030**		**19.1**	**10000**		**19.1**	**2120**		**19.1**	**719**		**19.1**
Lead, Total	5	**13.48**		**0.343**	0.5798	J	0.343	0.409	J	0.343	0.3521	J	0.343	ND		0.343
Manganese, Total	50	**252.8**		**0.44**	**810.4**		**0.44**	**1381**		**0.44**	**194**		**0.44**	**190.7**		**0.44**
Sodium, Total	50000	**101000**		**29.3**	9300		29.3	**509000**		**293**	**59900**		**29.3**	41200		29.3
GENERAL CHEMISTRY																
Nitrogen, Ammonia	3000	878		120	593		24	**3280**		**24**	377		24	374		24

- J – estimated concentration, ND – non-detect

Intermediate and Deep Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	PER-2D			PER-2DD			PER-3D			PER-9D			PER-9DD			PER-10D		
Lab Sample ID:		L2166615-06			L2166615-05			L2167782-03			L2168151-02			L2168151-01			L2166200-11		
Date Sampled:		12/3/2021			12/3/2021			12/9/2021			12/10/2021			12/10/2021			12/2/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																			
Methyl tert butyl ether	70	**680**		**0.66**	23		0.17	55		0.17	47		0.17	1.7		0.17	**100**		**0.17**
Tert-Butyl Alcohol	100	61		5.6	**420**		**1.4**	**160**		**1.4**	**4400**	**E**	**1.4**	20		1.4	100		1.4
SEMIVOLATILE ORGANICS BY GC/MS																			
Bis(2-ethylhexyl)phthalate	3	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5
SEMIVOLATILE ORGANICS BY GC/MS-SIM																			
Benzo(a)anthracene	0.1	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
1,4-Dioxane	0.4	**1.25**		**0.0303**	**0.558**		**0.0303**	**2**		**0.0326**	**1.5**		**0.0314**	ND		0.0303	**14.2**		**0.0314**
TOTAL METALS																			
Aluminum, Total	200	25.5		3.27	**520**		**3.27**	**208**		**3.27**	**793**		**3.27**	**977**		**3.27**	9.45	J	3.27
Arsenic, Total	3	0.1856	J	0.165	1.159		0.165	0.3074	J	0.165	1.72		0.165	0.3319	J	0.165	0.1766	J	0.165
Beryllium, Total	1	0.1386	J	0.107	0.2284	J	0.107	ND		0.107	ND		0.107	**1.004**		**0.107**	ND		0.107
Iron, Total	300	**397**		**19.1**	**11800**		**19.1**	**390**		**19.1**	**3360**		**19.1**	**96900**		**19.1**	76.8		19.1
Lead, Total	5	ND		0.343	0.8106	J	0.343	ND		0.343	1.911		0.343	1.559		0.343	ND		0.343
Manganese, Total	50	**96.68**		**0.44**	**284.8**		**0.44**	**177**		**0.44**	**102.8**		**0.44**	**2065**		**0.44**	**473.1**		**0.44**
Sodium, Total	50000	**82000**		**29.3**	27900		29.3	**1290000**		**586**	**298000**		**29.3**	**484000**		**29.3**	**1300000**		**293**
GENERAL CHEMISTRY																			
Nitrogen, Ammonia	3000	230		24	94.4		24	**12900**		**48**	**3020**		**24**	185		48	**18400**		**240**

- J – estimated concentration, ND – non-detect

3.2.6 Annual Sampling Summary – AOC 14a – First Tankfield

In December 2021, groundwater samples were collected from monitoring wells TM-1, TM-2, TM-3, TM-4, LPG-1, LPG-2, PER-4, and PER-5, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Analytical results from the December 2020 AOC 14a – First Tankfield groundwater sampling event are summarized in **Table 10** and on **Figure 13**.

No targeted VOCs, SVOCs, or ammonia were detected at concentrations exceeding the GWQS in the AOC 14a monitoring wells. Several metals were detected exceeding the GWQS in all groundwater samples. The following table summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TM-1		TM-2		TM-3		TM-4		PER-4		PER-5		LPG-1		LPG-2	
Lab Sample ID:		L2167389-02		L2167389-05		L2167389-04		L2167389-03		L2168383-03		L2167075-01		L2168634-02		L2168634-01	
Date Sampled:		12/8/2021		12/8/2021		12/8/2021		12/8/2021		12/13/2021		12/7/2021		12/14/2021		12/14/2021	
Matrix:		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
TOTAL METALS																	
Aluminum, Total	200	**291**	**3.27**	47.9	3.27	13.3	3.27	79.4	3.27	**351**	**3.27**	**758**	**3.27**	**228**	**3.27**	**3170**	**32.7**
Antimony, Total	6	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	3.295 J	0.429	ND	0.429	**6.62 J**	**4.29**
Arsenic, Total	3	1.196	0.165	**23.81**	**0.165**	**3.223**	**0.165**	1.275	0.165	**30.55**	**0.165**	1.366	0.165	1.572	0.165	**36.67**	**1.65**
Cadmium, Total	4	0.5357	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	1.854	0.0599	0.3722	0.0599	1.119	0.0599	**6.936**	**0.599**
Iron, Total	300	**1180**	**19.1**	**56300**	**19.1**	**40600**	**19.1**	**2530**	**19.1**	**16300**	**19.1**	**972**	**19.1**	**1150**	**19.1**	**725000**	**191**
Lead, Total	5	ND	0.343	ND	0.343	ND	0.343	0.6575 J	0.343	3.283	0.343	4.838	0.343	3.821	0.343	**33.1**	**3.43**
Manganese, Total	50	**7549**	**0.44**	**2177**	**0.44**	**3209**	**0.44**	**240.8**	**0.44**	**245.3**	**0.44**	**56.84**	**0.44**	**289**	**0.44**	**1480**	**4.4**
Sodium, Total	50000	**229000**	**29.3**	**56200**	**29.3**	35000	29.3	17800	29.3	**448000**	**29.3**	19500	29.3	8840	29.3	**715000**	**293**

- J – estimated concentration, ND – non-detect

3.2.7 Annual Sampling Summary – AOC 16b – Marine Terminal Loading Area

In December 2021, groundwater samples were collected from monitoring wells PER-7, PER-8, TL-1, TL-2, and TL-3, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Analytical results from the December 2020 AOC 16b – Marine Terminal Loading Area groundwater sampling event are summarized in **Table 11** and on **Figure 14**.

Benzene was detected at concentrations exceeding the GWQS in the groundwater samples collected from wells TL-2 and TL-3. Tert-Butyl Alcohol (TBA) was detected at concentrations exceeding the GWQS in the groundwater sample collected from monitoring well TL-1. No other targeted VOCs were detected exceeding the GWQS in the remaining groundwater samples. Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene were detected at concentrations exceeding the GWQS in the groundwater samples collected from monitoring wells TL-3. Bis(2-ethylhexyl)phthalate was detected at concentrations exceeding the GWQS in the groundwater samples collected from monitoring wells TL-3 and PER-8. No other targeted SVOCs were detected in any of the groundwater samples. Metals were detected exceeding the GWQS in groundwater samples collected from all monitoring wells. Ammonia was detected at concentrations exceeding the GWQS in the groundwater sample collected from monitoring well TL-1. The following table summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TL-1			TL-2			TL-3			PER-7			PER-8		
Lab Sample ID:		L2167782-06			L2167782-07			L2168151-05			L2167782-05			L2167782-08		
Date Sampled:		12/9/2021			12/9/2021			12/10/2021			12/9/2021			12/9/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																
Benzene	1	ND		0.08	**21**		**0.08**	**2.4**		**0.08**	ND		0.08	ND		0.08
Tert-Butyl Alcohol	100	**120**		**1.4**	5.5	J	1.4	ND		1.4	ND		1.4	ND		1.4
SEMIVOLATILE ORGANICS BY GC/MS																
Bis(2-ethylhexyl)phthalate	3	ND		1.5	1.6	J	1.5	**5.2**		**1.5**	ND		1.5	**17**		**1.5**
SEMIVOLATILE ORGANICS BY GC/MS-SIM																
Benzo(a)anthracene	0.1	0.03	J	0.02	0.04	J	0.02	**0.37**		**0.02**	0.03	J	0.02	0.04	J	0.02
Benzo(a)pyrene	0.1	ND		0.02	0.02	J	0.02	**0.25**		**0.02**	0.02	J	0.02	0.07	J	0.02
Benzo(b)fluoranthene	0.2	0.02	J	0.01	0.02	J	0.01	**0.36**		**0.01**	0.04	J	0.01	0.16		0.01
TOTAL METALS																
Aluminum, Total	200	25.2		3.27	24.7		3.27	**11300**		**3.27**	**6660**		**32.7**	167		3.27
Arsenic, Total	3	0.7266		0.165	**7.285**		**0.165**	**22.43**		**0.165**	**9.641**		**1.65**	1.193		0.165
Chromium, Total	70	0.3994	J	0.178	ND		0.178	**141.9**		**0.178**	17.5		1.78	0.9643	J	0.178
Iron, Total	300	**59700**		**19.1**	**48700**		**19.1**	**102000**		**19.1**	**17200**		**191**	**620**		**19.1**
Lead, Total	5	0.5477	J	0.343	0.4427	J	0.343	**43.56**		**0.343**	**48.23**		**3.43**	**5.248**		**0.343**
Manganese, Total	50	**1502**		**0.44**	**570.6**		**0.44**	**765.1**		**0.44**	**65.64**		**4.4**	34.1		0.44
Sodium, Total	50000	**1720000**		**586**	**149000**		**29.3**	**858000**		**293**	42300		293	35200		29.3
GENERAL CHEMISTRY																
Nitrogen, Ammonia	3000	**7320**		**24**	616		24	1060		240	1080		240	87.3		24

- J – estimated concentration, ND – non-detect

3.2.8 Annual Sampling Summary – AOC 19 - QC Laboratory

In December 2021, groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-4, and PER-6R, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Analytical results from the December 2020 AOC 19 – QC Laboratory groundwater sampling event are summarized in **Table 12** and on **Figure 15**.

Benzene was detected at concentrations exceeding the GWQS in the groundwater sample collected from monitoring well MW-4. No other VOC compounds or targeted SVOCs were detected at concentrations exceeding the GWQS in the groundwater samples collected from the AOC 19 monitoring wells. Several targeted metals were detected at concentrations exceeding the GWQS in the groundwater samples collected from all monitoring wells. Ammonia was detected at a concentration exceeding the GWQS in the groundwater sample collected from monitoring well MW-4. The following table summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	MW-1			MW-2			MW-3			MW-4			PER-6R		
Lab Sample ID:		L2165570-01			L2165570-02			L2165570-03			L2165570-04			L2165570-05		
Date Sampled:		11/30/2021			11/30/2021			11/30/2021			11/30/2021			11/30/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																
Benzene	1	0.09	J	0.08	ND		0.08	ND		0.08	**1.1**		**0.08**	ND		0.08
TOTAL METALS																
Aluminum, Total	200	**776**		**3.27**	13.9		3.27	11.5		3.27	**2410**		**3.27**	**1440**		**3.27**
Arsenic, Total	3	2.764		0.165	**6.375**		**0.165**	2.415		0.165	2.899		0.165	**3.288**		**0.165**
Iron, Total	300	24.2	J	19.1	**1390**		**19.1**	**2940**		**19.1**	256		19.1	**2420**		**19.1**
Lead, Total	5	ND		0.343	ND		0.343	ND		0.343	0.3951	J	0.343	**6.238**		**0.343**
Manganese, Total	50	1.912		0.44	**472.7**		**0.44**	**1647**		**0.44**	7.266		0.44	**216**		**0.44**
Sodium, Total	50000	18600		29.3	**59100**		**29.3**	23600		29.3	36500		29.3	6100		29.3
GENERAL CHEMISTRY																
Nitrogen, Ammonia	3000	26.8	J	24	556		24	894		24	**3760**		**24**	540		120

- J – estimated concentration, ND – non-detect

3.2.9 Annual Sampling Summary – Tankfield Remediation Management Unit (TRMU)

In December 2021, groundwater samples were collected from monitoring wells SM-1, TF-1, and TF-3, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Analytical results from the December 2020 TRMU groundwater sampling event are presented on **Table 13** and **Figure 16**.

Benzene was detected at a concentration exceeding the GWQS in the groundwater sample collected from monitoring well TF-1. Bis(2-ethylyhexyl)phthalate, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were detected at concentrations exceeding the GWQS in the groundwater sample collected from monitoring well SM-1. No other targeted VOCs, SVOCs, or ammonia were detected at concentrations exceeding the GWQS in the groundwater samples collected from the remaining TRMU monitoring wells. Several metals were detected at concentrations exceeding the GWQS in all groundwater samples. The following table summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TF-1			TF-3			SM-1		
Lab Sample ID:		L2168383-05			L2168383-01			L2168383-04		
Date Sampled:		12/13/2021			12/13/2021			12/13/2021		
Matrix:		WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS										
Benzene	1	**5.2**		**0.08**	0.22	J	0.08	ND		0.08
SEMIVOLATILE ORGANICS BY GC/MS										
Bis(2-ethylhexyl)phthalate	3	2.1	J	1.5	2	J	1.5	**5**		**1.5**
SEMIVOLATILE ORGANICS BY GC/MS-SIM										
Benzo(a)anthracene	0.1	ND		0.02	0.05	J	0.02	**0.11**		**0.02**
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	**0.12**		**0.02**
Benzo(b)fluoranthene	0.2	ND		0.01	0.03	J	0.01	**0.31**		**0.01**
TOTAL METALS										
Aluminum, Total	200	19.3		3.27	51.2		3.27	**2230**		**3.27**
Arsenic, Total	3	**41.29**		**0.165**	**5.626**		**0.165**	**9.05**		**0.165**
Iron, Total	300	**19700**		**19.1**	**3320**		**19.1**	**12000**		**19.1**
Lead, Total	5	1.144		0.343	1.756		0.343	**13.48**		**0.343**
Manganese, Total	50	**154.5**		**0.44**	31.67		0.44	**252.8**		**0.44**
Sodium, Total	50000	47900		29.3	22200		29.3	**101000**		**29.3**

- J – estimated concentration, ND – non-detect

3.2.10 Annual Sampling Summary – Southern Remediation Management Unit (SRMU)

In December 2021, groundwater samples were collected from monitoring wells PL-1RR, PL-2, PL-3R, PL-4RR, PL-5R, PL-6RR, PL-7, PL-8R, PL-9R, TM-5, TM-6R, and TM-7, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Analytical results from the December 2020 SRMU groundwater sampling event are summarized in **Table 14** and on **Figure 17**.

Targeted VOCs, SVOCs, and ammonia were detected at concentrations exceeding the GWQS in the groundwater samples collected from several monitoring wells. Several metals were detected at concentrations exceeding the GWQS in all groundwater samples. The following tables summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	PL-1RR			PL-2			PL-3R			PL-4RR			PL-6RR		
Lab Sample ID:		L2166200-01			L2166200-04			L2166200-02			L2166615-09			L2167389-01		
Date Sampled:		12/2/2021			12/2/2021			12/2/2021			12/3/2021			12/8/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																
Benzene	1	**2.5**		**0.08**	0.32	J	0.08	0.51		0.08	ND		0.08	0.22	J	0.08
Tert-Butyl Alcohol	100	24		1.4	9.1	J	1.4	68		1.4	ND		1.4	38		1.4
SEMIVOLATILE ORGANICS BY GC/MS-SIM																
Benzo(a)anthracene	0.1	0.06	J	0.02	**0.12**		**0.02**	0.05	J	0.02	ND		0.02	0.04	J	0.02
1,4-Dioxane	0.4	0.126	J	0.0326	0.156		0.0314	**2.42**		**0.0339**	0.13	J	0.0326	**0.477**		**0.0326**
TOTAL METALS																
Aluminum, Total	200	10.8		3.27	**318**		**3.27**	16.8		3.27	104		3.27	**489**		**3.27**
Arsenic, Total	3	**3.289**		**0.165**	**4.949**		**0.165**	2.396		0.165	**7.698**		**0.165**	**5.695**		**0.165**
Iron, Total	300	**6610**		**19.1**	**19200**		**19.1**	**9760**		**19.1**	269		19.1	**25300**		**19.1**
Manganese, Total	50	**468.9**		**0.44**	22.34		0.44	**123.8**		**0.44**	22.39		0.44	**581.2**		**0.44**
Sodium, Total	50000	**158000**		**29.3**	**261000**		**29.3**	**1200000**		**293**	**78100**		**29.3**	**486000**		**29.3**
GENERAL CHEMISTRY																
Nitrogen, Ammonia	3000	989		24	**3720**		**48**	**9120**		**24**	201		24	**5100**		**24**

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	PL-8R			PL-9R			TM-5			TM-6R			TM-7		
Lab Sample ID:		L2168383-02			L2166200-03			L2166615-01			L2168151-07			L2168151-06		
Date Sampled:		12/13/2021			12/2/2021			12/3/2021			12/10/2021			12/10/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																
Benzene	1	ND		0.08	ND		0.08	ND		0.08	**18**		**0.08**	0.2	J	0.08
Tert-Butyl Alcohol	100	1.4	J	1.4	ND		1.4	ND		1.4	6.2	J	1.4	**300**		**1.4**
SEMIVOLATILE ORGANICS BY GC/MS-SIM																
Benzo(a)anthracene	0.1	0.05	J	0.02	0.03	J	0.02	ND		0.02	0.02	J	0.02	ND		0.02
1,4-Dioxane	0.4	ND		0.033	0.0628	J	0.0326	0.205		0.0326	ND		0.0314	0.396		0.031
TOTAL METALS																
Aluminum, Total	200	171		3.27	18.1		3.27	57.8		3.27	22.9		3.27	6.06	J	3.27
Arsenic, Total	3	**3.613**		**0.165**	1.666		0.165	0.8375		0.165	2.008		0.165	**8.241**		**0.165**
Iron, Total	300	**1930**		**19.1**	**5820**		**19.1**	99.6		19.1	**31300**		**19.1**	**11600**		**19.1**
Manganese, Total	50	**52.98**		**0.44**	**323**		**0.44**	**319.4**		**0.44**	**1194**		**0.44**	**5623**		**0.44**
Sodium, Total	50000	23700		29.3	42600		29.3	**279000**		**29.3**	29500		29.3	**105000**		**29.3**
GENERAL CHEMISTRY																
Nitrogen, Ammonia	3000	168		24	237		24	240		24	**3420**		**24**	179		24

- J – estimated concentration, ND – non-detect

3.2.11 Annual Sampling Summary – AOC 103 – Fire Fighting Training Area/Fire Pits

In December 2021, groundwater samples were collected from monitoring wells FA-1, FA-2, FA-3, FA-4, FA-6, and FA-7, and analyzed for VOCs, SVOCs, metals, and general chemistry parameters. Analytical results from the December 2020 AOC 103 groundwater sampling event are summarized in **Table 15** and on **Figure 18**.

Benzo(a)anthracene was detected at a concentration exceeding the GWQS in the groundwater samples collected from monitoring wells FA-3 and FA-4. Benzo(a)pyrene and benzo(a)fluoranthene were detected at a concentration exceeding the GWQS in the groundwater sample collected from monitoring well FA-4. Bis(2-ethylhexyl)phthalate was detected at a concentrations exceeding the GWQS in the groundwater sample collected from monitoring well FA-2. No other targeted VOCs or SVOCs were detected at concentrations exceeding the GWQS in the groundwater samples collected from the remaining AOC 103 monitoring wells. Ammonia was detected at a concentration exceeding the GWQS in the groundwater sample collected from monitoring well FA-4. Several metals were detected at concentrations exceeding the GWQS in the groundwater

samples collected from all AOC 103 monitoring wells. The following table summarizes the analytical results.

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	FA-1			FA-2			FA-3			FA-4			FA-6			FA-7		
Lab Sample ID:		L2167389-08			L2167075-10			L2167075-11			L2167389-09			L2167389-10			L2167389-11		
Date Sampled:		12/8/2021			12/7/2021			12/7/2021			12/8/2021			12/8/2021			12/8/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
SEMIVOLATILE ORGANICS BY GC/MS																			
Bis(2-ethylhexyl)phthalate	3	ND		1.5	3		1.5	2.8	J	1.5	ND		1.5	ND		1.5	ND		1.5
SEMIVOLATILE ORGANICS BY GC/MS-SIM																			
Benzo(a)anthracene	0.1	0.04	J	0.02	0.09	J	0.02	0.11		0.02	0.11		0.02	0.05	J	0.02	0.02	J	0.02
Benzo(a)pyrene	0.1	ND		0.02	0.07	J	0.02	0.02	J	0.02	0.12		0.02	0.02	J	0.02	ND		0.02
Benzo(b)fluoranthene	0.2	ND		0.01	0.12		0.01	0.04	J	0.01	0.32		0.01	0.04	J	0.01	ND		0.01
TOTAL METALS																			
Aluminum, Total	200	55.4		3.27	140		3.27	25		3.27	47.5		3.27	50.2		3.27	2450		3.27
Arsenic, Total	3	3.229		0.165	137.5		0.165	45.58		0.165	36.42		0.165	47.14		0.165	9.329		0.165
Iron, Total	300	1440		19.1	17000		19.1	37800		19.1	39600		19.1	54800		19.1	16000		19.1
Lead, Total	5	0.666	J	0.343	1.811		0.343	ND		0.343	2.331		0.343	0.4903	J	0.343	21.84		0.343
Manganese, Total	50	78.58		0.44	479.7		0.44	202		0.44	172		0.44	502.4		0.44	96.64		0.44
Sodium, Total	50000	28300		29.3	30100		29.3	31300		29.3	292000		29.3	40100		29.3	13500		29.3
GENERAL CHEMISTRY																			
Nitrogen, Ammonia	3000	310		24	479		48	2180		24	6860		120	1570		24	433		120

- J – estimated concentration, ND – non-detect

4.0 Areas of Concern and Solid Waste Management Units Update

As discussed previously, a PAR and SIR were submitted to the NJDEP and USEPA on October 9, 2015 and November 7, 2015, respectively. The SIR described the soil and groundwater investigation activities conducted on the site. Several RIW's were submitted subsequent to the SI for select AOCs. The following is a brief summary of any remediation investigation activities conducted during Q4 2021.

<u>AOC-3 No. 1 Landfarm (SWMU)</u>
Routine monitoring (groundwater, soil, and leachate) will continue at the No. 1 Landfarm, pending approval and execution of closure. A RAW was submitted to the USEPA and NJDEP in September 2016 and comments were received from the USEPA and NJDEP on July 9, 2018. A 100% Soil Remedial Action Design for the No. 1 Landfarm engineering control was submitted on May 24, 2019. Comments regarding the 100% engineering control design submittal were received from the NJDEP on October 7, 2019. The comments were addressed by Hess/Earth Systems on November 1, 2019 and the NJDEP subsequently approved the response. The NJDEP and USEPA issued an approval letter of the 100% engineering control design on April 28, 2020.

The following permits were submitted in June 2020 and October 2020 and have been approved by the NJDEP on the dates provided:

- Soil Erosion & Sediment Control Plan (Freehold Soil Conservation District), approved on August 17, 2020
- Flood Hazard Area Individual Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- Waterfront Development GP-11 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- Freshwater Wetland GP-4 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020

- NJPDES B4B Permit (NJDEP Wastewater Program), approved on September 15, 2020
- Treatment Works Approval TWA-1 Permit (NJDEP Wastewater Program), approved on February 18, 2021
- NJPDES Individual Permit (NJDEP Stormwater Program), public comment period is over and approved on August 1, 2021.

The NJDEP Office of Hazardous Waste Compliance & Enforcement observed the Q2 2021 groundwater sampling event and no violations were found, according to the Inspection Summary Report finalized on September 10, 2021.

The updated Groundwater Sampling Plan for the No. 1 Landfarm was submitted on August 25, 2021 to the NJDEP and USEPA. The plan is currently being reviewed and will be implemented once the review is complete.

Landfarm capping and construction activities were initiated in October 2021 and are proceeding on schedule for completion in the first quarter of 2022.

AOC 10 – Truck Loading Rack and AOC 57 – Day Tankfield

A Supplemental RIR/RIW was submitted in Q1 2020. Based upon subsequent discussions with NJDEP/USEPA pertaining to the Port Reading June 9, 2020 memo (i.e. the "over-arching issues" memo), the RIR/RIW was rescinded and revised to incorporate the additional requested information. The revised RIR/RIW was submitted on April 26, 2021. As discussed during the Q3 Quarterly meeting, "At Risk" investigation activities began in October 2021 and are currently ongoing. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

Former Refining Area Remediation Management Unit (FRAMU)

A Supplemental RIR/RIW was submitted in Q2 2020. Based upon subsequent discussions with NJDEP/USEPA pertaining to the Port Reading June 9, 2020 memo (i.e. the "over-arching issues" memo), the RIR/RIW was rescinded and revised to incorporate the additional requested information. The revised RIR/RIW was submitted on May 20, 2021. As discussed during the Q3 Quarterly meeting, "At Risk" investigation activities began in October 2021 and are currently ongoing. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

AOC 19 – QC Laboratory & AOC 90 – Former Drum Compound

Final RAP applications were submitted to the NJDEP Bureau of Remedial Action Permitting for review on August 26, 2021 and the review is still currently in process.

AOC 103 – Fire Pits/Fire Training Area

The Proposed Future Solar Project Area RIW, which includes AOC 103, was submitted on April 26, 2021. The NJDEP provided comments on July 28, 2021 and a meeting was held on August 16, 2021 to discuss the comments. A RTC was submitted by Hess/Earth Systems on September 28, 2021. The RIW was approved on October 12, 2021 and RI activities started in November 2021 and are ongoing. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

5.0 Schedule

Site-wide LNAPL Monitoring & Recovery

Bi-weekly gauging events continue to be conducted as part of the IRM at the site. In addition, LNAPL will continue to be removed via vacuum truck from both the interceptor trench and select monitoring wells, as necessary. Passive absorbent socks and booms will also continue to be deployed in both the interceptor trench and select monitoring wells, as necessary.

AOC 10 – Truck Loading Rack and AOC 57 – Day Tankfield

As discussed during the Q3 Quarterly meeting, "At Risk" investigation activities began in October 2021 and are currently ongoing. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

AOC 12 – Smith Creek and Detention Basin

A Supplemental RIR/RIW was submitted in Q1 2020. Based upon subsequent discussions with NJDEP/USEPA pertaining to the Port Reading June 9, 2020 memo (i.e. the "over-arching issues" memo), the RIR/RIW was rescinded and revised to incorporate the additional requested information. The revised RIR/RIW was submitted on July 30, 2021. The proposed investigation activities will be conducted once the revised Supplemental RIR/RIW is reviewed and approved by the NJDEP and USEPA.

AOC 103 – Fire Pits/Fire Training Area

The RIW was approved on October 12, 2021 and RI activities began in November 2021 and are still ongoing. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

AOC 11a – Administration Building

The RI for AOC 11a is currently ongoing. The installation of offsite AOC-11a monitoring wells will be coordinated as part of implementation of RI activities being conducted for other Site areas.

Former Refining Area Remediation Management Unit (FRAMU)

As discussed during the Q3 Quarterly meeting, "At Risk" investigation activities began in October 2021 and are currently ongoing. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

Former Marine Loading Dock Area

The Marine Loading Dock Area RIW was submitted on July 12, 2021. As discussed during the Q3 USEPA/NJDEP/Hess/Earth Systems meeting, the proposed investigation activities will be initiated in Q1 2022. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

Tankfields

A Supplemental RIR/RIW was submitted in Q2 2020. Based upon subsequent discussions with NJDEP/USEPA pertaining to the Port Reading June 9, 2020 memo (i.e. the "over-arching issues" memo), the RIR/RIW was rescinded and revised to incorporate the additional requested information. The revised RIR/RIW was submitted on May 10,

2021. As discussed during the Q3 USEPA/NJDEP/Hess/Earth Systems meeting, the proposed investigation activities will be initiated in Q1 2022. At the completion of all RI activities, a final RIR will be submitted that will document all investigation data and observations.

Landfarms

The next quarterly sampling event for the North, South, and No. 1 Landfarms is scheduled in January 2022.

AOC 1 – North Landfarm (SWMU)

Routine groundwater monitoring will continue at the North Landfarm, pending approval and execution of the proposed Closure Plan. A Remedial Action Workplan (RAW) was submitted to the USEPA and NJDEP for the North Landfarm in September 2016. Comments were received from the USEPA and NJDEP on June 7, 2018. A 90% Soil Remediation Action Design (RAD) for the North Landfarm engineering control was submitted to the USEPA and NJDEP on October 24, 2019. The NJDEP and USEPA issued an approval letter for the 90% design on April 28, 2020. The current owner, Buckeye, has recently completed the lining of the tankfield located directly adjacent to the North Landfarm. The 100% RAD is in the process of being finalized.

The updated Groundwater Sampling Plan for the North Landfarm is being prepared and will be submitted pending approval of the Groundwater Sampling Plan for the No. 1 Landfarm (submitted on August 25, 2021).

AOC 2 – South Landfarm (SWMU)

Routine groundwater monitoring will continue at the South Landfarm, pending approval and execution of the proposed Closure Plan. A RAW was submitted to the USEPA and NJDEP for the South Landfarm in September 2016. Comments were received from the USEPA and NJDEP on March 20, 2019. A RIW is currently being prepared for the Former Oily Water Lagoon Area, which is adjacent to the South Landfarm. A response will be provided to the NJDEP South Landfarm comments once an investigation of the area is complete.

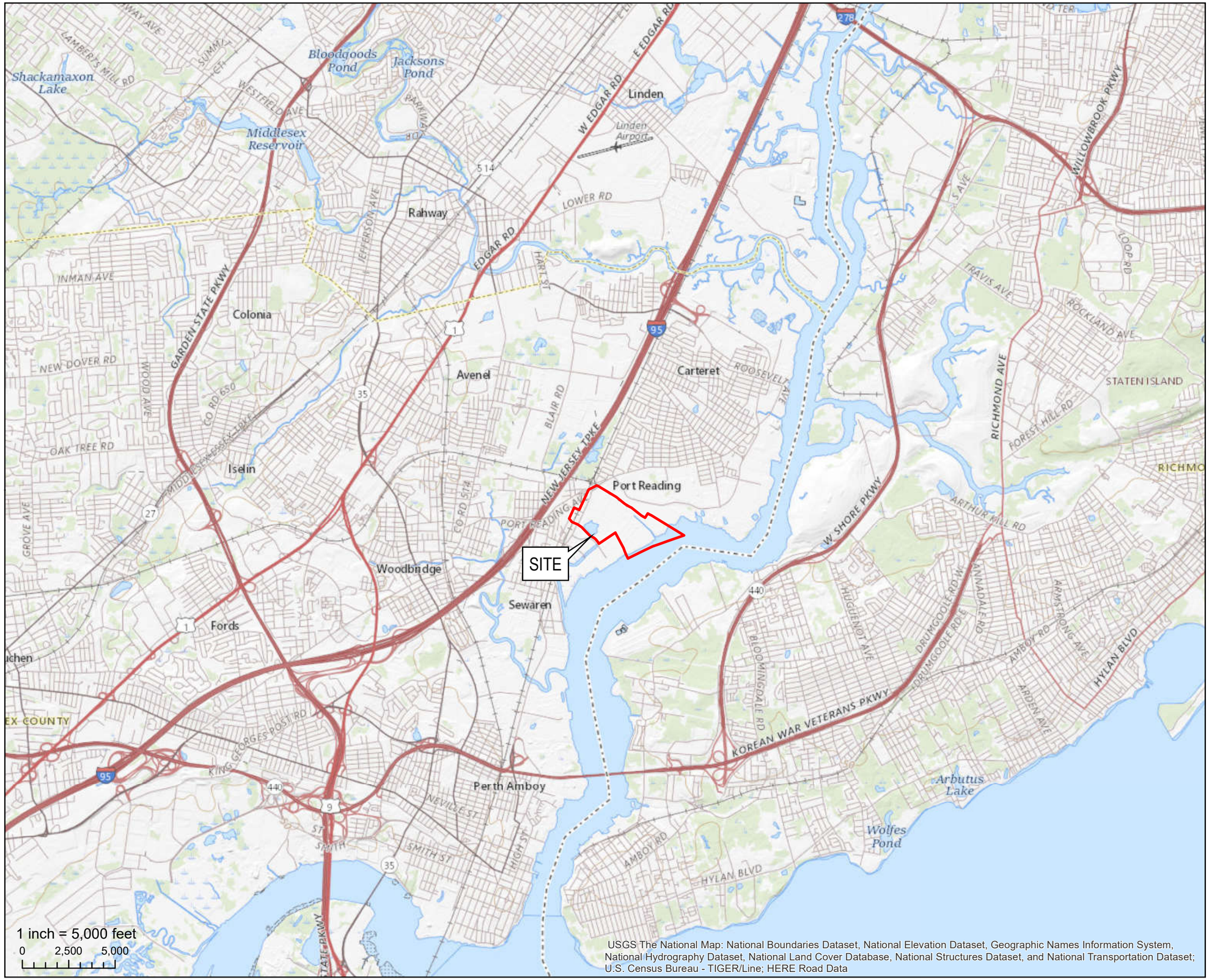
The updated Groundwater Sampling Plan for the South Landfarm is being prepared and will be submitted pending approval of the Groundwater Sampling Plan for the No. 1 Landfarm (submitted on August 25, 2021).

AOC 3 – No. 1 Landfarm (SWMU)

Routine groundwater monitoring will continue at the No. 1 Landfarm during closure activities. The updated Groundwater Sampling Plan for the No. 1 Landfarm was submitted on August 25, 2021 to the NJDEP and USEPA.

Remedial capping activities began in October 2021 for the No. 1 Landfarm and are ongoing.

Figures



LEGEND

N

Port Reading Site Boundary

NEW JERSEY QUADRANGLE LOCATION:
53 - JERSEY CITY, NEW JERSEY

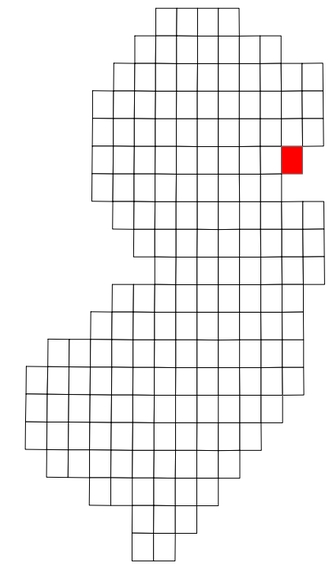


FIGURE 1:
USGS SITE LOCATION MAP

HESS CORPORATION
FORMER PORT READING TERMINAL
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	4/16/2020
SRP PI#:	006148	**Drawn By:**	KJ

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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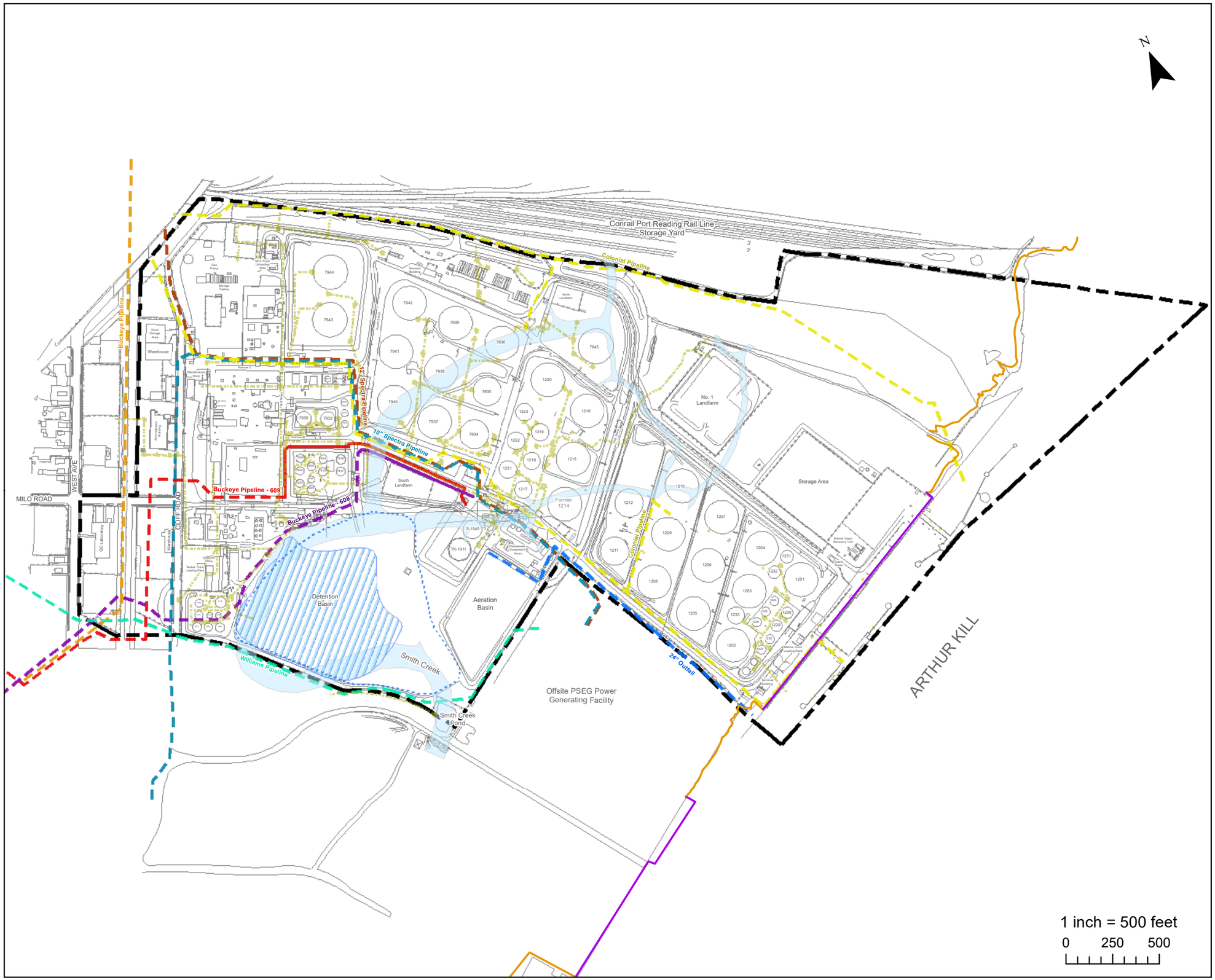
Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

Document Path: P:\ArcGIS\HESS Projects\1114J00 - Port Reading Hess\1114J01 - Sitewide\GIS\Port Reading - USGS Site Location Figure.mxd



LEGEND

- Site Boundary
- AOC 12 Extent
- Basin Present Extents
- Former Smith Creek Channel
- Shoreline
- Bulkhead

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Williams Pipeline
- Sitewide Utilities/Wastewater

Utility and Pipe Line Note:
- Solid Line: Above-ground
- Dotted Line: Underground

FIGURE: 2

Site Plan

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	03/25/2021
SRP PI#:	006148	**Drawn By:**	AE

Earth Systems
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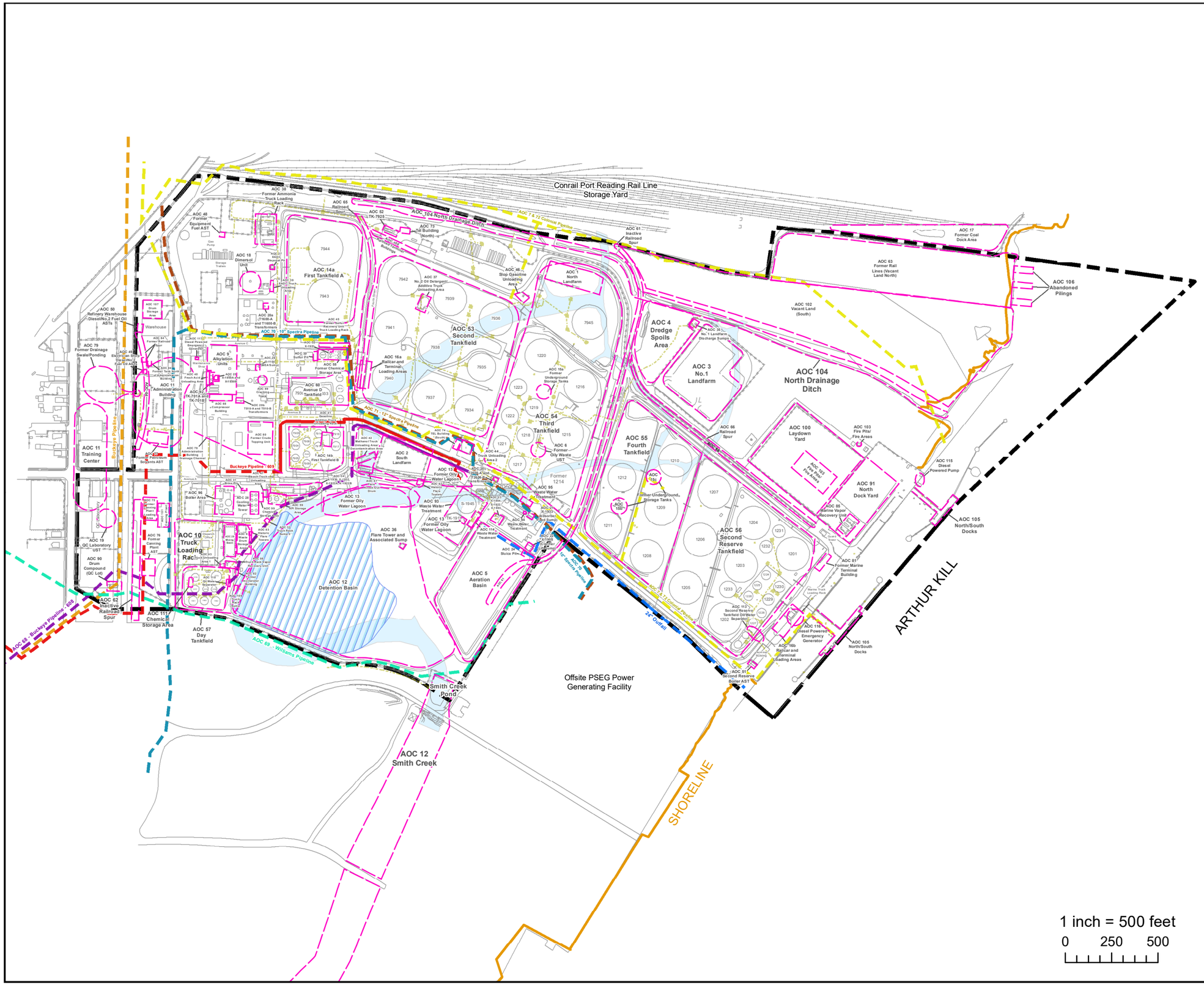

LEGEND

- AOC Boundary
- Sitewide Utilities
- Shoreline
- Site Boundary
- Detention Basin Current Extents
- Former Smith Creek Channel

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Solid Line: Aboveground
- Dotted Line: Underground

FIGURE: 3

AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/24/2021
SRP PI#:	006148	**Drawn By:**	KJ/RC

Earth Systems
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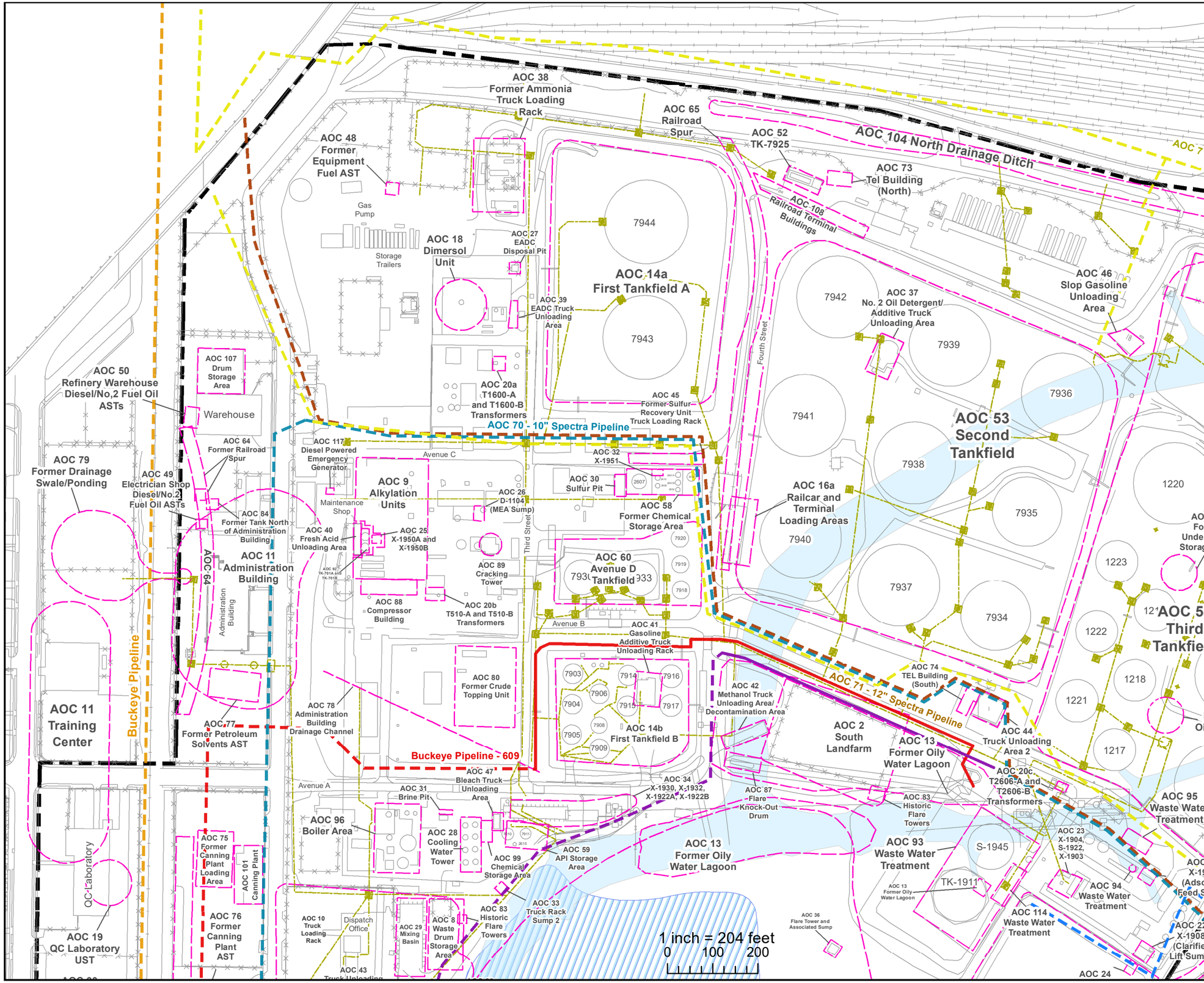

LEGEND

- AOC Boundary
- Sitewide Utilities
- Underground Utility Lines
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
Solid Line: Aboveground
Dotted Line: Underground

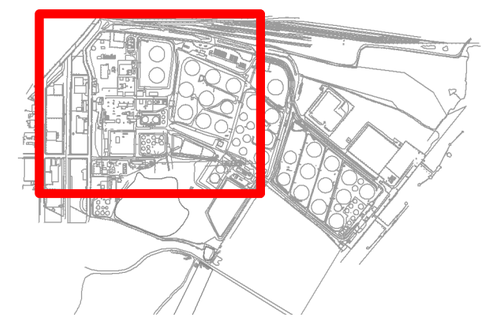

FIGURE: 3.1

AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/25/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

Earth Systems
Environmental Engineering
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Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

AOC 7 & 72 Colonial Pipeline
AOC 61 Inactive Railroad Spur
AOC 17 Former Coal Dock Area
AOC 63 Former Rail Lines (Vacant Land North)
AOC 1 North Landfarm
7945
AOC 102 Vacant Land (South)
AOC 35 No. 1 Landfarm Discharge Sumps
AOC 4 Dredge Spoils Area
1220
AOC 15a Former Underground Storage Tanks
1216
AOC 3 No.1 Landfarm
AOC 104 North Drainage Ditch
Fifth Street
AOC 54 Third Tankfield
1215
AOC 6 Former Oily Waste UST
AOC 55 Fourth Tankfield
AOC 66 Railroad Spur
AOC 66
AOC 100 Laydown Yard
AOC 103 Fire Pits/ Fire Areas
AOC 103 Fire Pits/ Fire Areas
1210
1212
AOC 15c
AOC 95 Waste Water Treatment
Former 1214
Former Underground Storage Tanks
AOC 15b
1209
1207
AOC 91 North Dock Yard
AOC 115 Diesel Powered Pump
AOC 21 X-1933 (Adsorber Feed Sump)
1211
1204
AOC 85 Marine Vapor Recovery Unit
AOC 105 North/South Docks
AOC 22 X-1908 (Clarifier Lift Sump)
1206
AOC 56 Second Reserve Tankfield
1231
1232
Guard Tower
1208
1201
AOC 81 Former Marine Terminal Building
1203
1224
10" Spectra Pipeline
AOC 70
24" Outfall
AOC 7 & 72 Colonial Pipeline
1205
1233
1225
1230
1226
Marine Truck Loading Rack
Arthur Kill

1 inch = 200 feet
0 100 200

LEGEND

- AOC Boundary
- Underground Utility/Wastewater System
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Solid Line: Aboveground
- Dotted Line: Underground

FIGURE: 3.2
AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/26/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

Earth Systems
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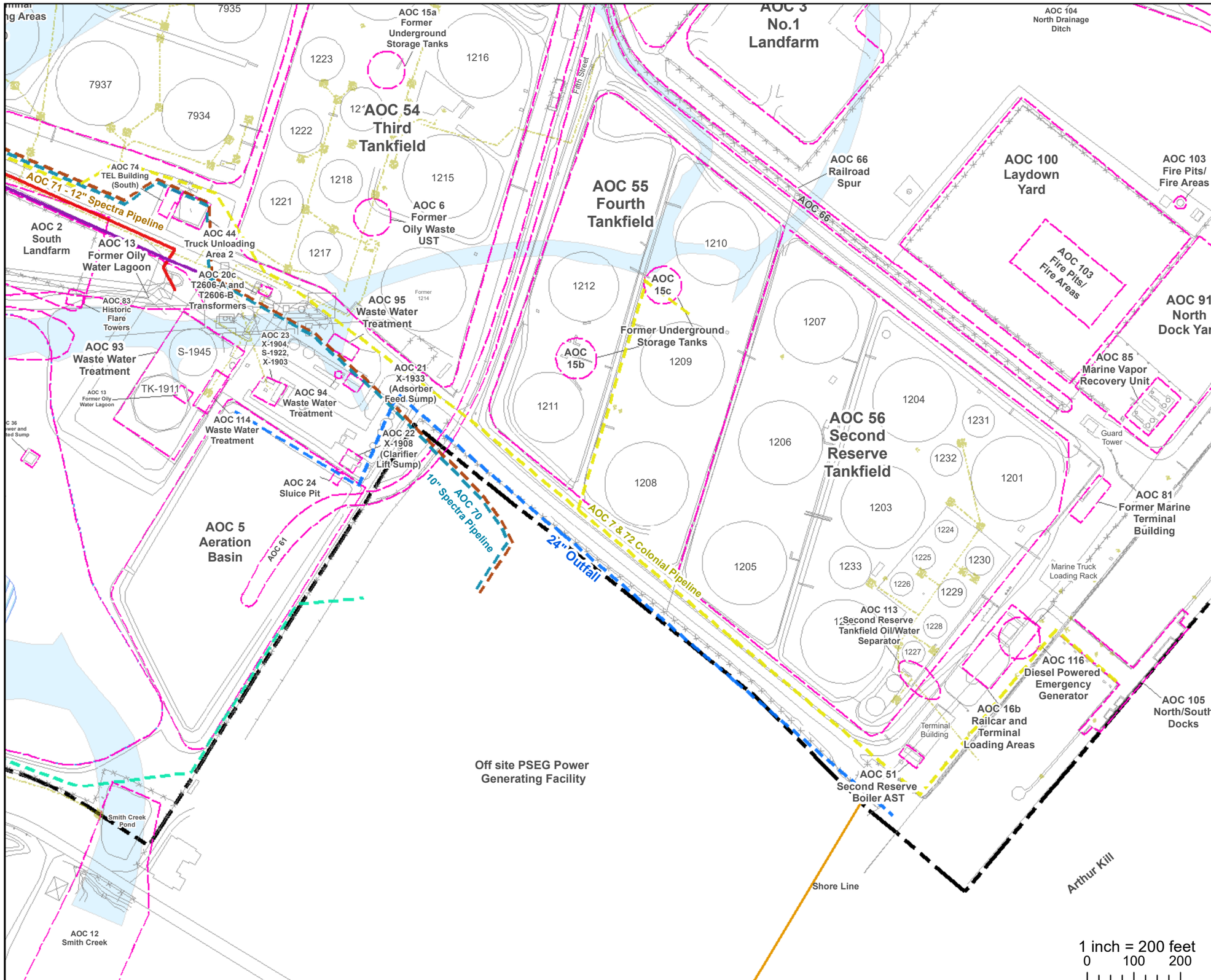

LEGEND

- AOC Boundary
- Underground Utility/Wastewater System
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
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- Buckeye Petroleum Pipeline - 609
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- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Solid Line: Aboveground
- Dotted Line: Underground

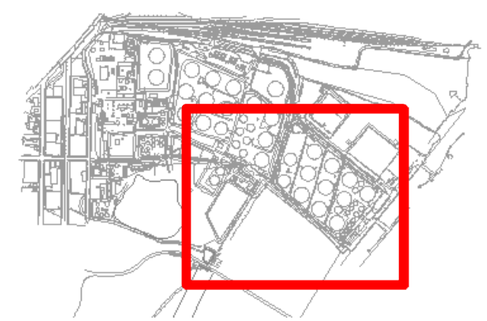

FIGURE: 3.3
AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/23/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

Earth Systems
Environmental Engineering
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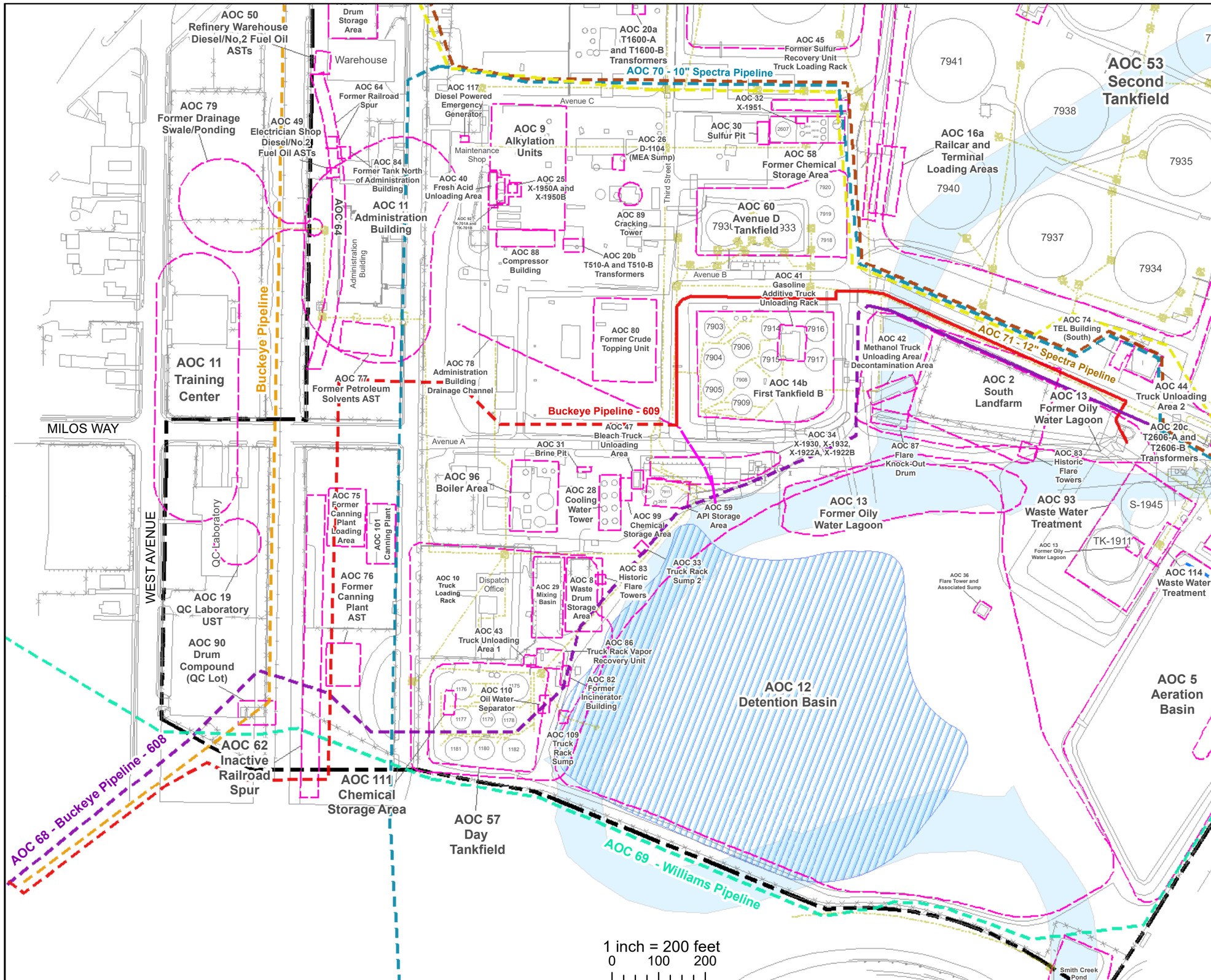

LEGEND

- AOC Boundary
- Underground Utility/Wastewater System
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
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Pipelines:
- Solid Line: Aboveground
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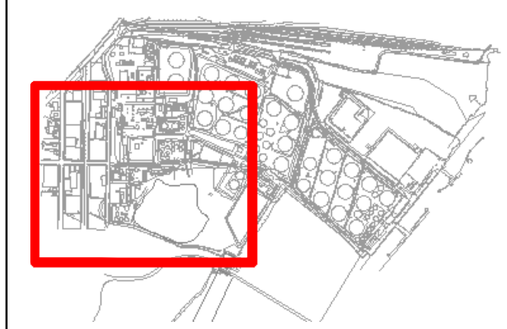

FIGURE: 3.4

AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/23/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

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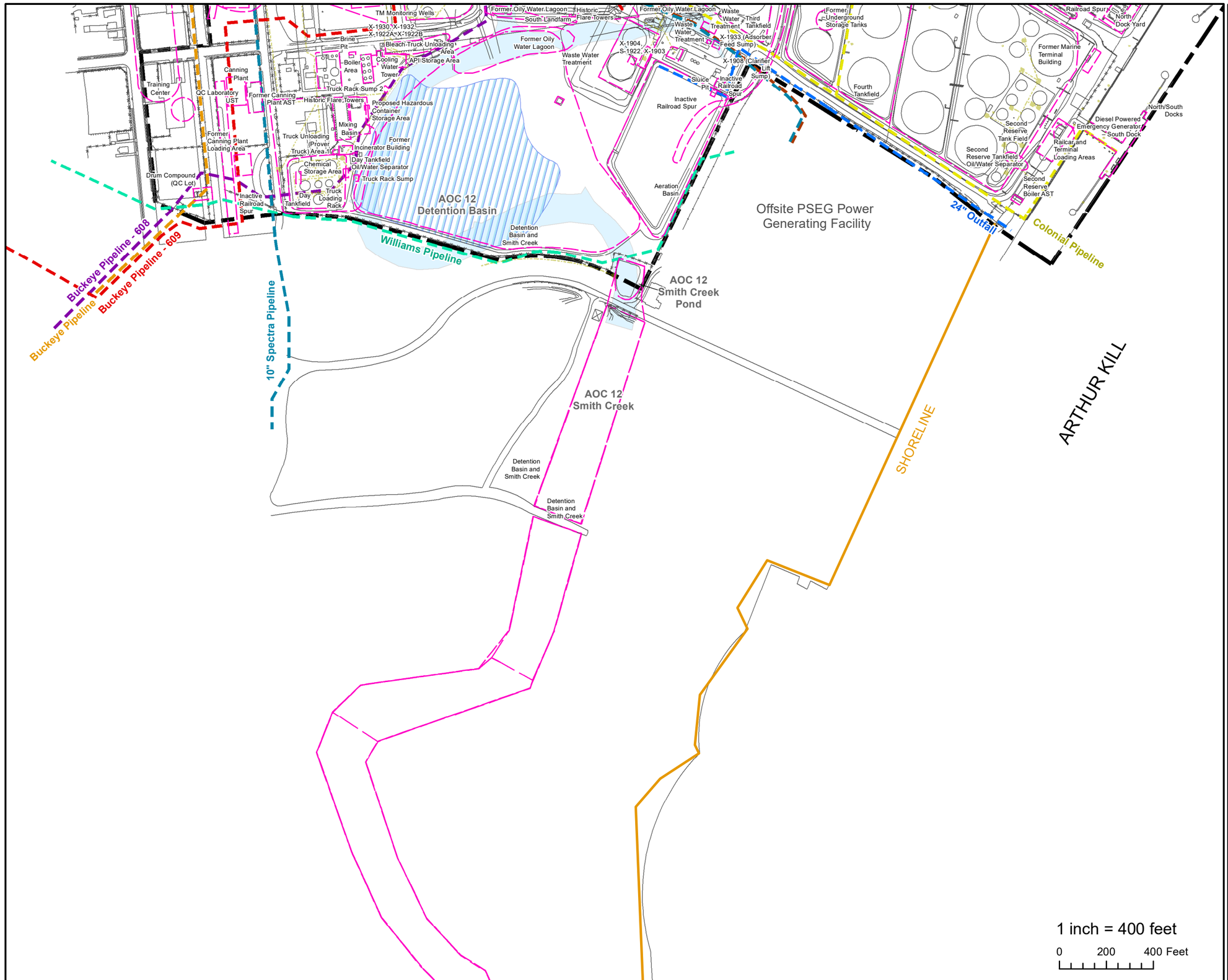

LEGEND

- AOC Boundary
- Sitewide Utility/Wastewater System
- Shoreline
- Site Boundary
- Detention Basin Current Extents

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
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Pipelines:
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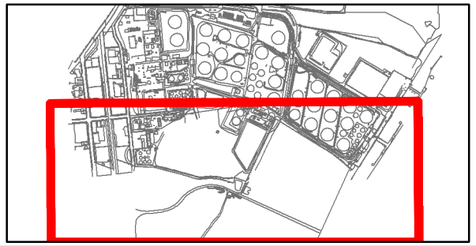

FIGURE:3.5
AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/25/2021
SRP PI#:	006148	**Drawn By:**	KJ,AE

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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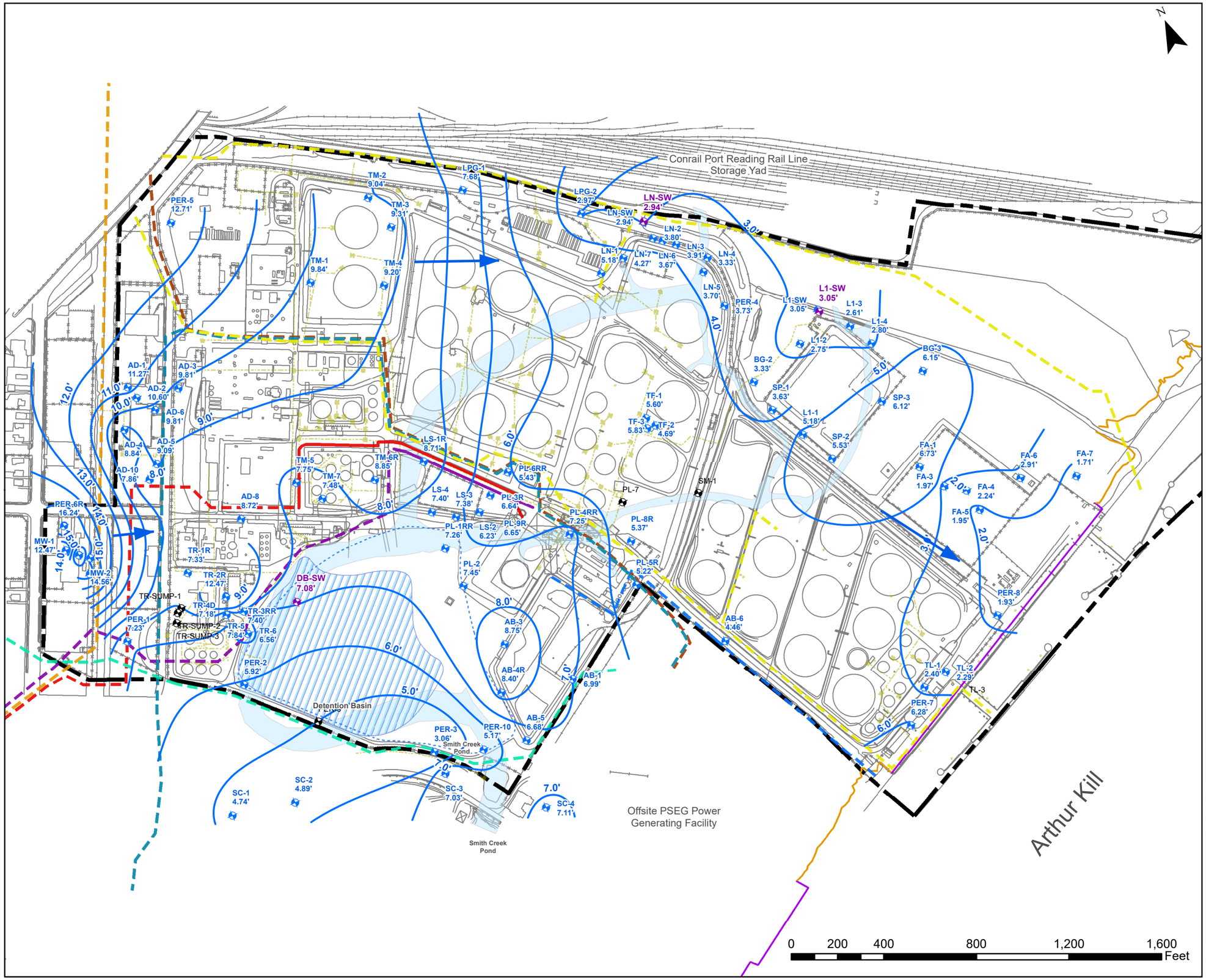

LEGEND

- Surface Water Gauge
- Monitoring Well
- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Elevation Contour
- AOC 12 Extent
- Detention Basin Present Extents
- Underground Utility/Wastewater System
- Former Smith Creek Channel
- Shoreline
- Bulkhead
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
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- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Soild Line: Aboveground
- Dotted Line: Underground

FIGURE: 4a
November 2021
Groundwater Elevation Contour
Shallow Wells

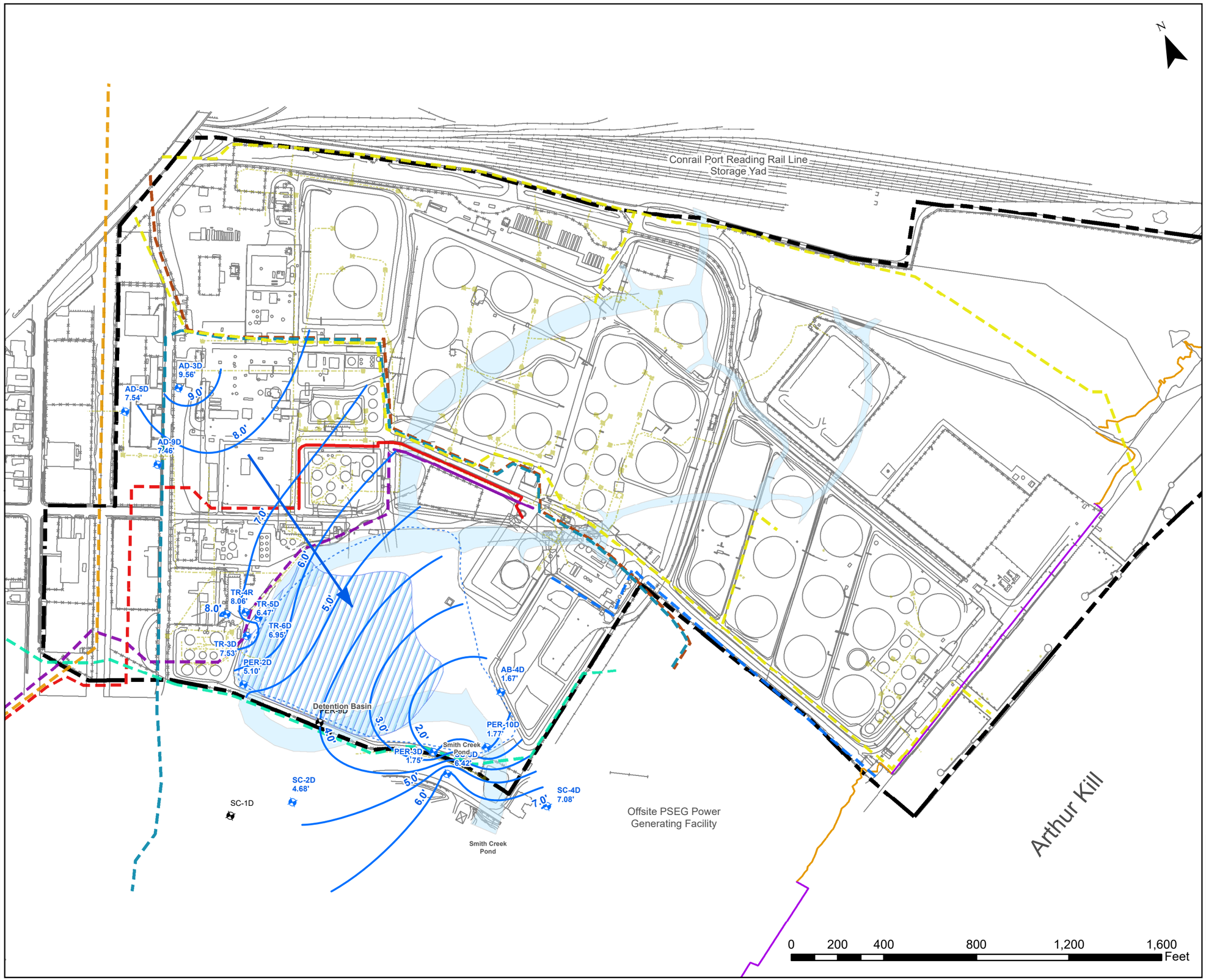
HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Date:**	1/18/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized.
Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

Document Path: \\earthserver\ArcGIS\HESS Projects\1114J00 - Port Reading Hess\1114J01 - Sitewide\GIS\Quarterly-Semi Reports\2021\2021 4th Quarter\Port Reading - 2021 November Sitewide Shallow Contour.mxd



LEGEND

- Monitoring Well
- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Elevation Contour
- AOC 12 Extent
- Detention Basin Present Extents
- Underground Utility/Wastewater System
- Former Smith Creek Channel
- Shoreline
- Bulkhead
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Soild Line: Aboveground
- Dotted Line: Underground

FIGURE: 4b
November 2021
Groundwater Elevation Contour
Intermediate Wells

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Date:**	1/18/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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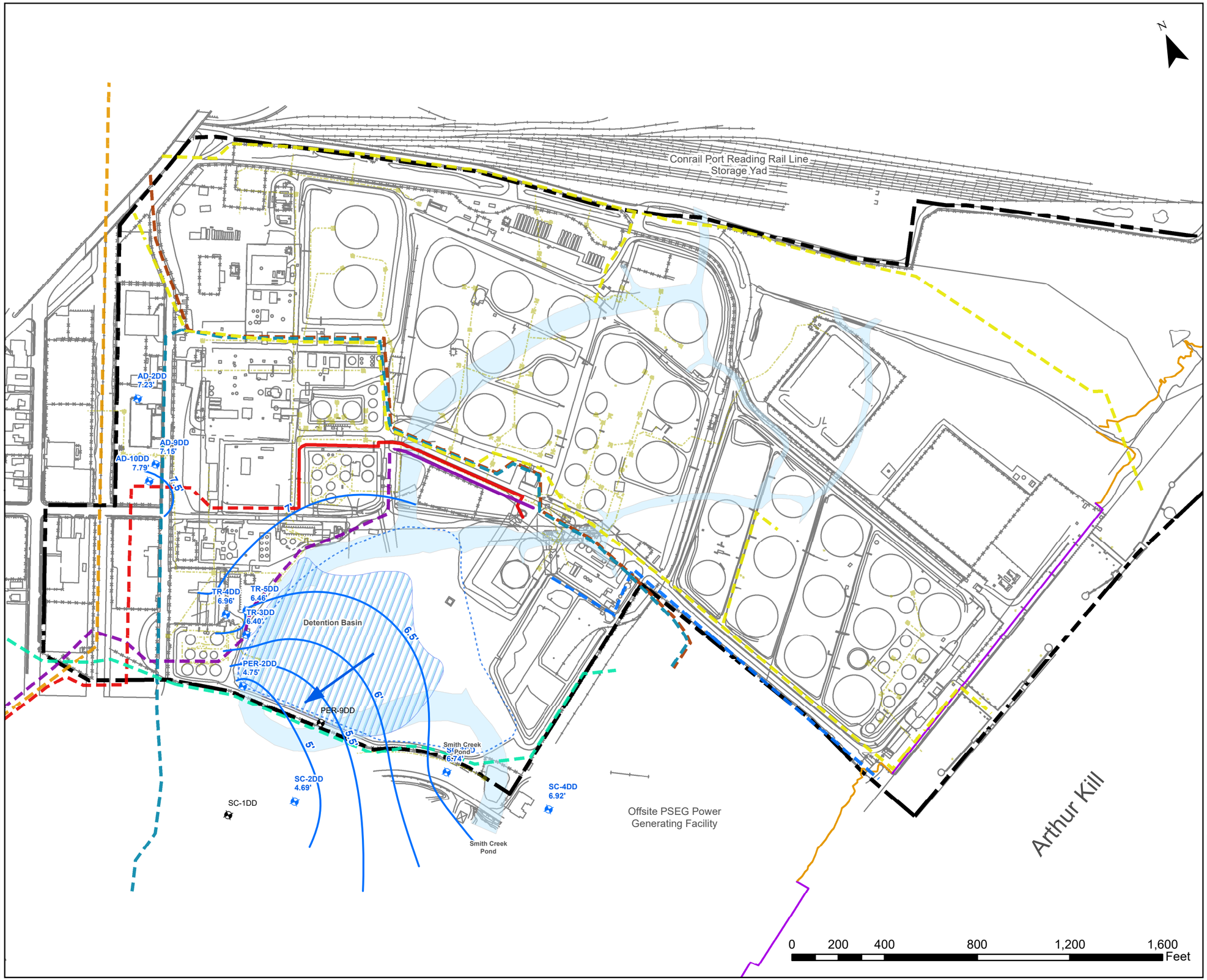

LEGEND

- Monitoring Well
- Shallow Monitoring Well
- Groundwater Flow Direction
- Groundwater Elevation Contour
- AOC 12 Extent
- Detention Basin Present Extents
- Underground Utility/Wastewater System
- Former Smith Creek Channel
- Shoreline
- Bulkhead
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Soild Line: Aboveground
- Dotted Line: Underground

FIGURE: 4c
November 2021
Groundwater Elevation Contour
Deep Wells

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Date:**	1/18/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
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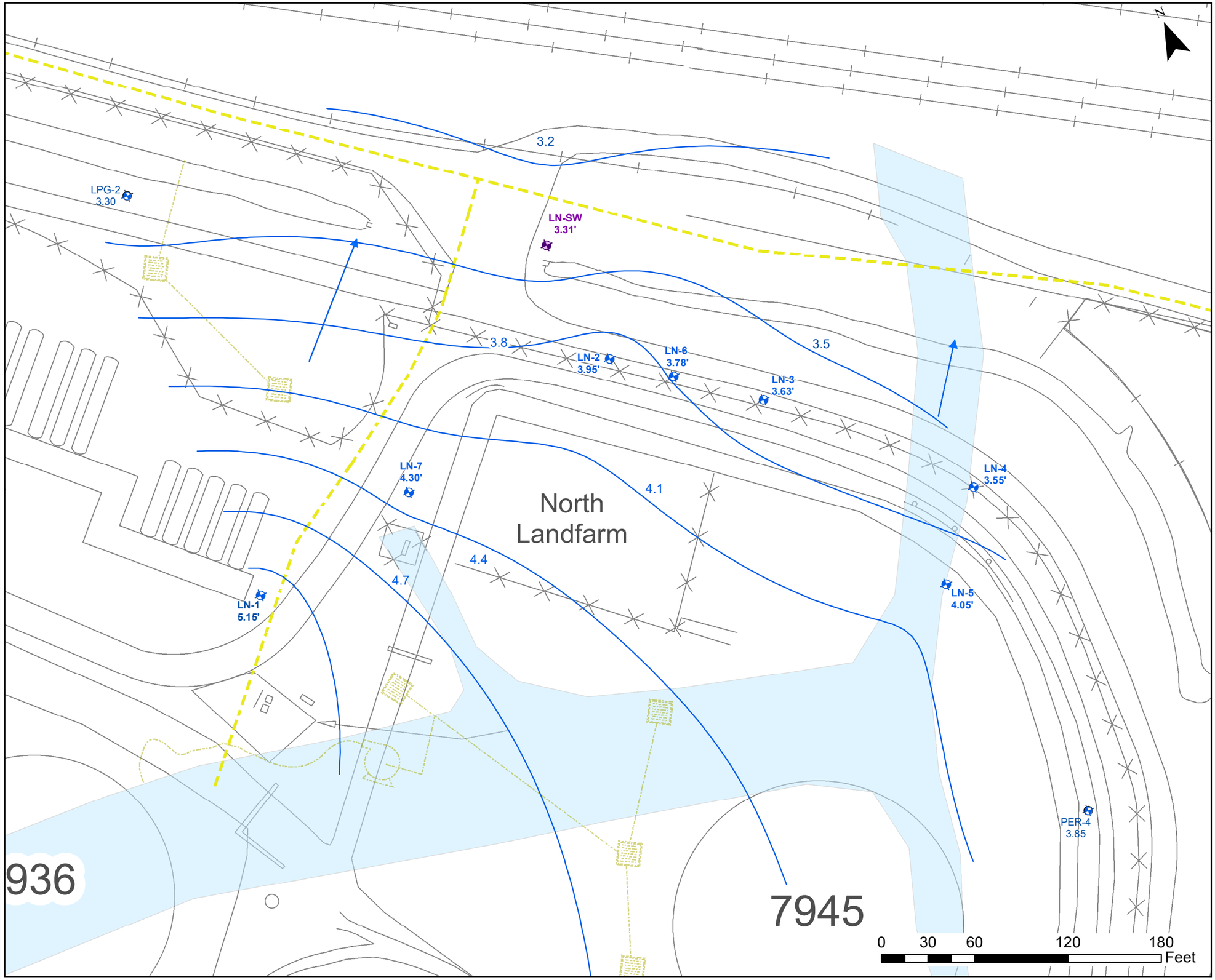

LEGEND

- Surface Water Gauges
- North Landfarm Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Colonial Pipeline
- Sitewide Utilities

NOTE:

1. All wells gauged on July 12, 2021

FIGURE: 5

OCTOBER 2021
NORTH LANDFARM
GROUNDWATER ELEVATION CONTOUR

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	07/12/2021
SRP PI#:	006148	**Drawn By:**	AE

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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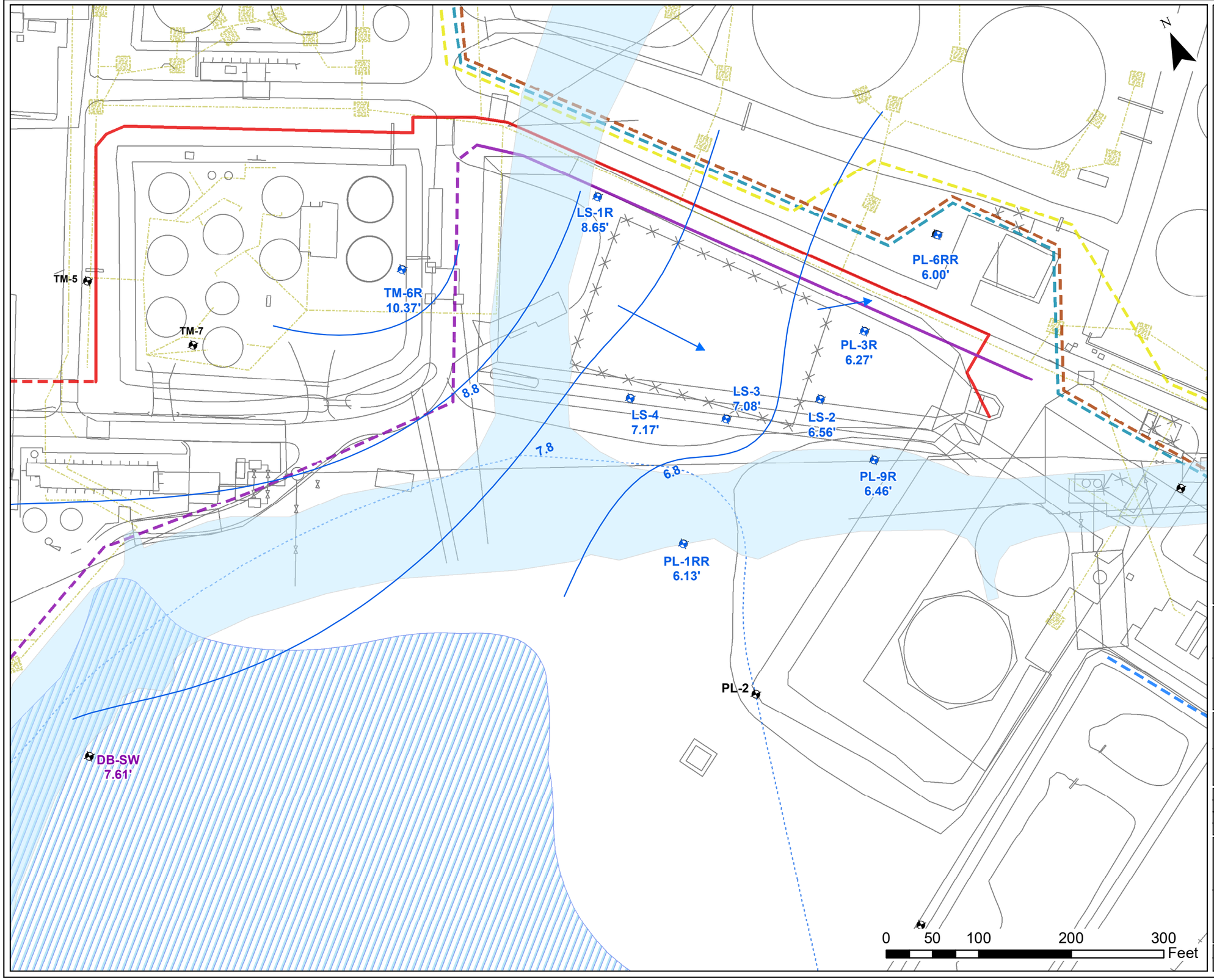

LEGEND

- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- AOC 12 Extent
- Basin Present Extents
- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline
- Sitewide Utilities

NOTE:
1. All wells gauged on October 10, 2021

FIGURE: 6

OCTOBER 2021
SOUTH LANDFARM
GROUNDWATER ELEVATION CONTOUR

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	12/16/2021
SRP PI#:	006148	**Drawn By:**	AE

Earth Systems
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1625 Highway 71, Belmar, NJ 07719
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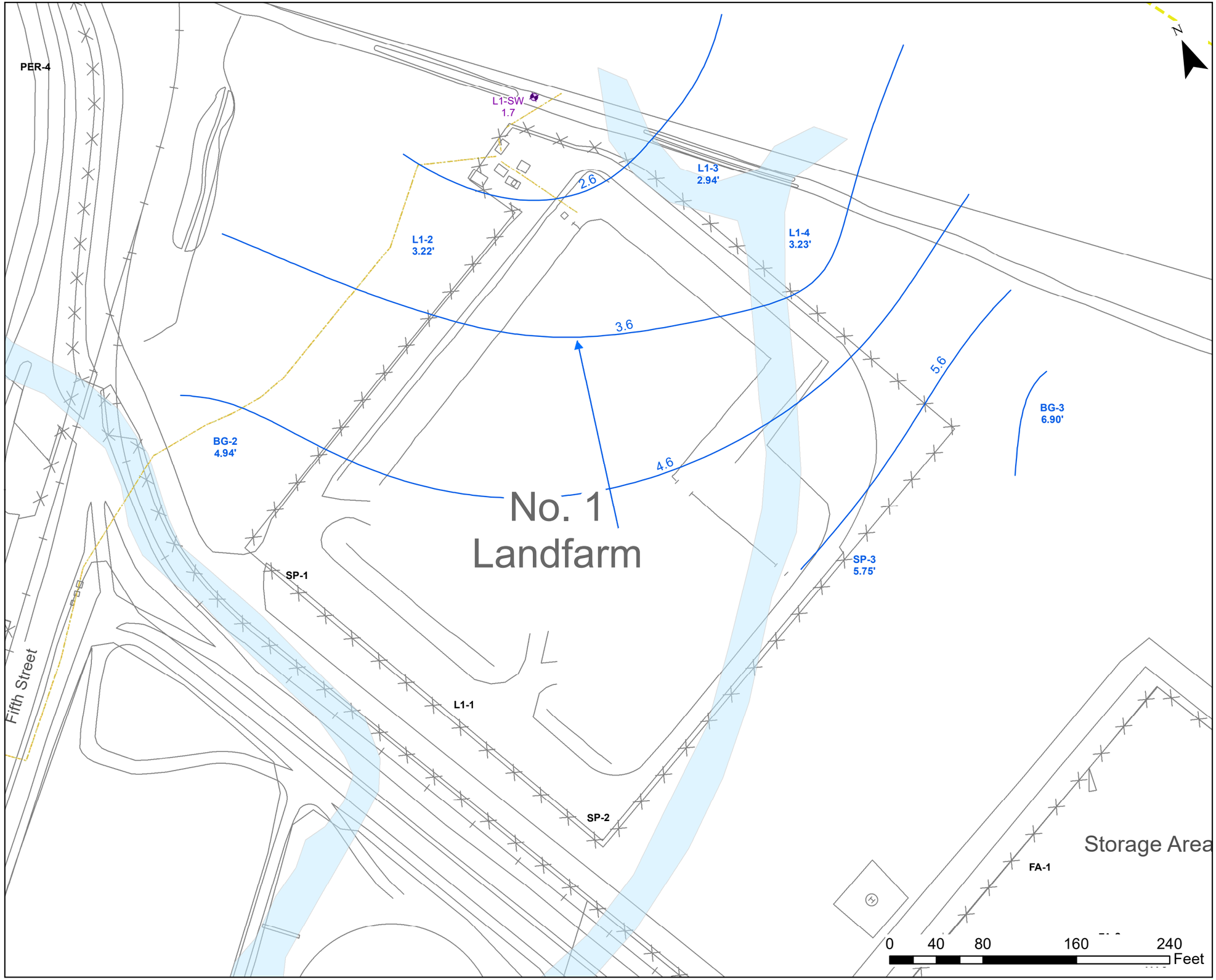

LEGEND

- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Underground Utility Lines

NOTE:

1. All wells gauged on October 7, 2021

2. L1-1, SP-1 and SP-2 could not be gauged because of site activities.

FIGURE: 7
OCTOBER 2021
NUMBER 1 LANDFARM
GROUNDWATER ELEVATION CONTOUR

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	12/16/2021
SRP PI#:	006148	**Drawn By:**	AE

Earth Systems
Environmental Engineering
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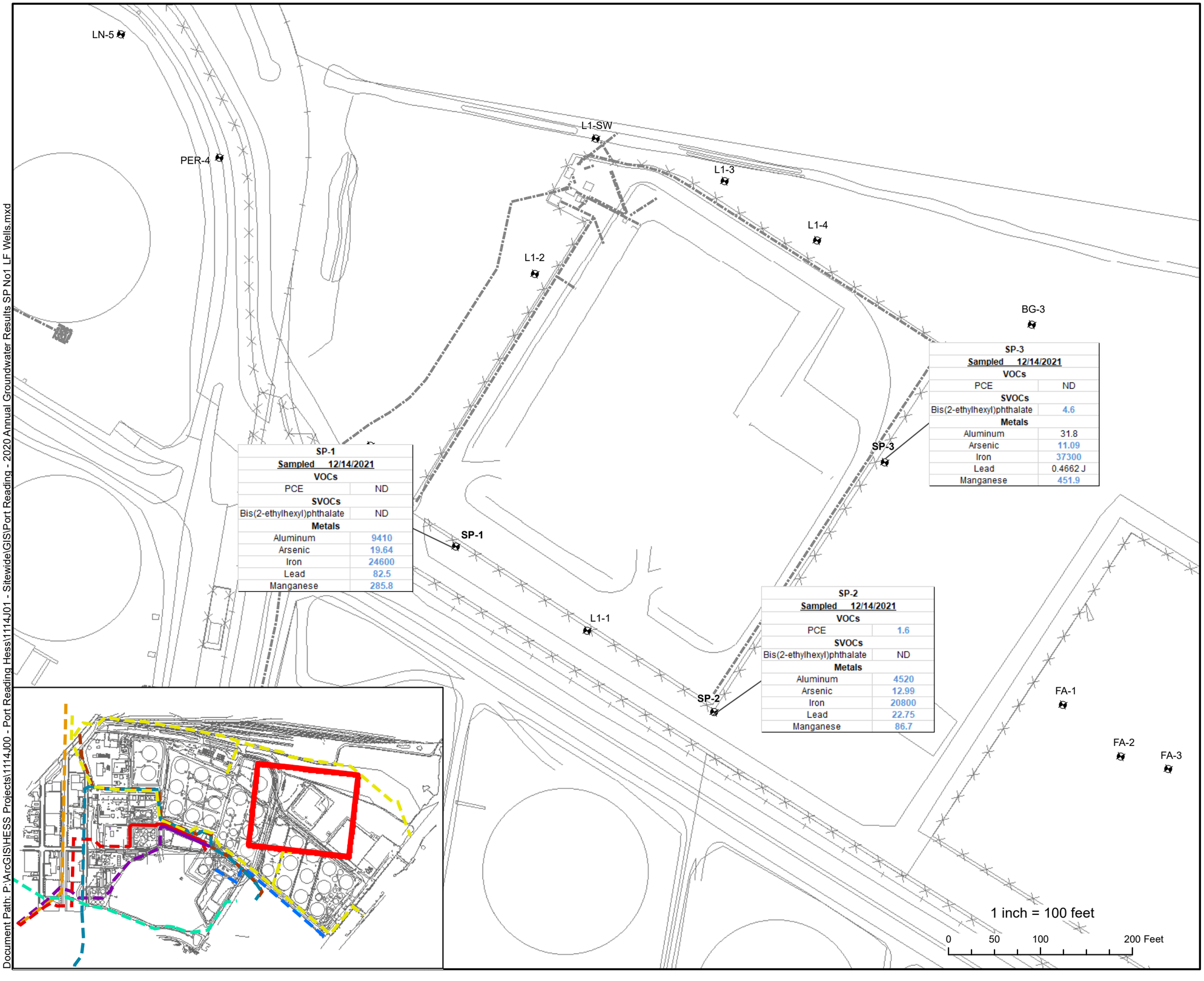

SP-1	
Sampled 12/14/2021	
VOCs	
PCE	ND
SVOCs	
Bis(2-ethylhexyl)phthalate	ND
Metals	
Aluminum	9410
Arsenic	19.64
Iron	24600
Lead	82.5
Manganese	285.8

SP-2	
Sampled 12/14/2021	
VOCs	
PCE	1.6
SVOCs	
Bis(2-ethylhexyl)phthalate	ND
Metals	
Aluminum	4520
Arsenic	12.99
Iron	20800
Lead	22.75
Manganese	86.7

SP-3	
Sampled 12/14/2021	
VOCs	
PCE	ND
SVOCs	
Bis(2-ethylhexyl)phthalate	4.6
Metals	
Aluminum	31.8
Arsenic	11.09
Iron	37300
Lead	0.4662 J
Manganese	451.9

LEGEND

Monitoring Well

NJ Groundwater Criteria	
VOCs	
PCE	1
SVOCs	
Bis(2-ethylhexyl)phthalate	3
Metals	
Aluminum	200
Arsenic	3
Iron	300
Lead	5
Manganese	50

NOTE:
1. All Results were measured in ug/l

FIGURE: 8
AOC 3
2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	1/21/2022
SRP PI#:	006148	Drawn By:	JP

Earth Systems
Environmental Engineering
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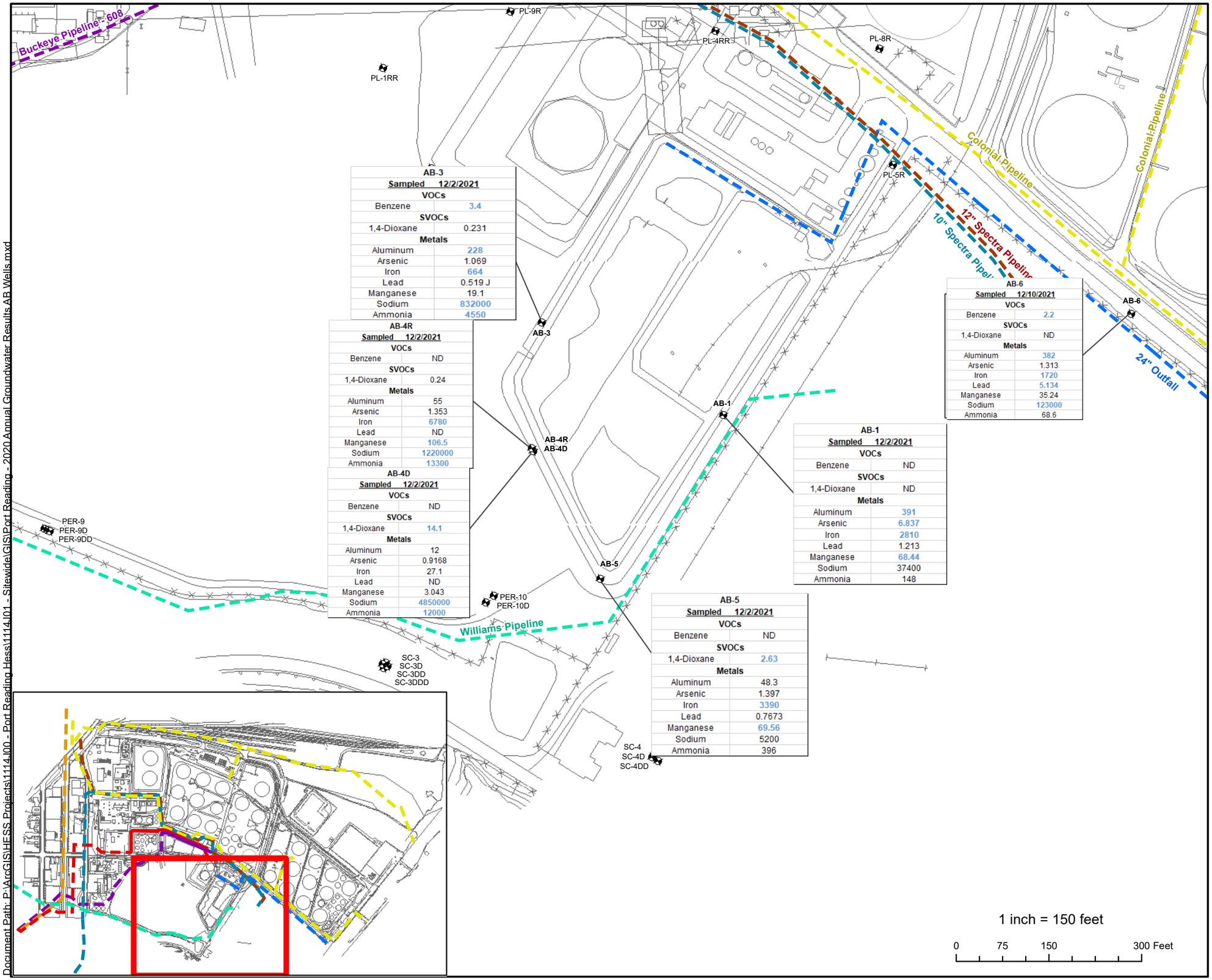

AB-3	
Sampled	12/2/2021
VOCs	
Benzene	3.4
SVOCs	
1,4-Dioxane	0.231
Metals	
Aluminum	228
Arsenic	1.069
Iron	664
Lead	0.519 J
Manganese	19.1
Sodium	832000
Ammonia	4550

AB-4R	
Sampled	12/2/2021
VOCs	
Benzene	ND
SVOCs	
1,4-Dioxane	0.24
Metals	
Aluminum	55
Arsenic	1.353
Iron	6780
Lead	ND
Manganese	106.5
Sodium	1220000
Ammonia	13300

AB-4D	
Sampled	12/2/2021
VOCs	
Benzene	ND
SVOCs	
1,4-Dioxane	14.1
Metals	
Aluminum	12
Arsenic	0.9168
Iron	27.1
Lead	ND
Manganese	3.043
Sodium	4850000
Ammonia	12000

AB-6	
Sampled	12/10/2021
VOCs	
Benzene	2.2
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	382
Arsenic	1.313
Iron	1720
Lead	5.134
Manganese	35.24
Sodium	123000
Ammonia	68.6

AB-1	
Sampled	12/2/2021
VOCs	
Benzene	ND
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	391
Arsenic	6.837
Iron	2810
Lead	1.213
Manganese	68.44
Sodium	37400
Ammonia	148

AB-5	
Sampled	12/2/2021
VOCs	
Benzene	ND
SVOCs	
1,4-Dioxane	2.63
Metals	
Aluminum	48.3
Arsenic	1.397
Iron	3390
Lead	0.7673
Manganese	69.56
Sodium	5200
Ammonia	396

LEGEND

Monitoring Well

NJ Groundwater Criteria	
VOCs	
Benzene	1
SVOCs	
1,4-Dioxane	0.4
Metals	
Aluminum	200
Arsenic	3
Iron	300
Lead	5
Manganese	50
Sodium, Total	50000
Nitrogen, Ammonia	3000

NOTE:
1. All results measured in ug/l

FIGURE: 9

AOC 5 - Aeration Basins 2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	1/21/2022
SRP PI#:	006148	Drawn By:	JP

Earth Systems
Environmental Engineering
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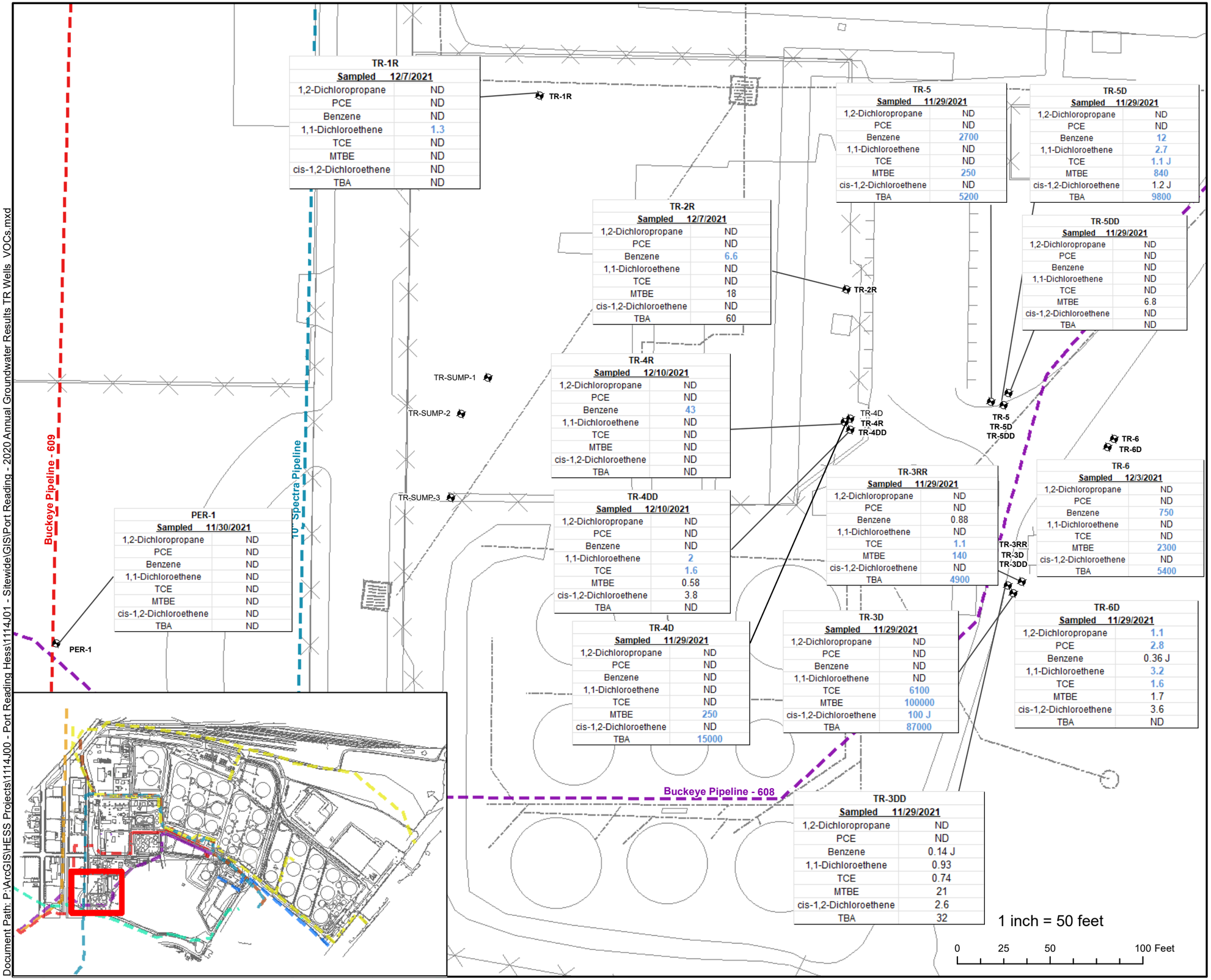

TR-1R	
Sampled	12/7/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	ND
1,1-Dichloroethene	1.3
TCE	ND
MTBE	ND
cis-1,2-Dichloroethene	ND
TBA	ND

TR-2R	
Sampled	12/7/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	6.6
1,1-Dichloroethene	ND
TCE	ND
MTBE	18
cis-1,2-Dichloroethene	ND
TBA	60

TR-4R	
Sampled	12/10/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	43
1,1-Dichloroethene	ND
TCE	ND
MTBE	ND
cis-1,2-Dichloroethene	ND
TBA	ND

TR-4DD	
Sampled	12/10/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	ND
1,1-Dichloroethene	2
TCE	1.6
MTBE	0.58
cis-1,2-Dichloroethene	3.8
TBA	ND

TR-4D	
Sampled	11/29/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	ND
1,1-Dichloroethene	ND
TCE	ND
MTBE	250
cis-1,2-Dichloroethene	ND
TBA	15000

PER-1	
Sampled	11/30/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	ND
1,1-Dichloroethene	ND
TCE	ND
MTBE	ND
cis-1,2-Dichloroethene	ND
TBA	ND

TR-5	
Sampled	11/29/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	2700
1,1-Dichloroethene	ND
TCE	ND
MTBE	250
cis-1,2-Dichloroethene	ND
TBA	5200

TR-5D	
Sampled	11/29/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	12
1,1-Dichloroethene	2.7
TCE	1.1 J
MTBE	840
cis-1,2-Dichloroethene	1.2 J
TBA	9800

TR-5DD	
Sampled	11/29/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	ND
1,1-Dichloroethene	ND
TCE	ND
MTBE	6.8
cis-1,2-Dichloroethene	ND
TBA	ND

TR-3RR	
Sampled	11/29/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	0.88
1,1-Dichloroethene	ND
TCE	1.1
MTBE	140
cis-1,2-Dichloroethene	ND
TBA	4900

TR-6	
Sampled	12/3/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	750
1,1-Dichloroethene	ND
TCE	ND
MTBE	2300
cis-1,2-Dichloroethene	ND
TBA	5400

TR-3D	
Sampled	11/29/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	ND
1,1-Dichloroethene	ND
TCE	6100
MTBE	100000
cis-1,2-Dichloroethene	100 J
TBA	87000

TR-6D	
Sampled	11/29/2021
1,2-Dichloropropane	1.1
PCE	2.8
Benzene	0.36 J
1,1-Dichloroethene	3.2
TCE	1.6
MTBE	1.7
cis-1,2-Dichloroethene	3.6
TBA	ND

TR-3DD	
Sampled	11/29/2021
1,2-Dichloropropane	ND
PCE	ND
Benzene	0.14 J
1,1-Dichloroethene	0.93
TCE	0.74
MTBE	21
cis-1,2-Dichloroethene	2.6
TBA	32

LEGEND

Monitoring Well

NJ Groundwater Criteria	
1,2-Dichloropropane	1
Tetrachloroethene (PCE)	1
Benzene	1
1,1-Dichloroethene	1
Trichloroethene (TCE)	1
Methyl tert butyl ether (MTBE)	70
cis-1,2-Dichloroethene	70
Tert-Butyl Alcohol (TBA)	100

NOTE:
1. All results were measured in ug/l

FIGURE: 10a
AOC 10 - Truck Loading Rack 2021 Annual Groundwater VOC Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/17/2021
SRP PI#:	006148	**Drawn By:**	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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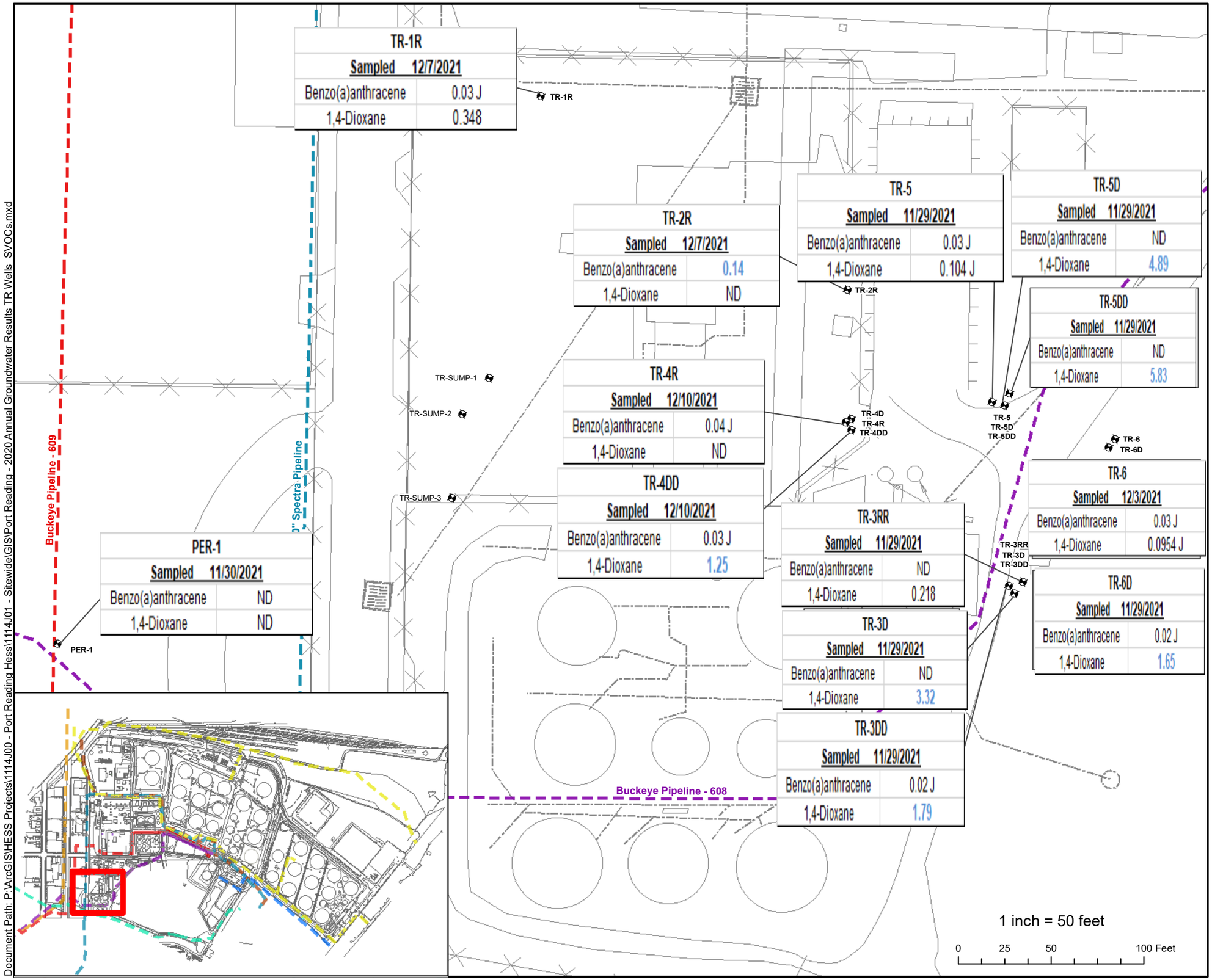

LEGEND

Monitoring Well

NJ Groundwater Criteria	
Benzo(a)anthracene	0.1
1,4-Dioxane	0.4

NOTE:
1. All results were measured in ug/l

FIGURE: 10b
AOC 10 - Truck Loading Rack
2021 Annual Groundwater SVOC Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/21/2020
SRP PI#:	006148	**Drawn By:**	JP

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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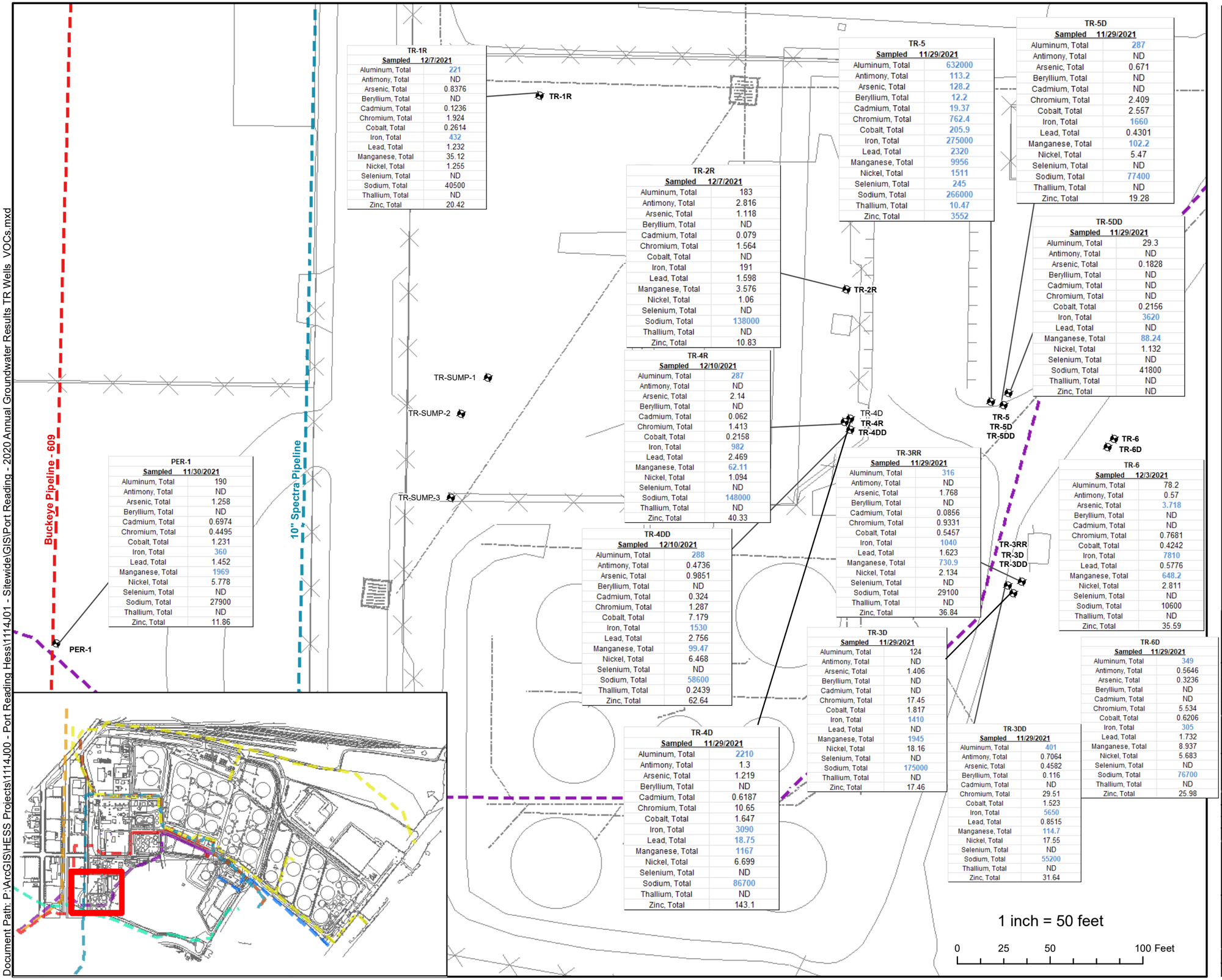


TR-1R	
Sampled	12/7/2021
Aluminum, Total	221
Antimony, Total	ND
Arsenic, Total	0.8376
Beryllium, Total	ND
Cadmium, Total	0.1236
Chromium, Total	1.924
Cobalt, Total	0.2614
Iron, Total	432
Lead, Total	1.232
Manganese, Total	35.12
Nickel, Total	1.255
Selenium, Total	ND
Sodium, Total	40500
Thallium, Total	ND
Zinc, Total	20.42

TR-2R	
Sampled	12/7/2021
Aluminum, Total	183
Antimony, Total	2.816
Arsenic, Total	1.118
Beryllium, Total	ND
Cadmium, Total	0.079
Chromium, Total	1.564
Cobalt, Total	ND
Iron, Total	191
Lead, Total	1.598
Manganese, Total	3.576
Nickel, Total	1.06
Selenium, Total	ND
Sodium, Total	138000
Thallium, Total	ND
Zinc, Total	10.83

TR-4R	
Sampled	12/10/2021
Aluminum, Total	287
Antimony, Total	ND
Arsenic, Total	2.14
Beryllium, Total	ND
Cadmium, Total	0.062
Chromium, Total	1.413
Cobalt, Total	0.2158
Iron, Total	982
Lead, Total	2.469
Manganese, Total	62.11
Nickel, Total	1.094
Selenium, Total	ND
Sodium, Total	148000
Thallium, Total	ND
Zinc, Total	40.33

TR-4DD	
Sampled	12/10/2021
Aluminum, Total	288
Antimony, Total	0.4736
Arsenic, Total	0.9851
Beryllium, Total	ND
Cadmium, Total	0.324
Chromium, Total	1.287
Cobalt, Total	7.179
Iron, Total	1530
Lead, Total	2.756
Manganese, Total	99.47
Nickel, Total	6.468
Selenium, Total	ND
Sodium, Total	58600
Thallium, Total	0.2439
Zinc, Total	62.64

TR-4D	
Sampled	11/29/2021
Aluminum, Total	2210
Antimony, Total	1.3
Arsenic, Total	1.219
Beryllium, Total	ND
Cadmium, Total	0.6187
Chromium, Total	10.65
Cobalt, Total	1.647
Iron, Total	3090
Lead, Total	18.75
Manganese, Total	1167
Nickel, Total	6.699
Selenium, Total	ND
Sodium, Total	86700
Thallium, Total	ND
Zinc, Total	143.1

TR-5	
Sampled	11/29/2021
Aluminum, Total	632000
Antimony, Total	113.2
Arsenic, Total	128.2
Beryllium, Total	12.2
Cadmium, Total	19.37
Chromium, Total	762.4
Cobalt, Total	205.9
Iron, Total	275000
Lead, Total	2320
Manganese, Total	9956
Nickel, Total	1511
Selenium, Total	245
Sodium, Total	266000
Thallium, Total	10.47
Zinc, Total	3552

TR-5D	
Sampled	11/29/2021
Aluminum, Total	287
Antimony, Total	ND
Arsenic, Total	0.671
Beryllium, Total	ND
Cadmium, Total	ND
Chromium, Total	2.409
Cobalt, Total	2.557
Iron, Total	1660
Lead, Total	0.4301
Manganese, Total	102.2
Nickel, Total	5.47
Selenium, Total	ND
Sodium, Total	77400
Thallium, Total	ND
Zinc, Total	19.28

TR-5DD	
Sampled	11/29/2021
Aluminum, Total	29.3
Antimony, Total	ND
Arsenic, Total	0.1828
Beryllium, Total	ND
Cadmium, Total	ND
Chromium, Total	ND
Cobalt, Total	0.2156
Iron, Total	3620
Lead, Total	ND
Manganese, Total	88.24
Nickel, Total	1.132
Selenium, Total	ND
Sodium, Total	41800
Thallium, Total	ND
Zinc, Total	ND

TR-3RR	
Sampled	11/29/2021
Aluminum, Total	316
Antimony, Total	ND
Arsenic, Total	1.768
Beryllium, Total	ND
Cadmium, Total	0.0856
Chromium, Total	0.9331
Cobalt, Total	0.5457
Iron, Total	1040
Lead, Total	1.623
Manganese, Total	730.9
Nickel, Total	2.134
Selenium, Total	ND
Sodium, Total	29100
Thallium, Total	ND
Zinc, Total	36.84

TR-6	
Sampled	12/3/2021
Aluminum, Total	78.2
Antimony, Total	0.57
Arsenic, Total	3.718
Beryllium, Total	ND
Cadmium, Total	ND
Chromium, Total	0.7681
Cobalt, Total	0.4242
Iron, Total	7810
Lead, Total	0.5776
Manganese, Total	648.2
Nickel, Total	2.811
Selenium, Total	ND
Sodium, Total	10600
Thallium, Total	ND
Zinc, Total	35.59

TR-3D	
Sampled	11/29/2021
Aluminum, Total	124
Antimony, Total	ND
Arsenic, Total	1.406
Beryllium, Total	ND
Cadmium, Total	ND
Chromium, Total	17.45
Cobalt, Total	1.817
Iron, Total	1410
Lead, Total	ND
Manganese, Total	1945
Nickel, Total	18.16
Selenium, Total	ND
Sodium, Total	175000
Thallium, Total	ND
Zinc, Total	17.46

TR-3DD	
Sampled	11/29/2021
Aluminum, Total	401
Antimony, Total	0.7064
Arsenic, Total	0.4582
Beryllium, Total	0.116
Cadmium, Total	ND
Chromium, Total	29.51
Cobalt, Total	1.523
Iron, Total	5650
Lead, Total	0.8515
Manganese, Total	114.7
Nickel, Total	17.55
Selenium, Total	ND
Sodium, Total	55200
Thallium, Total	ND
Zinc, Total	31.64

TR-6D	
Sampled	11/29/2021
Aluminum, Total	349
Antimony, Total	0.5646
Arsenic, Total	0.3236
Beryllium, Total	ND
Cadmium, Total	ND
Chromium, Total	5.534
Cobalt, Total	0.6206
Iron, Total	305
Lead, Total	1.732
Manganese, Total	8.937
Nickel, Total	5.683
Selenium, Total	ND
Sodium, Total	76700
Thallium, Total	ND
Zinc, Total	25.98

PER-1	
Sampled	11/30/2021
Aluminum, Total	190
Antimony, Total	ND
Arsenic, Total	1.258
Beryllium, Total	ND
Cadmium, Total	0.6974
Chromium, Total	0.4495
Cobalt, Total	1.231
Iron, Total	360
Lead, Total	1.452
Manganese, Total	1969
Nickel, Total	5.778
Selenium, Total	ND
Sodium, Total	27900
Thallium, Total	ND
Zinc, Total	11.86

LEGEND

Monitoring Well

NJ Groundwater Criteria	
Aluminum, Total	200
Antimony, Total	6
Arsenic, Total	3
Beryllium, Total	1
Cadmium, Total	4
Chromium, Total	70
Cobalt, Total	100
Iron, Total	300
Lead, Total	5
Manganese, Total	50
Nickel, Total	100
Selenium, Total	40
Sodium, Total	50000
Thallium, Total	2
Zinc, Total	2000

NOTE:
1. All results were measured in ug/l

FIGURE: 10C
AOC 10 - Truck Loading Rack
2021 Annual Groundwater Metals Sampling Results

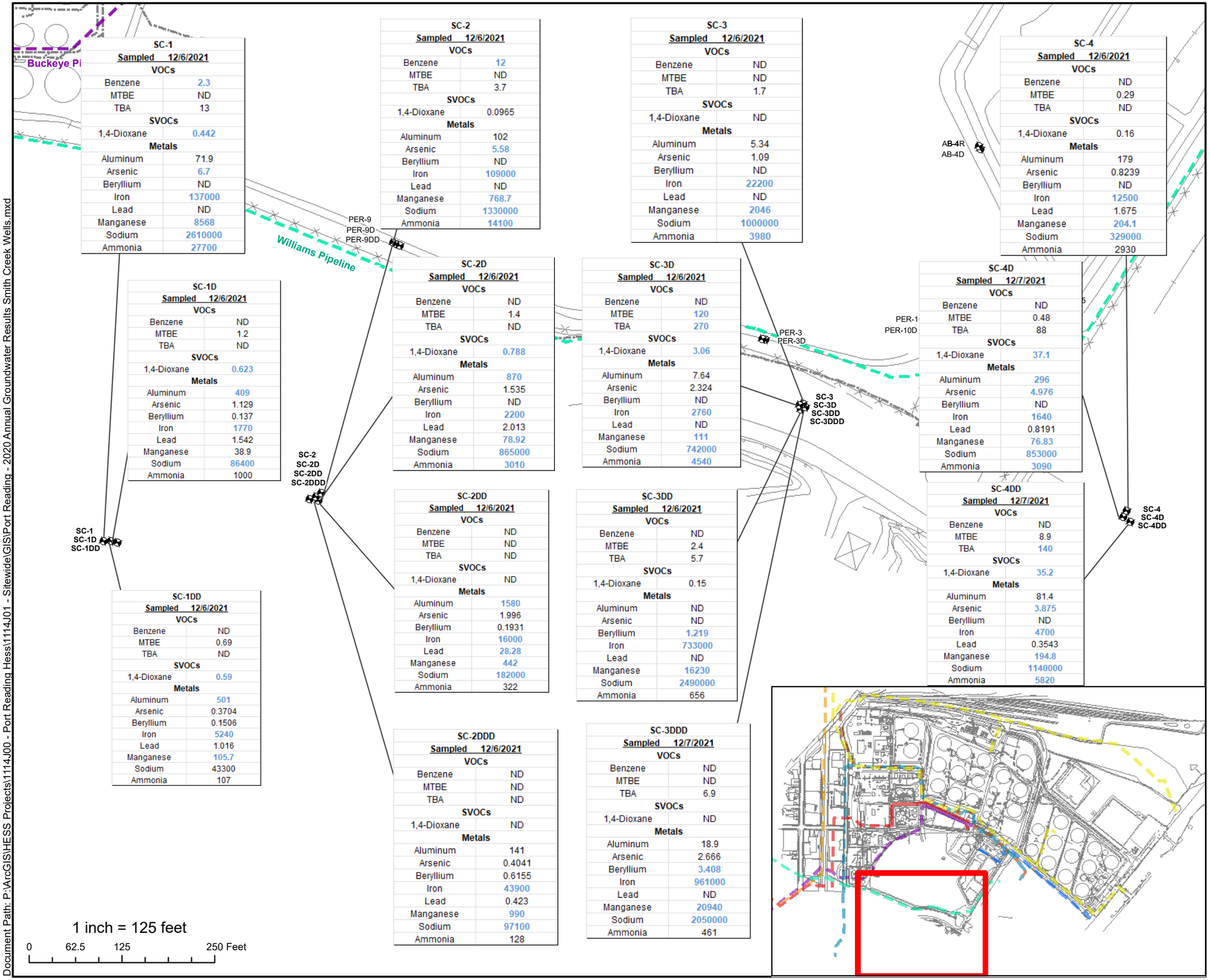
HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/17/2021
SRP PI#:	006148	**Drawn By:**	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized.
Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

Document Path: P:\ArcGIS\HESS Projects\1114J00 - Port Reading Hess\1114J01 - Sitewide\GIS\Port Reading - 2020 Annual Groundwater Results TR Wells VOCs.mxd



SC-1 Sampled 12/6/2021	
VOCs	
Benzene	2.3
MTBE	ND
TBA	13
SVOCs	
1,4-Dioxane	0.442
Metals	
Aluminum	71.9
Arsenic	6.7
Beryllium	ND
Iron	137000
Lead	ND
Manganese	8568
Sodium	2610000
Ammonia	27700

SC-1D Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	1.2
TBA	ND
SVOCs	
1,4-Dioxane	0.623
Metals	
Aluminum	409
Arsenic	1.129
Beryllium	0.137
Iron	1770
Lead	1.542
Manganese	38.9
Sodium	86400
Ammonia	1000

SC-1DD Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	0.69
TBA	ND
SVOCs	
1,4-Dioxane	0.59
Metals	
Aluminum	501
Arsenic	0.3704
Beryllium	0.1506
Iron	5240
Lead	1.016
Manganese	105.7
Sodium	43300
Ammonia	107

SC-2 Sampled 12/6/2021	
VOCs	
Benzene	12
MTBE	ND
TBA	3.7
SVOCs	
1,4-Dioxane	0.0965
Metals	
Aluminum	102
Arsenic	5.58
Beryllium	ND
Iron	109000
Lead	ND
Manganese	768.7
Sodium	1330000
Ammonia	14100

SC-2D Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	1.4
TBA	ND
SVOCs	
1,4-Dioxane	0.788
Metals	
Aluminum	870
Arsenic	1.535
Beryllium	ND
Iron	2200
Lead	2.013
Manganese	78.92
Sodium	865000
Ammonia	3010

SC-2DD Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	ND
TBA	ND
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	1580
Arsenic	1.996
Beryllium	0.1931
Iron	16000
Lead	28.28
Manganese	442
Sodium	182000
Ammonia	322

SC-2DDD Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	ND
TBA	ND
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	141
Arsenic	0.4041
Beryllium	0.6155
Iron	43900
Lead	0.423
Manganese	990
Sodium	97100
Ammonia	128

SC-3 Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	ND
TBA	1.7
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	5.34
Arsenic	1.09
Beryllium	ND
Iron	22200
Lead	ND
Manganese	2046
Sodium	1000000
Ammonia	3980

SC-3D Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	120
TBA	270
SVOCs	
1,4-Dioxane	3.06
Metals	
Aluminum	7.64
Arsenic	2.324
Beryllium	ND
Iron	2760
Lead	ND
Manganese	111
Sodium	742000
Ammonia	4540

SC-3DD Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	2.4
TBA	5.7
SVOCs	
1,4-Dioxane	0.15
Metals	
Aluminum	ND
Arsenic	ND
Beryllium	1.219
Iron	733000
Lead	ND
Manganese	16230
Sodium	2490000
Ammonia	656

SC-3DDD Sampled 12/7/2021	
VOCs	
Benzene	ND
MTBE	ND
TBA	6.9
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	18.9
Arsenic	2.666
Beryllium	3.408
Iron	961000
Lead	ND
Manganese	20940
Sodium	2050000
Ammonia	461

SC-4 Sampled 12/6/2021	
VOCs	
Benzene	ND
MTBE	0.29
TBA	ND
SVOCs	
1,4-Dioxane	0.16
Metals	
Aluminum	179
Arsenic	0.8239
Beryllium	ND
Iron	12500
Lead	1.675
Manganese	204.1
Sodium	329000
Ammonia	2930

SC-4D Sampled 12/7/2021	
VOCs	
Benzene	ND
MTBE	0.48
TBA	88
SVOCs	
1,4-Dioxane	37.1
Metals	
Aluminum	296
Arsenic	4.976
Beryllium	ND
Iron	1640
Lead	0.8191
Manganese	76.83
Sodium	853000
Ammonia	3090

SC-4DD Sampled 12/7/2021	
VOCs	
Benzene	ND
MTBE	8.9
TBA	140
SVOCs	
1,4-Dioxane	35.2
Metals	
Aluminum	81.4
Arsenic	3.875
Beryllium	ND
Iron	4700
Lead	0.3543
Manganese	194.8
Sodium	1140000
Ammonia	5820

LEGEND

Monitoring Well

NJ Groundwater Criteria	
VOCs	
Benzene	1
MTBE	70
TBA	100
SVOCs	
1,4-Dioxane	0.4
Metals	
Aluminum	200
Arsenic	3
Beryllium	1
Iron	300
Lead	5
Manganese	50
Sodium	50000
Ammonia	3000

NOTE:
1. All results were measured in ug/l

FIGURE: 10d
PSEG Offiste Wells
2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/17/2021
SRP PI#:	006148	**Drawn By:**	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

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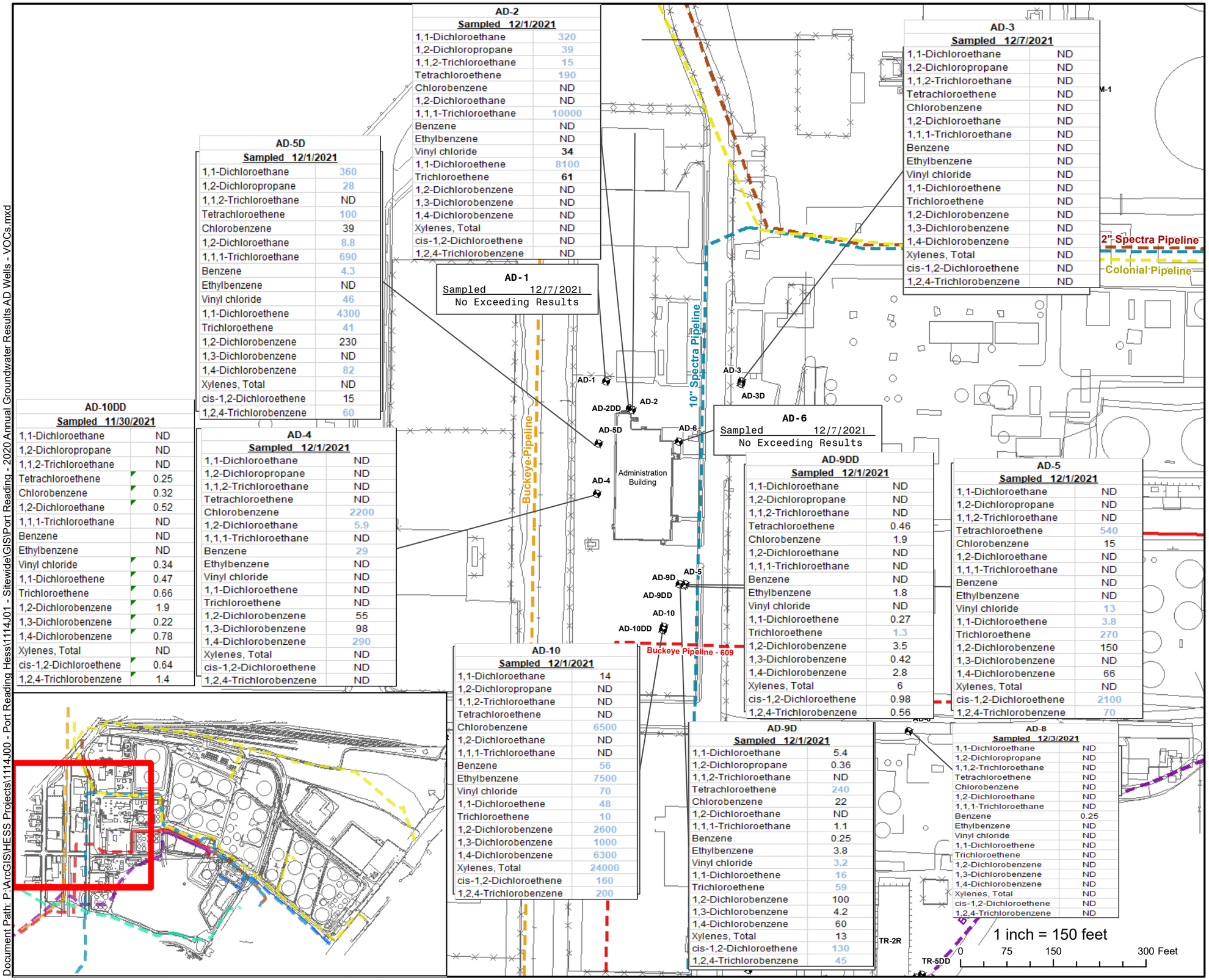

AD-2
Sampled 12/1/2021

1,1-Dichloroethane	320
1,2-Dichloropropane	39
1,1,2-Trichloroethane	15
Tetrachloroethene	190
Chlorobenzene	ND
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	10000
Benzene	ND
Ethylbenzene	ND
Vinyl chloride	34
1,1-Dichloroethene	8100
Trichloroethene	61
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Xylenes, Total	ND
cis-1,2-Dichloroethene	ND
1,2,4-Trichlorobenzene	ND

AD-3
Sampled 12/7/2021

1,1-Dichloroethane	ND
1,2-Dichloropropane	ND
1,1,2-Trichloroethane	ND
Tetrachloroethene	ND
Chlorobenzene	ND
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	ND
Benzene	ND
Ethylbenzene	ND
Vinyl chloride	ND
1,1-Dichloroethene	ND
Trichloroethene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Xylenes, Total	ND
cis-1,2-Dichloroethene	ND
1,2,4-Trichlorobenzene	ND

AD-5D
Sampled 12/1/2021

1,1-Dichloroethane	360
1,2-Dichloropropane	28
1,1,2-Trichloroethane	ND
Tetrachloroethene	100
Chlorobenzene	39
1,2-Dichloroethane	8.8
1,1,1-Trichloroethane	690
Benzene	4.3
Ethylbenzene	ND
Vinyl chloride	46
1,1-Dichloroethene	4300
Trichloroethene	41
1,2-Dichlorobenzene	230
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	82
Xylenes, Total	ND
cis-1,2-Dichloroethene	15
1,2,4-Trichlorobenzene	60

AD-1
Sampled 12/7/2021
No Exceeding Results

AD-6
Sampled 12/7/2021
No Exceeding Results

AD-10DD
Sampled 11/30/2021

1,1-Dichloroethane	ND
1,2-Dichloropropane	ND
1,1,2-Trichloroethane	ND
Tetrachloroethene	0.25
Chlorobenzene	0.32
1,2-Dichloroethane	0.52
1,1,1-Trichloroethane	ND
Benzene	ND
Ethylbenzene	ND
Vinyl chloride	0.34
1,1-Dichloroethene	0.47
Trichloroethene	0.66
1,2-Dichlorobenzene	1.9
1,3-Dichlorobenzene	0.22
1,4-Dichlorobenzene	0.78
Xylenes, Total	ND
cis-1,2-Dichloroethene	0.64
1,2,4-Trichlorobenzene	1.4

AD-4
Sampled 12/1/2021

1,1-Dichloroethane	ND
1,2-Dichloropropane	ND
1,1,2-Trichloroethane	ND
Tetrachloroethene	ND
Chlorobenzene	2200
1,2-Dichloroethane	5.9
1,1,1-Trichloroethane	ND
Benzene	29
Ethylbenzene	ND
Vinyl chloride	ND
1,1-Dichloroethene	ND
Trichloroethene	ND
1,2-Dichlorobenzene	55
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	290
Xylenes, Total	ND
cis-1,2-Dichloroethene	ND
1,2,4-Trichlorobenzene	ND

AD-9DD
Sampled 12/1/2021

1,1-Dichloroethane	ND
1,2-Dichloropropane	ND
1,1,2-Trichloroethane	ND
Tetrachloroethene	0.46
Chlorobenzene	1.9
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	ND
Benzene	ND
Ethylbenzene	1.8
Vinyl chloride	ND
1,1-Dichloroethene	0.27
Trichloroethene	1.3
1,2-Dichlorobenzene	3.5
1,3-Dichlorobenzene	0.42
1,4-Dichlorobenzene	2.8
Xylenes, Total	6
cis-1,2-Dichloroethene	0.98
1,2,4-Trichlorobenzene	0.56

AD-5
Sampled 12/1/2021

1,1-Dichloroethane	ND
1,2-Dichloropropane	ND
1,1,2-Trichloroethane	ND
Tetrachloroethene	540
Chlorobenzene	15
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	ND
Benzene	ND
Ethylbenzene	ND
Vinyl chloride	13
1,1-Dichloroethene	3.8
Trichloroethene	270
1,2-Dichlorobenzene	150
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	66
Xylenes, Total	ND
cis-1,2-Dichloroethene	2100
1,2,4-Trichlorobenzene	70

AD-10
Sampled 12/1/2021

1,1-Dichloroethane	14
1,2-Dichloropropane	ND
1,1,2-Trichloroethane	ND
Tetrachloroethene	ND
Chlorobenzene	6500
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	ND
Benzene	56
Ethylbenzene	7500
Vinyl chloride	70
1,1-Dichloroethene	48
Trichloroethene	10
1,2-Dichlorobenzene	2600
1,3-Dichlorobenzene	1000
1,4-Dichlorobenzene	6300
Xylenes, Total	24000
cis-1,2-Dichloroethene	160
1,2,4-Trichlorobenzene	200

AD-9D
Sampled 12/1/2021

1,1-Dichloroethane	5.4
1,2-Dichloropropane	0.36
1,1,2-Trichloroethane	ND
Tetrachloroethene	240
Chlorobenzene	22
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	1.1
Benzene	0.25
Ethylbenzene	3.8
Vinyl chloride	3.2
1,1-Dichloroethene	16
Trichloroethene	59
1,2-Dichlorobenzene	100
1,3-Dichlorobenzene	4.2
1,4-Dichlorobenzene	60
Xylenes, Total	13
cis-1,2-Dichloroethene	130
1,2,4-Trichlorobenzene	45

AD-8
Sampled 12/3/2021

1,1-Dichloroethane	ND
1,2-Dichloropropane	ND
1,1,2-Trichloroethane	ND
Tetrachloroethene	ND
Chlorobenzene	ND
1,2-Dichloroethane	ND
1,1,1-Trichloroethane	ND
Benzene	0.25
Ethylbenzene	ND
Vinyl chloride	ND
1,1-Dichloroethene	ND
Trichloroethene	ND
1,2-Dichlorobenzene	ND
1,3-Dichlorobenzene	ND
1,4-Dichlorobenzene	ND
Xylenes, Total	ND
cis-1,2-Dichloroethene	ND
1,2,4-Trichlorobenzene	ND

LEGEND

Monitoring Well

NJ Groundwater Criteria	
1,1-Dichloroethane	50
1,2-Dichloropropane	1
1,1,2-Trichloroethane	3
Tetrachloroethene	1
Chlorobenzene	50
1,2-Dichloroethane	2
1,1,1-Trichloroethane	30
Benzene	1
Ethylbenzene	700
Vinyl chloride	1
1,1-Dichloroethene	1
Trichloroethene	1
1,2-Dichlorobenzene	600
1,3-Dichlorobenzene	600
1,4-Dichlorobenzene	75
Xylenes, Total	1000
cis-1,2-Dichloroethene	70
1,2,4-Trichlorobenzene	9

NOTE:
1. All Results were measured in ug/l

FIGURE: 11a
AOC 11a - Administration Building 2021 Annual Groundwater VOC Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	1/26/2022
SRP PI#:	006148	Drawn By:	JP

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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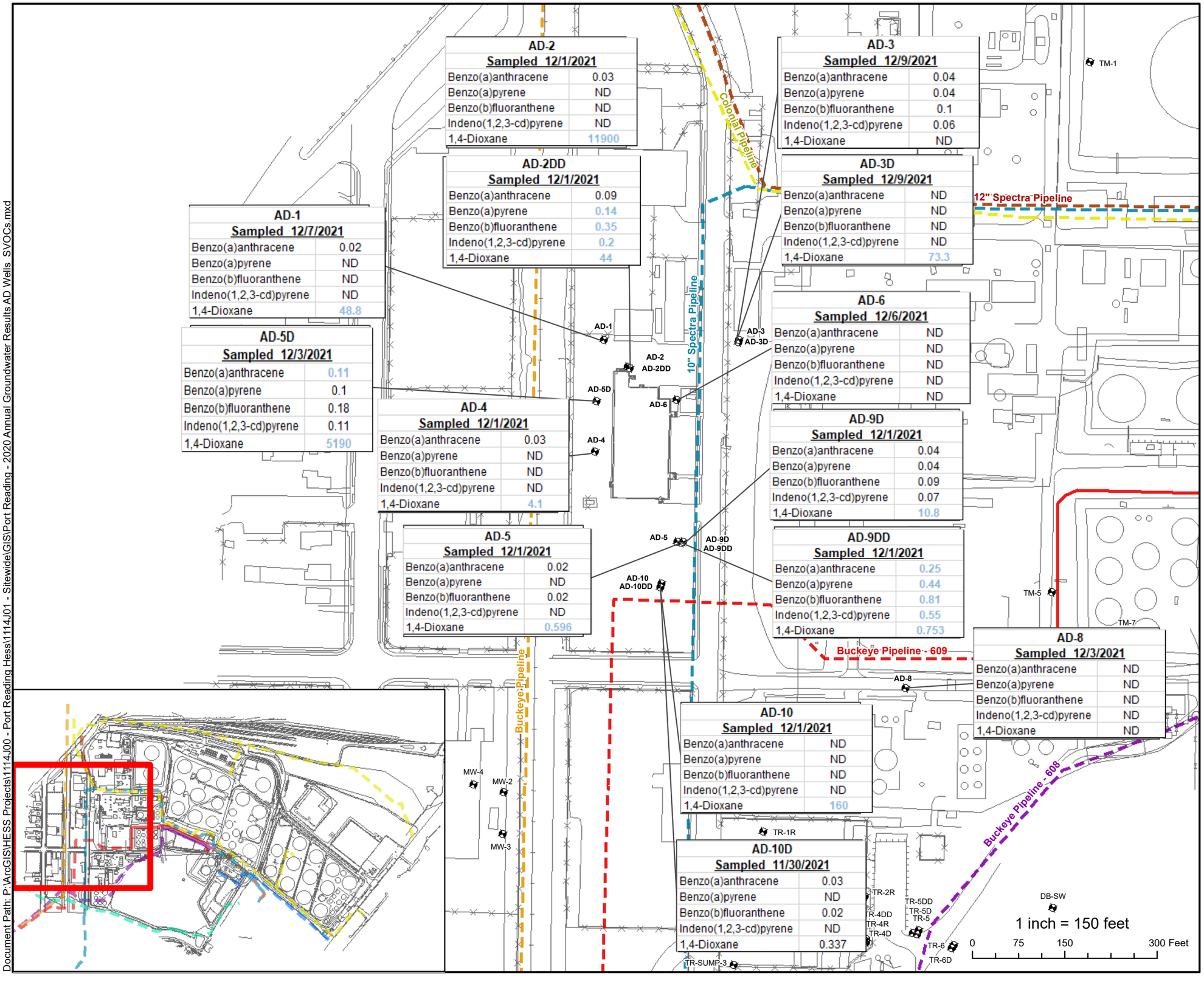

LEGEND

Monitoring Well

NJ GoundWater Critieria	
Benzo(a)anthracene	0.1
Benzo(a)pyrene	0.1
Benzo(b)fluoranthene	0.2
Indeno(1,2,3-cd)pyrene	0.2
1,4-Dioxane	0.4

NOTE:
1. All Results Measured in ug/l

FIGURE: 11b
AOC 11a - Administration Building
2021 Annual Groundwater SVOC Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	1/26/2022
SRP PI#:	006148	Drawn By:	JP

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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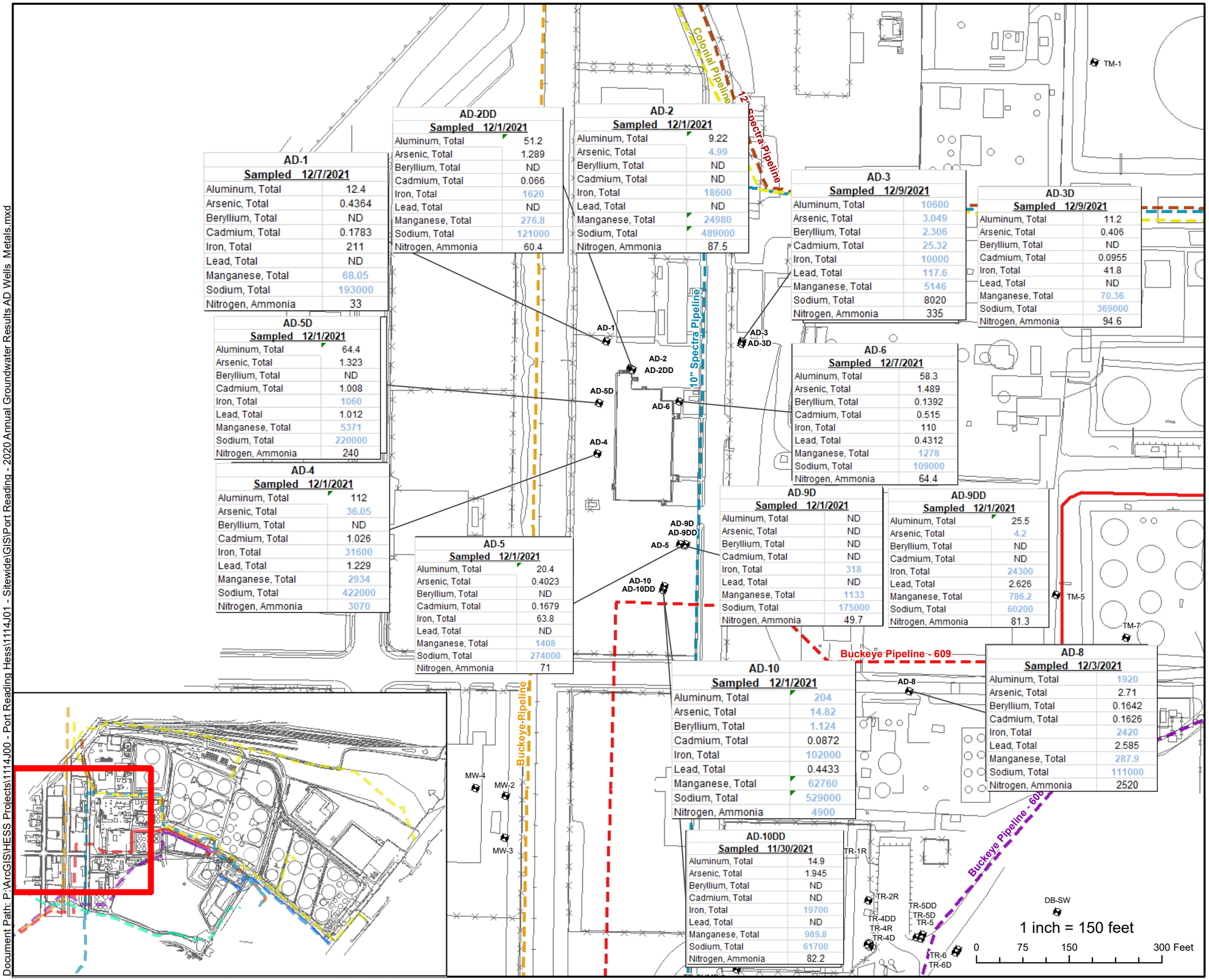

AD-1
Sampled 12/7/2021

Aluminum, Total	12.4
Arsenic, Total	0.4364
Beryllium, Total	ND
Cadmium, Total	0.1783
Iron, Total	211
Lead, Total	ND
Manganese, Total	68.05
Sodium, Total	193000
Nitrogen, Ammonia	33

AD-2DD
Sampled 12/1/2021

Aluminum, Total	51.2
Arsenic, Total	1.289
Beryllium, Total	ND
Cadmium, Total	0.066
Iron, Total	1620
Lead, Total	ND
Manganese, Total	276.8
Sodium, Total	121000
Nitrogen, Ammonia	60.4

AD-2
Sampled 12/1/2021

Aluminum, Total	9.22
Arsenic, Total	4.99
Beryllium, Total	ND
Cadmium, Total	ND
Iron, Total	18600
Lead, Total	ND
Manganese, Total	24980
Sodium, Total	489000
Nitrogen, Ammonia	87.5

AD-3
Sampled 12/9/2021

Aluminum, Total	10600
Arsenic, Total	3.049
Beryllium, Total	2.306
Cadmium, Total	25.32
Iron, Total	10000
Lead, Total	117.6
Manganese, Total	5146
Sodium, Total	8020
Nitrogen, Ammonia	335

AD-3D
Sampled 12/9/2021

Aluminum, Total	11.2
Arsenic, Total	0.406
Beryllium, Total	ND
Cadmium, Total	0.0955
Iron, Total	41.8
Lead, Total	ND
Manganese, Total	70.36
Sodium, Total	369000
Nitrogen, Ammonia	94.6

AD-5D
Sampled 12/1/2021

Aluminum, Total	64.4
Arsenic, Total	1.323
Beryllium, Total	ND
Cadmium, Total	1.008
Iron, Total	1060
Lead, Total	1.012
Manganese, Total	5371
Sodium, Total	220000
Nitrogen, Ammonia	240

AD-6
Sampled 12/7/2021

Aluminum, Total	58.3
Arsenic, Total	1.489
Beryllium, Total	0.1392
Cadmium, Total	0.515
Iron, Total	110
Lead, Total	0.4312
Manganese, Total	1278
Sodium, Total	109000
Nitrogen, Ammonia	64.4

AD-4
Sampled 12/1/2021

Aluminum, Total	112
Arsenic, Total	36.05
Beryllium, Total	ND
Cadmium, Total	1.026
Iron, Total	31600
Lead, Total	1.229
Manganese, Total	2934
Sodium, Total	422000
Nitrogen, Ammonia	3070

AD-9D
Sampled 12/1/2021

Aluminum, Total	ND
Arsenic, Total	ND
Beryllium, Total	ND
Cadmium, Total	ND
Iron, Total	318
Lead, Total	ND
Manganese, Total	1133
Sodium, Total	175000
Nitrogen, Ammonia	49.7

AD-9DD
Sampled 12/1/2021

Aluminum, Total	25.5
Arsenic, Total	4.2
Beryllium, Total	ND
Cadmium, Total	ND
Iron, Total	24300
Lead, Total	2.626
Manganese, Total	786.2
Sodium, Total	60200
Nitrogen, Ammonia	81.3

AD-5
Sampled 12/1/2021

Aluminum, Total	20.4
Arsenic, Total	0.4023
Beryllium, Total	ND
Cadmium, Total	0.1679
Iron, Total	63.8
Lead, Total	ND
Manganese, Total	1408
Sodium, Total	274000
Nitrogen, Ammonia	71

AD-10
Sampled 12/1/2021

Aluminum, Total	204
Arsenic, Total	14.82
Beryllium, Total	1.124
Cadmium, Total	0.0872
Iron, Total	102000
Lead, Total	0.4433
Manganese, Total	62760
Sodium, Total	529000
Nitrogen, Ammonia	4900

AD-8
Sampled 12/3/2021

Aluminum, Total	1920
Arsenic, Total	2.71
Beryllium, Total	0.1642
Cadmium, Total	0.1626
Iron, Total	2420
Lead, Total	2.585
Manganese, Total	287.9
Sodium, Total	111000
Nitrogen, Ammonia	2520

AD-10DD
Sampled 11/30/2021

Aluminum, Total	14.9
Arsenic, Total	1.945
Beryllium, Total	ND
Cadmium, Total	ND
Iron, Total	19700
Lead, Total	ND
Manganese, Total	989.8
Sodium, Total	61700
Nitrogen, Ammonia	82.2

LEGEND

Monitoring Well

NJ GroundWater Criteria	
Aluminum, Total	200
Arsenic, Total	3
Beryllium, Total	1
Cadmium, Total	4
Iron, Total	300
Lead, Total	5
Manganese, Total	50
Sodium, Total	50000
Nitrogen, Ammonia	3000

NOTE:
1. All Results Measured in ug/l

FIGURE: 11c
AOC 11a - Administration Building
2021 Annual Groundwater Metals Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	1/26/2022
SRP PI#:	006148	Drawn By:	JP

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

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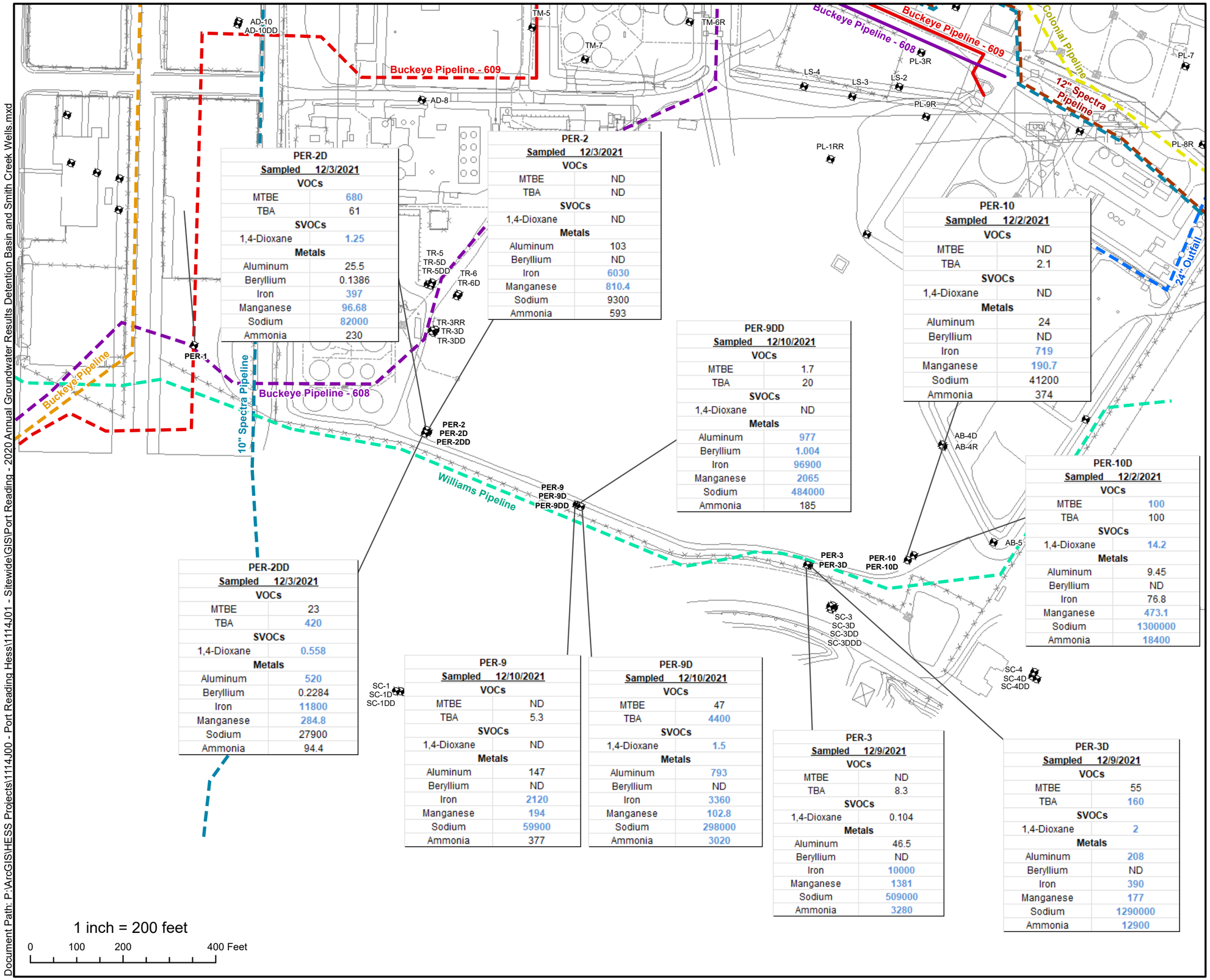

PER-2D
Sampled 12/3/2021

VOCs	
MTBE	680
TBA	61
SVOCs	
1,4-Dioxane	1.25
Metals	
Aluminum	25.5
Beryllium	0.1386
Iron	397
Manganese	96.68
Sodium	82000
Ammonia	230

PER-2
Sampled 12/3/2021

VOCs	
MTBE	ND
TBA	ND
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	103
Beryllium	ND
Iron	6030
Manganese	810.4
Sodium	9300
Ammonia	593

PER-10
Sampled 12/2/2021

VOCs	
MTBE	ND
TBA	2.1
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	24
Beryllium	ND
Iron	719
Manganese	190.7
Sodium	41200
Ammonia	374

PER-9DD
Sampled 12/10/2021

VOCs	
MTBE	1.7
TBA	20
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	977
Beryllium	1.004
Iron	96900
Manganese	2065
Sodium	484000
Ammonia	185

PER-10D
Sampled 12/2/2021

VOCs	
MTBE	100
TBA	100
SVOCs	
1,4-Dioxane	14.2
Metals	
Aluminum	9.45
Beryllium	ND
Iron	76.8
Manganese	473.1
Sodium	1300000
Ammonia	18400

PER-2DD
Sampled 12/3/2021

VOCs	
MTBE	23
TBA	420
SVOCs	
1,4-Dioxane	0.558
Metals	
Aluminum	520
Beryllium	0.2284
Iron	11800
Manganese	284.8
Sodium	27900
Ammonia	94.4

PER-9
Sampled 12/10/2021

VOCs	
MTBE	ND
TBA	5.3
SVOCs	
1,4-Dioxane	ND
Metals	
Aluminum	147
Beryllium	ND
Iron	2120
Manganese	194
Sodium	59900
Ammonia	377

PER-9D
Sampled 12/10/2021

VOCs	
MTBE	47
TBA	4400
SVOCs	
1,4-Dioxane	1.5
Metals	
Aluminum	793
Beryllium	ND
Iron	3360
Manganese	102.8
Sodium	298000
Ammonia	3020

PER-3
Sampled 12/9/2021

VOCs	
MTBE	ND
TBA	8.3
SVOCs	
1,4-Dioxane	0.104
Metals	
Aluminum	46.5
Beryllium	ND
Iron	10000
Manganese	1381
Sodium	509000
Ammonia	3280

PER-3D
Sampled 12/9/2021

VOCs	
MTBE	55
TBA	160
SVOCs	
1,4-Dioxane	2
Metals	
Aluminum	208
Beryllium	ND
Iron	390
Manganese	177
Sodium	1290000
Ammonia	12900

LEGEND

Monitoring Well

N

NJ Groundwater Criteria	
VOCs	
MTBE	70
TBA	100
SVOCs	
1,4-Dioxane	0.4
Metals	
Aluminum	200
Beryllium	1
Iron	300
Manganese	50
Sodium	50000
Ammonia	3000

NOTE:
1. All results were measured in ug/l

FIGURE: 12
AOC 12 - Detention Basin 2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/17/2021
SRP PI#:	006148	**Drawn By:**	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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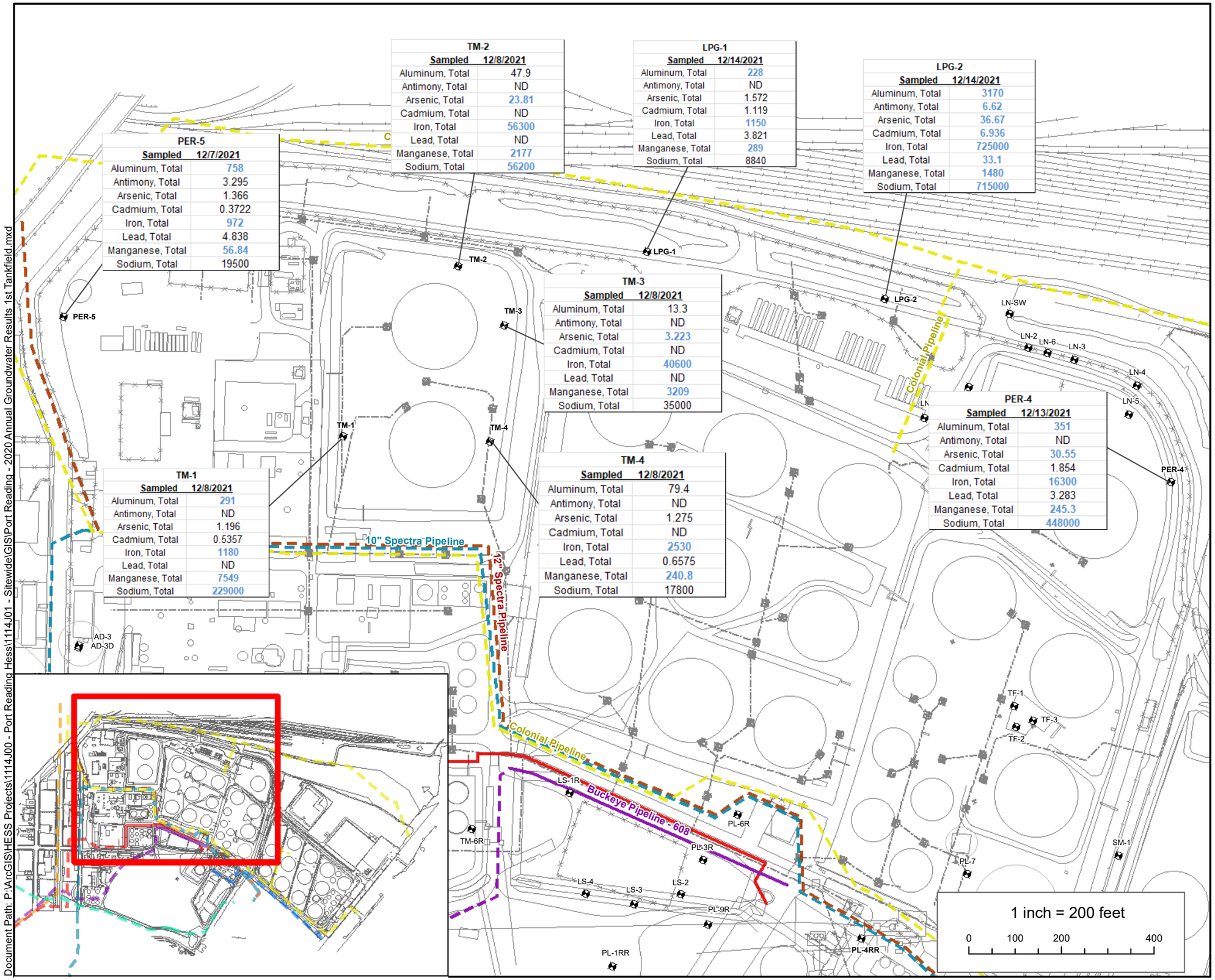

LEGEND

Monitoring Well

NJ Groundwater Criteria	
Metals	
Aluminum	200
Antimony, Total	6
Arsenic, Total	3
Cadmium, Total	4
Iron, Total	300
Lead, Total	5
Manganese, Total	50
Sodium, Total	50000

NOTE:
1. All Results were measured in ug/l

FIGURE: 13
AOC 14a - First Tank Fleld 2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/17/2021
SRP PI#:	006148	**Drawn By:**	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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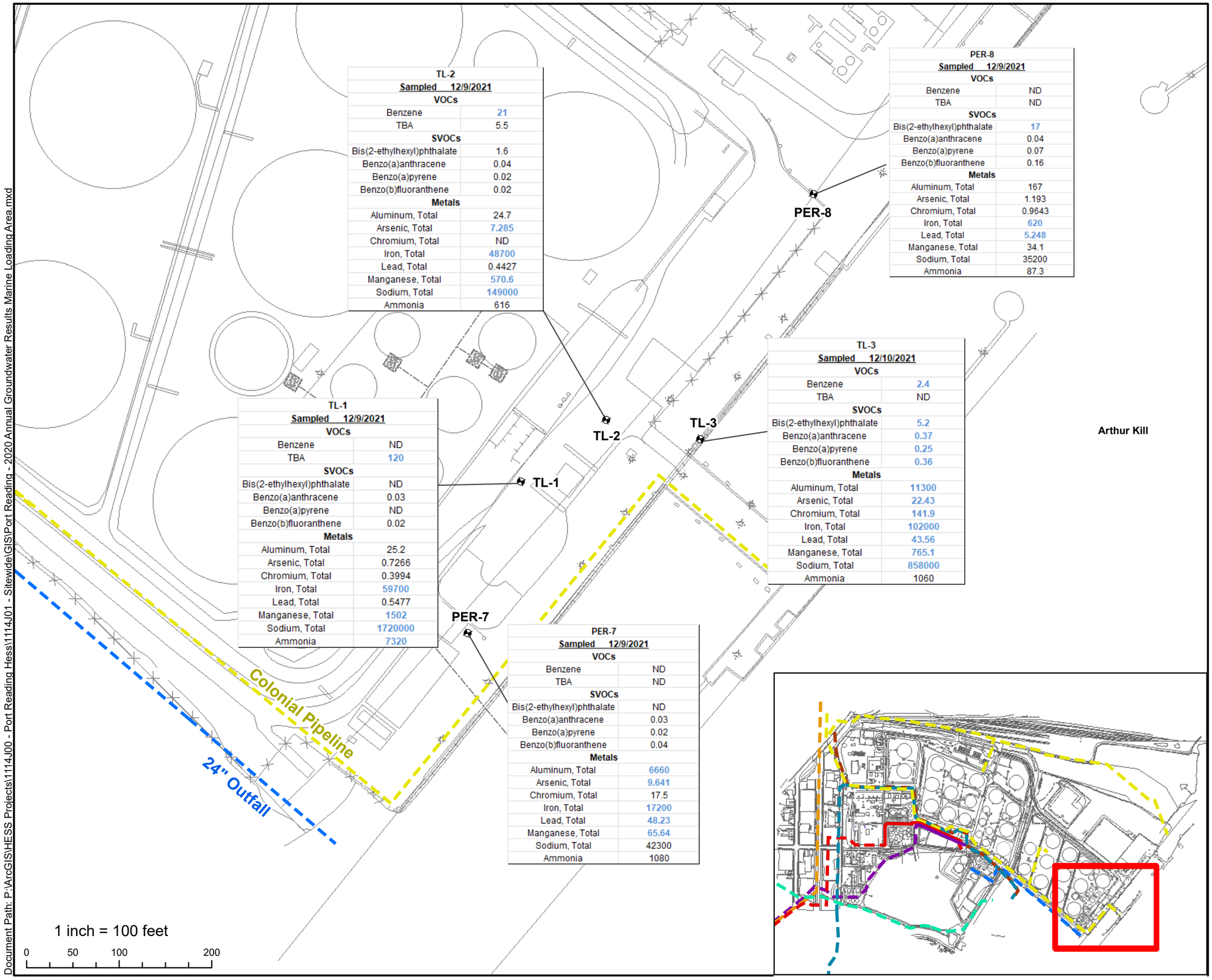

TL-2	
Sampled 12/9/2021	
VOCs	
Benzene	21
TBA	5.5
SVOCs	
Bis(2-ethylhexyl)phthalate	1.6
Benzo(a)anthracene	0.04
Benzo(a)pyrene	0.02
Benzo(b)fluoranthene	0.02
Metals	
Aluminum, Total	24.7
Arsenic, Total	7.285
Chromium, Total	ND
Iron, Total	48700
Lead, Total	0.4427
Manganese, Total	570.6
Sodium, Total	149000
Ammonia	616

PER-8	
Sampled 12/9/2021	
VOCs	
Benzene	ND
TBA	ND
SVOCs	
Bis(2-ethylhexyl)phthalate	17
Benzo(a)anthracene	0.04
Benzo(a)pyrene	0.07
Benzo(b)fluoranthene	0.16
Metals	
Aluminum, Total	167
Arsenic, Total	1.193
Chromium, Total	0.9643
Iron, Total	620
Lead, Total	5.248
Manganese, Total	34.1
Sodium, Total	35200
Ammonia	87.3

TL-1	
Sampled 12/9/2021	
VOCs	
Benzene	ND
TBA	120
SVOCs	
Bis(2-ethylhexyl)phthalate	ND
Benzo(a)anthracene	0.03
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	0.02
Metals	
Aluminum, Total	25.2
Arsenic, Total	0.7266
Chromium, Total	0.3994
Iron, Total	59700
Lead, Total	0.5477
Manganese, Total	1502
Sodium, Total	1720000
Ammonia	7320

TL-3	
Sampled 12/10/2021	
VOCs	
Benzene	2.4
TBA	ND
SVOCs	
Bis(2-ethylhexyl)phthalate	5.2
Benzo(a)anthracene	0.37
Benzo(a)pyrene	0.25
Benzo(b)fluoranthene	0.36
Metals	
Aluminum, Total	11300
Arsenic, Total	22.43
Chromium, Total	141.9
Iron, Total	102000
Lead, Total	43.56
Manganese, Total	765.1
Sodium, Total	858000
Ammonia	1060

PER-7	
Sampled 12/9/2021	
VOCs	
Benzene	ND
TBA	ND
SVOCs	
Bis(2-ethylhexyl)phthalate	ND
Benzo(a)anthracene	0.03
Benzo(a)pyrene	0.02
Benzo(b)fluoranthene	0.04
Metals	
Aluminum, Total	6660
Arsenic, Total	9.641
Chromium, Total	17.5
Iron, Total	17200
Lead, Total	48.23
Manganese, Total	65.64
Sodium, Total	42300
Ammonia	1080

LEGEND

Monitoring Well

NJ Groundwater Criteria	
VOCs	
Benzene	1
TBA	100
SVOCs	
Bis(2-ethylhexyl)phthalate	3
Benzo(a)anthracene	0.1
Benzo(a)pyrene	0.1
Benzo(b)fluoranthene	0.2
Metals	
Aluminum, Total	200
Arsenic, Total	3
Chromium, Total	70
Iron, Total	300
Lead, Total	5
Manganese, Total	50
Sodium, Total	50000
Nitrogen, Ammonia	3000

NOTE:
1. All Results were measured in ug/l

FIGURE: 14

Marine Loading Rack 2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/17/2022
SRP PI#:	006148	**Drawn By:**	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

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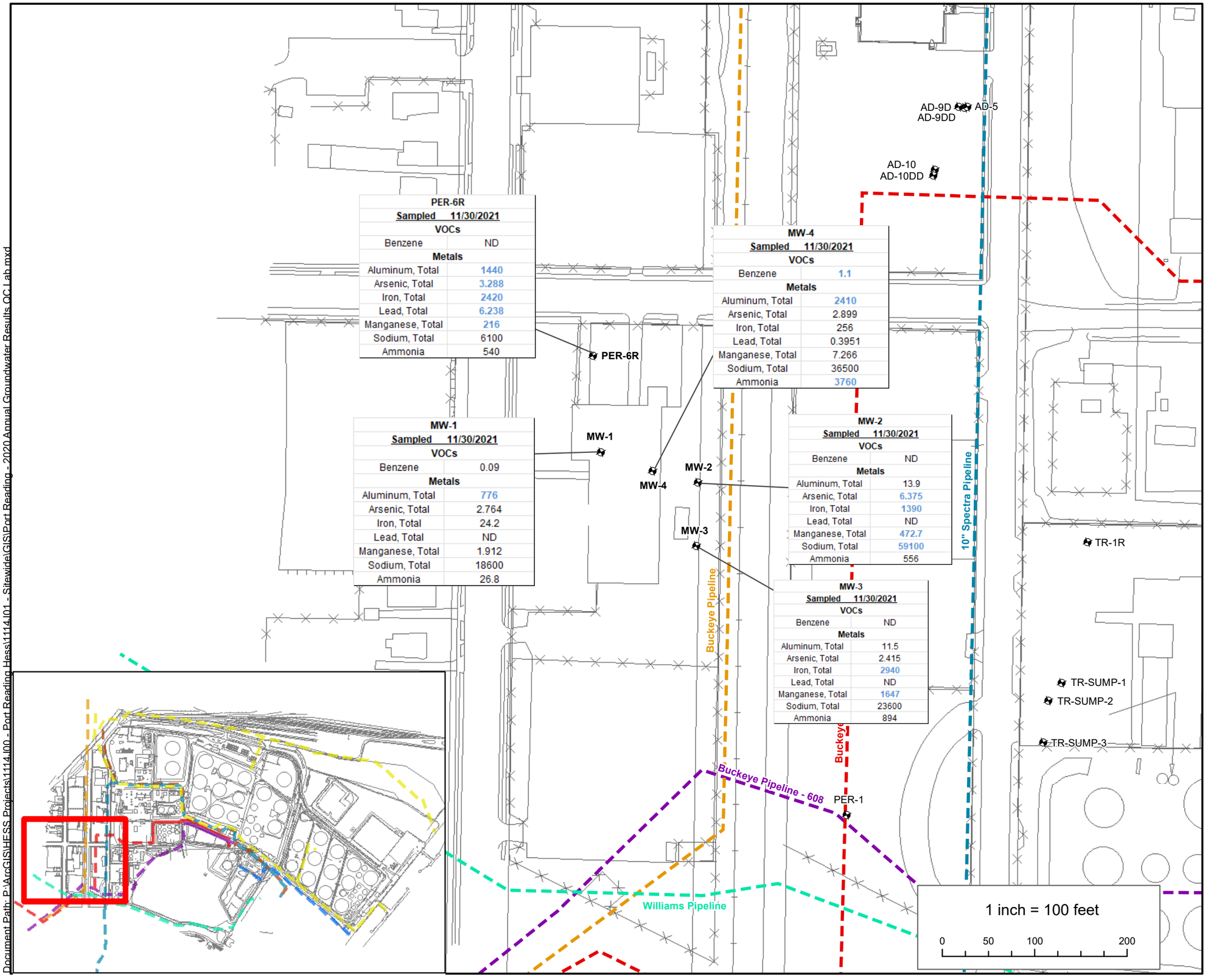

PER-6R	
Sampled	11/30/2021
VOCs	
Benzene	ND
Metals	
Aluminum, Total	1440
Arsenic, Total	3.288
Iron, Total	2420
Lead, Total	6.238
Manganese, Total	216
Sodium, Total	6100
Ammonia	540

MW-4	
Sampled	11/30/2021
VOCs	
Benzene	1.1
Metals	
Aluminum, Total	2410
Arsenic, Total	2.899
Iron, Total	256
Lead, Total	0.3951
Manganese, Total	7.266
Sodium, Total	36500
Ammonia	3760

MW-1	
Sampled	11/30/2021
VOCs	
Benzene	0.09
Metals	
Aluminum, Total	776
Arsenic, Total	2.764
Iron, Total	24.2
Lead, Total	ND
Manganese, Total	1.912
Sodium, Total	18600
Ammonia	26.8

MW-2	
Sampled	11/30/2021
VOCs	
Benzene	ND
Metals	
Aluminum, Total	13.9
Arsenic, Total	6.375
Iron, Total	1390
Lead, Total	ND
Manganese, Total	472.7
Sodium, Total	59100
Ammonia	556

MW-3	
Sampled	11/30/2021
VOCs	
Benzene	ND
Metals	
Aluminum, Total	11.5
Arsenic, Total	2.415
Iron, Total	2940
Lead, Total	ND
Manganese, Total	1647
Sodium, Total	23600
Ammonia	894

LEGEND

Monitoring Well

NJ Groundwater Criteria	
VOCs	
Benzene	1
Metals	
Aluminum, Total	200
Arsenic, Total	3
Iron, Total	300
Lead, Total	5
Manganese, Total	50
Sodium, Total	50000
Nitrogen, Ammonia	3000

NOTE:
1. All results were measured in ug/l

FIGURE: 15
AOC 19 - QC Lab
2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	1/17/2022
SRP PI#:	006148	Drawn By:	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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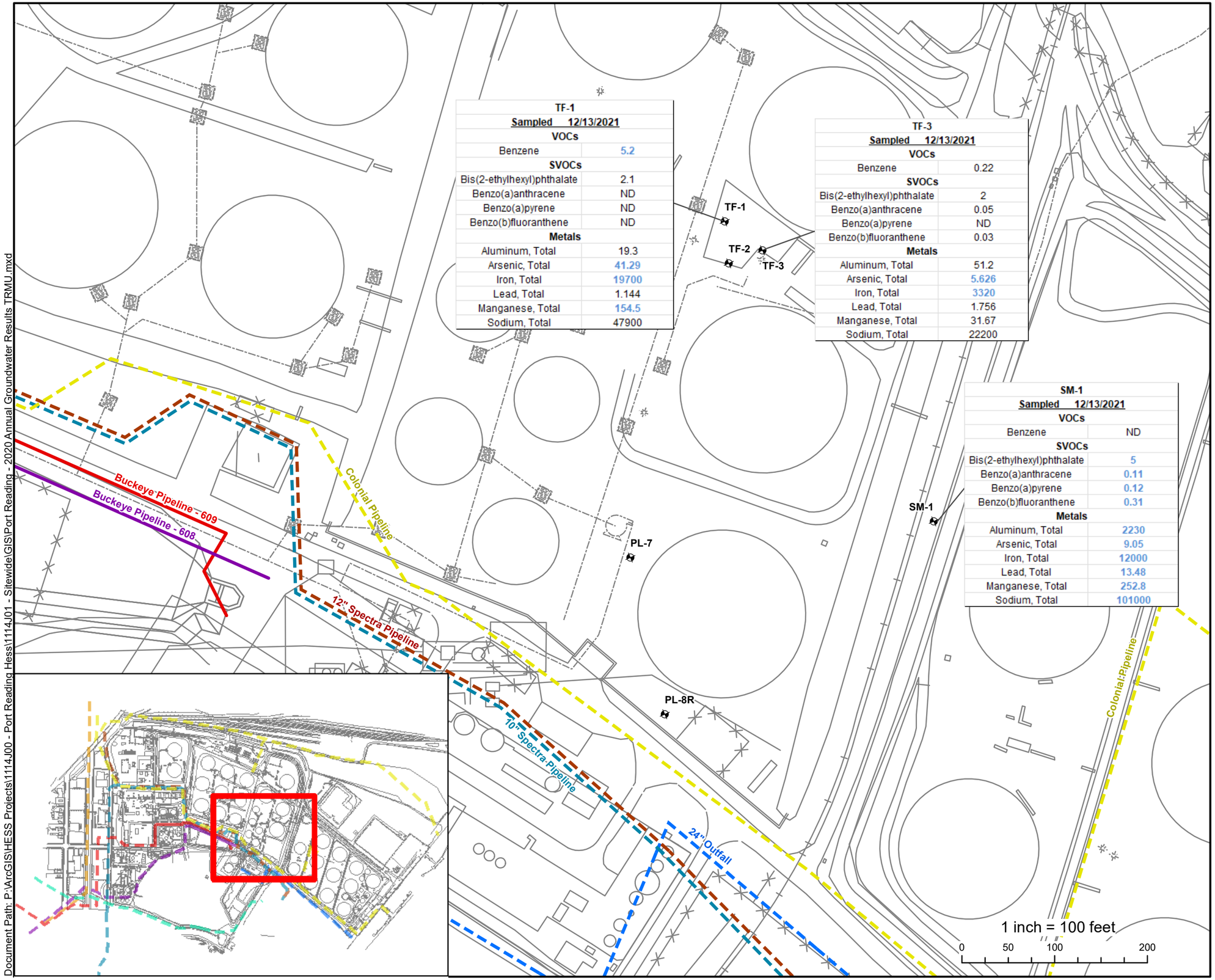

TF-1	
Sampled 12/13/2021	
VOCs	
Benzene	5.2
SVOCs	
Bis(2-ethylhexyl)phthalate	2.1
Benzo(a)anthracene	ND
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Metals	
Aluminum, Total	19.3
Arsenic, Total	41.29
Iron, Total	19700
Lead, Total	1.144
Manganese, Total	154.5
Sodium, Total	47900

TF-3	
Sampled 12/13/2021	
VOCs	
Benzene	0.22
SVOCs	
Bis(2-ethylhexyl)phthalate	2
Benzo(a)anthracene	0.05
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	0.03
Metals	
Aluminum, Total	51.2
Arsenic, Total	5.626
Iron, Total	3320
Lead, Total	1.756
Manganese, Total	31.67
Sodium, Total	22200

SM-1	
Sampled 12/13/2021	
VOCs	
Benzene	ND
SVOCs	
Bis(2-ethylhexyl)phthalate	5
Benzo(a)anthracene	0.11
Benzo(a)pyrene	0.12
Benzo(b)fluoranthene	0.31
Metals	
Aluminum, Total	2230
Arsenic, Total	9.05
Iron, Total	12000
Lead, Total	13.48
Manganese, Total	252.8
Sodium, Total	101000

LEGEND

N

Monitoring Well

NJ Groundwater Criteria	
VOCs	
Benzene	1
SVOCs	
Bis(2-ethylhexyl)phthalate	3
Benzo(a)anthracene	0.1
Benzo(a)pyrene	0.1
Benzo(b)fluoranthene	0.2
Metals	
Aluminum, Total	200
Arsenic, Total	3
Iron, Total	300
Lead, Total	5
Manganese, Total	50
Sodium, Total	50000

NOTE:
1. All results were measured in ug/l
2.TF-2 was not sampled during this event

FIGURE: 16
TRMU
2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/17/2022
SRP PI#:	006148	**Drawn By:**	AB

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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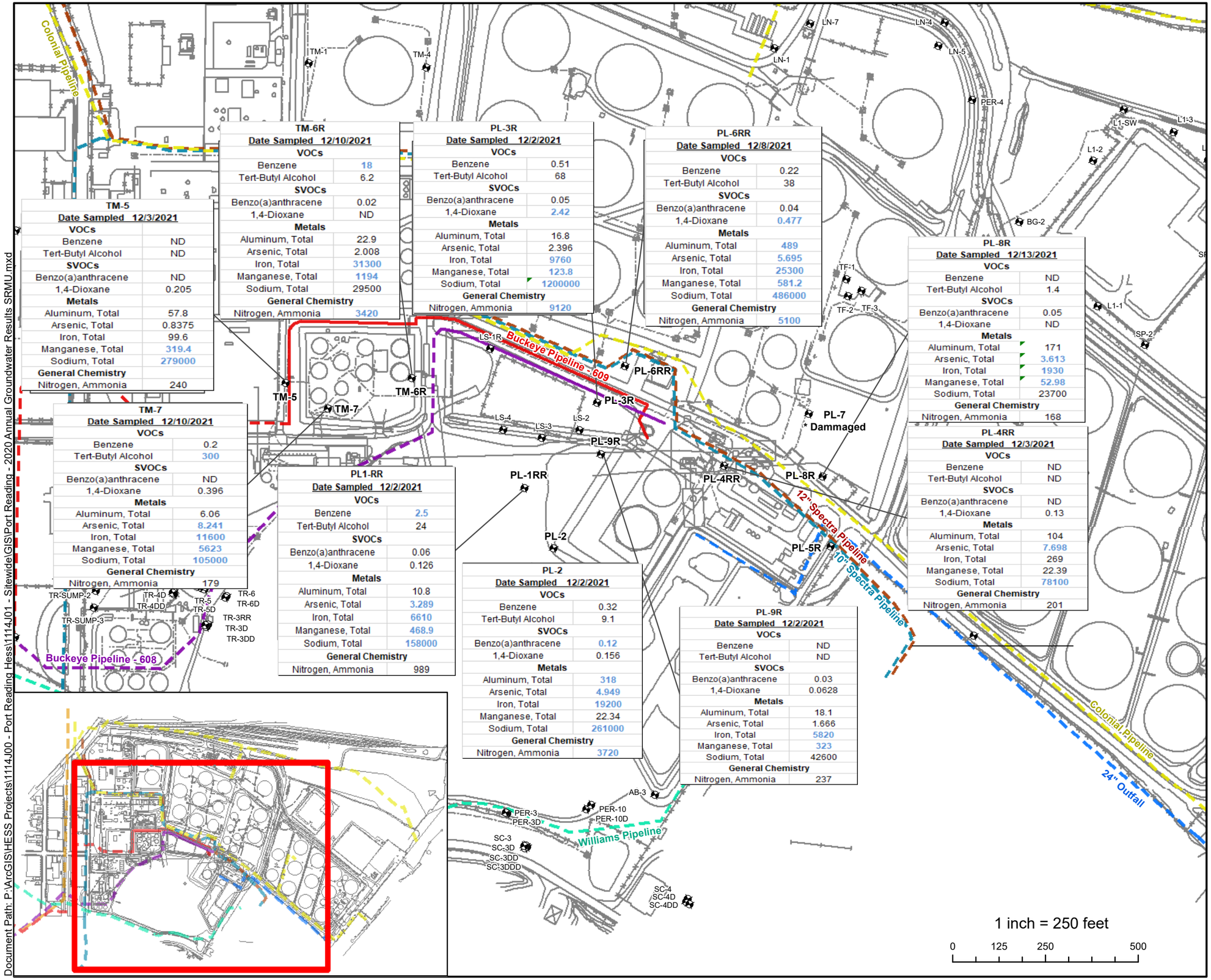

TM-5	
Date Sampled 12/3/2021	
VOCs	
Benzene	ND
Tert-Butyl Alcohol	ND
SVOCs	
Benzo(a)anthracene	ND
1,4-Dioxane	0.205
Metals	
Aluminum, Total	57.8
Arsenic, Total	0.8375
Iron, Total	99.6
Manganese, Total	319.4
Sodium, Total	279000
General Chemistry	
Nitrogen, Ammonia	240

TM-6R	
Date Sampled 12/10/2021	
VOCs	
Benzene	18
Tert-Butyl Alcohol	6.2
SVOCs	
Benzo(a)anthracene	0.02
1,4-Dioxane	ND
Metals	
Aluminum, Total	22.9
Arsenic, Total	2.008
Iron, Total	31300
Manganese, Total	1194
Sodium, Total	29500
General Chemistry	
Nitrogen, Ammonia	3420

PL-3R	
Date Sampled 12/2/2021	
VOCs	
Benzene	0.51
Tert-Butyl Alcohol	68
SVOCs	
Benzo(a)anthracene	0.05
1,4-Dioxane	2.42
Metals	
Aluminum, Total	16.8
Arsenic, Total	2.396
Iron, Total	9760
Manganese, Total	123.8
Sodium, Total	1200000
General Chemistry	
Nitrogen, Ammonia	9120

PL-6RR	
Date Sampled 12/8/2021	
VOCs	
Benzene	0.22
Tert-Butyl Alcohol	38
SVOCs	
Benzo(a)anthracene	0.04
1,4-Dioxane	0.477
Metals	
Aluminum, Total	489
Arsenic, Total	5.695
Iron, Total	25300
Manganese, Total	581.2
Sodium, Total	486000
General Chemistry	
Nitrogen, Ammonia	5100

PL-8R	
Date Sampled 12/13/2021	
VOCs	
Benzene	ND
Tert-Butyl Alcohol	1.4
SVOCs	
Benzo(a)anthracene	0.05
1,4-Dioxane	ND
Metals	
Aluminum, Total	171
Arsenic, Total	3.613
Iron, Total	1930
Manganese, Total	52.98
Sodium, Total	23700
General Chemistry	
Nitrogen, Ammonia	168

PL-4RR	
Date Sampled 12/3/2021	
VOCs	
Benzene	ND
Tert-Butyl Alcohol	ND
SVOCs	
Benzo(a)anthracene	ND
1,4-Dioxane	0.13
Metals	
Aluminum, Total	104
Arsenic, Total	7.698
Iron, Total	269
Manganese, Total	22.39
Sodium, Total	78100
General Chemistry	
Nitrogen, Ammonia	201

TM-7	
Date Sampled 12/10/2021	
VOCs	
Benzene	0.2
Tert-Butyl Alcohol	300
SVOCs	
Benzo(a)anthracene	ND
1,4-Dioxane	0.396
Metals	
Aluminum, Total	6.06
Arsenic, Total	8.241
Iron, Total	11600
Manganese, Total	5623
Sodium, Total	105000
General Chemistry	
Nitrogen, Ammonia	179

PL1-RR	
Date Sampled 12/2/2021	
VOCs	
Benzene	2.5
Tert-Butyl Alcohol	24
SVOCs	
Benzo(a)anthracene	0.06
1,4-Dioxane	0.126
Metals	
Aluminum, Total	10.8
Arsenic, Total	3.289
Iron, Total	6610
Manganese, Total	468.9
Sodium, Total	158000
General Chemistry	
Nitrogen, Ammonia	989

PL-2	
Date Sampled 12/2/2021	
VOCs	
Benzene	0.32
Tert-Butyl Alcohol	9.1
SVOCs	
Benzo(a)anthracene	0.12
1,4-Dioxane	0.156
Metals	
Aluminum, Total	318
Arsenic, Total	4.949
Iron, Total	19200
Manganese, Total	22.34
Sodium, Total	261000
General Chemistry	
Nitrogen, Ammonia	3720

PL-9R	
Date Sampled 12/2/2021	
VOCs	
Benzene	ND
Tert-Butyl Alcohol	ND
SVOCs	
Benzo(a)anthracene	0.03
1,4-Dioxane	0.0628
Metals	
Aluminum, Total	18.1
Arsenic, Total	1.666
Iron, Total	5820
Manganese, Total	323
Sodium, Total	42600
General Chemistry	
Nitrogen, Ammonia	237

LEGEND

Monitoring Well

NJ Ground Water Criteria	
VOCs	
Benzene	1
Tert-Butyl Alcohol	100
SVOCs	
Benzo(a)anthracene	0.1
1,4-Dioxane	0.4
Metals	
Aluminum, Total	200
Arsenic, Total	3
Iron, Total	300
Manganese, Total	50
Sodium, Total	50000
General Chemistry	
Nitrogen, Ammonia	3000

NOTE:
1. All Results were Measured in ug/l
2. PL-7 and PL-5RR were not sampled during this event

FIGURE: 17
SRMU
2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	1/26/2022
SRP PI#:	006148	**Drawn By:**	JP

Earth Systems
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This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized.
Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

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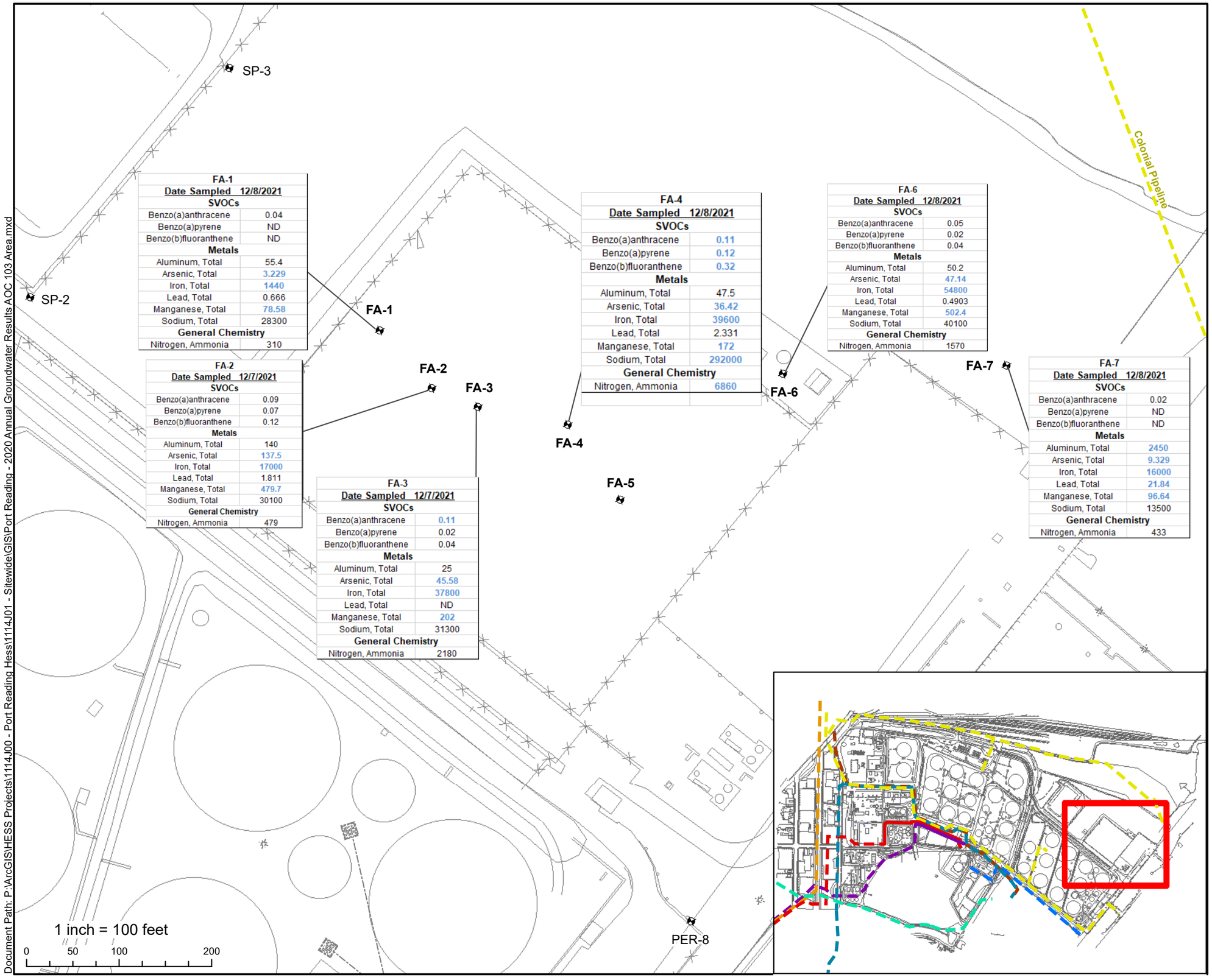

FA-1	
Date Sampled 12/8/2021	
SVOCs	
Benzo(a)anthracene	0.04
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Metals	
Aluminum, Total	55.4
Arsenic, Total	3.229
Iron, Total	1440
Lead, Total	0.666
Manganese, Total	78.58
Sodium, Total	28300
General Chemistry	
Nitrogen, Ammonia	310

FA-2	
Date Sampled 12/7/2021	
SVOCs	
Benzo(a)anthracene	0.09
Benzo(a)pyrene	0.07
Benzo(b)fluoranthene	0.12
Metals	
Aluminum, Total	140
Arsenic, Total	137.5
Iron, Total	17000
Lead, Total	1.811
Manganese, Total	479.7
Sodium, Total	30100
General Chemistry	
Nitrogen, Ammonia	479

FA-3	
Date Sampled 12/7/2021	
SVOCs	
Benzo(a)anthracene	0.11
Benzo(a)pyrene	0.02
Benzo(b)fluoranthene	0.04
Metals	
Aluminum, Total	25
Arsenic, Total	45.58
Iron, Total	37800
Lead, Total	ND
Manganese, Total	202
Sodium, Total	31300
General Chemistry	
Nitrogen, Ammonia	2180

FA-4	
Date Sampled 12/8/2021	
SVOCs	
Benzo(a)anthracene	0.11
Benzo(a)pyrene	0.12
Benzo(b)fluoranthene	0.32
Metals	
Aluminum, Total	47.5
Arsenic, Total	36.42
Iron, Total	39600
Lead, Total	2.331
Manganese, Total	172
Sodium, Total	292000
General Chemistry	
Nitrogen, Ammonia	6860

FA-6	
Date Sampled 12/8/2021	
SVOCs	
Benzo(a)anthracene	0.05
Benzo(a)pyrene	0.02
Benzo(b)fluoranthene	0.04
Metals	
Aluminum, Total	50.2
Arsenic, Total	47.14
Iron, Total	54800
Lead, Total	0.4903
Manganese, Total	502.4
Sodium, Total	40100
General Chemistry	
Nitrogen, Ammonia	1570

FA-7	
Date Sampled 12/8/2021	
SVOCs	
Benzo(a)anthracene	0.02
Benzo(a)pyrene	ND
Benzo(b)fluoranthene	ND
Metals	
Aluminum, Total	2450
Arsenic, Total	9.329
Iron, Total	16000
Lead, Total	21.84
Manganese, Total	96.64
Sodium, Total	13500
General Chemistry	
Nitrogen, Ammonia	433

LEGEND

Monitoring Well

NJ Groundwater Criteria	
SVOCs	
Benzo(a)anthracene	0.1
Benzo(a)pyrene	0.1
Benzo(b)fluoranthene	0.2
Metals	
Aluminum, Total	200
Arsenic, Total	3
Iron, Total	300
Lead, Total	5
Manganese, Total	50
Sodium, Total	50000
General Chemistry	
Nitrogen, Ammonia	3000

NOTE:
1. All Results were measured in ug/l
2.FA-5 was not sampled during this event

FIGURE: 18
AOC 103
2021 Annual Groundwater Sampling Results

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	Drawn:	1/26/2022
SRP PI#:	006148	Drawn By:	JP

Earth Systems
Environmental Engineering
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Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

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Tables

Table 1
Monthly Groundwater Gauging Table
Hess Corporation - Former Port Reading Complex

Groundwater Gauging Data									
Well I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB from TOC (ft)	TOC Elevation (ft amsl)	Groundwater Elevation (ft amsl)	PID	Notes
PL-1RR	10/8/2021	-	0.99	-	15.20	7.36	6.37	1.0	Discontinuous Sheen, Sock 1/4 absorbed
	10/20/2021	-	1.05	-	15.20	7.36	6.31	1.0	Discontinuous Sheen, Sock 1/4 absorbed
	11/11/2021	-	0.75	-	14.90	7.36	6.61	13.0	Discontinuous Sheen, Replaced Sock
	11/23/2021	-	0.10	-	15.00	7.36	7.26	27.9	Discontinuous Sheen, Replaced Sock
	12/16/2021	-	0.62	-	14.90	7.36	6.74	22.5	Discontinuous Sheen, Replaced Sock
	12/23/2021	-	0.6	-	14.90	7.36	-	3.4	Discontinuous Sheen, Sock 1/4 absorbed
PL-2	10/8/2021	-	2.33	-	17.40	9.58	7.25	0.0	
	10/20/2021	-	2.28	-	17.39	9.58	7.30	2.3	
	11/11/2021	-	2.17	-	16.86	9.58	7.41	0.0	
	11/23/2021	-	2.13	-	17.40	9.58	7.45	0.0	
	12/16/2021	-	2.32	-	17.40	9.58	7.26	0.0	
	12/23/2021	-	2.29	-	17.40	9.58	7.29	0.0	
PL-3R	10/8/2021	-	4.92	-	19.30	10.16	5.24	0.0	
	10/20/2021	-	4.89	-	19.30	10.16	5.27	0.0	
	11/11/2021	-	3.92	-	19.30	10.16	6.24	0.0	
	11/23/2021	-	3.52	-	19.10	10.16	6.64	0.0	
	12/16/2021	-	4.13	-	19.08	10.16	6.03	0.0	
	12/23/2021	-	4.00	-	19.09	10.16	6.16	0.0	
PL-4RR	10/8/2021	-	4.00	-	13.00	11.56	7.56	0.0	
	10/20/2021	-	4.04	-	13.00	11.56	7.52	0.0	
	11/11/2021	-	3.92	-	13.00	11.56	7.64	0.0	
	11/23/2021	-	4.31	-	13.00	11.56	7.25	0.0	
	12/16/2021	-	4.25	-	13.00	11.56	7.31	0.0	
	12/23/2021	-	4.22	-	13.00	11.56	7.34	0.0	
PL-5R	10/8/2021	1.3	1.60	0.30	9.80	6.54	5.19	54.2	LNAPL, Sock saturated, replaced sock
	10/20/2021	1.3	1.60	0.30	9.80	6.54	5.19	32.8	LNAPL, Sock saturated, replaced sock
	11/11/2021	1.25	1.30	0.05	9.80	6.54	5.28	28.2	LNAPL, Sock saturated, replaced sock
	11/23/2021	1.32	1.35	0.03	9.80	6.54	NM	34.1	LNAPL, Sock saturated, replaced sock
	12/16/2021	1.62	1.65	0.03	9.80	6.54	5.23	37.8	LNAPL, Sock saturated, replaced sock
	12/23/2021	1.68	1.70	0.02	9.80	6.54	4.86	24.3	LNAPL, Sock saturated, replaced sock
PL-6RR	10/8/2021	-	1.40	-	15.10	6.88	5.48	0.0	
	10/20/2021	-	1.34	-	15.10	6.88	5.54	0.0	
	11/11/2021	-	1.20	-	15.20	6.88	5.68	0.0	
	11/23/2021	-	1.45	-	15.20	6.88	5.43	0.0	
	12/16/2021	-	1.53	-	15.20	6.88	5.35	0.0	
	12/23/2021	-	1.49	-	15.20	6.88	5.39	0.0	
PL-7	10/8/2021	-		-	5.01	10.75	NM	NM	Damaged Well
	10/20/2021	-		-	5.01	10.75	NM	NM	Damaged Well
	11/11/2021	-		-	5.01	10.75	NM	NM	Damaged Well
	11/23/2021	-		-	5.01	10.75	NM	NM	Damaged Well
	12/16/2021	-		-	5.01	10.75	NM	NM	Damaged Well
	12/23/2021	-		-	5.01	10.75	NM	NM	Damaged Well
PL-8R	10/8/2021	-	4.81	-	22.40	9.91	5.10	0.0	
	10/20/2021	-	4.77	-	22.40	9.91	5.14	0.0	
	11/11/2021	-	4.62	-	21.82	9.91	5.29	0.0	
	11/23/2021	-	4.54	-	21.75	9.91	5.37	0.0	
	12/16/2021	-	5.12	-	21.75	9.91	4.79	0.0	
	12/23/2021	-	5.00	-	21.75	9.91	4.91	0.00	
PL-9R	10/8/2021	-	2.59	-	20.47	9.11	6.52	1.0	
	10/20/2021	-	2.54	-	20.45	9.11	6.57	0.0	
	11/11/2021	-	2.48	-	20.50	9.11	6.63	0.0	
	11/23/2021	-	2.46	-	22.48	9.11	6.65	0.0	
	12/16/2021	-	2.82	-	22.48	9.11	6.29	0.0	
	12/23/2021	-	2.70	-	22.48	9.11	6.41	0.0	
TF-1	10/8/2021	-	2.83	-	12.10	8.60	5.77	0.0	Discontinuous Sheen, Replaced Sock
	10/20/2021	-	2.77	-	12.10	8.60	5.83	0.0	Discontinuous Sheen, Replaced Sock
	11/11/2021	-	2.70	-	12.10	8.60	5.88	0.0	Sock 1/4 absorbed
	11/23/2021	-	3.00	-	12.10	8.60	7.41	0.0	Sock 1/4 absorbed
	12/16/2021	-	3.31	-	12.10	8.60	7.59	0.0	Sock saturated with red iron, replaced
	12/23/2021	-	3.23	-	NM	NM	NM		Sock 1/4 absorbed
TF-2	10/8/2021	-	2.35		11.60	7.50	5.62	23.8	Discontinuous Sheen, Sock fully saturated, replaced
	10/20/2021	-	2.15		11.60	7.50	5.24	17.9	Discontinuous Sheen, Sock fully saturated, replaced
	11/11/2021	-	2.08		NM	7.50	5.78	12.2	Discontinuous Sheen, Sock fully saturated, replaced
	11/23/2021	1.98	2.00	0.02	11.60	7.50	6.09	34.4	Sock fully saturated, replaced
	12/16/2021	2.3	2.32	0.02	11.60	7.50	6.12	33.4	Sock 1/4 saturated, replaced
	12/23/2021	-	2.36	-	11.60	7.50	5.14	37	Discontinuous Sheen, Sock 1/4 saturated
TF-3	10/8/2021	-	2.69	-	11.97	8.58	5.89	0.0	
	10/20/2021	-	2.68	-	11.95	8.58	5.90	0.0	
	11/11/2021	-	2.60	-	12.00	8.58	5.99	0.0	
	11/23/2021	-	2.75	-	11.95	8.58	5.83	0.0	
	12/16/2021	-	2.97	-	11.95	8.58	6.86	0.0	
	12/23/2021	-	3.05	-	11.95	8.58	5.53	0.00	
TM-6R	10/8/2021	-	5.17	-	20.61	14.26	9.09	35.2	Sock 1/4 absorbed
	10/20/2021	-	5.13	-	20.70	14.26	9.13	56.3	Sock 1/4 absorbed
	11/11/2021	-	5.26	-	20.55	14.26	9.00	120.2	Sock 1/4 absorbed
	11/23/2021	-	5.41	-	20.70	14.26	8.85	72.4	Sock 1/4 absorbed
	12/16/2021	-	6.22	-	20.70	14.26	8.04	87.6	Sock 1/4 absorbed
	12/23/2021	-	6.04	-	20.70	14.26	8.22	102.0	Sock 1/4 absorbed
	10/8/2021	-	7.16	-	21.98	14.81	7.65	2.5	Sock 1/4 absorbed

Table 1
Monthly Groundwater Gauging Table
Hess Corporation - Former Port Reading Complex

Well I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB from TOC (ft)	TOC Elevation (ft amsl)	Groundwater Elevation (ft amsl)	PID	Notes
TM-7	10/20/2021	-	7.14	-	21.98	14.81	7.67	8.4	Sock 1/4 absorbed
	11/11/2021	-	7.10	-	21.98	14.81	7.71	4.2	Sock 1/4 absorbed
	11/23/2021	-	7.33	-	21.98	14.81	NM	2.1	Sock 1/4 absorbed
	12/16/2021	-	7.45	-	21.98	14.81	8.30	4.6	Sock 1/4 absorbed
	12/23/2021	-	7.33	-	21.98	14.81	7.48	0.0	Sock 1/4 absorbed
TR-1R	10/8/2021	-	6.42	-	15.00	13.68	7.26	0.0	
	10/20/2021	-	6.33	-	15.00	13.68	7.35	0.0	
	11/11/2021	-	6.25	-	15.00	13.68	7.43	0.0	
	11/23/2021	-	6.35	-	14.98	13.68	7.33	0.0	
	12/16/2021	-	6.71	-	14.98	13.68	6.97	0.0	
	12/23/2021	-	6.59	-	14.98	13.68	7.09	0.0	
TR-2R	10/8/2021	-	0.00	-	20.30	12.47	12.49	0.0	Discontinuous sheen on water surface, sock 1/8 absorbed
	10/20/2021	-	0.00	-	19.74	12.47	12.47	0.0	Discontinuous sheen on water surface, sock 1/8 absorbed
	11/11/2021	-	0.10	-	NM	12.47	12.37	0.0	Discontinuous sheen on water surface, sock 1/8 absorbed
	11/23/2021	-	0.00	-	19.75	12.47	12.47	0.0	Discontinuous sheen on water surface, sock 1/8 absorbed
	12/16/2021		0.02		19.75	12.47	12.45	0.0	Discontinuous sheen on water surface, sock 1/8 absorbed
	12/23/2021		0.00		19.75	12.47	12.47	0.0	Discontinuous sheen on water surface, sock 1/8 absorbed
TR-3RR	10/8/2021	-	2.60	-	15.10	9.63	7.03	0.0	
	10/20/2021		2.46		15.00	9.63	7.17	0.0	
	11/11/2021	-	2.57	-	14.90	9.63	7.06	0.0	
	11/23/2021		2.23		15.00	9.63	7.40	0.0	
	12/16/2021	-	2.41	-	15.00	9.63	7.22	0.0	
	12/23/2021	-	2.49	-	15.00	9.63	7.14	0.0	
TR-3D	10/8/2021		1.92		24.90	9.33	7.41	45.1	
	10/20/2021	-	1.83	-	24.91	9.33	7.50	61.1	
	11/11/2021		1.89		24.89	9.33	7.44	50.8	
	11/23/2021	-	1.80	-	24.90	9.33	7.53	72.0	
	12/16/2021	-	2.49	-	24.90	9.33	6.84	69.1	
	12/23/2021	-	2.51	-	24.90	9.33	6.82	12.3	
TR-3DD	10/8/2021	-	2.90	-	60.00	9.59	6.69	0.0	
	10/20/2021	-	2.93	-	59.20	9.59	6.66	0.0	
	11/11/2021	-	3.01	-	60.20	9.59	6.58	0.0	
	11/23/2021	-	3.19	-	60.20	9.59	6.40	0.0	
	12/16/2021	-	3.91	-	60.20	9.59	5.68	0.0	
	12/23/2021	-	3.90	-	60.20	9.59	5.69	0.0	
TR-4R	10/8/2021	-	4.10	-	13.50	12.48	8.38	100.3	Odor, discontinuous sheen
	10/20/2021	-	4.01	-	NM	12.48	NM	97.5	
	11/11/2021	-	4.20	-	NM	12.48	8.28	125.2	
	11/23/2021	-	4.12	-	13.61	12.48	8.36	135.6	
	12/16/2021	-	3.97	-	13.61	12.48	8.51	127.5	
	12/23/2021	-	4.04	-	13.61	12.48	8.44	145.9	
TR-4D	10/8/2021	-	4.53	-	24.60	12.18	7.65	10.1	
	10/20/2021	-	4.46	-	24.60	12.18	7.72	15.4	
	11/11/2021		4.95		24.00	12.18	7.23	10.4	
	11/23/2021	-	5.30	-	24.60	12.18	6.88	9.1	
	12/16/2021		5.57		24.00	12.18	6.61	0.0	
	12/23/2021		5.4		24.00	12.18	6.78	0.0	

Table 1
Monthly Groundwater Gauging Table
Hess Corporation - Former Port Reading Complex

Well I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB from TOC (ft)	TOC Elevation (ft amsl)	Groundwater Elevation (ft amsl)	PID	Notes
TR-4DD	10/8/2021	-	5.25	-	56.70	12.58	7.33	0.0	
	10/20/2021	-	5.53	-	56.70	12.58	7.05	0.0	
	11/11/2021	-	5.62	-	56.70	12.58	6.96	0.0	
	11/23/2021	-	5.62	-	56.70	12.58	6.96	0.0	
	12/16/2021	-	6.04	-	56.70	12.58	6.54	0.0	
	12/23/2021	-	5.75	-	57.00	12.58	6.83	0.0	
TR-5	10/8/2021	-	4.27	-	10.64	11.99	7.72	22.0	
	10/20/2021	-	4.05	-	10.65	11.99	7.94	24.6	
	11/11/2021	-	4.19	-	10.68	11.99	7.80	57.8	
	11/23/2021	-	4.15	-	10.68	11.99	7.84	10.9	
	12/16/2021	-	4.49	-	10.68	11.99	7.50	11.5	
	12/23/2021	-	4.51	-	10.68	11.99	7.48	0.0	
TR-5D	10/8/2021	-	5.29	-	23.40	12.01	6.72	0.0	
	10/20/2021	-	5.17	-	23.31	12.01	6.84	0.0	
	11/11/2021	-	4.99	-	23.25	12.01	7.02	0.0	
	11/23/2021	-	5.10	-	23.30	12.01	6.91	0.0	
	12/16/2021	-	5.48	-	23.30	12.01	6.53	0.0	
	12/23/2021	-	5.32	-	23.30	12.01	6.69	0.0	
TR-5DD	10/8/2021	-	4.60	-	60.00	11.64	7.04	0.0	
	10/20/2021	-	4.66	-	59.30	11.64	6.98	0.0	
	11/11/2021	-	4.75	-	59.30	11.64	6.89	0.0	
	11/23/2021	-	4.82	-	60.04	11.64	6.82	0.0	
	12/16/2021	-	5.19	-	60.04	11.64	6.45	0.0	
	12/23/2021	-	5.03	-	60.04	11.64	6.61	0.0	
TR-6	10/8/2021	-	3.99	-	12.60	10.78	6.79	0.0	
	10/20/2021	-	3.87	-	12.60	10.78	6.91	0.0	
	11/11/2021	-	3.91	-	13.00	10.78	6.87	0.0	
	11/23/2021	-	4.22	-	12.60	10.78	6.56	0.0	
	12/16/2021	-	4.03	-	12.60	10.78	6.75	0.0	
	12/23/2021	-	4.01	-	12.60	10.78	6.77	0.0	
TR-6D	10/8/2021	-	4.25	-	28.20	10.81	6.56	0.0	
	10/20/2021	-	4.24	-	28.20	10.81	6.57	0.0	
	11/11/2021	-	4.21	-	29.30	10.81	6.60	0.0	
	11/23/2021	-	3.86	-	28.20	10.81	6.95	0.0	
	12/16/2021	-	4.62	-	28.20	10.81	6.19	0.0	
	12/23/2021	-	3.98	-	28.20	10.81	6.83	0.0	
TR-Sump-1	10/8/2021	-	5.22	-	7.30	12.62	7.40	0.0	
	10/20/2021	-	5.31	-	7.30	12.62	7.31	0.0	
	11/11/2021	-	5.17	-	7.30	12.62	7.45	0.0	
	11/23/2021	-	6.01	-	7.30	12.62	6.61	0.0	
	12/16/2021	-	5.41	-	7.30	12.62	7.21	0.0	
	12/23/2021	-	5.78	-	7.30	12.62	6.84	0.0	
TR-Sump-2	10/8/2021	-	5.22	-	7.20	12.35	7.13	0.0	
	10/20/2021	-	5.02	-	7.20	12.35	7.33	0.0	
	11/11/2021	-	4.99	-	7.20	12.35	7.36	0.0	
	11/23/2021	-	5.32	-	7.20	12.35	7.03	0.0	
	12/16/2021	-	5.10	-	7.20	12.35	7.25	0.0	
	12/23/2021	-	5.22	-	7.20	12.35	7.13	0.0	
Interceptor Trench	10/8/2021	-	0.75	-	5.00	-	-	NM	Intermittent sheen on top of water. No measurable product.
	10/20/2021	-	0.75	-	5.00	-	-	NM	Intermittent sheen on top of water. No measurable product.
	11/11/2021	-	0.75	-	5.00	-	-	NM	Intermittent sheen on top of water. No measurable product.
	11/23/2021	-	NA	-	5.00	-	-	NM	Traffic
	12/16/2021	-	0.75	-	5.00	-	-	NM	Intermittent sheen on top of water. No measurable product.
	12/23/2021		0.75	-	5.00	-	-	NM	Intermittent sheen on top of water. No measurable product.
DB-SW	10/8/2021	-	3.40	-	-	1.08	2.32	NM	
	10/20/2021	-	3.40	-	-	1.08	2.32	NM	
	11/11/2021	-	3.50	-	-	1.08	2.42	NM	
	11/23/2021	-	3.50	-	=	1.08	2.42	NM	
	12/16/2021	-	3.50	-	-	1.08	2.42	NM	
	12/23/2021	-	3.50	-	-	1.08	2.42	NM	
LN-SW	10/8/2021	-	2.80	-	-	-0.31	3.11	NM	
	10/20/2021	-	2.80	-	-	-0.31	3.11	NM	
	11/11/2021	-	2.80	-	-	-0.31	3.11	NM	
	11/23/2021	-	3.25	-	-	-0.31	3.56	NM	
	12/16/2021	-	2.60	-	-	-0.31	2.91	NM	
	12/23/2021	-	2.8	-	-	-0.31	3.11	NM	
L1-SW	10/8/2021	-	N/A	-	-	-0.20	-	NM	Could not read
	10/20/2021	-	3.00	-	-	-0.20	-	NM	
	11/11/2021	-	3.00	-	-	-0.20	-	NM	
	11/23/2021	-	3.25	-	-	-0.20	-	NM	
	12/16/2021	-	3.00	-	-	-0.20	-	NM	
	12/23/2021	-	3.00	-	-	-0.20	-	NM	
SC-SG-1	10/8/2021	-	NA	-	-	-0.98	-	NM	Stream Gauge under water and not visible
	10/20/2021	-	NA	-	-	-0.98	-	NM	Stream Gauge under water and not visible
	11/11/2021	-	NA	-	-	-0.98	-	NM	Stream Gauge under water and not visible
	11/23/2021	-	NA	-	-	-0.98	-	NM	Stream Gauge under water and not visible
	12/16/2021	-	NA	-	-	-0.98	-	NM	Could not read - covered in dirt
	12/23/2021	-	NA	-	-	-	-	NM	Stream Gauge under water and not visible
	10/8/2021	-	NA	-	-	-1.10	-	NM	Tide too low for reading
	10/20/2021	-	NA	-	-		-	NM	Tide too low for reading

Table 1
Monthly Groundwater Gauging Table
Hess Corporation - Former Port Reading Complex

Well I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB from TOC (ft)	TOC Elevation (ft amsl)	Groundwater Elevation (ft amsl)	PID	Notes
SC-SG-1A	11/11/2021	-	NA	-	-	-1.10	-	NM	Tide too low for reading
	11/23/2021	-	NA	-	-	-1.10	-	NM	Tide too low for reading
	12/16/2021	-	NA	-	-	-1.10	-	NM	Stream Gauge destroyed
	12/23/2021		NA			-1.10		NM	Stream Gauge destroyed
SC-SG-2	10/8/2021	-	NA	-	-	-1.64	-	NM	Tide too low for reading
	10/20/2021	-	NA	-	-	-1.64	-	NM	Tide too low for reading
	11/11/2021	-	NA	-	-	-1.64	-	NM	Tide too low for reading
	11/23/2021		NA			-1.64		NM	Tide too low for reading
	12/16/2021	-	NA	-	-	-1.64	-	NM	Stream Gauge destroyed
	12/23/2021	-	NA	-	-	-1.64	-	NM	
FA-1	10/8/2021	-	3.69	-	12.25	9.67	5.98	0.0	
	10/20/2021	-	3.63	-	12.05	9.67	6.04	0.0	
	11/11/2021		3.58		12.00	9.67	6.09	0.0	
	11/23/2021	-	3.29	-	12.10	9.67	6.38	0.0	
	12/16/2021		4.10		12.10	9.67	5.57	0.0	
	12/23/2021	-	4.05	-	12.10	9.67	5.62	0.0	
FA-2	10/8/2021	-	4.62	-	13.60	10.39	5.77	0.0	
	10/20/2021		4.50		13.40	10.39	5.89	0.0	
	11/11/2021	-	4.54	-	13.40	10.39	5.85	0.0	
	11/23/2021	-	4.13	-	13.41	10.39	6.26	0.0	
	12/16/2021	-	5.07	-	13.41	10.39	5.32	0.0	
	12/23/2021	-	4.89	-	13.41	10.39	5.5	0.0	
FA-3	10/8/2021	-	8.78	-	14.60	10.84	2.06	0.7	Discontinuous Sheen, Sock 1/4 absorbed
	10/20/2021	-	8.78	-	14.50	10.84	2.06	1.2	Discontinuous Sheen, Sock 1/4 absorbed
	11/11/2021	-	8.62	-	14.50	10.84	2.22	0.0	Sock 1/4 absorbed
	11/23/2021	-	8.70	-	14.50	10.84	2.14	0.0	Sock 1/4 absorbed
	12/16/2021	-	9.41	-	14.50	10.84	1.43	3.3	Sock 1/4 absorbed, replaced
	12/23/2021	-	9.22	-	14.50	10.84	1.62	0.0	
FA-4	10/8/2021	-	9.05	-	14.50	10.98	1.93	0.0	
	10/20/2021	-	8.98	-	14.50	10.98	2.00	0.0	
	11/11/2021	-	8.78	-	14.40	10.98	2.20	0.0	
	11/23/2021	-	9.15	-	14.97	10.98	1.83	0.0	
	12/16/2021		9.84		14.90	10.98	1.14	0.0	
	12/23/2021		9.45		14.90	10.98	1.53	0.0	
FA-5	10/8/2021	8.05	8.08	0.03	14.50	10.22	2.14	0.0	Sock 3/4 saturated, replaced
	10/20/2021	8.1	8.12	0.02	14.50	10.22	2.10	0.0	Sock 3/4 saturated, replaced
	11/11/2021		8.22		14.50	10.22	2.00	0.0	Sock 1/4 saturated
	11/23/2021	8.54	8.58	0.04	14.50	10.22	1.64	0.0	Sock 1/4 saturated
	12/16/2021	4.68	4.80	0.12	14.50	10.22	5.42	0.0	Sock fully saturated, replaced
	12/23/2021	4.71	4.76	0.05	14.50	10.22	5.50	0.0	Sock 1/4 saturated
FA-6	10/8/2021		10.23		18.20	12.13	1.90	0.0	Orange silt throughout water column
	10/20/2021	-	10.32	-	18.20	12.13	1.81	0.0	
	11/11/2021		10.28		18.10	12.13	1.85	0.0	
	11/23/2021	-	9.55	-	18.10	12.13	2.58	0.0	
	12/16/2021	-	7.35	-	18.10	12.13	4.78	0.0	
	12/23/2021		9.06		18.10	12.13	3.07	0.0	
FA-7	10/8/2021	-	9.13	-	18.15	10.14	1.01	0.0	
	10/20/2021	-	9.04	-	18.00	10.14	1.10	0.0	
	11/11/2021	-	9.00	-	18.00	10.14	1.14	0.0	
	11/23/2021	-	9.23	-	18.15	10.14	0.91	0.0	
	12/16/2021	-	9.71	-	18.15	10.14	0.43	0.0	
	12/23/2021	-	9.54	-	18.15	10.14	0.60	0.0	

Table 2
Monitoring Well Gauging Table - Historic LNAPL Hess Corporation - Former Port Reading Complex 750 Cliff Road
Port Reading, Middlesex County, New Jersey
Fourth Quarter

Fourth Quarter	2015						2016					
	October	RIM Actions	November	RIM Actions	December	RIM Actions	October	RIM Actions	November	RIM Actions	December	RIM Actions
FA-3	NI	NA	NI	NA	NA	NA	NI	NA	NI	NA	NI	NA
FA-5	NI	NA	NI	NA	NA	NA	NI	NA	NI	NA	NI	NA
PL-1RR	0.11	Sock deployed	0.10	Sock deployed	0.01	Socky Deployed	Sheen	NA	0.01	Sock deployed	Sheen	NA
PL-2	0.02	Sock deployed	0.10	Sock deployed	0.01	Socky Deployed	0.03	Sock deployed	0.01	Sock deployed	0.00	NA
PL-5/PL-5R	NM	NA	NM	NA	NM	NA	NM	NA	NM	NA	NM	NA
PL-8R	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Sheen	NA
PL-9R	Sheen	NA	0.00	NA	NA	NA	0.00	0.00	NM	NA	0.00	NA
TF-1	0.00	NA	0.00	NA	NA	NA	0.00	NA	NM	NA	0.00	NA
TF-2	NM	NA	0.00	NA	0.10	Socky Deployed	0.20	Sock deployed	0.40	Sock deployed	0.02	Sock Deployed
TM-7	0.01	Sock deployed	0.00	NA	NA	NA	0.00	NA	NM	NA	0.00	NA
TR-2R	0.03	Sock deployed	0.00	NA	0.01	Socky Deployed	0.00	NA	NM	NA	0.00	NA
TR-5	0.00	NA	0.00	NA	0.00	NA	0.00	NA	NM	NA	0.00	NA
TR-6	0.00	NA	0.00	NA	0.00	NA	0.00	NA	NM	NA	0.00	NA
TR-6D	0.00	NA	0.00	NA	0.00	NA	0.00	NA	NM	NA	0.00	NA
Interceptor Trench	NM	NA	NM	NA	NA	NA	NM	NA	0.6	30 Gallons Removed	NM	NA

Fourth Quarter	2017						2018					
	October	RIM Actions	November	RIM Actions	December	RIM Actions	October	RIM Actions	November	RIM Actions	December	RIM Actions
FA-3	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA
FA-5	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA
PL-1RR	0.01	NA	0.02	Sock deployed	0.02	Sock deployed	NM	NA	NM	NA	NM	NA
PL-2	Sheen	NA	Sheen	NA	Sheen	NA	0.00	NA	0.00	NA	0.00	NA
PL-5/PL-5R	0.00	NA	1.10	Sock deployed	0.57	Sock deployed	0.01	Sock deployed	0.00	NA	0.00	NA
PL-8R	0.00	NA	Sheen	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
PL-9R	0.00	NA	Sheen	NA	Sheen	NA	0.00	NA	0.00	NA	0.00	NA
TF-1	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TF-2	NM	NA	0.03	Sock deployed	0.03	Sock deployed	0.01	Sock deployed	0.00	NA	0.00	NA
TM-7	0.00	NA	Sheen	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-2R	0.00	NA	0.00	NA	0.00	NA	NM	NA	0.00	NA	NM	NA
TR-5	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6D	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
Interceptor Trench	0.50	NA	Indeterminable	NA	Indeterminable	Interceptor Trench Vacuumed Out	NM	1336 Gallons Removed	NM	11 Gallons Removed	NM	NA

Fourth Quarter	2019						2020					
	October	RIM Actions	November	RIM Actions	December	RIM Actions	October	RIM Actions	November	RIM Actions	December	RIM Actions
FA-3	NI	NA	NI	NA	NI	NA	0.00	NA	NM	NA	Sheen	Sock deployed
FA-5	NI	NA	NI	NA	NI	NA	Sheen	Sock deployed	NM	NA	Sheen	Sock deployed
PL-1RR	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	NA	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	NA
PL-2	Sheen	Sock deployed	Sheen	Sock deployed	0.00	NA	Orange Rust	Sock deployed	0.00	NA	0.00	NA
PL-5/PL-5R	indeterminable	Sock deployed	0.50	Sock deployed	0.02	Sock deployed	0.30	Sock deployed	Sheen	Sock deployed	Sheen	NA
PL-8R	0.00	NA	0.00	NA	NM	NA	0.00	NA	0.00	NA	0.00	NA
PL-9R	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TF-1	NM	NA	0.01	Sock deployed	0.00	NA	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	NA
TF-2	NM	NA	Sheen	Sock deployed	0.00	NA	Sheen	NA	Sheen	Sock deployed	0.03	Sock deployed
TM-7	Globules	Sock deployed	Globules	Sock deployed	NM	NA	Sheen	NA	Sheen	NA	Sheen	NA
TR-2R	0.00	NA	0.00	NA	NM	NA	Sheen	Sock deployed	NM	NA	Sheen	NA
TR-5	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6	0.00	NA	N/A	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6D	0.00	NA	N/A	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
Interceptor Trench	NM	NA	NM	NA	1.20	278 Gallons Removed from PL-5R and Interceptor Trench	1.7	157 Gallons Removed from Interceptor Trench and PL-5R	1.6	NA	1.2	1114 Gallons Removed from Interceptor Trench andFA-3

Fourth Quarter	2021					
	October	RIM Actions	November	RIM Actions	December	RIM Actions
FA-3	Sheen	NA	0.00	NA	0.00	NA
FA-5	0.03	Sock deployed	0.04	Sock deployed	0.12	Sock deployed
PL-1RR	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
PL-2	0.00	NA	0.00	NA	0.00	NA
PL-5/PL-5R	0.30	Sock deployed	0.03	Sock deployed	0.02	Sock deployed
PL-8R	0.00	NA	0.00	NA	0.00	NA
PL-9R	0.00	NA	0.00	NA	0.00	NA
TF-1	Sheen	Sock deployed	Sheen	Sock deployed	0.00	NA
TF-2	Sheen	NA	0.02	Sock deployed	Sheen	Sock deployed
TM-7	0.00	Sock deployed	0.00	Sock deployed	0.00	NA
TR-2R	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
TR-5	0.00	NA	0.00	NA	0.00	NA
TR-6	0.00	NA	0.00	NA	0.00	NA
TR-6D	0.00	NA	0.00	NA	0.00	NA
Interceptor Trench	Sheen	NA	Sheen	NA	Sheen	na

NM = Not Measured
N/A = Not Applicable
NI = Not Installed

Table 3
Quarterly Landfarms Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Groundwater Gauging Data						
Well I.D.	**Date**	**Depth to Water**	**DTB from TOC**	**TOC Elevation**	**Water Elevation**	**PID**
LN-SW	10/7/2021	3.00	NA	-0.31	3.31	NA
LN-1	10/7/2021	5.22	14.86	10.37	5.15	0.0
LN-2	10/7/2021	5.70	12.00	9.65	3.95	0.0
LN-3	10/7/2021	5.29	13.12	8.92	3.63	0.0
LN-4	10/7/2021	7.14	15.20	10.69	3.55	0.0
LN-5	10/7/2021	6.52	17.55	10.57	4.05	0.0
LN-6	10/7/2021	8.37	17.80	12.15	3.78	0.0
LN-7	10/7/2021	9.00	17.90	13.30	4.30	0.0
PER-4	10/7/2021	6.45	16.45	10.30	3.85	0.0
LPG-2	10/7/2021	3.75	9.60	7.05	3.30	0.0
DB-SW	10/7/2021	7.50	NA	-0.11	7.61	NA
LS-1R	10/7/2021	3.6	15.75	12.25	8.65	0.0
LS-2	10/7/2021	3.19	12.00	9.75	6.56	0.0
LS-3	10/7/2021	1.31	12.60	8.40	7.09	0.4
LS-4	10/7/2021	2.10	13.13	9.28	7.18	3.4
TM-6R	10/7/2021	3.89	19.80	14.26	10.37	7.3
PL-1RR	10/7/2021	1.23	14.70	7.36	6.13	7.8
PL-3R	10/7/2021	3.89	18.80	10.16	6.27	0.0
PL-6RR	10/7/2021	0.88	15.00	6.88	6.00	0.0
PL-9R	10/7/2021	2.65	19.90	9.11	6.46	0.0
L1-SW	10/7/2021	1.50	NA	-0.20	1.70	NA
L1-1	10/7/2021	NM	NM	9.91	#VALUE!	NM
L1-2	10/7/2021	5.82	14.90	9.05	3.23	0.0
L1-3	10/7/2021	6.38	10.90	9.33	2.95	0.0
L1-4	10/7/2021	7.62	10.95	10.85	3.23	0.0
BG-2	10/7/2021	2.02	9.20	6.96	4.94	0.0
BG-3	10/7/2021	3.41	10.70	10.31	6.90	0.0
SP-1	10/7/2021	NM	NM	8.95	#VALUE!	NM
SP-2	10/7/2021	NM	NM	10.18	#VALUE!	NM
SP-3	10/7/2021	3.57	16.90	9.33	5.76	0.0

*Anomalous measurement/not used in contour figur LNAPL - Light non Aqueous Phase Liquids
NA - Not Applicable DTB - Depth to Bottom
All Measurements are in feet TOC - Top of Casing NM - Not Measured

Table 4
Annual Port Reading Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

WELL I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB Original (ft)	DTB from TOC (ft)	TOC Elevation (ft)	Water Elevation (ft)	LNAPL Corrected Water Level (ρ = 0.82)	PID	Notes
AB-1	11/23/2021	--	4.69	--	13.00	12.60	11.68	6.99	--		
AB-3	11/23/2021	--	3.58	--	13.00	13.30	12.33	8.75	--		
AB-4R	11/23/2021	--	3.65	--	15.50	16.00	12.05	8.40	--		
AB-4D	11/23/2021	--	10.14	--	33.00	34.00	11.81	1.67	--		
AB-5	11/23/2021	--	4.50	--	13.00	13.50	11.18	6.68	--		
AB-6	11/23/2021	--	2.49	--	10.50	10.40	6.95	4.46	--		
AD-1	11/23/2021	--	4.85	--	13.00	11.91	16.12	11.27	--		
AD-2	11/23/2021	--	6.04	--	18.00	16.85	16.64	10.60	--		
AD-2DD	11/23/2021	--	9.35	--	45.00	44.98	16.58	7.23	--		
AD-3	11/23/2021	--	10.15	--	14.00	13.85	19.96	9.81	--		
AD-3D	11/23/2021	--	10.15	--	29.00	29.00	19.71	9.56	--		
AD-4	11/23/2021	--	6.61	--	15.00	14.84	15.45	8.84	--		
AD-5	11/23/2021	--	6.50	--	15.00	14.53	15.59	9.09	--		
AD-5D	11/23/2021	--	7.94	--	30.00	29.82	15.48	7.54	--		
AD-6	11/23/2021	--	7.32	--	15.00	14.41	17.13	9.81	--		
AD-8	11/23/2021	--	7.13	--	15.00	15.50	15.85	8.72	--		
AD-9D	11/23/2021	--	8.04	--	28.00	26.81	15.50	7.46	--		
AD-9DD	11/23/2021	--	8.28	--	60.00	58.50	15.43	7.15	--		
AD-10	11/23/2021	--	8.19	--	20.00	19.42	16.05	7.86	--		
AD-10DD	11/23/2021	--	8.35	--	64.00	64.70	16.14	7.79	--		
BG-3	11/23/2021	--	4.16	--	11.00	10.91	10.31	6.15			
FA-1	11/23/2021	--	3.29	--	13.00	12.10	10.02	6.73	--		
FA-2	11/23/2021	--	4.13	--	14.00	13.41	10.76	6.63	--		
FA-3	11/23/2021	--	8.70	--	15.00	14.50	11.28	2.58	--		
FA-4	11/23/2021	--	9.15	--	15.00	14.97	11.39	2.24	--		
FA-5	11/23/2021	8.54	8.58	0.40	15.00	14.94	10.53	1.95	--		
FA-6	11/23/2021	--	9.55	--	15.00	18.30	12.46	2.91	--		
FA-7	11/23/2021	--	9.23	--	18.00	18.10	10.94	1.71	--		
LPG-1	11/23/2021	--	3.92	--	9.00	7.99	11.60	7.68	--		
LPG-2	11/23/2021	--	4.08	--	10.00	9.62	7.05	2.97	--		
PER-1	11/23/2021	--	9.95	--	18.00	17.75	17.18	7.23	--		
PER-2	11/23/2021	--	4.84	--	12.00	12.40	10.76	5.92	--		
PER-2D	11/23/2021	--	6.20	--	33.00	33.10	11.30	5.10	--		
PER-2DD	11/23/2021	--	5.78	--	63.00	63.75	10.53	4.75	--		
PER-3	11/23/2021	--	4.26	--	12.16	12.17	7.32	3.06	--		
PER-3D	11/23/2021	--	5.55	--	33.00	33.00	7.30	1.75	--		
PER-4	11/23/2021	--	6.57	--	15.00	15.50	10.30	3.73	--		
PER-5	11/23/2021	--	5.78	--	15.00	14.12	18.49	12.71	--		
PER-6R	11/23/2021	--	5.30	--	22.00	21.65	21.54	16.24	--		
PER-7	11/23/2021	--	2.66	--	18.00	15.65	8.94	6.28	--		
PER-8	11/23/2021	--	5.81	--	15.00	14.32	7.74	1.93	--		
PER-9	11/23/2021	--	NA	--	17.50		8.02	NA	--		Underwater
PER-9D	11/23/2021	--	NA	--	37.50		7.85	NA	--		Underwater
PER-9DD	11/23/2021	--	NA	--	68.50		7.91	NA	--		Underwater
PER-10	11/23/2021	--	7.02	--	19.00	19.00	12.19	5.17	--		
PER-10D	11/23/2021	--	10.17	--	33.00	33.50	11.94	1.77	--		
PL-1RR	11/23/2021	--	0.10	--	15.00	15.00	7.36	7.26	--		Replaced Sock
PL-2	11/23/2021	--	2.13	--	17.00	17.40	9.58	7.45	--		
PL-3R	11/23/2021	--	3.52	--	22.50	19.10	10.16	6.64	--		
PL-4RR	11/23/2021	--	4.31	--	13.00	13.00	11.56	7.25	--		
PL-5R	11/23/2021	1.35	1.32	0.03	9.80	9.80	6.54	5.22	--		
PL-6RR	11/23/2021	--	1.45	--	15.00	15.20	6.88	5.43	--		
PL-7	11/23/2021	--	NA	--	20.00		10.75	--	--		Damaged
PL-8R	11/23/2021	--	4.54	--	22.50	21.75	9.91	5.37	--		
PL-9R	11/23/2021	--	2.46	--	22.50	22.48	9.11	6.65	--		
SM-1	11/23/2021	--	NM	--	15.00	13.65	8.59	#VALUE!	--		Covered
SP-1	11/23/2021	--	5.32	--	13.00	11.75	8.95	3.63	--		
SP-2	11/23/2021	--	4.65	--	13.00	14.00	10.18	5.53	--		
SP-3	11/23/2021	--	3.21	--	13.00	13.10	9.33	6.12	--		
TF-1	11/23/2021	--	3.00	--	12.00		8.60	5.60	--		
TF-2	11/23/2021	--	2.00	--	12.00		7.69	5.69	--		Replaced Sock
TF-3	11/23/2021	--	2.75	--	12.00	11.76	8.58	5.83	--		
TL-1	11/23/2021	--	6.41	--	14.00	14.30	8.81	2.40	--		

Table 4
Annual Port Reading Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

WELL I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB Original (ft)	DTB from TOC (ft)	TOC Elevation (ft)	Water Elevation (ft)	LNAPL Corrected Water Level (ρ = 0.82)	PID	Notes
TL-2	11/23/2021	--	6.19	--	15.00	12.65	8.48	2.29	--		
TL-3	11/23/2021	--	NM	--	10.00	9.90	8.68	#VALUE!	--		Could Not Access
TM-1	11/23/2021	--	10.22	--	20.50	21.50	20.06	9.84	--		
TM-2	11/23/2021	--	11.10	--	21.00	21.50	20.14	9.04	--		
TM-3	11/23/2021	--	10.88	--	20.50	20.95	20.19	9.31	--		
TM-4	11/23/2021	--	9.81	--	18.50	15.20	19.01	9.20	--		
TM-5	11/23/2021	--	8.38	--	20.50	23.00	16.13	7.75	--		
TM-6R	11/23/2021	--	5.41	--	20.00	20.70	14.26	8.85	--		
TM-7	11/23/2021	--	7.33	--	22.00	21.98	14.81	7.48	--		
TR-1R	11/23/2021	--	6.35	--	16.00	14.98	13.68	7.33	--		
TR-2R	11/23/2021		0.00	--	20.00	19.75	12.47	12.47	--		
TR-3RR	11/23/2021	--	2.23	--	15.00	14.80	9.63	7.40	--		
TR-3D	11/23/2021	--	1.80	--	25.00	24.90	9.33	7.53	--		
TR-3DD	11/23/2021	--	3.19	--	60.00	60.00	9.59	6.40	--		
TR-4R	11/23/2021	--	4.12	--	15.00	13.61	12.18	8.06	--		
TR-4D	11/23/2021	--	5.30	--	25.00	24.56	12.48	7.18	--		
TR-4DD	11/23/2021	--	5.62	--	56.00	56.70	12.58	6.96	--		
TR-5	11/23/2021	--	4.15	--	12.00	10.68	11.99	7.84	--		
TR-5D	11/23/2021	--	5.10	--	25.00	23.20	11.57	6.47	--		
TR-5DD	11/23/2021	--	4.82	--	60.00	59.30	11.28	6.46	--		
TR-6	11/23/2021	--	4.22	--	12.50	12.60	10.78	6.56	--		
TR-6D	11/23/2021	--	3.86	--	28.30	28.20	10.81	6.95	--		
DB-SW	11/23/2021	--	6.00	--	--		1.08	7.08	--		
L1-SW	11/23/2021	--	3.25	--	--		-0.2	3.05	--		
LN-SW	11/23/2021	--	3.25	--	--		-0.31	2.94	--		
TR-SUMP-1	11/23/2021	--	6.01	--	--	7.30	12.62		--		
TR-SUMP-2	11/23/2021	--	5.32	--	--	7.20	12.35		--		
MW-1	11/23/2021	--	12.01	--	13.00	16.35	24.48	12.47	--		
MW-2	11/23/2021	--	4.45	--	13.00	12.70	19.01	14.56	--		
MW-3	11/23/2021	--	3.50	--	13.00	12.98	18.91	15.41	--		
MW-4	11/23/2021	--	6.18	--	15.00	18.00	24.07	17.89	--		
LN-1	11/23/2021	--	5.19	--	16.00	14.50	10.37	5.18	--		
LN-2	11/23/2021	--	5.85	--	13.00	11.40	9.65	3.80	--		
LN-3	11/23/2021	--	5.01	--	11.30	11.95	8.92	3.91	--		
LN-4	11/23/2021	--	7.36	--	14.00	14.40	10.69	3.33	--		
LN-5	11/23/2021	--	6.87	--	15.00	17.00	10.57	3.70	--		
LN-6	11/23/2021	--	8.48	--	15.00	17.10	12.15	3.67	--		
LN-7	11/23/2021	--	9.03	--	15.00	17.12	13.3	4.27	--		
LS-1R	11/23/2021	--	3.54	--	16.00	16.40	12.25	8.71	--		
LS-2	11/23/2021	--	3.52	--	12.01	12.65	9.75	6.23	--		
LS-3	11/23/2021	--	1.02	--	12.00	11.90	8.4	7.38	--		
LS-4	11/23/2021	--	1.88	--	14.00	13.80	9.28	7.40	--		
L1-1	11/23/2021	--	4.73	--	15.00	13.40	9.91	5.18	--		
L1-2	11/23/2021	--	6.30	--	14.00	14.00	9.05	2.75	--		
L1-3	11/23/2021	--	6.72	--	9.40	10.90	9.33	2.61	--		
L1-4	11/23/2021	--	8.05	--	9.00	11.00	10.85	2.80	--		
BG-2	11/23/2021	--	3.63	--	9.20	8.91	6.96	3.33	--		
BG-3	11/23/2021	--	4.16	--	10.00	10.91	10.31	6.15	--		
SC-1	11/23/2021	--		--	15.00	15.40	4.74	4.74	--		
SC-1D	11/23/2021	--		--	30.00	33.60	4.95	NA	--		
SC-1DD	11/23/2021	--		--	60.00	60.00	5.07	NA	--		
SC-2	11/23/2021	--		--	15.00	15.80	4.89	4.89	--		
SC-2D	11/23/2021	--		--	35.00	34.50	4.68	4.68	--		
SC-2DD	11/23/2021	--		--	60.00	62.00	4.69	4.69	--		
SC-2DDD	11/23/2021	--		--	78.00	78.90	4.54	4.54	--		
SC-3	11/23/2021	--		--	14.00	17.58	7.03	7.03	--		
SC-3D	11/23/2021	--		--	35.00	39.00	6.42	6.42	--		
SC-3DD	11/23/2021	--		--	65.00	68.05	6.74	6.74	--		
SC-3DDD	11/23/2021	--		--	81.00	84.04	6.84	6.84	--		
SC-4	11/23/2021	--		--	15.00	15.20	7.11	7.11	--		
SC-4D	11/23/2021	--		--	35.00	34.70	7.08	7.08	--		
SC-4DD	11/23/2021	--		--	60.00	59.90	6.92	6.92	--		
SC-SG-1	11/23/2021	--		--	--	--	-0.98	NA	--		

Table 4
Annual Port Reading Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

WELL I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB Original (ft)	DTB from TOC (ft)	TOC Elevation (ft)	Water Elevation (ft)	LNAPL Corrected Water Level (ρ = 0.82)	PID	Notes
SC-SG-1A	11/23/2021	--		--	--	--	-1.10	1.10	--		
SC-SG-2	11/23/2021	--		--	--	--	-1.64	1.64	--		

-- Not Applicable
* All Measurements are in feet

DTB - Depth to Bottom
TOC - Top of Casing

LNAPL - Light Non-Aqueous Phase Liquids
NM - Not Measured

Table 5
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading, New Jersey
Groundwater Analytical Results
AOC 3 - No. 1 Landfarm

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SP-1			SP-2			SP-3		
Lab Sample ID:		L2168634-04			L2168634-03			L2168383-08		
Date Sampled:		12/14/2021			12/14/2021			12/13/2021		
Matrix:		WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS										
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	**1.6**		**0.18**	ND		0.18
Chlorobenzene	50	ND		0.18	ND		0.18	ND		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17
Benzene	1	ND		0.08	ND		0.08	ND		0.08
Toluene	600	ND		0.2	ND		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	0.85		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	ND		0.17	ND		0.17	ND		0.17
p/m-Xylene		ND		0.33	ND		0.33	ND		0.33
o-Xylene		ND		0.39	ND		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	ND		1.5	1.7	J	1.5	ND		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	ND		0.19	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	ND		0.27	ND		0.27
Tert-Butyl Alcohol	100	ND		1.4	ND		1.4	ND		1.4
Methyl cyclohexane		ND		0.4	ND		0.4	ND		0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC										
Total TIC Compounds		-	-	-	-	-	-	-	-	-
SEMIVOLATILE ORGANICS BY GC/MS										
Acenaphthene	400	ND		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	ND		0.46	ND		0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	ND		1.5	ND		1.5	**4.6**		**1.5**
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46
Anthracene	2000	ND		0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3
Fluorene	300	ND		0.41	ND		0.41	ND		0.41
Phenanthrene		ND		0.33	ND		0.33	ND		0.33
Pyrene	200	ND		0.28	ND		0.28	ND		0.28
4-Chloroaniline	30	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		ND		0.5	ND		0.5	ND		0.5
2-Methylnaphthalene	30	ND		0.45	ND		0.45	ND		0.45
2,4,6-Trichlorophenol	20	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	40	ND		0.48	ND		0.48	ND		0.48
2,4-Dichlorophenol	20	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	100	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	40	ND		6.6	ND		6.6	ND		6.6
Phenol	2000	ND		0.57	ND		0.57	ND		0.57

Table 5
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading, New Jersey
Groundwater Analytical Results
AOC 3 - No. 1 Landfarm

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SP-1			SP-2			SP-3		
Lab Sample ID:		L2168634-04			L2168634-03			L2168383-08		
Date Sampled:		12/14/2021			12/14/2021			12/13/2021		
Matrix:		WATER			WATER			WATER		
2-Methylphenol	50	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	700	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38
3,3'-Dichlorobenzidine	30	ND		1.6	ND		1.6	ND		1.6
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53
Acetophenone	700	ND		0.53	ND		0.53	ND		0.53
Caprolactam	4000	ND		3.3	ND		3.3	ND		3.3
Biphenyl	400	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44
Atrazine	3	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	200	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM										
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	0.1	0.04	J	0.02	0.03	J	0.02	0.05	J	0.02
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	0.04	J	0.01	ND		0.01	ND		0.01
Benzo(k)fluoranthene	0.5	0.01	J	0.01	ND		0.01	ND		0.01
Dibenzo(a,h)anthracene	0.3	ND		0.01	ND		0.01	ND		0.01
Indeno(1,2,3-cd)pyrene	0.2	0.02	J	0.01	ND		0.01	ND		0.01
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	0.3	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	1	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	0.4	ND		0.0326	ND		0.0326	ND		0.0326
SEMIVOLATILE ORGANICS BY GC/MS-TIC										
Total TIC Compounds		10.5	J	0	6.03	J	0	106	J	0
TOTAL METALS										
Aluminum, Total	200	**9410**		**32.7**	**4520**		**32.7**	31.8		3.27
Antimony, Total	6	ND		4.29	ND		4.29	ND		0.429
Arsenic, Total	3	**19.64**		**1.65**	**12.99**		**1.65**	**11.09**		**0.165**
Barium, Total	6000	166.4		1.73	83.3		1.73	108.1		0.173
Beryllium, Total	1	ND		1.07	ND		1.07	ND		0.107
Cadmium, Total	4	ND		0.599	ND		0.599	0.1651	J	0.0599
Calcium, Total		1730		394	6160		394	14300		39.4
Chromium, Total	70	32.47		1.78	15.26		1.78	0.4687	J	0.178
Cobalt, Total	100	16.94		1.63	4.571	J	1.63	0.2927	J	0.163
Copper, Total	1300	54.6		3.84	25.91		3.84	1.523		0.384
Iron, Total	300	**24600**		**191**	**20800**		**191**	**37300**		**19.1**
Lead, Total	5	**82.5**		**3.43**	**22.75**		**3.43**	0.4662	J	0.343
Magnesium, Total		3710		242	3080		242	6330		24.2
Manganese, Total	50	**285.8**		**4.4**	**86.7**		**4.4**	**451.9**		**0.44**
Mercury, Total	2	ND		0.915	ND		0.915	ND		0.0915
Nickel, Total	100	23.54		5.56	12.62	J	5.56	0.7675	J	0.556
Potassium, Total		3520		309	2200		309	2760		30.9
Selenium, Total	40	ND		17.3	ND		17.3	ND		1.73
Silver, Total	40	ND		1.63	ND		1.63	ND		0.163
Sodium, Total	50000	36000		293	26300		293	7580		29.3
Thallium, Total	2	1.821	J	1.43	ND		1.43	ND		0.143
Vanadium, Total		35.76	J	15.7	19.56	J	15.7	ND		1.57
Zinc, Total	2000	104		34.1	91.68	J	34.1	16.76		3.41
GENERAL CHEMISTRY										
Nitrogen, Ammonia	3000	136	J	120	106	J	48	345		24

Table 6
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading, New Jersey
AOC 5- Aeration Basins
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AB-1			AB-3			AB-4R			AB-4D			AB-5			AB-6		
Lab Sample ID:		L2166200-12			L2166200-09			L2166200-07			L2166200-06			L2166200-08			L2168151-04		
Date Sampled:		12/2/2021			12/2/2021			12/2/2021			12/2/2021			12/2/2021			12/10/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS																			
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21	1.2		0.21	ND		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	0.42	J	0.14	ND		0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	ND		0.18	9		0.18	ND		0.18	ND		0.18	ND		0.18	25		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	1	ND		0.08	**3.4**		**0.08**	ND		0.08	ND		0.08	ND		0.08	**2.2**		**0.08**
Toluene	600	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	0.93		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	1.1		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	0.29	J	0.26	ND		0.26	ND		0.26	ND		0.26	0.31	J	0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	0.34	J	0.18	ND		0.18	ND		0.18	ND		0.18	0.36	J	0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	0.62	J	0.19
1,4-Dichlorobenzene	75	ND		0.19	0.64	J	0.19	ND		0.19	ND		0.19	ND		0.19	2.5		0.19
Methyl tert butyl ether	70	ND		0.17	10		0.17	4.4		0.17	4.3		0.17	ND		0.17	ND		0.17
p/m-Xylene		ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	1.6		0.33
o-Xylene		ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	0.72	J	0.39
Xylenes, Total	1000	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	2.3	J	0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	1.7		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	1.7		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	1.8	J	1.5	ND		1.5	3.5	J	1.5	ND		1.5	7.5		1.5	19		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3	0.59	J	0.3	ND		0.3	0.72	J	0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	ND		0.19	0.44	J	0.19	ND		0.19	ND		0.19	ND		0.19	120		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	0.38	J	0.27	ND		0.27	ND		0.27	ND		0.27	2	J	0.27
Tert-Butyl Alcohol	100	6	J	1.4	20		1.4	46		1.4	56		1.4	ND		1.4	3.7	J	1.4
Methyl cyclohexane		ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	1.6	J	0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																			
Total TIC Compounds		-	-	-	37.5	J	0	5.85	J	0	3.01	J	0	-		-	702	J	0
SEMIVOLATILE ORGANICS BY GC/MS																			
Acenaphthene	400	ND		0.44	15		0.44	0.94	J	0.44	ND		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	1.1	J	0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	2.2	J	1.5
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Anthracene	2000	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
Fluorene	300	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
Phenanthrene		ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Pyrene	200	ND		0.28	0.51	J	0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28
4-Chloroaniline	30	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		ND		0.5	0.65	J	0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Methylnaphthalene	30	ND		0.45	ND		0.45	ND		0.45	ND		0.45	ND		0.45	ND		0.45
2,4,6-Trichlorophenol	20	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	40	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
2,4-Dichlorophenol	20	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	100	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	40	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6
Phenol	2000	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57
2-Methylphenol	50	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	700	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	2.3		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
3,3'-Dichlorobenzidine	30	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Acetophenone	700	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Caprolactam	4000	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3
Biphenyl	400	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
Atrazine	3	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	200	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																			
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	0.1	ND		0.02	0.05	J	0.02	0.03	J	0.02	0.02	J	0.02	0.02	J	0.02	0.03	J	0.02
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Benzo(k)fluoranthene	0.5	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Dibenzo(a,h)anthracene	0.3	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01

Table 6
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading, New Jersey
AOC 5- Aeration Basins
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AB-1			AB-3			AB-4R			AB-4D			AB-5			AB-6		
Lab Sample ID:		L2166200-12			L2166200-09			L2166200-07			L2166200-06			L2166200-08			L2168151-04		
Date Sampled:		12/2/2021			12/2/2021			12/2/2021			12/2/2021			12/2/2021			12/10/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
Indeno(1,2,3-cd)pyrene	0.2	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	0.3	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	1	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	0.4	ND		0.0314	0.231		0.0314	0.24		0.0303	**14.1**		**0.0471**	**2.63**		**0.0339**	ND		0.0314
SEMIVOLATILE ORGANICS BY GC/MS-TIC																			
Total TIC Compounds		8.5	J	0	41.6	J	0	289	J	0	699	J	0	8.55	J	0	126	J	0
TOTAL METALS																			
Aluminum, Total	200	**391**		**3.27**	**228**		**3.27**	55		3.27	12		3.27	48.3		3.27	**382**		**3.27**
Antimony, Total	6	ND		0.429	ND		0.429	4.358		0.429	ND		0.429	ND		0.429	0.5492	J	0.429
Arsenic, Total	3	**6.837**		**0.165**	1.069		0.165	1.353		0.165	0.9168		0.165	1.397		0.165	1.313		0.165
Barium, Total	6000	38.78		0.173	123.8		0.173	100.7		0.173	74.47		0.173	30.92		0.173	70		0.173
Beryllium, Total	1	ND		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107
Cadmium, Total	4	ND		0.0599	ND		0.0599	ND		0.0599	ND		0.0599	0.0837	J	0.0599	ND		0.0599
Calcium, Total		46000		39.4	22000		39.4	84000		39.4	79100		39.4	29100		39.4	35800		39.4
Chromium, Total	70	1.075		0.178	1.603		0.178	0.6568	J	0.178	1.793		0.178	1.291		0.178	1.921		0.178
Cobalt, Total	100	1.3		0.163	0.2372	J	0.163	0.2549	J	0.163	0.2084	J	0.163	0.3847	J	0.163	0.5117		0.163
Copper, Total	1300	2.971		0.384	16.5		0.384	ND		0.384	4.845		0.384	3.588		0.384	11.57		0.384
Iron, Total	300	**2810**		**19.1**	**664**		**19.1**	**6780**		**19.1**	27.1	J	19.1	**3390**		**19.1**	**1720**		**19.1**
Lead, Total	5	1.213		0.343	0.519	J	0.343	ND		0.343	ND		0.343	0.7673	J	0.343	**5.134**		**0.343**
Magnesium, Total		4670		24.2	25100		24.2	78000		24.2	286000		24.2	2980		24.2	12400		24.2
Manganese, Total	50	**68.44**		**0.44**	19.1		0.44	**106.5**		**0.44**	3.043		0.44	**69.56**		**0.44**	35.24		0.44
Mercury, Total	2	ND		0.0915	0.12	J	0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915
Nickel, Total	100	0.8244	J	0.556	2.093		0.556	0.7832	J	0.556	0.8255	J	0.556	0.676	J	0.556	2.973		0.556
Potassium, Total		25800		30.9	154000		30.9	165000		30.9	152000		30.9	2850		30.9	9740		30.9
Selenium, Total	40	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73
Silver, Total	40	ND		0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.163
Sodium, Total	50000	37400		29.3	**832000**		**293**	**1220000**		**1460**	**4850000**		**1460**	5200		29.3	**123000**		**29.3**
Thallium, Total	2	ND		0.143	ND		0.143	ND		0.143	ND		0.143	ND		0.143	0.1854	J	0.143
Vanadium, Total		8.242		1.57	5.021		1.57	10.89		1.57	6.361		1.57	5.187		1.57	2.485	J	1.57
Zinc, Total	2000	14.96		3.41	70.19		3.41	ND		3.41	15.46		3.41	ND		3.41	33.76		3.41
GENERAL CHEMISTRY																			
Nitrogen, Ammonia	3000	148		24	**4550**		**48**	**13300**		**24**	**12000**		**24**	396		24	68.6	J	24

Table 7a
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 10 - Truck Loading Rack
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TR-1R			TR-2R			TR-3RR			TR-3D			TR-3DD			TR-4R			TR-4D			TR-4DD			TR-5			TR-5D			TR-5DD			TR-6			TR-6D			PER-1		
Lab Sample ID:		L2167075-06			L2167075-07			L2165318-01			L2165318-02			L2165318-03			L2168151-08			L2168151-09			L2168151-10			L2165318-07			L2165318-04			L2165318-06			L2166615-03			L2165318-08			L2165570-06		
Date Sampled:		12/7/2021			12/7/2021			11/29/2021			11/29/2021			11/29/2021			12/10/2021			12/10/2021			12/10/2021			11/29/2021			11/29/2021			11/29/2021			12/3/2021			11/29/2021			11/30/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS																																											
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		180	ND		0.35	ND		1.8	ND		0.35	ND		0.35	ND		8.8	ND		1.8	ND		0.35	ND		7.1	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		96	ND		0.19	ND		0.96	ND		0.19	ND		0.19	ND		4.8	ND		0.96	ND		0.19	ND		3.9	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		340	ND		0.68	ND		3.4	ND		0.68	ND		0.68	ND		17	ND		3.4	ND		0.68	ND		14	ND		0.68	ND		0.68
1,1-Dichloroethane	50	0.24	J	0.21	ND		0.21	ND		0.21	ND		100	0.65	J	0.21	ND		1	ND		0.21	0.41	J	0.21	ND		5.2	2	J	1	ND		0.21	ND		4.2	0.91		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		110	ND		0.22	ND		1.1	ND		0.22	ND		0.22	ND		5.6	ND		1.1	ND		0.22	ND		4.4	0.23	J	0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		67	ND		0.13	ND		0.67	ND		0.13	ND		0.13	ND		3.4	ND		0.67	ND		0.13	ND		2.7	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		68	ND		0.14	ND		0.68	ND		0.14	ND		0.14	ND		3.4	ND		0.68	ND		0.14	ND		2.7	**1.1**		**0.14**	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		74	ND		0.15	ND		0.74	ND		0.15	ND		0.15	ND		3.7	ND		0.74	ND		0.15	ND		3	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		72	ND		0.14	ND		0.72	ND		0.14	ND		0.14	ND		3.6	ND		0.72	ND		0.14	ND		2.9	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		90	ND		0.18	ND		0.9	ND		0.18	ND		0.18	ND		4.5	ND		0.9	ND		0.18	ND		3.6	**2.8**		**0.18**	ND		0.18
Chlorobenzene	50	ND		0.18	ND		0.18	ND		0.18	ND		89	ND		0.18	ND		0.89	ND		0.18	ND		0.18	ND		4.4	ND		0.89	ND		0.18	ND		3.6	ND		0.18	ND		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		80	ND		0.16	ND		0.8	ND		0.16	ND		0.16	ND		4	ND		0.8	ND		0.16	ND		3.2	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		66	0.17	J	0.13	ND		0.66	0.26	J	0.13	ND		0.13	ND		3.3	1.6	J	0.66	ND		0.13	ND		2.6	1.3		0.13	ND		0.13
1,1,1-Trichloroethane	30	0.38	J	0.16	ND		0.16	ND		0.16	ND		79	ND		0.16	ND		0.79	ND		0.16	ND		0.16	ND		4	ND		0.79	ND		0.16	ND		3.2	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		96	ND		0.19	ND		0.96	ND		0.19	ND		0.19	ND		4.8	ND		0.96	ND		0.19	ND		3.8	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		82	ND		0.16	ND		0.82	ND		0.16	ND		0.16	ND		4.1	ND		0.82	ND		0.16	ND		3.3	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		72	ND		0.14	ND		0.72	ND		0.14	ND		0.14	ND		3.6	ND		0.72	ND		0.14	ND		2.9	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		72	ND		0.14	ND		0.72	ND		0.14	ND		0.14	ND		3.6	ND		0.72	ND		0.14	ND		2.9	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		120	ND		0.25	ND		1.2	ND		0.25	ND		0.25	ND		6.2	ND		1.2	ND		0.25	ND		5	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		84	ND		0.17	ND		0.84	ND		0.17	ND		0.17	ND		4.2	ND		0.84	ND		0.17	ND		3.3	ND		0.17	ND		0.17
Benzene	1	ND		0.08	**6.6**		**0.08**	0.88		0.08	ND		40	0.14	J	0.08	**43**		**0.4**	ND		0.08	ND		0.08	**2700**		**2**	**12**		**0.4**	ND		0.08	**750**		**1.6**	0.36	J	0.08	ND		0.08
Toluene	600	ND		0.2	7.6		0.2	ND		0.2	ND		100	ND		0.2	9.9		1	ND		0.2	ND		0.2	39		5.1	ND		1	ND		0.2	24		4.1	ND		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	5.5		0.17	ND		0.17	ND		84	ND		0.17	39		0.84	ND		0.17	ND		0.17	42		4.2	ND		0.84	ND		0.17	110		3.3	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		100	ND		0.2	ND		1	ND		0.2	ND		0.2	ND		5	ND		1	ND		0.2	ND		4	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	ND		0.26	ND		130	ND		0.26	ND		1.3	ND		0.26	ND		0.26	ND		6.4	ND		1.3	ND		0.26	ND		5.1	ND		0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		36	ND		0.07	ND		0.36	ND		0.07	0.09	J	0.07	ND		1.8	ND		0.36	ND		0.07	ND		1.4	0.25		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		67	ND		0.13	ND		0.67	ND		0.13	ND		0.13	ND		3.4	ND		0.67	ND		0.13	ND		2.7	ND		0.13	ND		0.13
1,1-Dichloroethene	1	**1.3**		**0.17**	ND		0.17	ND		0.17	ND		84	0.93		0.17	ND		0.84	ND		0.17	**2**		**0.17**	ND		4.2	**2.7**		**0.84**	ND		0.17	ND		3.4	**3.2**		**0.17**	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		82	ND		0.16	ND		0.82	ND		0.16	ND		0.16	ND		4.1	ND		0.82	ND		0.16	ND		3.3	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	**1.1**		**0.18**	**6100**		**88**	0.74		0.18	ND		0.88	ND		0.18	**1.6**		**0.18**	ND		4.4	**1.1**	**J**	**0.88**	ND		0.18	ND		3.5	**1.6**		**0.18**	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	ND		0.18	ND		92	ND		0.18	ND		0.92	ND		0.18	0.26	J	0.18	ND		4.6	ND		0.92	ND		0.18	ND		3.7	0.52	J	0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19	ND		93	ND		0.19	ND		0.93	ND		0.19	ND		0.19	ND		4.6	ND		0.93	ND		0.19	ND		3.7	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		0.19	ND		0.19	ND		94	ND		0.19	ND		0.94	ND		0.19	ND		0.19	ND		4.7	ND		0.94	ND		0.19	ND		3.7	0.24	J	0.19	ND		0.19
Methyl tert butyl ether	70	ND		0.17	18		0.17	**140**		**0.17**	**100000**		**83**	21		0.17	ND		0.83	**250**	**E**	**0.17**	0.58	J	0.17	**250**		**4.2**	**840**		**0.83**	6.8		0.17	**2300**		**3.3**	1.7		0.17	ND		0.17
p/m-Xylene		ND		0.33	19		0.33	ND		0.33	ND		170	ND		0.33	21		1.7	ND		0.33	ND		0.33	55		8.3	ND		1.7	ND		0.33	76		6.6	ND		0.33	ND		0.33
o-Xylene		ND		0.39	14		0.39	ND		0.39	ND		200	ND		0.39	18		2	ND		0.39	ND		0.39	16	J	9.8	ND		2	ND		0.39	9.7	J	7.8	ND		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	33		0.33	ND		0.33	ND		170	ND		0.33	39		1.7	ND		0.33	ND		0.33	71	J	8.3	ND		1.7	ND		0.33	86	J	6.6	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	**100**	**J**	**94**	2.6		0.19	ND		0.94	ND		0.19	3.8		0.19	ND		4.7	1.2	J	0.94	ND		0.19	ND		3.7	3.6		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	100	J	82	2.6		0.16	ND		0.82	ND		0.16	3.8		0.16	ND		4.1	1.2	J	0.82	ND		0.16	ND		3.3	3.6		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	ND		180	ND		0.36	ND		1.8	ND		0.36	ND		0.36	ND		9	ND		1.8	ND		0.36	ND		7.2	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		120	ND		0.24	ND		1.2	ND		0.24	ND		0.24	ND		6.1	ND		1.2	ND		0.24	ND		4.9	ND		0.24	ND		0.24
Acetone	6000	ND		1.5	ND		1.5	ND		1.5	ND		730	ND		1.5	ND		7.3	ND		1.5	ND		1.5	ND		36	ND		7.3	ND		1.5	ND		29	ND		1.5	ND		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3	ND		150	ND		0.3	ND		1.5	ND		0.3	ND		0.3	ND		7.5	ND		1.5	ND		0.3	ND		6	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		970	ND		1.9	ND		9.7	ND		1.9	ND		1.9	ND		48	ND		9.7	ND		1.9	ND		39	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	3.8	J	0.42	ND		0.42	ND		210	ND		0.42	ND		2.1	ND		0.42	ND		0.42	ND		10	ND		2.1	ND		0.42	ND		8.3	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		260	ND		0.52	ND		2.6	ND		0.52	ND		0.52	ND		13	ND		2.6	ND		0.52	ND		10	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		76	ND		0.15	ND		0.76	ND		0.15	ND		0.15	ND		3.8	ND		0.76	ND		0.15	ND		3	ND		0.15	ND		0.15
Isopropylbenzene	700	ND		0.19	ND		0.19	0.53		0.19	ND		94	ND		0.19	7.8		0.94	ND		0.19	ND		0.19	32		4.7	ND		0.94	ND		0.19	5.5	J	3.7	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		120	ND		0.23	ND		1.2	ND		0.23	ND		0.23	ND		5.8	ND		1.2	ND		0.23	ND		4.7	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		110	ND		0.22	ND		1.1	ND		0.22	ND		0.22	ND		5.5	ND		1.1	ND		0.22	ND		4.4	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		120	ND		0.23	ND		1.2	ND		0.23	ND		0.23	ND		5.8	ND		1.2	ND		0.23	ND		4.7	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	8.6	J	0.27	ND		0.27	ND		140	ND		0.27	61		1.4	ND		0.27	ND		0.27	78	J	6.8	ND		1.4	ND		0.27	11	J	5.4	ND		0.27	ND		0.27
Tert-Butyl Alcohol	100	ND		1.4	60		1.4	**4900**		**14**	**87000**		**700**	32		1.4	ND		7	**15000**	**E**	**1.4**	ND		1.4	**5200**		**35**	**9800**		**28**	ND		1.4	**5400**		**28**	ND		1.4	ND		1.4
Methyl cyclohexane		ND		0.4	21		0.4	ND		0.4	ND		200	ND		0.4	64		2	ND		0.4	ND		0.4	26	J	9.9	ND		2	ND		0.4	ND		7.9	ND		0.4	ND		0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15	ND		74	ND		0.15	ND		0.74	ND		0.15	ND		0.15	ND		3.7	ND		0.74	ND		0.15	ND		3	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																																											
Total TIC Compounds		-		-	762	J	0	-		-	-		-	1.38	J	0	1970	J	0	5.37	J	0	-		-	3000	J	0	-		-	-		-	418	J	0	-		-	-		-
SEMIVOLATILE ORGANICS BY GC/MS																																											
Acenaphthene	400	ND		0.44	1	J	0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	0.45	J	0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	0.61	J	0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	4.4	J	0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	0.42	J	0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	2.7		0.46	ND		0.46	ND		0.46	ND		0.46	42		0.46	ND		0.46	ND		0.46	12		0.46	ND		0.46	ND		0.46	12		0.46	ND		0.46	ND		0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	1.5	J	1.5	1.5	J	1.5	ND		1.5	ND		1.5	ND		1.5	2.2	J	1.5	2.8	J	1.5	1.9	J	1.5	ND		1.5	ND		1.5	ND		1.5	1.6	J	1.5	ND		1.5	ND		1.5
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34

Table 7a
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 10 - Truck Loading Rack
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TR-1R		TR-2R		TR-3RR		TR-3D		TR-3DD		TR-4R		TR-4D		TR-4DD		TR-5		TR-5D		TR-5DD		TR-6		TR-6D		PER-1	
Lab Sample ID:		L2167075-06		L2167075-07		L2165318-01		L2165318-02		L2165318-03		L2168151-08		L2168151-09		L2168151-10		L2165318-07		L2165318-04		L2165318-06		L2166615-03		L2165318-08		L2165570-06	
Date Sampled:		12/7/2021		12/7/2021		11/29/2021		11/29/2021		11/29/2021		12/10/2021		12/10/2021		12/10/2021		11/29/2021		11/29/2021		11/29/2021		12/3/2021		11/29/2021		11/30/2021	
Matrix:		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Acenaphthylene		ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46
Anthracene	2000	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Benzo(ghi)perylene		ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3
Fluorene	300	ND	0.41	0.49 J	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	0.81 J	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41
Phenanthrene		ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	0.98 J	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Pyrene	200	ND	0.28	0.63 J	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28
4-Chloroaniline	30	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1
2-Nitroaniline		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
3-Nitroaniline		ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81
4-Nitroaniline		ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8
Dibenzofuran		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
2-Methylnaphthalene	30	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	12	0.45	ND	0.45	ND	0.45	3.1	0.45	ND	0.45	ND	0.45	1.3 J	0.45	ND	0.45	ND	0.45
2,4,6-Trichlorophenol	20	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61
p-Chloro-m-cresol		ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35
2-Chlorophenol	40	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48
2,4-Dichlorophenol	20	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41
2,4-Dimethylphenol	100	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8
2-Nitrophenol		ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85
4-Nitrophenol		ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67
2,4-Dinitrophenol	40	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6
Phenol	2000	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	17	0.57	ND	0.57	ND	0.57	160	0.57	ND	0.57	ND	0.57
2-Methylphenol	50	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	0.76 J	0.49	ND	0.49	ND	0.49
2,4,5-Trichlorophenol	700	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77
Carbazole		ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49
4-Bromophenyl phenyl ether		ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38
3,3'-Dichlorobenzidine	30	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6
Benzaldehyde		ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53
Acetophenone	700	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	5.6	0.53	ND	0.53	ND	0.53
Caprolactam	4000	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3
Biphenyl	400	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46
1,2,4,5-Tetrachlorobenzene		ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44
Atrazine	3	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76
2,3,4,6-Tetrachlorophenol	200	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																													
4,6-Dinitro-o-cresol		ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09
Benzo(a)anthracene	0.1	0.03 J	0.02	**0.14**	**0.02**	ND	0.02	ND	0.02	0.02 J	0.02	0.04 J	0.02	0.04 J	0.02	0.03 J	0.02	0.03 J	0.02	ND	0.02	ND	0.02	0.03 J	0.02	0.02 J	0.02	ND	0.02
Benzo(a)pyrene	0.1	ND	0.02	0.07 J	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	0.04 J	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	0.02 J	0.02	ND	0.02	ND	0.02
Benzo(b)fluoranthene	0.2	0.02 J	0.01	0.11	0.01	ND	0.01	ND	0.01	ND	0.01	0.03 J	0.01	0.1 J	0.01	0.02 J	0.01	0.02 J	0.01	0.01 J	0.01	ND	0.01	0.03 J	0.01	ND	0.01	ND	0.01
Benzo(k)fluoranthene	0.5	ND	0.01	0.03 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.02 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.04 J	0.01	ND	0.01	ND	0.01
Dibenzo(a,h)anthracene	0.3	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.01 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.05 J	0.01	ND	0.01	ND	0.01
Indeno(1,2,3-cd)pyrene	0.2	0.01 J	0.01	0.04 J	0.01	ND	0.01	ND	0.01	ND	0.01	0.02 J	0.01	0.06 J	0.01	0.01 J	0.01	ND	0.01	0.02 J	0.01	ND	0.01	0.05 J	0.01	ND	0.01	ND	0.01
Hexachlorobenzene	0.02	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Pentachlorophenol	0.3	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Hexachlorobutadiene	1	ND	0.05	ND	0.05	ND	0.05	0.05 J	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
1,4-Dioxane	0.4	0.348	0.0314	ND	0.0303	0.218	0.0326	**3.32**	**0.0314**	**1.79**	**0.0326**	ND	0.0314	**1.8**	**0.0314**	**1.25**	**0.0314**	0.104 J	0.0314	**4.89**	**0.0314**	**5.83**	**0.0314**	0.0954 J	0.0339	**1.65**	**0.0303**	ND	0.0314
SEMIVOLATILE ORGANICS BY GC/MS-TIC																													
Total TIC Compounds		108 J	0	374 J	0	-	-	107 J	0	7.62 J	0	307 J	0	332 J	0	41.2 J	0	540 J	0	14.9 J	0	-	-	369 J	0	4.11 J	0	4.69 J	0
TOTAL METALS																													
Aluminum, Total	200	**221**	**3.27**	183	3.27	**316**	**3.27**	124	3.27	**401**	**3.27**	**287**	**3.27**	**2210**	**3.27**	**288**	**3.27**	**632000**	**32.7**	**287**	**3.27**	29.3	3.27	78.2	3.27	**349**	**3.27**	190	3.27
Antimony, Total	6	ND	0.429	2.816 J	0.429	ND	0.429	ND	0.429	0.7064 J	0.429	ND	0.429	1.3 J	0.429	0.4736 J	0.429	**113.2**	**4.29**	ND	0.429	ND	0.429	0.57 J	0.429	0.5646 J	0.429	ND	0.429
Arsenic, Total	3	0.8376	0.165	1.118	0.165	1.768	0.165	1.406	0.165	0.4582 J	0.165	2.14	0.165	1.219	0.165	0.9851	0.165	**128.2**	**1.65**	0.671	0.165	0.1828 J	0.165	**3.718**	**0.165**	0.3236 J	0.165	1.258	0.165
Barium, Total	6000	99.78	0.173	8.464	0.173	68.53	0.173	172.7	0.173	193.8	0.173	30.24	0.173	257.9	0.173	202.3	0.173	5049	1.73	307.7	0.173	337.5	0.173	44.45	0.173	176.4	0.173	93.91	0.173
Beryllium, Total	1	ND	0.107	ND	0.107	ND	0.107	ND	0.107	0.116 J	0.107	ND	0.107	ND	0.107	ND	0.107	**12.2**	**1.07**	ND	0.107	ND	0.107	ND	0.107	ND	0.107	ND	0.107
Cadmium, Total	4	0.1236 J	0.0599	0.079 J	0.0599	0.0856 J	0.0599	ND	0.0599	ND	0.0599	0.062 J	0.0599	0.6187	0.0599	0.324	0.0599	**19.37**	**0.599**	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	0.6974	0.0599
Calcium, Total		49800	39.4	7070	39.4	31700	39.4	208000	39.4	106000	39.4	11200	39.4	106000	39.4	95900	39.4	1160000	394	106000	39.4	123000	39.4	24000	39.4	96400	39.4	49500	39.4
Chromium, Total	70	1.924	0.178	1.564	0.178	0.9331 J	0.178	17.45	0.178	29.51	0.178	1.413	0.178	10.65	0.178	1.287	0.178	**762.4**	**1.78**	2.409	0.178	ND	0.178	0.7681 J	0.178	5.534	0.178	0.4495 J	0.178
Cobalt, Total	100	0.2614 J	0.163	ND	0.163	0.5457	0.163	1.817	0.163	1.523	0.163	0.2158 J	0.163	1.647	0.163	7.179	0.163	**205.9**	**1.63**	2.557	0.163	0.2156 J	0.163	0.4242 J	0.163	0.6206	0.163	1.231	0.163
Copper, Total	1300	6.39	0.384	10.39	0.384	8.199	0.384	7.086	0.384	83.03	0.384	11.9	0.384	17.05	0.384	4.865	0.384	1255	3.84	58.14	0.384	ND	0.384	8.235	0.384	3.059	0.384	6.707	0.384
Iron, Total	300	**432**	**19.1**	191	19.1	**1040**	**19.1**	**1410**	**19.1**	**5650**	**19.1**	**982**	**19.1**	**3090**	**19.1**	**1530**	**19.1**	**275000**	**191**	**1660**	**19.1**	**3620**	**19.1**	**7810**	**19.1**	**305**	**19.1**	**360**	**19.1**
Lead, Total	5	1.232	0.343	1.598	0.343	1.623	0.343	ND	0.343	0.8515 J	0.343	2.469	0.343	**18.75**	**0.343**	2.756	0.343	**2320**	**3.43**	0.4301 J	0.343	ND	0.343	0.5776 J	0.343	1.732	0.343	1.452	0.343
Magnesium, Total		12700	24.2	296	24.2	3670	24.2	31300	24.2	17600	24.2	1040	24.2	22200	24.2	17000	24.2	509000	242	25600	24.2	16900	24.2	3960	24.2	27900	24.2	6620	24.2
Manganese, Total	50	35.12	0.44	3.576	0.44	**730.9**	**0.44**	**1945**	**0.44**	**114.7**	**0.44**	**62.11**	**0.44**	**1167**	**0.44**	**99.47**	**0.44**	**9956**	**4.4**	**102.2**	**0.44**	**88.24**	**0.44**	**648.2**	**0.44**	8.937	0.44	**1969**	**0.44**
Mercury, Total	2	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	1.335	0.4575	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915
Nickel, Total	100	1.255 J	0.556	1.06 J	0.556	2.134	0.556	18.16	0.556	17.55	0.556	1.094 J	0.556	6.699	0.556	6.468	0.556	**1511**	**5.56**	5.47	0.556	1.132 J	0.556	2.811	0.556	5.683	0.556	5.778	0.556
Potassium, Total		579	30.9	8690	30.9	2290	30.9	16100	30.9	3500	30.9	6650	30.9	2020	30.9	2360	30.9	23800	309	1370	30.9	1980	30.9	1870	30.9	1460	30.9	529	30.9
Selenium, Total	40	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	**245**	**17.3**	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73
Silver, Total	40	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	11.63	1.63	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163
Sodium, Total	50000	40500	29.3	**138000**	**29.3**	29100	29.3	**175000**	**29.3**	**55200**	**29.3**	**148000**	**29.3**	**86700**	**29.3**	**58600**	**29.3**	**266000**	**293**	**77400**	**29.3**	41800	29.3	10600	29.3	**76700**	**29.3**	27900	29.3
Thallium, Total	2	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	0.2439 J	0.143	**10.47**	**1.43**	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143
Vanadium, Total		3.034 J	1.57	11.47	1.57	1.848 J	1.57	ND	1.57	2.52 J	1.57	2.159 J	1.57	9.265	1.57	4.104 J	1.57	2870	15.7	1.823 J	1.57	ND	1.57	3.804 J	1.57	3.654 J	1.57	2.197 J	1.57
Zinc, Total	2000	20.42	3.41	10.83	3.41	36.84	3.41	17.46	3.41	31.64	3.41	40.33	3.41	143.1	3.41	62.64	3.41	**3552**	**34.1**	19.28	3.41	ND	3.41	35.59	3.41	25.98	3.41	11.86	3.41
GENERAL CHEMISTRY																													
Nitrogen, Ammonia	3000	62.6 J	24	246	24	125	24	85.7	24	58.7 J	24	1080	24	375	48	110	24	420	48	ND	24	24.4 J	24	496	24	ND	24	88.6 J	48

Table 7b
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
PSEG- Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SC-1			SC-1D			SC-1DD			SC-2			SC-2D			SC-2DD			SC-2DDD			SC-3			SC-3D			SC-3DD			SC-3DDD			SC-4			SC-4D			SC-4DD		
Lab Sample ID:		L2166830-01			L2166830-04			L2166830-02			L2166830-07			L2166830-03			L2166830-05			L2166830-06			L2166830-11			L2166830-09			L2166830-10			L2167075-04			L2166830-08			L2167075-02			L2167075-03		
Date Sampled:		12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/6/2021			12/7/2021			12/6/2021			12/7/2021			12/7/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS																																											
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	0.29	J	0.21	ND		0.21	ND		0.21	ND		0.21	2.6		0.21	1		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	0.23	J	0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	1	**2.3**		**0.08**	ND		0.08	ND		0.08	**12**		**0.08**	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08
Toluene	600	ND		0.2	ND		0.2	ND		0.2	4.5		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17	42		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	0.35	J	0.26	0.72	J	0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	0.1	J	0.07	ND		0.07	ND		0.07	ND		0.07	0.14	J	0.07	0.2		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	ND		0.17	1.2		0.17	0.69	J	0.17	ND		0.17	1.4		0.17	ND		0.17	ND		0.17	ND		0.17	**120**		**0.17**	2.4		0.17	ND		0.17	0.29	J	0.17	0.48	J	0.17	8.9		0.17
p/m-Xylene		ND		0.33	ND		0.33	ND		0.33	100		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
o-Xylene		ND		0.39	ND		0.39	ND		0.39	43		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	ND		0.33	ND		0.33	140		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5
Carbon disulfide	700	ND		0.3	0.94	J	0.3	ND		0.3	0.62	J	0.3	ND		0.3	0.75	J	0.3	0.54	J	0.3	ND		0.3	0.5	J	0.3	0.3	J	0.3	ND		0.3	0.54	J	0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	0.61		0.19	ND		0.19	ND		0.19	11		0.19	ND		0.19	ND		0.19	ND		0.19	0.47	J	0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	160		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	ND		0.27	ND		0.27	15		0.27	ND		0.27	ND		0.27	ND		0.27	0.38	J	0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27
Tert-Butyl Alcohol	100	13		1.4	ND		1.4	ND		1.4	3.7	J	1.4	ND		1.4	ND		1.4	ND		1.4	1.7	J	1.4	**270**		**1.4**	5.7	J	1.4	6.9	J	1.4	ND		1.4	88		1.4	**140**		**1.4**
Methyl cyclohexane		ND		0.4	ND		0.4	ND		0.4	18		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																																											
Total TIC Compounds		49.3	J	0	4.06	J	0	2.25	J	0	96.3	J	0	4.31	J	0	5.26	J	0	4.73	J	0	13.9	J	0	5.65	J	0	5.78	J	0	-		-	5.53	J	0	-		-	-		-
SEMIVOLATILE ORGANICS BY GC/MS																																											
Acenaphthene	400	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5

Table 7b
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
PSEG- Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SC-1	SC-1D	SC-1DD	SC-2	SC-2D	SC-2DD	SC-2DDD	SC-3	SC-3D	SC-3DD	SC-3DDD	SC-4	SC-4D	SC-4DD
Lab Sample ID:		L2166830-01	L2166830-04	L2166830-02	L2166830-07	L2166830-03	L2166830-05	L2166830-06	L2166830-11	L2166830-09	L2166830-10	L2167075-04	L2166830-08	L2167075-02	L2167075-03
Date Sampled:		12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/6/2021	12/7/2021	12/6/2021	12/7/2021	12/7/2021
Matrix:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Hexachlorocyclopentadiene	40	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69	ND 0.69
Hexachloroethane	7	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58	ND 0.58
Isophorone	40	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2
Naphthalene	300	ND 0.46	ND 0.46	ND 0.46	5.9 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46
Nitrobenzene	6	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77
NDPA/DPA	10	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42	ND 0.42
n-Nitrosodi-n-propylamine		ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64	ND 0.64
Bis(2-ethylhexyl)phthalate	3	ND 1.5	ND 1.5	ND 1.5	ND 1.5	ND 1.5	ND 1.5	ND 1.5	ND 1.5	ND 1.5	ND 1.5	1.5 J 1.5	ND 1.5	ND 1.5	ND 1.5
Butyl benzyl phthalate	100	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2	ND 1.2
Di-n-butylphthalate	700	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39	ND 0.39
Di-n-octylphthalate	100	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3	ND 1.3
Diethyl phthalate	6000	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38
Dimethyl phthalate		ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8
Chrysene	5	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34	ND 0.34
Acenaphthylene		ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46
Anthracene	2000	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33
Benzo(ghi)perylene		ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3	ND 0.3
Fluorene	300	1 J 0.41	ND 0.41	ND 0.41	0.56 J 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41
Phenanthrene		0.89 J 0.33	ND 0.33	ND 0.33	0.41 J 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33	ND 0.33
Pyrene	200	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28	ND 0.28
4-Chloroaniline	30	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1	ND 1.1
2-Nitroaniline		ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5
3-Nitroaniline		ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81	ND 0.81
4-Nitroaniline		ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8	ND 0.8
Dibenzofuran		ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5	ND 0.5
2-Methylnaphthalene	30	ND 0.45	ND 0.45	ND 0.45	6.2 0.45	ND 0.45	ND 0.45	ND 0.45	ND 0.45	ND 0.45	ND 0.45	ND 0.45	ND 0.45	ND 0.45	ND 0.45
2,4,6-Trichlorophenol	20	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61	ND 0.61
p-Chloro-m-cresol		ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35	ND 0.35
2-Chlorophenol	40	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48	ND 0.48
2,4-Dichlorophenol	20	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41	ND 0.41
2,4-Dimethylphenol	100	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8	ND 1.8
2-Nitrophenol		ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85	ND 0.85
4-Nitrophenol		ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67	ND 0.67
2,4-Dinitrophenol	40	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6	ND 6.6
Phenol	2000	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57	ND 0.57
2-Methylphenol	50	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49
2,4,5-Trichlorophenol	700	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77	ND 0.77
Carbazole		ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49	ND 0.49
4-Bromophenyl phenyl ether		ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38	ND 0.38
3,3'-Dichlorobenzidine	30	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6	ND 1.6
Benzaldehyde		ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53
Acetophenone	700	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53	ND 0.53
Caprolactam	4000	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3	ND 3.3
Biphenyl	400	ND 0.46	ND 0.46	ND 0.46	0.56 J 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46	ND 0.46
1,2,4,5-Tetrachlorobenzene		ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44	ND 0.44
Atrazine	3	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76	ND 0.76
2,3,4,6-Tetrachlorophenol	200	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84	ND 0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM															
4,6-Dinitro-o-cresol		ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09	ND 0.09
Benzo(a)anthracene	0.1	0.02 J 0.02	0.02 J 0.02	ND 0.02	0.03 J 0.02	0.03 J 0.02	0.05 J 0.02	0.03 J 0.02	ND 0.02	ND 0.02	0.02 J 0.02	0.04 J 0.02	0.02 J 0.02	0.02 J 0.02	ND 0.02
Benzo(a)pyrene	0.1	ND 0.02	ND 0.02	ND 0.02	ND 0.02	ND 0.02	0.04 J 0.02	ND 0.02	ND 0.02	ND 0.02	ND 0.02	0.02 J 0.02	ND 0.02	ND 0.02	ND 0.02
Benzo(b)fluoranthene	0.2	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	0.09 J 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	0.02 J 0.01	ND 0.01	ND 0.01	ND 0.01
Benzo(k)fluoranthene	0.5	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	0.02 J 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	0.02 J 0.01	ND 0.01	ND 0.01	ND 0.01
Dibenzo(a,h)anthracene	0.3	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	0.04 J 0.01	ND 0.01	ND 0.01	ND 0.01
Indeno(1,2,3-cd)pyrene	0.2	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	0.05 J 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	0.03 J 0.01	ND 0.01	ND 0.01	ND 0.01
Hexachlorobenzene	0.02	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	**0.02 0.01**
Pentachlorophenol	0.3	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01	ND 0.01
Hexachlorobutadiene	1	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05	ND 0.05
1,4-Dioxane	0.4	**0.442 0.0303**	**0.623 0.0303**	**0.59 0.0314**	0.0965 J 0.0303	**0.788 0.0314**	ND 0.0303	ND 0.0303	ND 0.0314	**3.06 0.0326**	0.15 0.0326	ND 0.0314	0.16 0.0339	**37.1 0.0314**	**35.2 0.0339**
SEMIVOLATILE ORGANICS BY GC/MS-TIC															
Total TIC Compounds		124 J 0	35.2 J 0	5.52 J 0	1300 J 0	1140 J 0	23.1 J 0	70.9 J 0	135 J 0	91.3 J 0	47.6 J 0	74.4 J 0	60.9 J 0	1030 J 0	47.9 J 0
TOTAL METALS															
Aluminum, Total	200	71.9 J 32.7	**409 3.27**	**501 3.27**	102 3.27	**870 3.27**	**1580 3.27**	141 3.27	5.34 J 3.27	7.64 J 3.27	ND 16.4	18.9 J 16.4	179 3.27	**296 3.27**	81.4 3.27
Antimony, Total	6	ND 4.29	ND 0.429	ND 0.429	ND 0.429	ND 0.429	2.907 J 0.429	ND 0.429	ND 0.429	ND 0.429	ND 2.145	ND 2.145	ND 0.429	0.8907 J 0.429	0.446 J 0.429
Arsenic, Total	3	**6.7 1.65**	1.129 0.165	0.3704 J 0.165	**5.58 0.165**	1.535 0.165	1.996 0.165	0.4041 J 0.165	1.09 0.165	2.324 0.165	ND 0.825	2.666 0.825	0.8239 0.165	**4.976 0.165**	**3.875 0.165**
Barium, Total	6000	230 1.73	328.8 0.173	452.6 0.173	1541 0.173	150.2 0.173	125 0.173	78.95 0.173	641 0.173	28.63 0.173	79 0.865	116.4 0.865	46.32 0.173	20.09 0.173	125.5 0.173
Beryllium, Total	1	ND 1.07	0.137 J 0.107	0.1506 J 0.107	ND 0.107	ND 0.107	0.1931 J 0.107	0.6155 0.107	ND 0.107	ND 0.107	**1.219 J 0.535**	**3.408 0.535**	ND 0.107	ND 0.107	ND 0.107
Cadmium, Total	4	ND 0.599	ND 0.0599	ND 0.0599	ND 0.0599	ND 0.0599	0.1808 J 0.0599	ND 0.0599	ND 0.0599	ND 0.0599	ND 0.2995	ND 0.2995	ND 0.0599	ND 0.0599	ND 0.0599
Calcium, Total		100000 394	76700 39.4	120000 39.4	46900 39.4	103000 39.4	46000 39.4	51100 39.4	87400 39.4	48900 39.4	902000 197	1470000 197	61800 39.4	31500 39.4	50000 39.4
Chromium, Total	70	2.025 J 1.78	1.528 0.178	2.315 0.178	2.314 0.178	3.065 0.178	4.565 0.178	1.276 0.178	0.8222 J 0.178	0.492 J 0.178	ND 0.89	ND 0.89	2.706 0.178	2.203 0.178	0.4093 J 0.178

Table 7b
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
PSEG- Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SC-1		SC-1D		SC-1DD		SC-2		SC-2D		SC-2DD		SC-2DDD		SC-3		SC-3D		SC-3DD		SC-3DDD		SC-4		SC-4D		SC-4DD	
Lab Sample ID:		L2166830-01		L2166830-04		L2166830-02		L2166830-07		L2166830-03		L2166830-05		L2166830-06		L2166830-11		L2166830-09		L2166830-10		L2167075-04		L2166830-08		L2167075-02		L2167075-03	
Date Sampled:		12/6/2021		12/6/2021		12/6/2021		12/6/2021		12/6/2021		12/6/2021		12/6/2021		12/6/2021		12/6/2021		12/6/2021		12/7/2021		12/6/2021		12/7/2021		12/7/2021	
Matrix:		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Cobalt, Total	100	72.36	1.63	1.861	0.163	1.121	0.163	1.838	0.163	0.9199	0.163	1.308	0.163	16.19	0.163	0.2381 J	0.163	ND	0.163	1.937 J	0.815	3.461	0.815	0.2445 J	0.163	0.1843 J	0.163	0.3932 J	0.163
Copper, Total	1300	ND	3.84	7.764	0.384	3.713	0.384	0.4023 J	0.384	4.662	0.384	45.22	0.384	2.764	0.384	ND	0.384	ND	0.384	ND	1.92	11.67	1.92	1.107	0.384	2.118	0.384	2.526	0.384
Iron, Total	300	**137000**	**191**	**1770**	**19.1**	**5240**	**19.1**	**109000**	**19.1**	**2200**	**19.1**	**16000**	**19.1**	**43900**	**19.1**	**22200**	**19.1**	**2760**	**19.1**	**733000**	**95.5**	**961000**	**95.5**	**12500**	**19.1**	**1640**	**19.1**	**4700**	**19.1**
Lead, Total	5	ND	3.43	1.542	0.343	1.016	0.343	ND	0.343	2.013	0.343	**28.28**	**0.343**	0.423 J	0.343	ND	0.343	ND	0.343	ND	1.715	ND	1.715	1.675	0.343	0.8191 J	0.343	0.3543 J	0.343
Magnesium, Total		263000	242	13700	24.2	18000	24.2	84100	24.2	114000	24.2	8340	24.2	13600	24.2	79400	24.2	122000	24.2	260000	121	321000	121	20900	24.2	105000	24.2	145000	24.2
Manganese, Total	50	**8568**	**4.4**	38.9	0.44	**105.7**	**0.44**	**768.7**	**0.44**	**78.92**	**0.44**	**442**	**0.44**	**990**	**0.44**	**2046**	**0.44**	**111**	**0.44**	**16230**	**2.2**	**20940**	**2.2**	**204.1**	**0.44**	**76.83**	**0.44**	**194.8**	**0.44**
Mercury, Total	2	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	0.121 J	0.0915	0.174 J	0.0915	ND	0.0915	0.17 J	0.0915	0.179 J	0.0915	0.272	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915
Nickel, Total	100	ND	5.56	2.061	0.556	2.328	0.556	ND	0.556	1.467 J	0.556	3.71	0.556	0.7787 J	0.556	ND	0.556	ND	0.556	ND	2.78	ND	2.78	1.406 J	0.556	5.532	0.556	3.713	0.556
Potassium, Total		95600	309	3910	30.9	2140	30.9	54600	30.9	27000	30.9	7350	30.9	5180	30.9	27900	30.9	50000	30.9	54500	154	27900	154	57700	30.9	44400	30.9	48100	30.9
Selenium, Total	40	ND	17.3	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	8.65	ND	8.65	ND	1.73	ND	1.73	ND	1.73
Silver, Total	40	ND	1.63	ND	0.163	ND	0.163	ND	0.163	ND	0.163	0.9367	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.815	ND	0.815	ND	0.163	ND	0.163	ND	0.163
Sodium, Total	50000	**2610000**	**293**	**86400**	**29.3**	43300	29.3	**1330000**	**293**	**865000**	**293**	**182000**	**29.3**	**97100**	**29.3**	**1000000**	**293**	**742000**	**293**	**2490000**	**146**	**2050000**	**146**	**329000**	**29.3**	**853000**	**293**	**1140000**	**293**
Thallium, Total	2	1.727 J	1.43	0.1793 J	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.715	ND	0.715	ND	0.143	0.2295 J	0.143	ND	0.143
Vanadium, Total		ND	15.7	3.393 J	1.57	2.653 J	1.57	6.505	1.57	3.916 J	1.57	4.141 J	1.57	ND	1.57	2.052 J	1.57	ND	1.57	ND	7.85	ND	7.85	ND	1.57	3.286 J	1.57	ND	1.57
Zinc, Total	2000	71.65 J	34.1	11.87	3.41	12.73	3.41	ND	3.41	12.66	3.41	28.76	3.41	8.333 J	3.41	ND	3.41	ND	3.41	55.94	17.05	58.01	17.05	ND	3.41	ND	3.41	11.64	3.41
GENERAL CHEMISTRY																													
Nitrogen, Ammonia	3000	**27700**	**240**	1000	48	107 J	48	**14100**	**48**	**3010**	**48**	322 J	120	128 J	48	**3980**	**24**	**4540**	**24**	656	24	461	24	2930	24	**3090**	**48**	**5820**	**24**

Table 8
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 11a - Administration Building
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AD-1			AD-2			AD-2DD			AD-3			AD-3D			AD-4			AD-5			AD-5D			AD-6			AD-8			AD-9D			AD-9DD			AD-10			AD-1DDD		
Lab Sample ID:		L2167075-09			L2165906-04			L2165906-03			L2167782-02			L2167782-01			L2165906-01			L2165906-07			L2165906-02			L2167075-08			L2166615-02			L2165906-06			L2165906-08			L2165906-05			L2165570-07		
Date Sampled:		12/7/2021			12/1/2021			12/1/2021			12/9/2021			12/9/2021			12/1/2021			12/1/2021			12/1/2021			12/7/2021			12/3/2021			12/1/2021			12/1/2021			12/1/2021			11/30/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS																																											
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		35	ND		0.35	ND		0.35	ND		0.35	ND		8.8	ND		7.1	ND		18	ND		0.35	ND		0.35	ND		0.71	ND		0.35	ND		18	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		19	ND		0.19	ND		0.19	ND		0.19	ND		4.8	ND		3.9	ND		9.6	ND		0.19	ND		0.19	ND		0.39	ND		0.19	ND		9.6	ND		0.19
Methylene chloride	3	ND		0.68	ND		68	ND		0.68	ND		0.68	ND		0.68	ND		17	ND		14	ND		34	ND		0.68	ND		0.68	ND		1.4	ND		0.68	ND		34	ND		0.68
1,1-Dichloroethane	50	ND		0.21	**320**		**21**	6.7		0.21	ND		0.21	16		0.21	ND		5.2	ND		4.2	**360**		**10**	ND		0.21	ND		0.21	5.4		0.42	ND		0.21	14	J	10	ND		0.21
Chloroform	70	ND		0.22	ND		22	ND		0.22	ND		0.22	ND		0.22	ND		5.6	ND		4.4	11	J	11	ND		0.22	ND		0.22	ND		0.44	ND		0.22	ND		11	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		13	ND		0.13	ND		0.13	ND		0.13	ND		3.4	ND		2.7	ND		6.7	ND		0.13	ND		0.13	ND		0.27	ND		0.13	ND		6.7	ND		0.13
1,2-Dichloropropane	1	ND		0.14	**39**	J	**14**	0.42	J	0.14	ND		0.14	ND		0.14	ND		3.4	ND		2.7	**28**	J	**6.8**	ND		0.14	ND		0.14	0.36	J	0.27	ND		0.14	ND		6.8	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		15	ND		0.15	ND		0.15	ND		0.15	ND		3.7	ND		3	ND		7.4	ND		0.15	ND		0.15	ND		0.3	ND		0.15	ND		7.4	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	**15**	J	**14**	ND		0.14	ND		0.14	ND		0.14	ND		3.6	ND		2.9	ND		7.2	ND		0.14	ND		0.14	ND		0.29	ND		0.14	ND		7.2	ND		0.14
Tetrachloroethene	1	ND		0.18	**190**		**18**	**1**		**0.18**	ND		0.18	0.42	J	0.18	ND		4.5	**540**		**3.6**	**100**		**9**	ND		0.18	ND		0.18	**240**		**0.36**	0.46	J	0.18	ND		9	0.25	J	0.18
Chlorobenzene	50	ND		0.18	ND		18	2.2		0.18	ND		0.18	ND		0.18	**2200**		**4.4**	15		3.6	39		8.9	ND		0.18	ND		0.18	22		0.36	1.9		0.18	**6500**		**8.9**	0.32	J	0.18
Trichlorofluoromethane	2000	ND		0.16	ND		16	ND		0.16	ND		0.16	ND		0.16	ND		4	ND		3.2	ND		8	ND		0.16	ND		0.16	ND		0.32	ND		0.16	ND		8	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		13	**2.1**		**0.13**	ND		0.13	ND		0.13	**5.9**	J	**3.3**	ND		2.6	**8.8**	J	**6.6**	ND		0.13	ND		0.13	ND		0.26	ND		0.13	ND		6.6	0.52		0.13
1,1,1-Trichloroethane	30	ND		0.16	**10000**		**16**	ND		0.16	ND		0.16	0.2	J	0.16	ND		4	**690**		**7.9**	ND		0.16	ND		0.16	1.1		0.32	ND		0.16	ND		7.9	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		19	ND		0.19	ND		0.19	ND		0.19	ND		4.8	ND		3.8	ND		9.6	ND		0.19	ND		0.19	ND		0.38	ND		0.19	ND		9.6	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		16	ND		0.16	ND		0.16	ND		0.16	ND		4.1	ND		3.3	ND		8.2	ND		0.16	ND		0.16	ND		0.33	ND		0.16	ND		8.2	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		14	ND		0.14	ND		0.14	ND		0.14	ND		3.6	ND		2.9	ND		7.2	ND		0.14	ND		0.14	ND		0.29	ND		0.14	ND		7.2	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		14	ND		0.14	ND		0.14	ND		0.14	ND		3.6	ND		2.9	ND		7.2	ND		0.14	ND		0.14	ND		0.29	ND		0.14	ND		7.2	ND		0.14
Bromoform	4	ND		0.25	ND		25	ND		0.25	ND		0.25	ND		0.25	ND		6.2	ND		5	ND		12	ND		0.25	ND		0.25	ND		0.5	ND		0.25	ND		12	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		17	ND		0.17	ND		0.17	ND		0.17	ND		4.2	ND		3.3	ND		8.4	ND		0.17	ND		0.17	ND		0.33	ND		0.17	ND		8.4	ND		0.17
Benzene	1	ND		0.08	ND		8	0.34	J	0.08	ND		0.08	0.08	J	0.08	**29**		**2**	ND		1.6	**4.3**	J	**4**	ND		0.08	0.25	J	0.08	0.25	J	0.16	ND		0.08	**56**		**4**	ND		0.08
Toluene	600	ND		0.2	44	J	20	ND		0.2	ND		0.2	ND		0.2	ND		5.1	ND		4.1	ND		10	ND		0.2	ND		0.2	ND		0.41	ND		0.2	500		10	ND		0.2
Ethylbenzene	700	ND		0.17	ND		17	ND		0.17	ND		0.17	ND		0.17	ND		4.2	ND		3.3	ND		8.4	ND		0.17	ND		0.17	3.8		0.33	1.8		0.17	**7500**		**8.4**	ND		0.17
Chloromethane		ND		0.2	ND		20	ND		0.2	ND		0.2	ND		0.2	ND		5	ND		4	ND		10	ND		0.2	ND		0.2	ND		0.4	ND		0.2	ND		10	ND		0.2
Bromomethane	10	ND		0.26	ND		26	ND		0.26	ND		0.26	ND		0.26	ND		6.4	ND		5.1	ND		13	ND		0.26	ND		0.26	ND		0.51	ND		0.26	ND		13	ND		0.26
Vinyl chloride	1	ND		0.07	**34**		**7.1**	0.72		0.07	ND		0.07	0.18	J	0.07	ND		1.8	**13**		**1.4**	**46**		**3.6**	ND		0.07	ND		0.07	**3.2**		**0.14**	ND		0.07	**70**		**3.6**	0.34		0.07
Chloroethane		ND		0.13	ND		13	ND		0.13	ND		0.13	ND		0.13	ND		3.4	ND		2.7	ND		6.7	ND		0.13	ND		0.13	ND		0.27	ND		0.13	ND		6.7	ND		0.13
1,1-Dichloroethene	1	ND		0.17	**8100**		**17**	**19**		**0.17**	ND		0.17	**14**		**0.17**	ND		4.2	**3.8**	J	**3.4**	**4300**		**8.4**	ND		0.17	ND		0.17	**16**		**0.34**	0.27	J	0.17	**48**		**8.4**	0.47	J	0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		16	ND		0.16	ND		0.16	ND		0.16	ND		4.1	11	J	3.3	ND		8.2	ND		0.16	ND		0.16	0.56	J	0.33	ND		0.16	ND		8.2	ND		0.16
Trichloroethene	1	ND		0.18	**61**		**18**	**1.6**		**0.18**	ND		0.18	**6.3**		**0.18**	ND		4.4	**270**		**3.5**	**41**		**8.8**	ND		0.18	ND		0.18	**59**		**0.35**	**1.3**		**0.18**	**10**	J	**8.8**	0.66		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		18	2.5		0.18	ND		0.18	ND		0.18	55	J	4.6	150		3.7	230		9.2	ND		0.18	ND		0.18	100		0.37	3.5		0.18	**2600**		**9.2**	1.9	J	0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		19	ND		0.19	ND		0.19	ND		0.19	98		4.6	ND		3.7	ND		9.3	ND		0.19	ND		0.19	4.2	J	0.37	0.42	J	0.19	**1000**		**9.3**	0.22	J	0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		19	0.46	J	0.19	ND		0.19	ND		0.19	**290**		**4.7**	66		3.7	**82**	J	**9.4**	ND		0.19	ND		0.19	60		0.37	2.8		0.19	**6300**		**9.4**	0.78	J	0.19
Methyl tert butyl ether	70	ND		0.17	ND		17	0.35	J	0.17	ND		0.17	0.93	J	0.17	ND		4.2	ND		3.3	ND		8.3	ND		0.17	ND		0.17	0.43	J	0.33	0.29	J	0.17	ND		8.3	0.23	J	0.17
p/m-Xylene		ND		0.33	ND		33	ND		0.33	ND		0.33	ND		0.33	ND		8.3	ND		6.6	ND		17	ND		0.33	ND		0.33	10		0.66	4.9		0.33	20000		17	ND		0.33
o-Xylene		ND		0.39	ND		39	ND		0.39	ND		0.39	ND		0.39	ND		9.8	ND		7.8	ND		20	ND		0.39	ND		0.39	2.5		0.78	1.1		0.39	4100		20	ND		0.39
Xylenes, Total	1000	ND		0.33	ND		33	ND		0.33	ND		0.33	ND		0.33	ND		8.3	ND		6.6	ND		17	ND		0.33	ND		0.33	13		0.66	6		0.33	**24000**		**17**	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		19	3.6		0.19	ND		0.19	3.7		0.19	ND		4.7	**2100**		**3.7**	15	J	9.4	ND		0.19	ND		0.19	**130**		**0.37**	0.98		0.19	**160**		**9.4**	0.64		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		16	3.6		0.16	ND		0.16	3.7		0.16	ND		4.1	2100	J	3.3	15	J	8.2	ND		0.16	ND		0.16	130	J	0.33	0.98		0.16	160		8.2	0.64		0.16
Styrene	100	ND		0.36	ND		36	ND		0.36	ND		0.36	ND		0.36	ND		9	ND		7.2	ND		18	ND		0.36	ND		0.36	ND		0.72	ND		0.36	ND		18	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		24	ND		0.24	ND		0.24	ND		0.24	ND		6.1	ND		4.9	ND		12	ND		0.24	ND		0.24	ND		0.49	ND		0.24	ND		12	ND		0.24
Acetone	6000	ND		1.5	ND		150	ND		1.5	ND		1.5	ND		1.5	ND		36	ND		29	ND		73	ND		1.5	ND		1.5	ND		2.9	ND		1.5	ND		73	ND		1.5
Carbon disulfide	700	ND		0.3	ND		30	ND		0.3	ND		0.3	ND		0.3	ND		7.5	ND		6	ND		15	ND		0.3	ND		0.3	ND		0.6	ND		0.3	ND		15	ND		0.3
2-Butanone	300	ND		1.9	ND		190	ND		1.9	ND		1.9	ND		1.9	ND		48	ND		39	ND		97	ND		1.9	ND		1.9	ND		3.9	ND		1.9	ND		97	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		42	ND		0.42	ND		0.42	ND		0.42	ND		10	ND		8.3	ND		21	ND		0.42	ND		0.42	ND		0.83	ND		0.42	ND		21	ND		0.42
2-Hexanone	40	ND		0.52	ND		52	ND		0.52	ND		0.52	ND		0.52	ND		13	ND		10	ND		26	ND		0.52	ND		0.52	ND		1	ND		0.52	ND		26	ND		0.52
Bromochloromethane		ND		0.15	ND		15	ND		0.15	ND		0.15	ND		0.15	ND		3.8	ND		3	ND		7.6	ND		0.15	ND		0.15	ND		0.3	ND		0.15	ND		7.6	ND		0.15
Isopropylbenzene	700	ND		0.19	ND		19	ND		0.19	ND		0.19	ND		0.19	ND		4.7	ND		3.7	ND		9.4	ND		0.19	ND		0.19	ND		0.37	ND		0.19	200		9.4	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		23	ND		0.23	ND		0.23	ND		0.23	ND		5.8	16	J	4.7	16	J	12	ND		0.23	ND		0.23	9.2		0.47	ND		0.23	50	J	12	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		22	ND		0.22	ND		0.22	ND		0.22	ND		5.5	**70**		**4.4**	**60**	J	**11**	ND		0.22	ND		0.22	**45**		**0.44**	0.56	J	0.22	**200**		**11**	1.4	J	0.22
Methyl Acetate	7000	ND		0.23	ND		23	ND		0.23	ND		0.23	ND		0.23	ND		5.8	ND		4.7	ND		12	ND		0.23	ND		0.23	ND		0.47	ND		0.23	ND		12	ND		0.23
Cyclohexane		ND		0.27	ND		27	ND		0.27	ND		0.27	ND		0.27	ND		6.8	ND		5.4	ND		14	ND		0.27	ND		0.27	ND		0.54	ND		0.27	ND		14	ND		0.27
Tert-Butyl Alcohol	100	ND		1.4	ND		140	ND		1.4	ND		1.4	ND		1.4	ND		35	ND		28	ND		70	ND		1.4	ND		1.4	ND		2.8	ND		1.4	ND		70	ND		1.4
Methyl cyclohexane		ND		0.4	ND		40	ND		0.4	ND		0.4	ND		0.4	ND		9.9	ND		7.9	ND		20	ND		0.4	ND		0.4	ND		0.79	ND		0.4	ND		20	ND		0.4
Freon-113	20000	ND		0.15	ND		15	ND		0.15	ND		0.15	ND		0.15	ND		3.7	14	J	3	77	J	7.4	ND		0.15	ND		0.15	22		0.3	ND		0.15	12	J	7.4	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																																											
Total TIC Compounds		-		-	ND		0	ND		0	-		-	1.53	J	0	ND		0	ND		0	ND		0	-		-	-		-	ND		0	ND		0	ND		0	-		-
SEMIVOLATILE ORGANICS BY GC/MS																																											
Acenaphthene	400	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		4.4	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	0.48	J	0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		4.8	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		4.4	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		12	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		9.3	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	0.64	J	0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	0.68	J	0.26	ND		2.6	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		4.9	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		5.3	ND		0.53

Table 8
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 11a - Administration Building
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AD-1		AD-2		AD-2DD		AD-3		AD-3D		AD-4		AD-5		AD-5D		AD-6		AD-8		AD-9D		AD-9DD		AD-10		AD-1DDD	
Lab Sample ID:		L2167075-09		L2165906-04		L2165906-03		L2167782-02		L2167782-01		L2165906-01		L2165906-07		L2165906-02		L2167075-08		L2166615-02		L2165906-06		L2165906-08		L2165906-05		L2165570-07	
Date Sampled:		12/7/2021		12/1/2021		12/1/2021		12/9/2021		12/9/2021		12/1/2021		12/1/2021		12/1/2021		12/7/2021		12/3/2021		12/1/2021		12/1/2021		12/1/2021		11/30/2021	
Matrix:		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Bis(2-chloroethoxy)methane		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	5	ND	0.5
Hexachlorocyclopentadiene	40	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	6.9	ND	0.69
Hexachloroethane	7	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	5.8	ND	0.58
Isophorone	40	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	12	ND	1.2
Naphthalene	300	ND	0.46	4.3	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	4.6	ND	0.46
Nitrobenzene	6	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	7.7	ND	0.77
NDPA/DPA	10	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	4.2	ND	0.42
n-Nitrosodi-n-propylamine		ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	6.4	ND	0.64
Bis(2-ethylhexyl)phthalate	3	1.5 J	1.5	ND	1.5	ND	1.5	ND	1.5	ND	1.5	ND	1.5	ND	1.5	ND	1.5	ND	1.5	1.5 J	1.5	ND	1.5	ND	1.5	ND	15	ND	1.5
Butyl benzyl phthalate	100	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	12	ND	1.2
Di-n-butylphthalate	700	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	3.9	ND	0.39
Di-n-octylphthalate	100	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	13	ND	1.3
Diethyl phthalate	6000	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	3.8	ND	0.38
Dimethyl phthalate		ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	18	ND	1.8
Chrysene	5	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	3.4	ND	0.34
Acenaphthylene		ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	4.6	ND	0.46
Anthracene	2000	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	3.3	ND	0.33
Benzo(ghi)perylene		ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	3	ND	0.3
Fluorene	300	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	4.1	ND	0.41
Phenanthrene		ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	3.3	ND	0.33
Pyrene	200	ND	0.28	ND	0.28	0.85 J	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	0.51 J	0.28	ND	2.8	ND	0.28
4-Chloroaniline	30	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	11	ND	1.1
2-Nitroaniline		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	5	ND	0.5
3-Nitroaniline		ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	8.1	ND	0.81
4-Nitroaniline		ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	8	ND	0.8
Dibenzofuran		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	5	ND	0.5
2-Methylnaphthalene	30	ND	0.45	1.6 J	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	4.5	ND	0.45
2,4,6-Trichlorophenol	20	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	6.1	ND	0.61
p-Chloro-m-cresol		ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	3.5	ND	0.35
2-Chlorophenol	40	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	8.5	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	4.8	ND	0.48
2,4-Dichlorophenol	20	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	0.88 J	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	4.1	ND	0.41
2,4-Dimethylphenol	100	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	18	ND	1.8
2-Nitrophenol		ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	8.5	ND	0.85
4-Nitrophenol		ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	6.7	ND	0.67
2,4-Dinitrophenol	40	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	66	ND	6.6
Phenol	2000	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	0.7 J	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	5.7	ND	0.57
2-Methylphenol	50	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	4.9	ND	0.49
2,4,5-Trichlorophenol	700	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	7.7	ND	0.77
Carbazole		ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	4.9	ND	0.49
4-Bromophenyl phenyl ether		ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	3.8	ND	0.38
3,3'-Dichlorobenzidine	30	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	16	ND	1.6
Benzaldehyde		ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	5.3	ND	0.53
Acetophenone	700	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	17 J	5.3	ND	0.53
Caprolactam	4000	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	33	ND	3.3
Biphenyl	400	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	4.6	ND	0.46
1,2,4,5-Tetrachlorobenzene		ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	4.4	ND	0.44
Atrazine	3	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	7.6	ND	0.76
2,3,4,6-Tetrachlorophenol	200	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	8.4	ND	0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																													
4,6-Dinitro-o-cresol		ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09
Benzo(a)anthracene	0.1	0.02 J	0.02	0.03 J	0.02	0.09 J	0.02	0.04 J	0.02	ND	0.02	0.03 J	0.02	0.02 J	0.02	**0.11**	**0.02**	ND	0.02	ND	0.02	0.04 J	0.02	**0.25**	**0.02**	ND	0.02	0.03 J	0.02
Benzo(a)pyrene	0.1	ND	0.02	ND	0.02	**0.14**	**0.02**	0.04 J	0.02	ND	0.02	ND	0.02	ND	0.02	**0.1 J**	**0.02**	ND	0.02	ND	0.02	0.04 J	0.02	**0.44**	**0.02**	ND	0.02	ND	0.02
Benzo(b)fluoranthene	0.2	ND	0.01	ND	0.01	**0.35**	**0.01**	0.1 J	0.01	ND	0.01	ND	0.01	0.02 J	0.01	0.18	0.01	ND	0.01	ND	0.01	0.09 J	0.01	**0.81**	**0.01**	ND	0.01	0.02 J	0.01
Benzo(k)fluoranthene	0.5	ND	0.01	ND	0.01	0.1	0.01	0.02 J	0.01	ND	0.01	ND	0.01	ND	0.01	0.06 J	0.01	ND	0.01	ND	0.01	0.03 J	0.01	0.21	0.01	ND	0.01	ND	0.01
Dibenzo(a,h)anthracene	0.3	ND	0.01	ND	0.01	0.03 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.03 J	0.01	ND	0.01	ND	0.01	0.02 J	0.01	0.08 J	0.01	ND	0.01	ND	0.01
Indeno(1,2,3-cd)pyrene	0.2	ND	0.01	ND	0.01	**0.2**	**0.01**	0.06 J	0.01	ND	0.01	ND	0.01	ND	0.01	0.11	0.01	ND	0.01	ND	0.01	0.07 J	0.01	**0.55**	**0.01**	ND	0.01	ND	0.01
Hexachlorobenzene	0.02	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Pentachlorophenol	0.3	ND	0.01	0.26 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.25 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Hexachlorobutadiene	1	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
1,4-Dioxane	0.4	**48.8**	**0.0314**	**11900**	**3.26**	**44**	**0.0326**	ND	0.0314	**73.3**	**0.0326**	**4.1**	**0.0326**	**0.596**	**0.0314**	**5190**	**3.26**	ND	0.0314	ND	0.0326	**10.8**	**0.0314**	**0.753**	**0.0314**	**160**	**0.0605**	0.337	0.0303
SEMIVOLATILE ORGANICS BY GC/MS-TIC																													
Total TIC Compounds		37.6 J	0	123 J	0	-	-	214 J	0	38.6 J	0	89.1 J	0	206 J	0	59.8 J	0	81.7 J	0	187 J	0	188 J	0	5.67 J	0	776 J	0	8.58 J	0
TOTAL METALS																													
Aluminum, Total	200	12.4	3.27	9.22 J	3.27	51.2	3.27	**10600**	**32.7**	11.2	3.27	112	3.27	20.4	3.27	64.4	3.27	58.3	3.27	**1920**	**3.27**	ND	16.4	25.5	3.27	**204**	**3.27**	14.9	3.27
Antimony, Total	6	ND	0.429	ND	0.429	ND	0.429	ND	4.29	ND	0.429	ND	0.429	ND	0.429	ND	0.429	1.408 J	0.429	0.4289 J	0.429	ND	2.145	0.4451 J	0.429	ND	0.429	0.5813 J	0.429
Arsenic, Total	3	0.4364 J	0.165	**4.99**	**0.165**	1.289	0.165	**3.049 J**	**1.65**	0.406 J	0.165	**36.05**	**0.165**	0.4023 J	0.165	1.323	0.165	1.489	0.165	2.71	0.165	ND	0.825	**4.2**	**0.165**	**14.82**	**0.165**	1.945	0.165
Barium, Total	6000	76.37	0.173	1757	0.173	483.3	0.173	425.7	1.73	199.3	0.173	292.6	0.173	194	0.173	294.9	0.173	169.6	0.173	31.38	0.173	298.6	0.865	292.9	0.173	926	0.173	237.2	0.173
Beryllium, Total	1	ND	0.107	ND	0.107	ND	0.107	**2.306 J**	**1.07**	ND	0.107	ND	0.107	ND	0.107	0.1392 J	0.107	0.1642 J	0.107	ND	0.535	ND	0.107	**1.124**	**0.107**	ND	0.107	ND	0.107
Cadmium, Total	4	0.1783 J	0.0599	ND	0.0599	0.066 J	0.0599	**25.32**	**0.599**	0.0955 J	0.0599	1.026	0.0599	0.1679 J	0.0599	1.008	0.0599	0.515	0.0599	0.1626 J	0.0599	ND	0.2995	ND	0.0599	0.0872 J	0.0599	ND	0.0599
Calcium, Total		106000	39.4	483000	39.4	164000	39.4	36800	394	164000	39.4	103000	39.4	83500	39.4	200000	39.4	54800	39.4	12700	39.4	159000	197	101000	39.4	125000	39.4	75800	39.4

Table 8
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 11a - Administration Building
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	AD-1	AD-2	AD-2DD	AD-3	AD-3D	AD-4	AD-5	AD-5D	AD-6	AD-8	AD-9D	AD-9DD	AD-10	AD-1DDD
Lab Sample ID:		L2167075-09	L2165906-04	L2165906-03	L2167782-02	L2167782-01	L2165906-01	L2165906-07	L2165906-02	L2167075-08	L2166615-02	L2165906-06	L2165906-08	L2165906-05	L2165570-07
Date Sampled:		12/7/2021	12/1/2021	12/1/2021	12/9/2021	12/9/2021	12/1/2021	12/1/2021	12/1/2021	12/7/2021	12/3/2021	12/1/2021	12/1/2021	12/1/2021	11/30/2021
Matrix:		WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Chromium, Total	70	0.2134 J 0.178	0.3007 J 0.178	0.7939 J 0.178	18.28 1.78	0.4078 J 0.178	1.286 0.178	0.7727 J 0.178	0.9868 J 0.178	1.435 0.178	3.597 0.178	ND 0.89	0.5814 J 0.178	1.054 0.178	0.3327 J 0.178
Cobalt, Total	100	0.2262 J 0.163	26.28 0.163	3.151 0.163	24.14 1.63	0.3185 J 0.163	4.794 0.163	0.3964 J 0.163	1.932 0.163	3.988 0.163	2.004 0.163	ND 0.815	2.063 0.163	37.51 0.163	1.802 0.163
Copper, Total	1300	6.01 0.384	5.627 0.384	1.973 0.384	222.5 3.84	1.422 0.384	6.434 0.384	2.728 0.384	1.894 0.384	32.04 0.384	5.903 0.384	3.02 J 1.92	5.378 0.384	6.443 0.384	2.976 0.384
Iron, Total	300	211 19.1	**18600 19.1**	**1620 19.1**	**10000 191**	41.8 J 19.1	**31600 19.1**	63.8 19.1	**1060 19.1**	110 19.1	**2420 19.1**	**318 95.5**	**24300 19.1**	**102000 19.1**	**19700 19.1**
Lead, Total	5	ND 0.343	ND 0.343	ND 0.343	**117.6 3.43**	ND 0.343	1.229 0.343	ND 0.343	1.012 0.343	0.4312 J 0.343	2.585 0.343	ND 1.715	2.626 0.343	0.4433 J 0.343	ND 0.343
Magnesium, Total		13000 24.2	99600 242	25200 24.2	14100 242	35400 24.2	36300 24.2	25000 24.2	32400 24.2	21000 24.2	2620 24.2	45700 121	20500 24.2	51300 242	20500 24.2
Manganese, Total	50	**68.05 0.44**	**24980 4.4**	**276.8 0.44**	**5146 4.4**	**70.36 0.44**	**2934 0.44**	**1408 0.44**	**5371 0.44**	**1278 0.44**	**287.9 0.44**	**1133 2.2**	**786.2 0.44**	**62760 4.4**	**989.8 0.44**
Mercury, Total	2	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.4575	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.0915	ND 0.0915
Nickel, Total	100	3.415 0.556	15.89 0.556	4.07 0.556	64.27 5.56	4.619 0.556	2.314 0.556	3.943 0.556	3.408 0.556	20.98 0.556	4.857 0.556	8.947 J 2.78	3.335 0.556	15.81 0.556	2.305 0.556
Potassium, Total		5740 30.9	1940 30.9	3260 30.9	3060 309	1960 30.9	7400 30.9	1720 30.9	2460 30.9	2640 30.9	1130 30.9	1660 154	3000 30.9	5320 30.9	2990 30.9
Selenium, Total	40	ND 1.73	ND 1.73	ND 1.73	ND 17.3	ND 1.73	ND 1.73	ND 1.73	ND 1.73	ND 1.73	ND 1.73	ND 8.65	ND 1.73	4.08 J 1.73	ND 1.73
Silver, Total	40	ND 0.163	ND 0.163	ND 0.163	ND 1.63	ND 0.163	ND 0.163	ND 0.163	ND 0.163	ND 0.163	ND 0.163	ND 0.815	ND 0.163	ND 0.163	ND 0.163
Sodium, Total	50000	**193000 29.3**	**489000 293**	**121000 29.3**	8020 293	**369000 29.3**	**422000 29.3**	**274000 29.3**	**220000 29.3**	**109000 29.3**	**111000 29.3**	**175000 146**	**60200 29.3**	**529000 293**	**61700 29.3**
Thallium, Total	2	ND 0.143	ND 0.143	ND 0.143	ND 1.43	0.1568 J 0.143	ND 0.143	ND 0.143	ND 0.143	ND 0.143	ND 0.143	ND 0.715	ND 0.143	ND 0.143	ND 0.143
Vanadium, Total		ND 1.57	ND 1.57	ND 1.57	ND 15.7	ND 1.57	1.65 J 1.57	ND 1.57	3.117 J 1.57	ND 1.57	5.815 1.57	ND 7.85	ND 1.57	3.861 J 1.57	ND 1.57
Zinc, Total	2000	78.44 3.41	29.75 3.41	9.842 J 3.41	368.3 34.1	ND 3.41	7.921 J 3.41	29.44 3.41	8.281 J 3.41	73.41 3.41	34.63 3.41	50.36 17.05	52.2 3.41	68.16 3.41	35.58 3.41
GENERAL CHEMISTRY															
Nitrogen, Ammonia	3000	33 J 24	87.5 24	60.4 J 24	335 J 120	94.6 24	**3070 24**	74 J 24	240 24	64.4 J 24	2520 240	48.7 J 24	81.3 24	**4900 24**	82.2 24

Table 9
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 12 - Detention Basin/Smith Creek
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SM-1			PER-2DD			PER-2			PER-2D			PER-3			PER-3D			PER-9			PER-9D			PER-9DD			PER-10			PER-10D		
Lab Sample ID:		L2168383-04			L2166615-05			L2166615-07			L2166615-06			L2167782-04			L2167782-03			L2168151-03			L2168151-02			L2168151-01			L2166200-10			L2166200-11		
Date Sampled:		12/13/2021			12/3/2021			12/3/2021			12/3/2021			12/9/2021			12/9/2021			12/10/2021			12/10/2021			12/10/2021			12/2/2021			12/2/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS																																		
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		1.4	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		0.77	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		2.7	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21	ND		0.84	ND		0.21	ND		0.21	ND		0.21	0.3	J	0.21	ND		0.21	ND		0.21	0.58	J	0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		0.89	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		0.54	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		0.55	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	0.48	J	0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		0.6	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		0.58	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.72	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	0.49	J	0.18	ND		0.18	ND		0.18	ND		0.71	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		0.64	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		0.53	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16	ND		0.63	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		0.77	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.66	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.58	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		0.58	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		0.99	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		0.67	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	1	ND		0.08	ND		0.08	ND		0.08	ND		0.32	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	0.09	J	0.08	ND		0.08
Toluene	600	ND		0.2	ND		0.2	ND		0.2	ND		0.81	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17	ND		0.67	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.8	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	ND		0.26	ND		1	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	0.28	J	0.26	0.26	J	0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		0.28	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.54	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17	ND		0.68	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		0.65	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.7	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	ND		0.18	ND		0.74	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19	ND		0.74	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		0.19	ND		0.19	ND		0.75	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	0.48	J	0.17	23		0.17	ND		0.17	**680**		**0.66**	ND		0.17	55		0.17	ND		0.17	47		0.17	1.7		0.17	ND		0.17	**100**		**0.17**
p/m-Xylene		ND		0.33	ND		0.33	ND		0.33	ND		1.3	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
o-Xylene		ND		0.39	ND		0.39	ND		0.39	ND		1.6	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	ND		0.33	ND		0.33	ND		1.3	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	ND		0.75	ND		0.19	0.2	J	0.19	ND		0.19	0.4	J	0.19	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	ND		0.65	ND		0.16	0.2	J	0.16	ND		0.16	0.4	J	0.16	ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	ND		1.4	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		0.98	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	ND		1.5	ND		1.5	1.6	J	1.5	ND		5.8	ND		1.5	ND		1.5	1.6	J	1.5	ND		1.5	ND		1.5	1.9	J	1.5	ND		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3	ND		1.2	0.43	J	0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		7.8	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		1.7	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		2.1	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.61	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	ND		0.19	ND		0.19	ND		0.19	ND		0.75	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.94	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		0.88	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		0.94	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	ND		0.27	0.33	J	0.27	ND		1.1	ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27	0.66	J	0.27	ND		0.27
Tert-Butyl Alcohol	100	12		1.4	**420**		**1.4**	ND		1.4	61		5.6	8.3	J	1.4	**160**		**1.4**	5.3	J	1.4	**4400**	**E**	**1.4**	20		1.4	2.1	J	1.4	**100**		**1.4**
Methyl cyclohexane		ND		0.4	ND		0.4	ND		0.4	ND		1.6	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4

Table 9
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 12 - Detention Basin/Smith Creek
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SM-1		PER-2DD		PER-2		PER-2D		PER-3		PER-3D		PER-9		PER-9D		PER-9DD		PER-10		PER-10D	
Lab Sample ID:		L2168383-04		L2166615-05		L2166615-07		L2166615-06		L2167782-04		L2167782-03		L2168151-03		L2168151-02		L2168151-01		L2166200-10		L2166200-11	
Date Sampled:		12/13/2021		12/3/2021		12/3/2021		12/3/2021		12/9/2021		12/9/2021		12/10/2021		12/10/2021		12/10/2021		12/2/2021		12/2/2021	
Matrix:		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Freon-113	20000	ND	0.15	ND	0.15	ND	0.15	ND	0.59	ND	0.15	ND	0.15	ND	0.15	ND	0.15	ND	0.15	ND	0.15	ND	0.15
VOLATILE ORGANICS BY GC/MS-TIC																							
Total TIC Compounds		-	-	-	-	1.03 J	0	-	-	2.59 J	0	1.08 J	0	-	-	-	-	-	-	2.82 J	0	3.52 J	0
SEMIVOLATILE ORGANICS BY GC/MS																							
Acenaphthene	400	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44
3-Methylphenol/4-Methylphenol	50	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48
Bis(2-chloroethyl)ether	7	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
2-Chloronaphthalene	600	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44
2,4-Dinitrotoluene	10	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2
2,6-Dinitrotoluene	10	ND	0.93	ND	0.93	ND	0.93	ND	0.93	ND	0.93	ND	0.93	ND	0.93	ND	0.93	ND	0.93	ND	0.93	ND	0.93
Fluoranthene	300	ND	0.26	ND	0.26	ND	0.26	ND	0.26	ND	0.26	ND	0.26	ND	0.26	ND	0.26	ND	0.26	ND	0.26	ND	0.26
4-Chlorophenyl phenyl ether		ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49
Bis(2-chloroisopropyl)ether	300	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53
Bis(2-chloroethoxy)methane		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Hexachlorocyclopentadiene	40	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69	ND	0.69
Hexachloroethane	7	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58	ND	0.58
Isophorone	40	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2
Naphthalene	300	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46
Nitrobenzene	6	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77
NDPA/DPA	10	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42	ND	0.42
n-Nitrosodi-n-propylamine		ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64	ND	0.64
Bis(2-ethylhexyl)phthalate	3	**5**	**1.5**	ND	1.5	ND	1.5	ND	1.5	2.1 J	1.5	ND	1.5	1.5 J	1.5	ND	1.5	ND	1.5	ND	1.5	ND	1.5
Butyl benzyl phthalate	100	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2	ND	1.2
Di-n-butylphthalate	700	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39	ND	0.39
Di-n-octylphthalate	100	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3	ND	1.3
Diethyl phthalate	6000	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38
Dimethyl phthalate		ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8
Chrysene	5	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34	ND	0.34
Acenaphthylene		ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46
Anthracene	2000	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Benzo(ghi)perylene		ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3	ND	0.3
Fluorene	300	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41
Phenanthrene		ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33	ND	0.33
Pyrene	200	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28	ND	0.28
4-Chloroaniline	30	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1	ND	1.1
2-Nitroaniline		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
3-Nitroaniline		ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81	ND	0.81
4-Nitroaniline		ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8	ND	0.8
Dibenzofuran		ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
2-Methylnaphthalene	30	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45	ND	0.45
2,4,6-Trichlorophenol	20	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61	ND	0.61
p-Chloro-m-cresol		ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35	ND	0.35
2-Chlorophenol	40	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48	ND	0.48
2,4-Dichlorophenol	20	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41	ND	0.41
2,4-Dimethylphenol	100	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8	ND	1.8
2-Nitrophenol		ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85	ND	0.85
4-Nitrophenol		ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67	ND	0.67
2,4-Dinitrophenol	40	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6	ND	6.6
Phenol	2000	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57	ND	0.57
2-Methylphenol	50	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49
2,4,5-Trichlorophenol	700	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77	ND	0.77
Carbazole		ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49	ND	0.49
4-Bromophenyl phenyl ether		ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38	ND	0.38
3,3'-Dichlorobenzidine	30	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6	ND	1.6

Table 9
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 12 - Detention Basin/Smith Creek
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	SM-1		PER-2DD		PER-2		PER-2D		PER-3		PER-3D		PER-9		PER-9D		PER-9DD		PER-10		PER-10D	
Lab Sample ID:		L2168383-04		L2166615-05		L2166615-07		L2166615-06		L2167782-04		L2167782-03		L2168151-03		L2168151-02		L2168151-01		L2166200-10		L2166200-11	
Date Sampled:		12/13/2021		12/3/2021		12/3/2021		12/3/2021		12/9/2021		12/9/2021		12/10/2021		12/10/2021		12/10/2021		12/2/2021		12/2/2021	
Matrix:		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Benzaldehyde		ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53
Acetophenone	700	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53	ND	0.53
Caprolactam	4000	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3	ND	3.3
Biphenyl	400	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46	ND	0.46
1,2,4,5-Tetrachlorobenzene		ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44	ND	0.44
Atrazine	3	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76	ND	0.76
2,3,4,6-Tetrachlorophenol	200	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84	ND	0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																							
4,6-Dinitro-o-cresol		ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09	ND	0.09
Benzo(a)anthracene	0.1	**0.11**	**0.02**	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	0.04 J	0.02	ND	0.02	ND	0.02	0.04 J	0.02	ND	0.02
Benzo(a)pyrene	0.1	**0.12**	**0.02**	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02
Benzo(b)fluoranthene	0.2	**0.31**	**0.01**	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.02 J	0.01	ND	0.01	ND	0.01	0.02 J	0.01	ND	0.01
Benzo(k)fluoranthene	0.5	0.08 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.02 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Dibenzo(a,h)anthracene	0.3	0.04 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.02 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Indeno(1,2,3-cd)pyrene	0.2	0.17	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	0.02 J	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Hexachlorobenzene	0.02	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Pentachlorophenol	0.3	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01	ND	0.01
Hexachlorobutadiene	1	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05	ND	0.05
1,4-Dioxane	0.4	ND	0.0326	**0.558**	**0.0303**	ND	0.0314	**1.25**	**0.0303**	0.104 J	0.0326	**2**	**0.0326**	ND	0.0326	**1.5**	**0.0314**	ND	0.0303	ND	0.0314	**14.2**	**0.0314**
SEMIVOLATILE ORGANICS BY GC/MS-TIC																							
Total TIC Compounds		112 J	0	8.32 J	0	68.2 J	0	-	-	122 J	0	210 J	0	26.5 J	0	112 J	0	34.8 J	0	43.4 J	0	400 J	0
TOTAL METALS																							
Aluminum, Total	200	**2230**	**3.27**	**520**	**3.27**	103	3.27	25.5	3.27	46.5	3.27	**208**	**3.27**	147	3.27	**793**	**3.27**	**977**	**3.27**	24	3.27	9.45 J	3.27
Antimony, Total	6	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	ND	0.429	0.4522 J	0.429	ND	0.429	ND	0.429
Arsenic, Total	3	**9.05**	**0.165**	1.159	0.165	0.5774	0.165	0.1856 J	0.165	1.732	0.165	0.3074 J	0.165	1.026	0.165	1.72	0.165	0.3319 J	0.165	0.6336	0.165	0.1766 J	0.165
Barium, Total	6000	92.32	0.173	183.7	0.173	23.24	0.173	176.7	0.173	56.26	0.173	16.3	0.173	18.69	0.173	40.29	0.173	49.85	0.173	65.19	0.173	29.76	0.173
Beryllium, Total	1	0.116 J	0.107	0.2284 J	0.107	ND	0.107	0.1386 J	0.107	ND	0.107	ND	0.107	ND	0.107	ND	0.107	**1.004**	**0.107**	ND	0.107	ND	0.107
Cadmium, Total	4	0.2802	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599	ND	0.0599
Calcium, Total		18400	39.4	54000	39.4	27100	39.4	115000	39.4	41100	39.4	64200	39.4	19800	39.4	134000	39.4	115000	39.4	81300	39.4	57400	39.4
Chromium, Total	70	5.594	0.178	2.761	0.178	1.633	0.178	1.732	0.178	1.156	0.178	1.87	0.178	0.4473 J	0.178	3.113	0.178	5.176	0.178	0.5201 J	0.178	1.599	0.178
Cobalt, Total	100	3.54	0.163	0.7763	0.163	0.5128	0.163	0.2766 J	0.163	0.2561 J	0.163	0.4122 J	0.163	0.2155 J	0.163	1.985	0.163	1.521	0.163	ND	0.163	0.2495 J	0.163
Copper, Total	1300	20.44	0.384	13.39	0.384	6.005	0.384	20.3	0.384	ND	0.384	ND	0.384	1.786	0.384	4.461	0.384	3.764	0.384	1.445	0.384	29.55	0.384
Iron, Total	300	**12000**	**19.1**	**11800**	**19.1**	**6030**	**19.1**	**397**	**19.1**	**10000**	**19.1**	**390**	**19.1**	**2120**	**19.1**	**3360**	**19.1**	**96900**	**19.1**	**719**	**19.1**	76.8	19.1
Lead, Total	5	**13.48**	**0.343**	0.8106 J	0.343	0.5798 J	0.343	ND	0.343	0.409 J	0.343	ND	0.343	0.3521 J	0.343	1.911	0.343	1.559	0.343	ND	0.343	ND	0.343
Magnesium, Total		13900	24.2	10200	24.2	3910	24.2	26000	24.2	54200	24.2	168000	24.2	9020	24.2	48700	24.2	31800	24.2	15300	24.2	156000	24.2
Manganese, Total	50	**252.8**	**0.44**	**284.8**	**0.44**	**810.4**	**0.44**	**96.68**	**0.44**	**1381**	**0.44**	**177**	**0.44**	**194**	**0.44**	**102.8**	**0.44**	**2065**	**0.44**	**190.7**	**0.44**	**473.1**	**0.44**
Mercury, Total	2	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	ND	0.0915	0.167 J	0.0915	ND	0.0915
Nickel, Total	100	12.26	0.556	2.3	0.556	4.228	0.556	3.207	0.556	ND	0.556	ND	0.556	1.004 J	0.556	3.246	0.556	3.265	0.556	0.6573 J	0.556	3.151	0.556
Potassium, Total		9160	30.9	2560	30.9	2540	30.9	1460	30.9	25400	30.9	75700	30.9	4100	30.9	14600	30.9	9090	30.9	2520	30.9	69500	30.9
Selenium, Total	40	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73
Silver, Total	40	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163
Sodium, Total	50000	**101000**	**29.3**	27900	29.3	9300	29.3	**82000**	**29.3**	**509000**	**293**	**1290000**	**586**	**59900**	**29.3**	**298000**	**29.3**	**484000**	**29.3**	41200	29.3	**1300000**	**293**
Thallium, Total	2	ND	0.143	ND	0.143	ND	0.143	0.3815 J	0.143	ND	0.143	ND	0.143	ND	0.143	0.1914 J	0.143	0.3961 J	0.143	ND	0.143	ND	0.143
Vanadium, Total		8.341	1.57	3.28 J	1.57	ND	1.57	ND	1.57	1.865 J	1.57	4.174 J	1.57	ND	1.57	5.302	1.57	4.874 J	1.57	ND	1.57	2.64 J	1.57
Zinc, Total	2000	58.58	3.41	22.97	3.41	10.72	3.41	12.29	3.41	ND	3.41	ND	3.41	ND	3.41	10.08	3.41	32.29	3.41	21	3.41	4.82 J	3.41
GENERAL CHEMISTRY																							
Nitrogen, Ammonia	3000	878	120	94.4	24	593	24	230	24	**3280**	**24**	**12900**	**48**	377	24	**3020**	**24**	185	48	374	24	**18400**	**240**

Table 10
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 14a - First Tankfield
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TM-1			TM-2			TM-3			TM-4			PER-4			PER-5			LPG-1			LPG-2		
Lab Sample ID:		L2167389-02			L2167389-05			L2167389-04			L2167389-03			L2168383-03			L2167075-01			L2168634-02			L2168634-01		
Date Sampled:		12/8/2021			12/8/2021			12/8/2021			12/8/2021			12/13/2021			12/7/2021			12/14/2021			12/14/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																									
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	0.27	J	0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	1	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08	ND		0.08
Toluene	600	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	0.28	J	0.2
Bromomethane	10	0.26	J	0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	0.29	J	0.26	ND		0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	0.38	J	0.17	0.43	J	0.17	1.1		0.17	ND		0.17	1.6		0.17	ND		0.17	ND		0.17	ND		0.17
p/m-Xylene		ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
o-Xylene		ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	1.7	J	1.5	3	J	1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27
Tert-Butyl Alcohol	100	4.5	J	1.4	ND		1.4	2	J	1.4	ND		1.4	20		1.4	ND		1.4	ND		1.4	ND		1.4
Methyl cyclohexane		ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																									
Total TIC Compounds		-		-	-		-	-		-	-		-	-		-	-		-	2.24	J	0	8.36	J	0
SEMIVOLATILE ORGANICS BY GC/MS																									
Acenaphthene	400	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5	2.4	J	1.5	ND		1.5	ND		1.5
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Anthracene	2000	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
Fluorene	300	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
Phenanthrene		ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Pyrene	200	ND		0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28
4-Chloroaniline	30	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Methylnaphthalene	30	ND		0.45	ND		0.45	ND		0.45	ND		0.45	ND		0.45	ND		0.45	ND		0.45	ND		0.45
2,4,6-Trichlorophenol	20	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	40	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
2,4-Dichlorophenol	20	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	100	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	40	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6
Phenol	2000	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57
2-Methylphenol	50	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	700	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
3,3'-Dichlorobenzidine	30	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Acetophenone	700	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Caprolactam	4000	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3
Biphenyl	400	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
Atrazine	3	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	200	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																									
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	0.1	0.03	J	0.02	0.03	J	0.02	0.02	J	0.02	0.02	J	0.02	0.05	J	0.02	0.04	J	0.02	0.03	J	0.02	ND		0.02
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	ND		0.02	ND		0.02	0.02	J	0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	0.01	J	0.01	ND		0.01	ND		0.01	0.01	J	0.01	0.06	J	0.01	0.02	J	0.01	ND		0.01	ND		0.01
Benzo(k)fluoranthene	0.5	ND		0.01	ND		0.01	ND		0.01	0.01	J	0.01	0.02	J	0.01	ND		0.01	ND		0.01	ND		0.01
Dibenzo(a,h)anthracene	0.3	0.01	J	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Indeno(1,2,3-cd)pyrene	0.2	0.01	J	0.01	ND		0.01	ND		0.01	0.01	J	0.01	0.04	J	0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	0.3	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	1	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	0.4	0.056	J	0.0314	0.072	J	0.0314	0.0641	J	0.0326	ND		0.0303	0.0939	J	0.0326	ND		0.0339	ND		0.0326	ND		0.0326
SEMIVOLATILE ORGANICS BY GC/MS-TIC																									
Total TIC Compounds		52.1	J	0	51.2	J	0	7.27	J	0	4.65	J	0	53.1	J	0	305	J	0	19.9	J	0	12.3	J	0
TOTAL METALS																									
Aluminum, Total	200	**291**		**3.27**	47.9		3.27	13.3		3.27	79.4		3.27	**351**		**3.27**	**758**		**3.27**	**228**		**3.27**	**3170**		**32.7**
Antimony, Total	6	ND		0.429	ND		0.429	ND		0.429	ND		0.429	ND		0.429	3.295	J	0.429	ND		0.429	**6.62**	**J**	**4.29**
Arsenic, Total	3	1.196		0.165	**23.81**		**0.165**	**3.223**		**0.165**	1.275		0.165	**30.55**		**0.165**	1.366		0.165	1.572		0.165	**36.67**		**1.65**
Barium, Total	6000	25.62		0.173	58.92		0.173	65.74		0.173	23.64		0.173	349.2		0.173	17.74		0.173	8.983		0.173	1035		1.73
Beryllium, Total	1	0.8272		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107	0.114	J	0.107	ND		0.107	ND		1.07
Cadmium, Total	4	0.5357		0.0599	ND		0.0599	ND		0.0599	ND		0.0599	1.854		0.0599	0.3722		0.0599	1.119		0.0599	**6.936**		**0.599**
Calcium, Total		47300		39.4	44500		39.4	31400		39.4	12800		39.4	33100		39.4	40600		39.4	6120		39.4	57600		394
Chromium, Total	70	0.509	J	0.178	0.7087	J	0.178	1.095		0.178	0.6432	J	0.178	1.316		0.178	2.182		0.178	2.594		0.178	19.33		1.78
Cobalt, Total	100	18.08		0.163	3.124		0.163	0.3712	J	0.163	0.2132	J	0.163	0.409	J	0.163	0.4749	J	0.163	0.7078		0.163	3.733	J	1.63
Copper, Total	1300	4.398		0.384	0.4089	J	0.384	0.668	J	0.384	2.316		0.384	4.019		0.384	53.7		0.384	12.69		0.384	96.9		3.84
Iron, Total	300	**1180**		**19.1**	**56300**		**19.1**	**40600**		**19.1**	**2530**		**19.1**	**16300**		**19.1**	**972**		**19.1**	**1150**		**19.1**	**725000**		**191**
Lead, Total	5	ND		0.343	ND		0.343	ND		0.343	0.6575	J	0.343	3.283		0.343	4.838		0.343	3.821		0.343	**33.1**		**3.43**
Magnesium, Total		23400		24.2	20800		24.2	13600		24.2	4020		24.2	35300		24.2	7390		24.2	2310		24.2	52600		242
Manganese, Total	50	**7549**		**0.44**	**2177**		**0.44**	**3209**		**0.44**	**240.8**		**0.44**	**245.3**		**0.44**	**56.84**		**0.44**	**289**		**0.44**	**1480**		**4.4**
Mercury, Total	2	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.915
Nickel, Total	100	41.54		0.556	2.937		0.556	0.8374	J	0.556	1.114	J	0.556	1.438	J	0.556	6.634		0.556	4.601		0.556	14.45	J	5.56

Table 10
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 14a - First Tankfield
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TM-1		TM-2		TM-3		TM-4		PER-4		PER-5		LPG-1		LPG-2	
Lab Sample ID:		L2167389-02		L2167389-05		L2167389-04		L2167389-03		L2168383-03		L2167075-01		L2168634-02		L2168634-01	
Date Sampled:		12/8/2021		12/8/2021		12/8/2021		12/8/2021		12/13/2021		12/7/2021		12/14/2021		12/14/2021	
Matrix:		WATER		WATER		WATER		WATER		WATER		WATER		WATER		WATER	
Potassium, Total		2350	30.9	5520	30.9	10700	30.9	2720	30.9	20300	30.9	1090	30.9	881	30.9	28300	309
Selenium, Total	40	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	1.73	ND	17.3
Silver, Total	40	ND	0.163	ND	0.163	ND	0.163	ND	0.163	ND	0.163	0.9364	0.163	ND	0.163	ND	1.63
Sodium, Total	50000	**229000**	**29.3**	**56200**	**29.3**	35000	29.3	17800	29.3	**448000**	**29.3**	19500	29.3	8840	29.3	**715000**	**293**
Thallium, Total	2	ND	0.143	ND	0.143	ND	0.143	ND	0.143	ND	0.143	0.8248 J	0.143	ND	0.143	**4.26 J**	**1.43**
Vanadium, Total		ND	1.57	ND	1.57	ND	1.57	ND	1.57	2.383 J	1.57	5.796	1.57	ND	1.57	20.8 J	15.7
Zinc, Total	2000	109.9	3.41	31.66	3.41	25.11	3.41	32.5	3.41	13.97	3.41	40.29	3.41	72.53	3.41	176.8	34.1
GENERAL CHEMISTRY																	
Nitrogen, Ammonia	3000	333	24	1590	24	2490	24	126	24	2660	24	124 J	48	144 J	48	2930	240

Table 11
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 16b - Marine Terminal Loading Area
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TL-1			TL-2			TL-3			PER-7			PER-8		
Lab Sample ID:		L2167782-06			L2167782-07			L2168151-05			L2167782-05			L2167782-08		
Date Sampled:		12/9/2021			12/9/2021			12/10/2021			12/9/2021			12/9/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	ND		0.18	0.8		0.18	25		0.18	ND		0.18	ND		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	1	ND		0.08	**21**		**0.08**	**2.4**		**0.08**	ND		0.08	ND		0.08
Toluene	600	ND		0.2	1.7		0.2	0.95		0.2	ND		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	12		0.17	0.95		0.17	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	0.39	J	0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	0.72	J	0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	0.24	J	0.19	2.4	J	0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	1.8		0.17	0.26	J	0.17	ND		0.17	ND		0.17	ND		0.17
p/m-Xylene		ND		0.33	3.3		0.33	1.3		0.33	ND		0.33	ND		0.33
o-Xylene		ND		0.39	1.5		0.39	0.78	J	0.39	ND		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	4.8		0.33	2.1	J	0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	0.2	J	0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		0.2	J	0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	ND		1.5	ND		1.5	17		1.5	ND		1.5	ND		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	0.61	J	0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	ND		0.19	75		0.19	120		0.19	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		0.28	J	0.27	71		0.27	2	J	0.27	ND		0.27	ND		0.27
Tert-Butyl Alcohol	100	**120**		**1.4**	5.5	J	1.4	ND		1.4	ND		1.4	ND		1.4
Methyl cyclohexane		ND		0.4	38		0.4	1.3	J	0.4	ND		0.4	ND		0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																
Total TIC Compounds		16.3	J	0	3340	J	0	684	J	0	2.93	J	0	2.47	J	0
SEMIVOLATILE ORGANICS BY GC/MS																
Acenaphthene	400	ND		0.44	0.68	J	0.44	2.5		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	0.84	J	0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	32		0.46	1.2	J	0.46	ND		0.46	ND		0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	ND		1.5	1.6	J	1.5	**5.2**		**1.5**	ND		1.5	**17**		**1.5**
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	0.41	J	0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Anthracene	2000	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
Fluorene	300	ND		0.41	0.95	J	0.41	3.1		0.41	ND		0.41	ND		0.41
Phenanthrene		ND		0.33	0.68	J	0.33	1.2	J	0.33	ND		0.33	ND		0.33
Pyrene	200	ND		0.28	ND		0.28	1.4	J	0.28	ND		0.28	ND		0.28
4-Chloroaniline	30	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		ND		0.5	ND		0.5	2		0.5	ND		0.5	ND		0.5
2-Methylnaphthalene	30	ND		0.45	8.3		0.45	ND		0.45	ND		0.45	ND		0.45
2,4,6-Trichlorophenol	20	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	40	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
2,4-Dichlorophenol	20	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	100	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	40	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6

Table 11
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 16b - Marine Terminal Loading Area
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TL-1			TL-2			TL-3			PER-7			PER-8		
Lab Sample ID:		L2167782-06			L2167782-07			L2168151-05			L2167782-05			L2167782-08		
Date Sampled:		12/9/2021			12/9/2021			12/10/2021			12/9/2021			12/9/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
Phenol	2000	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57
2-Methylphenol	50	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	700	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
3,3'-Dichlorobenzidine	30	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Acetophenone	700	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Caprolactam	4000	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3
Biphenyl	400	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
Atrazine	3	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	200	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	0.1	0.03	J	0.02	0.04	J	0.02	**0.37**		**0.02**	0.03	J	0.02	0.04	J	0.02
Benzo(a)pyrene	0.1	ND		0.02	0.02	J	0.02	**0.25**		**0.02**	0.02	J	0.02	0.07	J	0.02
Benzo(b)fluoranthene	0.2	0.02	J	0.01	0.02	J	0.01	**0.36**		**0.01**	0.04	J	0.01	0.16		0.01
Benzo(k)fluoranthene	0.5	ND		0.01	ND		0.01	0.09	J	0.01	0.01	J	0.01	0.05	J	0.01
Dibenzo(a,h)anthracene	0.3	ND		0.01	ND		0.01	0.05	J	0.01	ND		0.01	0.02	J	0.01
Indeno(1,2,3-cd)pyrene	0.2	0.01	J	0.01	ND		0.01	0.17		0.01	0.03	J	0.01	0.09	J	0.01
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	0.3	ND		0.01	0.05	J	0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	1	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	0.4	0.0642	J	0.0303	ND		0.0303	ND		0.0314	ND		0.0303	ND		0.0303
SEMIVOLATILE ORGANICS BY GC/MS-TIC																
Total TIC Compounds		99.1	J	0	1050	J	0	437	J	0	183	J	0	129	J	0
TOTAL METALS																
Aluminum, Total	200	25.2		3.27	24.7		3.27	**11300**		**3.27**	**6660**		**32.7**	167		3.27
Antimony, Total	6	ND		0.429	ND		0.429	ND		0.429	ND		4.29	0.491	J	0.429
Arsenic, Total	3	0.7266		0.165	**7.285**		**0.165**	**22.43**		**0.165**	**9.641**		**1.65**	1.193		0.165
Barium, Total	6000	393.4		0.173	98.76		0.173	163.4		0.173	125.2		1.73	14.29		0.173
Beryllium, Total	1	ND		0.107	ND		0.107	0.9082		0.107	ND		1.07	ND		0.107
Cadmium, Total	4	ND		0.0599	0.2104		0.0599	1.119		0.0599	ND		0.599	0.3007		0.0599
Calcium, Total		185000		39.4	25500		39.4	93700		39.4	2090		394	17100		39.4
Chromium, Total	70	0.3994	J	0.178	ND		0.178	**141.9**		**0.178**	17.5		1.78	0.9643	J	0.178
Cobalt, Total	100	0.9578		0.163	ND		0.163	22.96		0.163	4.578	J	1.63	0.4967	J	0.163
Copper, Total	1300	2.184		0.384	ND		0.384	115.9		0.384	21.08		3.84	7.854		0.384
Iron, Total	300	**59700**		**19.1**	**48700**		**19.1**	**102000**		**19.1**	**17200**		**191**	**620**		**19.1**
Lead, Total	5	0.5477	J	0.343	0.4427	J	0.343	**43.56**		**0.343**	**48.23**		**3.43**	**5.248**		**0.343**
Magnesium, Total		204000		24.2	39000		24.2	89500		24.2	3180		242	2660		24.2
Manganese, Total	50	**1502**		**0.44**	**570.6**		**0.44**	**765.1**		**0.44**	**65.64**		**4.4**	34.1		0.44
Mercury, Total	2	ND		0.0915	ND		0.0915	0.977		0.0915	ND		0.4575	ND		0.0915
Nickel, Total	100	ND		0.556	ND		0.556	95.8		0.556	5.95	J	5.56	3.596		0.556
Potassium, Total		53800		30.9	23500		30.9	33900		30.9	6010		309	1270		30.9
Selenium, Total	40	ND		1.73	ND		1.73	1.98	J	1.73	ND		17.3	ND		1.73
Silver, Total	40	ND		0.163	ND		0.163	0.3243	J	0.163	ND		1.63	ND		0.163
Sodium, Total	50000	**1720000**		**586**	**149000**		**29.3**	**858000**		**293**	42300		293	35200		29.3
Thallium, Total	2	ND		0.143	ND		0.143	0.3275	J	0.143	ND		1.43	ND		0.143
Vanadium, Total		ND		1.57	ND		1.57	41.4		1.57	27.35	J	15.7	2.974	J	1.57
Zinc, Total	2000	46.9		3.41	13.27		3.41	324.6		3.41	74.81	J	34.1	103.4		3.41
GENERAL CHEMISTRY																
Nitrogen, Ammonia	3000	**7320**		**24**	616		24	1060		240	1080		240	87.3		24

Table 12
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 19 - QC Laboratory
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	MW-1			MW-2			MW-3			MW-4			PER-6R		
Lab Sample ID:		L2165570-01			L2165570-02			L2165570-03			L2165570-04			L2165570-05		
Date Sampled:		11/30/2021			11/30/2021			11/30/2021			11/30/2021			11/30/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS																
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	1	0.09	J	0.08	ND		0.08	ND		0.08	**1.1**		**0.08**	ND		0.08
Toluene	600	ND		0.2	ND		0.2	ND		0.2	1.4		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17	3.1		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	ND		0.17	0.2	J	0.17	ND		0.17	0.36	J	0.17	ND		0.17
p/m-Xylene		ND		0.33	ND		0.33	ND		0.33	4.3		0.33	ND		0.33
o-Xylene		ND		0.39	ND		0.39	ND		0.39	1.5		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	ND		0.33	ND		0.33	5.8		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	2.5		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	1.6	J	1.5	ND		1.5	ND		1.5	17		1.5	ND		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	ND		0.19	ND		0.19	ND		0.19	0.82		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	ND		0.27	ND		0.27	0.52	J	0.27	ND		0.27
Tert-Butyl Alcohol	100	ND		1.4	ND		1.4	ND		1.4	4	J	1.4	ND		1.4
Methyl cyclohexane		ND		0.4	ND		0.4	ND		0.4	2.7	J	0.4	ND		0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																
Total TIC Compounds		-		-	-		-	-		-	60.5	J	0	-		-
SEMIVOLATILE ORGANICS BY GC/MS																
Acenaphthene	400	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	ND		1.5	ND		1.5	ND		1.5	ND		1.5	ND		1.5
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Anthracene	2000	ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
Fluorene	300	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
Phenanthrene		ND		0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Pyrene	200	ND		0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28
4-Chloroaniline	30	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Methylnaphthalene	30	ND		0.45	ND		0.45	ND		0.45	ND		0.45	ND		0.45
2,4,6-Trichlorophenol	20	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	40	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
2,4-Dichlorophenol	20	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	100	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	40	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6
Phenol	2000	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57
2-Methylphenol	50	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	700	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38

Table 12
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 19 - QC Laboratory
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	MW-1			MW-2			MW-3			MW-4			PER-6R		
Lab Sample ID:		L2165570-01			L2165570-02			L2165570-03			L2165570-04			L2165570-05		
Date Sampled:		11/30/2021			11/30/2021			11/30/2021			11/30/2021			11/30/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER		
3,3'-Dichlorobenzidine	30	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Acetophenone	700	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Caprolactam	4000	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3
Biphenyl	400	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
Atrazine	3	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	200	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	0.1	0.02	J	0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Benzo(k)fluoranthene	0.5	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Dibenzo(a,h)anthracene	0.3	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Indeno(1,2,3-cd)pyrene	0.2	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	0.3	0.16	J	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	1	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	0.4	0.0532	J	0.0326	0.0561	J	0.0314	ND		0.0314	0.127	J	0.0326	ND		0.0326
SEMIVOLATILE ORGANICS BY GC/MS-TIC																
Total TIC Compounds		5.96	J	0	-		-	-		-	3.23	J	0	1.53	J	0
TOTAL METALS																
Aluminum, Total	200	**776**		**3.27**	13.9		3.27	11.5		3.27	**2410**		**3.27**	**1440**		**3.27**
Antimony, Total	6	2.136	J	0.429	ND		0.429	ND		0.429	0.9265	J	0.429	1.204	J	0.429
Arsenic, Total	3	2.764		0.165	**6.375**		**0.165**	2.415		0.165	2.899		0.165	**3.288**		**0.165**
Barium, Total	6000	30.03		0.173	47.58		0.173	36.05		0.173	23.63		0.173	41.5		0.173
Beryllium, Total	1	ND		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107
Cadmium, Total	4	ND		0.0599	ND		0.0599	0.0747	J	0.0599	ND		0.0599	0.1949	J	0.0599
Calcium, Total		45600		39.4	12300		39.4	11700		39.4	58000		39.4	32300		39.4
Chromium, Total	70	4.625		0.178	0.5181	J	0.178	0.1917	J	0.178	11.92		0.178	3.518		0.178
Cobalt, Total	100	0.7193		0.163	0.8322		0.163	0.7334		0.163	0.3538	J	0.163	1.171		0.163
Copper, Total	1300	8.604		0.384	8.354		0.384	5.354		0.384	1.461		0.384	23.37		0.384
Iron, Total	300	24.2	J	19.1	**1390**		**19.1**	**2940**		**19.1**	256		19.1	**2420**		**19.1**
Lead, Total	5	ND		0.343	ND		0.343	ND		0.343	0.3951	J	0.343	**6.238**		**0.343**
Magnesium, Total		ND		24.2	1670		24.2	4490		24.2	103		24.2	4910		24.2
Manganese, Total	50	1.912		0.44	**472.7**		**0.44**	**1647**		**0.44**	7.266		0.44	**216**		**0.44**
Mercury, Total	2	ND		0.0915	ND		0.0915	ND		0.0915	0.169	J	0.0915	ND		0.0915
Nickel, Total	100	ND		0.556	0.9785	J	0.556	0.8506	J	0.556	9.219		0.556	2.656		0.556
Potassium, Total		16000		30.9	4600		30.9	1550		30.9	27400		30.9	5270		30.9
Selenium, Total	40	1.99	J	1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73
Silver, Total	40	ND		0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.163
Sodium, Total	50000	18600		29.3	**59100**		**29.3**	23600		29.3	36500		29.3	6100		29.3
Thallium, Total	2	ND		0.143	ND		0.143	ND		0.143	ND		0.143	ND		0.143
Vanadium, Total		9.921		1.57	ND		1.57	ND		1.57	4.459	J	1.57	6.776		1.57
Zinc, Total	2000	ND		3.41	48.16		3.41	38		3.41	ND		3.41	27.04		3.41
GENERAL CHEMISTRY																
Nitrogen, Ammonia	3000	26.8	J	24	556		24	894		24	**3760**		**24**	540		120

Table 13
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
TRMU - Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TF-1			TF-3			SM-1		
Lab Sample ID:		L2168383-05			L2168383-01			L2168383-04		
Date Sampled:		12/13/2021			12/13/2021			12/13/2021		
Matrix:		WATER			WATER			WATER		
ANALYTE	**(ug/l)**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**	**Conc**	**Q**	**MDL**
VOLATILE ORGANICS BY GC/MS										
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	0.22	J	0.18	ND		0.18	0.49	J	0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17
Benzene	1	**5.2**		**0.08**	0.22	J	0.08	ND		0.08
Toluene	600	0.3	J	0.2	ND		0.2	ND		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07
Chloroethane		0.3	J	0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	ND		0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	ND		0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	2.7		0.17	3.6		0.17	0.48	J	0.17
p/m-Xylene		0.74	J	0.33	ND		0.33	ND		0.33
o-Xylene		0.45	J	0.39	ND		0.39	ND		0.39
Xylenes, Total	1000	1.2	J	0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	ND		1.5	2.7	J	1.5	ND		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	11		0.19	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		1.5	J	0.27	ND		0.27	ND		0.27
Tert-Butyl Alcohol	100	12		1.4	ND		1.4	12		1.4
Methyl cyclohexane		1.3	J	0.4	ND		0.4	ND		0.4
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC										
Total TIC Compounds		119	J	0	-		-	-		-
SEMIVOLATILE ORGANICS BY GC/MS										
Acenaphthene	400	2.1		0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	ND		0.46	ND		0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	2.1	J	1.5	2	J	1.5	**5**		**1.5**
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46
Anthracene	2000	ND		0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3
Fluorene	300	1.4	J	0.41	ND		0.41	ND		0.41
Phenanthrene		ND		0.33	ND		0.33	ND		0.33
Pyrene	200	ND		0.28	ND		0.28	ND		0.28
4-Chloroaniline	30	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		ND		0.5	ND		0.5	ND		0.5
2-Methylnaphthalene	30	ND		0.45	ND		0.45	ND		0.45
2,4,6-Trichlorophenol	20	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	40	ND		0.48	ND		0.48	ND		0.48
2,4-Dichlorophenol	20	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	100	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	40	ND		6.6	ND		6.6	ND		6.6
Phenol	2000	ND		0.57	ND		0.57	ND		0.57

Table 13
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
TRMU - Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	TF-1			TF-3			SM-1		
Lab Sample ID:		L2168383-05			L2168383-01			L2168383-04		
Date Sampled:		12/13/2021			12/13/2021			12/13/2021		
Matrix:		WATER			WATER			WATER		
2-Methylphenol	50	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	700	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38
3,3'-Dichlorobenzidine	30	ND		1.6	ND		1.6	ND		1.6
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53
Acetophenone	700	ND		0.53	ND		0.53	ND		0.53
Caprolactam	4000	ND		3.3	ND		3.3	ND		3.3
Biphenyl	400	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44
Atrazine	3	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	200	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM										
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	0.1	ND		0.02	0.05	J	0.02	**0.11**		**0.02**
Benzo(a)pyrene	0.1	ND		0.02	ND		0.02	**0.12**		**0.02**
Benzo(b)fluoranthene	0.2	ND		0.01	0.03	J	0.01	**0.31**		**0.01**
Benzo(k)fluoranthene	0.5	ND		0.01	0.01	J	0.01	0.08	J	0.01
Dibenzo(a,h)anthracene	0.3	ND		0.01	ND		0.01	0.04	J	0.01
Indeno(1,2,3-cd)pyrene	0.2	ND		0.01	0.02	J	0.01	0.17		0.01
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	0.3	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	1	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	0.4	0.233		0.0314	0.107	J	0.0326	ND		0.0326
SEMIVOLATILE ORGANICS BY GC/MS-TIC										
Total TIC Compounds		126	J	0	31.2	J	0	112	J	0
TOTAL METALS										
Aluminum, Total	200	19.3		3.27	51.2		3.27	**2230**		**3.27**
Antimony, Total	6	ND		0.429	2.73	J	0.429	ND		0.429
Arsenic, Total	3	**41.29**		**0.165**	**5.626**		**0.165**	**9.05**		**0.165**
Barium, Total	6000	24.99		0.173	20.88		0.173	92.32		0.173
Beryllium, Total	1	ND		0.107	ND		0.107	0.116	J	0.107
Cadmium, Total	4	ND		0.0599	0.0684	J	0.0599	0.2802		0.0599
Calcium, Total		23100		39.4	34900		39.4	18400		39.4
Chromium, Total	70	0.7431	J	0.178	1.241		0.178	5.594		0.178
Cobalt, Total	100	0.1946	J	0.163	0.3556	J	0.163	3.54		0.163
Copper, Total	1300	1.397		0.384	3.739		0.384	20.44		0.384
Iron, Total	300	**19700**		**19.1**	**3320**		**19.1**	**12000**		**19.1**
Lead, Total	5	1.144		0.343	1.756		0.343	**13.48**		**0.343**
Magnesium, Total		5550		24.2	4660		24.2	13900		24.2
Manganese, Total	50	**154.5**		**0.44**	31.67		0.44	**252.8**		**0.44**
Mercury, Total	2	ND		0.0915	ND		0.0915	ND		0.0915
Nickel, Total	100	0.8561	J	0.556	1.48	J	0.556	12.26		0.556
Potassium, Total		4050		30.9	4130		30.9	9160		30.9
Selenium, Total	40	ND		1.73	ND		1.73	ND		1.73
Silver, Total	40	ND		0.163	ND		0.163	ND		0.163
Sodium, Total	50000	47900		29.3	22200		29.3	**101000**		**29.3**
Thallium, Total	2	ND		0.143	ND		0.143	ND		0.143
Vanadium, Total		ND		1.57	9.304		1.57	8.341		1.57
Zinc, Total	2000	26.59		3.41	24.23		3.41	58.58		3.41
GENERAL CHEMISTRY										
Nitrogen, Ammonia	3000	1940		24	523		24	878		120

Table 14
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
SRMU - Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	PL-1RR			PL-2			PL-3R			PL-4RR			PL-6RR			PL-8R				PL-9R			TM-5			TM-6R			TM-7		
Lab Sample ID:		L2166200-01			L2166200-04			L2166200-02			L2166615-09			L2167389-01			L2168383-02				L2166200-03			L2166615-01			L2168151-07			L2168151-06		
Date Sampled:		12/2/2021			12/2/2021			12/2/2021			12/3/2021			12/8/2021			12/13/2021				12/2/2021			12/3/2021			12/10/2021			12/10/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER				WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	RL	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																																
1,2-Dibromo-3-chloropropane	0.02	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		2.5	0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	0.03	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		2	0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	3	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		2.5	0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	50	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.75	0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21
Chloroform	70	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.75	0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	1	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.5	0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		1	0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Dibromochloromethane	1	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.5	0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	3	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.75	0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.5	0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	50	24		0.18	2.5		0.18	1.3		0.18	ND		0.18	ND		0.18	ND		0.5	0.18	ND		0.18	ND		0.18	ND		0.18	1.3		0.18
Trichlorofluoromethane	2000	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		2.5	0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	2	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.5	0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	30	ND		0.16	0.42	J	0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.5	0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	1	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.5	0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.5	0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.5	0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	1	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.5	0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	4	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		2	0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.5	0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	1	**2.5**		**0.08**	0.32	J	0.08	0.51		0.08	ND		0.08	0.22	J	0.08	ND		0.5	0.08	ND		0.08	ND		0.08	**18**		**0.08**	0.2	J	0.08
Toluene	600	ND		0.2	ND		0.2	0.35	J	0.2	ND		0.2	ND		0.2	ND		0.75	0.2	ND		0.2	ND		0.2	0.7	J	0.2	ND		0.2
Ethylbenzene	700	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.5	0.17	ND		0.17	ND		0.17	0.62		0.17	0.23	J	0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		2.5	0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Bromomethane	10	ND		0.26	ND		0.26	0.28	J	0.26	ND		0.26	ND		0.26	0.28	J	1	0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
Vinyl chloride	1	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.2	0.07	ND		0.07	ND		0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.13	0.26	J	0.13	ND		1	0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	1	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.5	0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	100	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.75	0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	1	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.5	0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	600	0.32	J	0.18	0.27	J	0.18	ND		0.18	ND		0.18	ND		0.18	ND		2.5	0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	600	0.96	J	0.19	0.39	J	0.19	ND		0.19	ND		0.19	ND		0.19	ND		2.5	0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	75	2.3	J	0.19	0.86	J	0.19	ND		0.19	ND		0.19	ND		0.19	ND		2.5	0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	70	0.18	J	0.17	2.1		0.17	4.2		0.17	ND		0.17	1.5		0.17	ND		1	0.17	ND		0.17	0.69	J	0.17	0.42	J	0.17	35		0.17
p/m-Xylene		ND		0.33	ND		0.33	1.6		0.33	ND		0.33	ND		0.33	ND		1	0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
o-Xylene		ND		0.39	0.95	J	0.39	0.51	J	0.39	ND		0.39	ND		0.39	ND		1	0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Xylenes, Total	1000	ND		0.33	0.95	J	0.33	2.1	J	0.33	ND		0.33	ND		0.33	ND		1	0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	70	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.5	0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.5	0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Styrene	100	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		1	0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	1000	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		5	0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	6000	4	J	1.5	ND		1.5	2.4	J	1.5	ND		1.5	ND		1.5	ND		5	1.5	1.5	J	1.5	ND		1.5	ND		1.5	6.2		1.5
Carbon disulfide	700	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		5	0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
2-Butanone	300	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		5	1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		5	0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	40	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		5	0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		2.5	0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	700	1.1		0.19	1.4		0.19	1.3		0.19	ND		0.19	0.22	J	0.19	ND		0.5	0.19	ND		0.19	ND		0.19	39		0.19	17		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		2.5	0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	9	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		2.5	0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	7000	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		2	0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		0.65	J	0.27	8.8	J	0.27	2.8	J	0.27	ND		0.27	0.66	J	0.27	ND		10	0.27	ND		0.27	ND		0.27	2.9	J	0.27	11		0.27
Tert-Butyl Alcohol	100	24		1.4	9.1	J	1.4	68		1.4	ND		1.4	38		1.4	1.4	J	10	1.4	ND		1.4	ND		1.4	6.2	J	1.4	**300**		**1.4**
Methyl cyclohexane		1.1	J	0.4	5.3	J	0.4	ND		0.4	ND		0.4	0.44	J	0.4	ND		10	0.4	ND		0.4	ND		0.4	3.3	J	0.4	11		0.4

Table 14
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
SRMU - Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	PL-1RR			PL-2			PL-3R			PL-4RR			PL-6RR			PL-8R			PL-9R			TM-5			TM-6R			TM-7		
Lab Sample ID:		L2166200-01			L2166200-04			L2166200-02			L2166615-09			L2167389-01			L2168383-02			L2166200-03			L2166615-01			L2168151-07			L2168151-06		
Date Sampled:		12/2/2021			12/2/2021			12/2/2021			12/3/2021			12/8/2021			12/13/2021			12/2/2021			12/3/2021			12/10/2021			12/10/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER			WATER		
Freon-113	20000	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND	2.5	0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																															
Total TIC Compounds		35	J	0	83.3	J	0	23.5	J	0	-	-	-	25.5	J	0	-	-	-	-	-	-	-	-	-	362	J	0	191	J	0
SEMIVOLATILE ORGANICS BY GC/MS																															
Acenaphthene	400	1.3	J	0.44	2.1		0.44	ND		0.44	ND		0.44	0.46	J	0.44	ND	2	0.44	ND		0.44	ND		0.44	0.72	J	0.44	0.92	J	0.44
3-Methylphenol/4-Methylphenol	50	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND	5	0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	7	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND	2	0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	600	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND	2	0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	10	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND	5	1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	10	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND	5	0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	300	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND	2	0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND	2	0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	300	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND	2	0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND	5	0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	40	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND	20	0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	7	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND	2	0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58
Isophorone	40	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND	5	1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Naphthalene	300	ND		0.46	0.61	J	0.46	ND		0.46	ND		0.46	ND		0.46	ND	2	0.46	ND		0.46	ND		0.46	ND		0.46	0.7	J	0.46
Nitrobenzene	6	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND	2	0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	10	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND	2	0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND	5	0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	3	1.6	J	1.5	1.6	J	1.5	ND		1.5	ND		1.5	ND		1.5	ND	3	1.5	ND		1.5	ND		1.5	1.8	J	1.5	1.9	J	1.5
Butyl benzyl phthalate	100	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND	5	1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	700	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND	5	0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	100	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND	5	1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	6000	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND	5	0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND	5	1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chrysene	5	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND	2	0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND	2	0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Anthracene	2000	ND		0.33	0.34	J	0.33	ND		0.33	ND		0.33	ND		0.33	ND	2	0.33	ND		0.33	ND		0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND	2	0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
Fluorene	300	1.9	J	0.41	3.1		0.41	ND		0.41	ND		0.41	ND		0.41	ND	2	0.41	ND		0.41	ND		0.41	0.75	J	0.41	1.5	J	0.41
Phenanthrene		0.72	J	0.33	0.72	J	0.33	ND		0.33	ND		0.33	ND		0.33	ND	2	0.33	ND		0.33	ND		0.33	ND		0.33	0.36	J	0.33
Pyrene	200	0.31	J	0.28	0.4	J	0.28	ND		0.28	ND		0.28	ND		0.28	ND	2	0.28	ND		0.28	ND		0.28	ND		0.28	ND		0.28
4-Chloroaniline	30	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND	5	1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND	5	0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND	5	0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND	5	0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		0.57	J	0.5	0.53	J	0.5	ND		0.5	ND		0.5	ND		0.5	ND	2	0.5	ND		0.5	ND		0.5	ND		0.5	0.59	J	0.5
2-Methylnaphthalene	30	ND		0.45	2.6		0.45	ND		0.45	ND		0.45	ND		0.45	ND	2	0.45	ND		0.45	ND		0.45	ND		0.45	1.4	J	0.45
2,4,6-Trichlorophenol	20	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND	5	0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND	2	0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	40	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND	2	0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
2,4-Dichlorophenol	20	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND	5	0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	100	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND	5	1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND	10	0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND	10	0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	40	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND	20	6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6
Phenol	2000	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND	5	0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57
2-Methylphenol	50	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND	5	0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	700	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND	5	0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND	2	0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND	2	0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
3,3'-Dichlorobenzidine	30	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND	5	1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6

Table 14
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
SRMU - Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	PL-1RR			PL-2			PL-3R			PL-4RR			PL-6RR			PL-8R				PL-9R			TM-5			TM-6R			TM-7		
Lab Sample ID:		L2166200-01			L2166200-04			L2166200-02			L2166615-09			L2167389-01			L2168383-02				L2166200-03			L2166615-01			L2168151-07			L2168151-06		
Date Sampled:		12/2/2021			12/2/2021			12/2/2021			12/3/2021			12/8/2021			12/13/2021				12/2/2021			12/3/2021			12/10/2021			12/10/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER				WATER			WATER			WATER			WATER		
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		5	0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Acetophenone	700	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		5	0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Caprolactam	4000	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		10	3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3
Biphenyl	400	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		2	0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		10	0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
Atrazine	3	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		3	0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	200	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		5	0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																																
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.7	0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	0.1	0.06	J	0.02	**0.12**		**0.02**	0.05	J	0.02	ND		0.02	0.04	J	0.02	0.05	J	0.1	0.02	0.03	J	0.02	ND		0.02	0.02	J	0.02	ND		0.02
Benzo(a)pyrene	0.1	0.03	J	0.02	0.06	J	0.02	0.04	J	0.02	ND		0.02	0.02	J	0.02	ND		0.1	0.02	ND		0.02	ND		0.02	ND		0.02	ND		0.02
Benzo(b)fluoranthene	0.2	0.03	J	0.01	0.07	J	0.01	0.1		0.01	ND		0.01	0.02	J	0.01	0.03	J	0.1	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Benzo(k)fluoranthene	0.5	0.01	J	0.01	0.02	J	0.01	0.03	J	0.01	ND		0.01	ND		0.01	0.01	J	0.1	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Dibenzo(a,h)anthracene	0.3	ND		0.01	ND		0.01	0.02	J	0.01	ND		0.01	ND		0.01	ND		0.1	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Indeno(1,2,3-cd)pyrene	0.2	0.02	J	0.01	0.03	J	0.01	0.09	J	0.01	ND		0.01	ND		0.01	0.02	J	0.1	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobenzene	0.02	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.02	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	0.3	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.3	0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	1	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		1	0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	0.4	0.126	J	0.0326	0.156		0.0314	**2.42**		**0.0339**	0.13	J	0.0326	**0.477**		**0.0326**	ND		0.144	0.0326	0.0628	J	0.0326	0.205		0.0326	ND		0.0314	0.396		0.0314
SEMIVOLATILE ORGANICS BY GC/MS-TIC																																
Total TIC Compounds		83.6	J	0	108	J	0	118	J	0	13.4	J	0	56.5	J	0	70	J	0	0	13.1	J	0	26.2	J	0	224	J	0	240	J	0
TOTAL METALS																																
Aluminum, Total	200	10.8		3.27	**318**		**3.27**	16.8		3.27	104		3.27	**489**		**3.27**	171		10	3.27	18.1		3.27	57.8		3.27	22.9		3.27	6.06	J	3.27
Antimony, Total	6	0.8109	J	0.429	ND		0.429	ND		0.429	1.908	J	0.429	0.6505	J	0.429	ND		4	0.429	ND		0.429	ND		0.429	ND		0.429	ND		0.429
Arsenic, Total	3	**3.289**		**0.165**	**4.949**		**0.165**	2.396		0.165	**7.698**		**0.165**	**5.695**		**0.165**	**3.613**		**0.5**	**0.165**	1.666		0.165	0.8375		0.165	2.008		0.165	**8.241**		**0.165**
Barium, Total	6000	116.5		0.173	24.47		0.173	110.3		0.173	11.03		0.173	111		0.173	26.41		0.5	0.173	34.02		0.173	7.535		0.173	93.51		0.173	68.31		0.173
Beryllium, Total	1	ND		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.5	0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107
Cadmium, Total	4	0.0884	J	0.0599	ND		0.0599	ND		0.0599	ND		0.0599	ND		0.0599	ND		0.2	0.0599	ND		0.0599	ND		0.0599	ND		0.0599	ND		0.0599
Calcium, Total		71000		39.4	4490		39.4	35300		39.4	25900		39.4	40400		39.4	57300		100	39.4	53600		39.4	8520		39.4	39300		39.4	61400		39.4
Chromium, Total	70	0.9953	J	0.178	2.848		0.178	1.511		0.178	3.002		0.178	2.731		0.178	3.075		1	0.178	0.4497	J	0.178	0.7975	J	0.178	2.271		0.178	1.68		0.178
Cobalt, Total	100	0.2905	J	0.163	0.2534	J	0.163	0.3724	J	0.163	0.1712	J	0.163	0.7511		0.163	0.3761	J	0.5	0.163	0.3116	J	0.163	0.2595	J	0.163	0.22	J	0.163	2.226		0.163
Copper, Total	1300	2.991		0.384	2.759		0.384	2.825		0.384	5.185		0.384	5.924		0.384	5.381		1	0.384	0.9962	J	0.384	2.696		0.384	0.9679	J	0.384	1.33		0.384
Iron, Total	300	**6610**		**19.1**	**19200**		**19.1**	**9760**		**19.1**	269		19.1	**25300**		**19.1**	**1930**		**50**	**19.1**	**5820**		**19.1**	99.6		19.1	**31300**		**19.1**	**11600**		**19.1**
Lead, Total	5	0.3965	J	0.343	0.9656	J	0.343	ND		0.343	0.9694	J	0.343	2.092		0.343	2.753		1	0.343	0.4011	J	0.343	0.4976	J	0.343	0.6428	J	0.343	ND		0.343
Magnesium, Total		21000		24.2	7050		24.2	84900		24.2	5290		24.2	33400		24.2	6630		70	24.2	12600		24.2	6480		24.2	7600		24.2	20300		24.2
Manganese, Total	50	**468.9**		**0.44**	22.34		0.44	**123.8**		**0.44**	22.39		0.44	**581.2**		**0.44**	**52.98**		**1**	**0.44**	**323**		**0.44**	**319.4**		**0.44**	**1194**		**0.44**	**5623**		**0.44**
Mercury, Total	2	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.2	0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915
Nickel, Total	100	1.544	J	0.556	ND		0.556	1.357	J	0.556	1.058	J	0.556	1.596	J	0.556	2.471		2	0.556	1.558	J	0.556	2.531		0.556	1.863	J	0.556	3.838		0.556
Potassium, Total		8790		30.9	8300		30.9	34000		30.9	6820		30.9	22800		30.9	5160		100	30.9	1620		30.9	1950		30.9	8430		30.9	633		30.9
Selenium, Total	40	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		5	1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73
Silver, Total	40	ND		0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.4	0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.163
Sodium, Total	50000	**158000**		**29.3**	**261000**		**29.3**	**1200000**		**293**	**78100**		**29.3**	**486000**		**29.3**	23700		100	29.3	42600		29.3	**279000**		**29.3**	29500		29.3	**105000**		**29.3**
Thallium, Total	2	ND		0.143	ND		0.143	ND		0.143	ND		0.143	0.386	J	0.143	ND		1	0.143	0.179	J	0.143	ND		0.143	ND		0.143	ND		0.143
Vanadium, Total		2.471	J	1.57	3.827	J	1.57	ND		1.57	7.703		1.57	2.96	J	1.57	ND		5	1.57	ND		1.57	ND		1.57	ND		1.57	ND		1.57
Zinc, Total	2000	4.463	J	3.41	7.575	J	3.41	4.134	J	3.41	18.27		3.41	14.19		3.41	15.65		10	3.41	5.008	J	3.41	24.15		3.41	24.93		3.41	15.99		3.41
GENERAL CHEMISTRY																																
Nitrogen, Ammonia	3000	989		24	**3720**		**48**	**9120**		**24**	201		24	**5100**		**24**	168		75	24	237		24	240		24	**3420**		**24**	179		24

Table 15
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 103 - Former Fire Pit Area
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	FA-1			FA-2			FA-3			FA-4			FA-6			FA-7		
Lab Sample ID:		L2167389-08			L2167075-10			L2167075-11			L2167389-09			L2167389-10			L2167389-11		
Date Sampled:		12/8/2021			12/7/2021			12/7/2021			12/8/2021			12/8/2021			12/8/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
ANALYTE	(ug/l)	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL	Conc	Q	MDL
VOLATILE ORGANICS BY GC/MS																			
1,2-Dibromo-3-chloropropane	**0.02**	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
1,2-Dibromoethane	**0.03**	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
Methylene chloride	**3**	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68	ND		0.68
1,1-Dichloroethane	**50**	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21	ND		0.21
Chloroform	**70**	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Carbon tetrachloride	**1**	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,2-Dichloropropane	**1**	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Dibromochloromethane	**1**	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
1,1,2-Trichloroethane	**3**	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Tetrachloroethene	**1**	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
Chlorobenzene	**50**	ND		0.18	ND		0.18	ND		0.18	3.5		0.18	2.3		0.18	ND		0.18
Trichlorofluoromethane	**2000**	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
1,2-Dichloroethane	**2**	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1,1-Trichloroethane	**30**	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Bromodichloromethane	**1**	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
trans-1,3-Dichloropropene		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
cis-1,3-Dichloropropene		ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
1,3-Dichloropropene, Total	**1**	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14	ND		0.14
Bromoform	**4**	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25	ND		0.25
1,1,2,2-Tetrachloroethane	**1**	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Benzene	**1**	ND		0.08	ND		0.08	0.23	J	0.08	0.29	J	0.08	ND		0.08	ND		0.08
Toluene	**600**	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Ethylbenzene	**700**	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
Chloromethane		ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2	ND		0.2
Bromomethane	**10**	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26	ND		0.26
Vinyl chloride	**1**	ND		0.07	ND		0.07	ND		0.07	0.14	J	0.07	ND		0.07	ND		0.07
Chloroethane		ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13	ND		0.13
1,1-Dichloroethene	**1**	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
trans-1,2-Dichloroethene	**100**	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Trichloroethene	**1**	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18	ND		0.18
1,2-Dichlorobenzene	**600**	ND		0.18	ND		0.18	0.21	J	0.18	0.42	J	0.18	ND		0.18	ND		0.18
1,3-Dichlorobenzene	**600**	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,4-Dichlorobenzene	**75**	ND		0.19	ND		0.19	0.82	J	0.19	0.31	J	0.19	ND		0.19	ND		0.19
Methyl tert butyl ether	**70**	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17	ND		0.17
p/m-Xylene		ND		0.33	ND		0.33	ND		0.33	0.42	J	0.33	ND		0.33	ND		0.33
o-Xylene		ND		0.39	ND		0.39	ND		0.39	2.1		0.39	ND		0.39	ND		0.39
Xylenes, Total	**1000**	ND		0.33	ND		0.33	ND		0.33	2.5	J	0.33	ND		0.33	ND		0.33
cis-1,2-Dichloroethene	**70**	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19	ND		0.19
1,2-Dichloroethene, Total		ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16	ND		0.16
Styrene	**100**	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36	ND		0.36
Dichlorodifluoromethane	**1000**	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24	ND		0.24
Acetone	**6000**	ND		1.5	ND		1.5	8.4		1.5	ND		1.5	1.7	J	1.5	ND		1.5
Carbon disulfide	**700**	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
2-Butanone	**300**	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9	ND		1.9
4-Methyl-2-pentanone		ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
2-Hexanone	**40**	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52	ND		0.52
Bromochloromethane		ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
Isopropylbenzene	**700**	ND		0.19	ND		0.19	0.47	J	0.19	ND		0.19	ND		0.19	ND		0.19
1,2,3-Trichlorobenzene		ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
1,2,4-Trichlorobenzene	**9**	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22	ND		0.22
Methyl Acetate	**7000**	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23	ND		0.23
Cyclohexane		ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27	ND		0.27
Tert-Butyl Alcohol	**100**	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Methyl cyclohexane		ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4	ND		0.4
Freon-113	**20000**	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15	ND		0.15
VOLATILE ORGANICS BY GC/MS-TIC																			
Total TIC Compounds		-		-	-		-	47.1	J	0	29.3	J	0	7.09	J	0	-	-	-
SEMIVOLATILE ORGANICS BY GC/MS																			
Acenaphthene	**400**	ND		0.44	1.1	J	0.44	2.3		0.44	1.7	J	0.44	ND		0.44	ND		0.44
3-Methylphenol/4-Methylphenol	**50**	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48
Bis(2-chloroethyl)ether	**7**	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
2-Chloronaphthalene	**600**	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
2,4-Dinitrotoluene	**10**	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
2,6-Dinitrotoluene	**10**	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93	ND		0.93
Fluoranthene	**300**	ND		0.26	1.5	J	0.26	ND		0.26	0.51	J	0.26	ND		0.26	ND		0.26
4-Chlorophenyl phenyl ether		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
Bis(2-chloroisopropyl)ether	**300**	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Bis(2-chloroethoxy)methane		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
Hexachlorocyclopentadiene	**40**	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69	ND		0.69
Hexachloroethane	**7**	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58	ND		0.58
Isophorone	**40**	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Naphthalene	**300**	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Nitrobenzene	**6**	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
NDPA/DPA	**10**	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42	ND		0.42
n-Nitrosodi-n-propylamine		ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64	ND		0.64
Bis(2-ethylhexyl)phthalate	**3**	ND		1.5	**3**		**1.5**	2.8	J	1.5	ND		1.5	ND		1.5	ND		1.5
Butyl benzyl phthalate	**100**	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
Di-n-butylphthalate	**700**	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39	ND		0.39
Di-n-octylphthalate	**100**	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3	ND		1.3
Diethyl phthalate	**6000**	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
Dimethyl phthalate		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chrysene	**5**	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34	ND		0.34
Acenaphthylene		ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
Anthracene	**2000**	ND		0.33	ND		0.33	ND		0.33	0.6	J	0.33	ND		0.33	ND		0.33
Benzo(ghi)perylene		ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3	ND		0.3
Fluorene	**300**	ND		0.41	ND		0.41	3.7		0.41	5.1		0.41	ND		0.41	ND		0.41
Phenanthrene		ND		0.33	ND		0.33	ND		0.33	1.6	J	0.33	ND		0.33	ND		0.33
Pyrene	**200**	ND		0.28	0.67	J	0.28	ND		0.28	0.52	J	0.28	ND		0.28	ND		0.28
4-Chloroaniline	**30**	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1	ND		1.1
2-Nitroaniline		ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5	ND		0.5
3-Nitroaniline		ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81	ND		0.81
4-Nitroaniline		ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8	ND		0.8
Dibenzofuran		ND		0.5	ND		0.5	ND		0.5	0.61	J	0.5	ND		0.5	ND		0.5
2-Methylnaphthalene	**30**	ND		0.45	ND		0.45	1.6	J	0.45	ND		0.45	ND		0.45	ND		0.45
2,4,6-Trichlorophenol	**20**	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61	ND		0.61
p-Chloro-m-cresol		ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35	ND		0.35
2-Chlorophenol	**40**	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48	ND		0.48

Table 15
Hess Corporation Former Port Reading Complex
750 Cliff Road, Port Reading NJ
AOC 103 - Former Fire Pit Area
Groundwater Analytical Results

Client Sample ID:	NJ Groundwater Criteria (NJAC 7:9C 9/4/18)	FA-1			FA-2			FA-3			FA-4			FA-6			FA-7		
Lab Sample ID:		L2167389-08			L2167075-10			L2167075-11			L2167389-09			L2167389-10			L2167389-11		
Date Sampled:		12/8/2021			12/7/2021			12/7/2021			12/8/2021			12/8/2021			12/8/2021		
Matrix:		WATER			WATER			WATER			WATER			WATER			WATER		
2,4-Dichlorophenol	**20**	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41	ND		0.41
2,4-Dimethylphenol	**100**	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
2-Nitrophenol		ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85	ND		0.85
4-Nitrophenol		ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67	ND		0.67
2,4-Dinitrophenol	**40**	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6	ND		6.6
Phenol	**2000**	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57	ND		0.57
2-Methylphenol	**50**	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
2,4,5-Trichlorophenol	**700**	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77	ND		0.77
Carbazole		ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49	ND		0.49
4-Bromophenyl phenyl ether		ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38	ND		0.38
3,3'-Dichlorobenzidine	**30**	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6	ND		1.6
Benzaldehyde		ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53	ND		0.53
Acetophenone	**700**	ND		0.53	ND		0.53	0.8	J	0.53	ND		0.53	ND		0.53	ND		0.53
Caprolactam	**4000**	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3	ND		3.3
Biphenyl	**400**	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46	ND		0.46
1,2,4,5-Tetrachlorobenzene		ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44	ND		0.44
Atrazine	**3**	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76	ND		0.76
2,3,4,6-Tetrachlorophenol	**200**	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84	ND		0.84
SEMIVOLATILE ORGANICS BY GC/MS-SIM																			
4,6-Dinitro-o-cresol		ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09	ND		0.09
Benzo(a)anthracene	**0.1**	0.04	J	0.02	0.09	J	0.02	**0.11**		**0.02**	**0.11**		**0.02**	0.05	J	0.02	0.02	J	0.02
Benzo(a)pyrene	**0.1**	ND		0.02	0.07	J	0.02	0.02	J	0.02	**0.12**		**0.02**	0.02	J	0.02	ND		0.02
Benzo(b)fluoranthene	**0.2**	ND		0.01	0.12		0.01	0.04	J	0.01	**0.32**		**0.01**	0.04	J	0.01	ND		0.01
Benzo(k)fluoranthene	**0.5**	ND		0.01	0.04	J	0.01	ND		0.01	0.08	J	0.01	0.02	J	0.01	ND		0.01
Dibenzo(a,h)anthracene	**0.3**	ND		0.01	ND		0.01	ND		0.01	0.02	J	0.01	ND		0.01	ND		0.01
Indeno(1,2,3-cd)pyrene	**0.2**	ND		0.01	0.08	J	0.01	0.02	J	0.01	0.13		0.01	0.03	J	0.01	ND		0.01
Hexachlorobenzene	**0.02**	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Pentachlorophenol	**0.3**	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01	ND		0.01
Hexachlorobutadiene	**1**	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05	ND		0.05
1,4-Dioxane	**0.4**	ND		0.0314	ND		0.0326	ND		0.0314	0.216		0.0314	ND		0.0314	ND		0.0314
SEMIVOLATILE ORGANICS BY GC/MS-TIC																			
Total TIC Compounds		10.5	J	0	409	J	0	339	J	0	67.4	J	0	256	J	0	47.2	J	0
TOTAL METALS																			
Aluminum, Total	**200**	55.4		3.27	140		3.27	25		3.27	47.5		3.27	50.2		3.27	**2450**		**3.27**
Antimony, Total	**6**	ND		0.429	ND		0.429	ND		0.429	ND		0.429	ND		0.429	0.6438	J	0.429
Arsenic, Total	**3**	**3.229**		**0.165**	**137.5**		**0.165**	**45.58**		**0.165**	**36.42**		**0.165**	**47.14**		**0.165**	**9.329**		**0.165**
Barium, Total	**6000**	74.91		0.173	208		0.173	121.7		0.173	100.8		0.173	410		0.173	68.64		0.173
Beryllium, Total	**1**	ND		0.107	ND		0.107	ND		0.107	ND		0.107	ND		0.107	0.2124	J	0.107
Cadmium, Total	**4**	0.1747	J	0.0599	0.1237	J	0.0599	ND		0.0599	ND		0.0599	ND		0.0599	ND		0.0599
Calcium, Total		8780		39.4	11100		39.4	27000		39.4	29900		39.4	16400		39.4	3280		39.4
Chromium, Total	**70**	1.121		0.178	2.746		0.178	0.4791	J	0.178	10.94		0.178	1.474		0.178	7.486		0.178
Cobalt, Total	**100**	2.08		0.163	1.663		0.163	ND		0.163	0.4941	J	0.163	0.2484	J	0.163	2.886		0.163
Copper, Total	**1300**	6.038		0.384	9.4		0.384	1.397		0.384	4.203		0.384	4.635		0.384	18.39		0.384
Iron, Total	**300**	**1440**		**19.1**	**17000**		**19.1**	**37800**		**19.1**	**39600**		**19.1**	**54800**		**19.1**	**16000**		**19.1**
Lead, Total	**5**	0.666	J	0.343	1.811		0.343	ND		0.343	2.331		0.343	0.4903	J	0.343	**21.84**		**0.343**
Magnesium, Total		2510		24.2	3980		24.2	6610		24.2	10900		24.2	16600		24.2	2170		24.2
Manganese, Total	**50**	**78.58**		**0.44**	**479.7**		**0.44**	**202**		**0.44**	**172**		**0.44**	**502.4**		**0.44**	**96.64**		**0.44**
Mercury, Total	**2**	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	ND		0.0915	0.141	J	0.0915
Nickel, Total	**100**	5.018		0.556	1.873	J	0.556	ND		0.556	1.204	J	0.556	0.6235	J	0.556	6.657		0.556
Potassium, Total		3220		30.9	4320		30.9	6140		30.9	15400		30.9	35200		30.9	2530		30.9
Selenium, Total	**40**	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73	ND		1.73
Silver, Total	**40**	ND		0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.163	ND		0.163
Sodium, Total	**50000**	28300		29.3	30100		29.3	31300		29.3	**292000**		**29.3**	40100		29.3	13500		29.3
Thallium, Total	**2**	0.2888	J	0.143	ND		0.143	ND		0.143	0.202	J	0.143	ND		0.143	ND		0.143
Vanadium, Total		ND		1.57	2.038	J	1.57	ND		1.57	6.152		1.57	1.688	J	1.57	11.29		1.57
Zinc, Total	**2000**	66.72		3.41	25.39		3.41	31.84		3.41	23.14		3.41	23.3		3.41	79.59		3.41
GENERAL CHEMISTRY																			
Nitrogen, Ammonia	**3000**	310		24	479		48	2180		24	**6860**		**120**	1570		24	433		120

Appendix A

EPA NJDEP Hess Meeting

October 1, 2021

9:00am – Microsoft Teams/In Person

Attendees:
NJDEP – Julia Galayda, Gwen Zervas
EPA – Sameh Abdellatif, Andy Park, Adolph Everett
Hess – Brian Epperson, John Schenkewitz
Earth Systems – Amy Blake, John Virgie, Rick Ofsanko

Agenda

- Current Schedule
  - Communication Rhythm
    - Bi-weekly
    - Quarterly Meetings
    - "After-submittal" conference calls
  - Submissions
    - Electronic
    - Hardcopy (maps / tables)
  - Deliverables
    - DEP/EPA Comments to current deliverables
      - All Quarterly / Semi Annual Reports and Comment Letters
        - EPA/DEP Comment letter imminent
      - Schedule of deliverables
        - To be determined post "AT Risk" conversation
      - Conceptual Site Model - March 29, 2021
      - Truck Loading Rack - May 14, 2021
      - VI sampling plan results for the Admin Building – April 28, 2021
      - Tank Field AOCs Workplan - May 10, 2021
      - Former Refining Area - May 20, 2021
      - Marine Loading Dock RIW - July 14, 2021
      - Smith Creek Workplan - July 30, 3021
      - Well Manual RTC with revised Well Manual Summary Table and all attachments (uploaded 1/7/21) - comments received 5/6/21. Response uploaded August 11, 2021
      - Landfarm Closure and Post Closure Sampling Plans. Landfarm No .1 sampling plan - August 25, 2021.
  - Hess Submittals
    - Hess Submittals
      - Administration building investigation
      - All other AOC investigations
      - Other Landfarm Post Closure Sampling Plans
      - The Third Tankfield stone replacement

- No 1. Landfarm capping status
- Solar Field Area Work plan response to comments
- "At Risk" discussion
- Any other business
- Next Meeting

Meeting Notes

JS – JS initiated the meeting and discussed current meeting frequency. JS feels that the level of meetings/communication is good and valuable for the entire team. JS asked the NJDEP and EPA to confirm whether they find the meetings and biweekly calls beneficial.

JG – JG indicated that she finds the meetings helpful and that it is nice to see both sides and understand the path forward.

SA – SA explained that the CSM comments will be forwarded to Hess shortly – the EPA has received the NJDEP comments and is in the process of reviewing them.

JS – JS gave an overview of recent comments received and discussed having a call in the near future to discuss comments recently received on Quarterly reports, Air Sampling, and potentially the CSM comments that are pending.

SA - SA stated that he thinks a call would be very useful before Hess/Earth Systems starts preparing a response to comments.

JG – JG explained that the Vapor intrusion investigation wouldn't be part of the discussion since the NJDEP is requesting a resubmittal.

JS – JS asked about the EPA/NJDEP travel schedule and recommended a site walk at Port Reading as soon as the NJDEP/EPA is able to travel.

JS - JS discussed current communication rhythm.

SA & GZ – NJDEP and EPA agree that quarterly meetings are sufficient.

JS – JS discussed submissions via the portal and hard copies of large format site maps (as requested by the NJDEP).

SA – SA acknowledged receipt and said the large format maps are useful.

JG – JG explained that comments were sent for the RTC relating to the 2nd and 3rd quarter reports of 2020. Additional review and comments of the 4th quarter of 2020 and 2021 may be forthcoming.

JS – JS discussed that the current Schedule of Deliverables/Gantt Chart is obsolete and that new ones will be submitted once the "at risk" work schedule is resolved and set. JS inquired whether the NJDEP felt that the CSM was helpful.

JG – JG stated that there were some overarching issues, which can be discussed once we receive the comments but that it was generally helpful.

Indoor Air Summary Report

GZ – GZ wanted to discuss the recent Indoor Air Summary Report submittal and that it did not include the full data deliverable package and that it represented a disconnect in communication. GZ requested clarity on the intent of the submittal.

AB – AB discussed that the indoor air sampling was conducted according to the guidance and according to the original approved RIW dated May 30, 2017. AB explained that we should have been clearer that the data was only being submitted as a summary report and that the formal submittal would accompany the final RIR for AOC 11a. AB acknowledged that we will be clearer in submittals going forward on the intent of the submittal and when to expect the final submittal.

Landfarms

JS – JS discussed the status of the No. 1 landfarm capping project. JS explained that we have just begun with pre-construction activities and that our engineer (Key) is on site with Earth Systems' personnel to oversee. JS hopes that the cap will largely be complete by the end of this year, beginning of next year.

JS – JS discussed the closure of the North landfarm and explained that the 100% Remedial Action Design for the North Landfarm will be finalized soon, now that the tankfield has been lined.

Solar Field Response to Comments (RTC)

JS – JS discussed the recent submittal of the Solar Field RTC and asked if the document organization was helpful. JS said the comments were organized based on category. Essentially there were five (5) comments that directly related to the Solar Field workplan.

JG – JG explained that they haven't reviewed the Solar Field RTC since it was just received this past Monday (9/27/2021).

GZ – GZ did discuss that the NJDEP team had discussed that they do not like responses that say "if needed" or "as applicable."

AB – AB explained that some of the NJDEP comments aren't specific and are not requiring an action but stating that an action might be necessary in the future. AB explained that responses to those types of comments usually address the fact that the specified action will be conducted in the future, if necessary. AB also explained that previous discussions with the case team (specifically Jill) indicates that all parties are actually in agreement on the technical issues.

It was also discussed that the data drives the process and therefore the gathered analytical results will determine if additional work will be conducted. That is what is meant by "if needed." All work will be completed pursuant to the Tech Regulations and the incoming data will determine the next steps to ensure that delineation is completed.

GZ – GZ acknowledged that the NJDEP case team will be specific in what they are requesting in their comments.

RIW "At Risk" Discussion

JS – JS introduced the "at risk" conversation. JS acknowledged that we understand that it will be an iterative step and that we may have to go back out to do more work as the data drives the effort.

BE – BE explained that his goal is on and off site delineation. BE explained that he is driving the "at-risk" approach and that he is looking for feedback from EPA and DEP.

GZ – GZ explained that she is deferring the decision to the EPA as the lead agency.

AP – AP explained that the EPA allows for interim remedial measures, so this seems to be the same type of concept. AP explained that the EPA has no issue with proceeding "at risk" as long as everyone understands that completion of the remedial investigation will need to be approved by the EPA and NJDEP before remediation can proceed. AP explained that they may still require submittals of RIWs, even if the reports are not being reviewed prior to executing of the work.

BE – BE explained that we want to keep the communication going, and to be respectful to the NJDEP we will continue to be transparent and continue discussions and keep all stakeholders in the loop.

GZ – GZ wanted to clarify and make sure that everyone understands that "silence from DEP is not agreement."

JG – JG stated that we need to make sure all cover letters and email submissions for future submittals are clear as to the intent of the submittals and whether or not a review is being requested.

AB – AB explained that the benefit of the "at-risk" approach is that we'll have current information and data to discuss in the RIR submittals.

GZ – GZ stated that we all need to be on same page regarding which reports that are currently in house will still be reviewed.

JG – JG stated that only the Smith Creek RIW review has been started.

JS – JS explained that we will email the NJDEP and let them know a start date for field work and will update the schedule (as mentioned earlier).

Action Items

- Next Quarterly meeting will likely be scheduled for early December
- Email from Hess confirming the start of “at risk” field work and explaining which reports still require a review
- Updated Schedule of Deliverables/Field Work and Gantt Chart

Appendix B

Former Hess Port Reading Complex
750 Cliff Road
Port Reading NJ
Port Reading Sitewide Low Flow Summary Table

Well ID	AOC	TOC Elevation (ft)	Ground Elevation (ft)	Survey Date	Diameter (in)	Screen Interval (TOC, ft)	Stick-Up Height (TOC - Ground Elev., ft)	Depth of Well (bgs, ft)	Depth of Well (TOC, ft)	Pump Depth (below TOC)	DTW (before pump placement) from TOC
AB-1	5	11.68	9.1	12/9/2014	4	5-13	2.58	10	13.00	7.5	4.97
AB-3	5	12.33	9.75	12/9/2014	4	5-13	2.58	10	13.00	6	3.89
AB-4D	5	11.81	9.1	12/9/2014	4	28-33	2.71	30	33.00	31	10.19
AB-4R	5	12.05	9.18	12/9/2014	4	5.5-15.5	2.87	12.5	15.50	7	3.85
AB-5	5	11.18	8.43	12/9/2014	4	5-13	2.75	10	13.00	7	4.98
AB-6	5	6.95	7.17	12/21/2017	4	1.5-10.5	Flush Mount	10.5	10.50	6	3.22
AD-1	11a	16.12	16.21	12/9/2014	4	3-13	Flush Mount	13	13.00	7	4.82
AD-10	11a	16.05	16.47	2/7/2018	2	5-20	Flush Mount	20	20.00	10.2	8.79
AD-10DD	11a	16.14	16.48	2/7/2018	2	59-64	Flush Mount	64	64.00	61	8.62
AD-2	11a	16.64	16.85	12/9/2014	4	3-18	Flush Mount	18	18.00	9.9	6.9
AD-2DD	11a	16.58	16.84	12/9/2014	2	40-45	Flush Mount	45	45.00	42	9.5
AD-3	11a	19.96	17.11	12/9/2014	4	4-14	2.85	11	14.00	12.5	10.31
AD-3D	11a	19.71	16.99	12/9/2014	4	24-29	2.72	26	29.00	26.5	10.78
AD-4	11a	15.45	15.7	12/9/2014	4	2-15	Flush Mount	15	15.00	8.5	6.75
AD-5	11a	15.59	15.84	12/9/2014	4	2-15	Flush Mount	15	15.00	8.25	6.78
AD-5D	11a	15.48	15.77	12/9/2014	4	25-30	Flush Mount	30	30.00	27.5	8.15
AD-6	11	17.13	16.93	12/9/2014	4	2-15	Flush Mount	15	15.00	11	8.24
AD-8	11a	15.85	16.18	12/9/2014	4	1-15	Flush Mount	15	15.00	10	7.4
AD-9D	11a	15.50	15.73	12/9/2014	4	23-28	Flush Mount	28	28.00	24.75	8.22
AD-9DD	11a	15.43	15.72	2/7/2018	2	55-60	Flush Mount	60	60.00	57	6.5
FA-1	103	9.67	10.01	2/18/2020	2	2-13	Flush Mount	13	13.00	6	3.8
FA-2	103	10.39	10.79	2/18/2020	2	2-14	Flush Mount	14	14.00	7	5
FA-3	103	10.84	11.26	2/18/2020	2	2-15	Flush Mount	15	15.00	11.5	9.18
FA-4	103	10.98	11.38	2/18/2020	2	2-15	Flush Mount	15	15.00	11.5	9.44
FA-5	103	10.22	10.52	2/18/2020	2	2-15	Flush Mount	15	15.00	NS	NS
FA-6	103	12.13	8.78	2/18/2020	2	5-18	3.35	15	18.00	10.5	7.12
FA-7	103	10.40	7.64	2/18/2020	2	5-18	2.76	15	18.00	11.5	9.14
LPG-1	104	11.60	11.91	12/9/2014	4	2-9	Flush Mount	9	9.00	7	5.6
LPG-2	104	7.05	7.5	12/9/2014	4	2-10	Flush Mount	10	10.00	5	3.01
MW-1	19	24.48	21.58	7/26/2016	2	6-16	2.9	13	16	13	11.1
MW-2	19	19.01	19.37	7/26/2016	2	3-13	Flush Mount	10	13	6	4.41

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MW-3	19	18.91	19.28	7/26/2016	2	3-13	Flush Mount	13	13	5.25	3.14
MW-4	19	24.07	21.22	1/16/2017	2	6-18	2.85	15	18	8.5	6.57
PER-1	Perimeter	17.18	14.68	12/9/2014	4	6-18	2.50	15	18.00	12.5	10.1
PER-10	Perimeter	12.19	8.58	12/9/2014	4	6.61-18.61	3.61	15	18.61	9	7.11
PER-10D	Perimeter	11.94	8.74	12/9/2014	4	28-33	3.20	30	33.00	31	10.81
PER-2	Perimeter	10.76	8.01	12/9/2014	4	5-12	3	9	12.00	7	4.98
PER-2D	Perimeter	11.30	8.20	12/9/2014	4	28-33	3.10	33	33.00	30	6.36
PER-2DD	Perimeter	10.53	8.02	4/4/2019	2	53-63	2.51	60	63.00	55	6.36
PER-3	Perimeter	7.32	4.38	12/9/2014	4	5-12	2.94	9	12.00	8	4.29
PER-3D	Perimeter	7.30	4.66	12/9/2014	4	28-33	2.64	33	33.00	30	6.01
PER-4	Perimeter	10.30	10.62	5/6/2019	4	3-18	Flush Mount	18	18.00	9	6.9
PER-5	Perimeter	18.49	18.81	12/9/2014	4	3-15	Flush Mount	15	15.00	13	11.2
PER-6R	Perimeter	21.54	19.94	12/9/2014	4	3-22	1.60	20	22.00	12.5	9.69
PER-7	Perimeter	8.94	9.11	12/9/2014	4	5-18	Flush Mount	18	18.00	9.5	7.28
PER-8	Perimeter	7.74	7.99	12/9/2014	4	5-17	Flush Mount	17	17.00	8.3	6.31
PER-9	Perimeter	8.02	5.40	12/9/2014	2	3.5-18.5	2.62	15	18.50	6	2.75
PER-9D	Perimeter	7.85	5.57	12/9/2014	2	32.5-37.5	2.28	35	37.50	35	5.84
PER-9DD	Perimeter	7.91	5.54	12/9/2014	2	63-68	2.37	65	68.00	65	6.12
PL-1RR	Pipeline	7.36	7.57	12/9/2014	4	1-15	Flush Mount	15	15.00	3	0.1
PL-2	Pipeline	9.58	7.91	12/9/2014	4	3-17	1.67	15	17.00	5	2.12
PL-3R	Pipeline	10.16	8.1	12/9/2014	4	3.5-22.5	2.5	20	22.50	6	4
PL-4RR	Pipeline	11.56	8.38	1/16/2017	2	4-13	3.18	10	13	7	4.8
PL-5R	Pipeline	6.54	7.16	1/16/2017	2	1-10	Flush Mount	10	10	NS	NS
PL-6RR	Pipeline	6.88	-	2/18/2020	2	2-15	Flush Mount	15	15	4	1.4
PL-7	Pipeline	10.75	8.52	12/9/2014	4	5-20	2.23	18	20	NS	NS
PL-8R	Pipeline	9.91	8.29	12/9/2014	4	3.5-22.5	1.62	20	22.5	7.5	5.05
PL-9R	Pipeline	9.11	7.74	12/9/2014	4	3.5-22.5	1.37	20	22.5	5	2.63
SC-1	10	4.74	5.13	11/21/2019	2	5.5-15.5	Flush Mount	15.5	15.5	7.5	2.09
SC-1D	10	4.95	5.03	11/21/2019	2	23-33	Flush Mount	33	33	25	0.1
SC-1DD	10	5.07	5.08	11/21/2019	2	50-60	Flush Mount	60	60	52.5	0.6
SC-2	10	4.89	5.07	11/21/2019	2	5.5-15.5	Flush Mount	15.5	15.5	7.5	1.01

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SC-2D	10	4.68	4.77	11/21/2019	2	25-35	Flush Mount	35	35	27	2.34
SC-2DD	10	4.69	4.79	11/21/2019	2	51-61	Flush Mount	61	61	53	2.14
SC-2DDD	10	4.54	4.65	11/21/2019	2	68-78	Flush Mount	78	78	70	2.12
SC-3	10	7.03	4.08	11/21/2019	4	7.75-17.75	2.95	14.75	17.75	10	4.66
SC-3D	10	6.42	3.84	11/21/2019	2	28-38	2.58	35	38	30	4
SC-3DD	10	6.74	3.8	11/21/2019	2	58-68	2.94	65	68	61	5.1
SC-3DDD	10	6.84	3.89	11/21/2019	2	74-84	2.95	81	84	76	5.89
SC-4	10	7.11	7.28	11/21/2019	2	5.5-15.5	Flush Mount	15.5	15.5	7	3.8
SC-4D	10	7.08	7.28	11/21/2019	2	25-35	Flush Mount	35	35	27	4.99
SC-4DD	10	6.92	7.11	11/21/2019	2	50-60	Flush Mount	60	60	52	6.03
SM-1	12	8.59	9.37	12/9/2014	4	5-15	Flush Mount	15	15	7	5
SP-1	3	8.95	9.17	12/21/2017	2	3-13	Flush Mount	13	13	8	6
SP-2	3	10.18	10.36	12/21/2017	2	3-13	Flush Mount	13	13	7.2	5.2
SP-3	3	9.33	9.59	19/9/2014	2	3-13	Flush Mount	13	13	5.5	3.95
TF-1	Tankfield	8.60	6.99	12/9/2014	2	2-12	1.61	11	12.00	5.25	3.25
TF-2	Tankfield	7.69	7.06	12/9/2014	4	2-12	0.63	11	12.00	NS	NS
TF-3	Tankfield	8.58	7.32	12/9/2014	2	2-12	1.26	11	12.00	4.5	2.4
TL-1	16b	8.81	9.16	12/9/2014	4	2-14	Flush Mount	14	14.00	9	7
TL-2	16b	8.48	8.92	12/9/2014	4	2-15	Flush Mount	15	15.00	9	6.7
TL-3	16b	8.68	8.95	12/9/2014	2	2-10	Flush Mount	10	10.00	8.5	6.97
TM-1	Tankfield	20.06	16.96	12/9/2014	4	5.5-20.5	3.10	18	20.50	12.8	10.8
TM-2	Tankfield	20.14	17.54	12/9/2014	4	6.5-21.5	2.60	19	21.50	13.5	11.55
TM-3	Tankfield	20.19	17.07	12/9/2014	4	5.5-20.5	3.12	18	20.50	13.5	11.5
TM-4	Tankfield	19.01	16.06	12/9/2014	4	5.5-15.5	2.95	12.01	15.50	12.5	10.1
TM-5	Tankfield	16.13	13.61	12/9/2014	4	5.5-20.5	2.52	18	20.50	10	8.75
TM-6R	Tankfield	14.26	12.07	12/9/2014	4	5-20	2.19	18	20.00	9	6.29
TM-7	Tankfield	14.81	11.67	12/9/2014	4	6.5-21.5	3.14	19	21.50	10	7.49
TR-1R	10	13.68	13.91	12/9/2014	4	4-18	Flush Mount	18	18.00	8.6	6.65
TR-2R	10	12.47	12.96	12/9/2014	4	1-20	Flush Mount	20	20.00	3.5	0
TR-3D	10	9.33	9.7	4/4/2019	2	15-25	Flush Mount	25	25.00	17	1.9
TR-3DD	10	9.59	10.03	4/4/2019	2	50-60	Flush Mount	60	60.00	52	3.4
TR-3RR	10	9.63	9.91	12/9/2014	4	1-15	Flush Mount	15	15.00	4	2.31
TR-4D	10	12.18	12.79	12/9/2014	4	25-30	Flush Mount	30	30.00	27	5.41

Former Hess Port Reading Complex
750 Cliff Road
Port Reading NJ
Port Reading Sitewide Low Flow Summary Table

Well ID	AOC	TOC Elevation (ft)	Ground Elevation (ft)	Survey Date	Diameter (in)	Screen Interval (TOC, ft)	Stick-Up Height (TOC - Ground Elev., ft)	Depth of Well (bgs, ft)	Depth of Well (TOC, ft)	Pump Depth (below TOC)	DTW (before pump placement) from TOC
TR-4DD	10	12.58	12.84	12/9/2014	2	51-56	Flush Mount	56	56.00	53	5.91
TR-4R	10	12.48	12.7	12/9/2014	4	1-15	Flush Mount	15	15.00	5.8	3.8
TR-5	10	11.99	12.22	12/9/2014	4	2-12	Flush Mount	12	12.00	6	4.28
TR-5D	10	11.57	11.9	4/4/2019	2	15-25	Flush Mount	25	25.00	18	6.29
TR-5DD	10	11.28	11.53	4/4/2019	2	50-60	Flush Mount	60	60.00	52	5.04
TR-6	10	10.78	10.88	12/9/2014	4	2-12	Flush Mount	12	12.00	6	4.1
TR-6D	10	10.81	10.95	12/9/2014	4	25-30	Flush Mount	30	30	27	4.36

Earth Systems

NJDEP Certification No. 13040

Date: 11/19/21 Job #/Name: Port Reading - Sikewise Weather: 75° Personnel: AE

Equipment: U-52 Serial Number: 048908

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
9.30	9.15	5.72	4.00	7.07	10.00	7.00	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
12.15	9.28	9.18	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
9.35	0.003	0.000	1.25	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
9.40	0.0	0.0	110	100	101	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value

Earth Systems
Environmental Engineering
NJDEP Certification No. 13040

Date: 11 3/21 Job #/Name: P - 3 1 Weather: Cloudy 30 Personnel: MP JE

Equipment: U-52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
755	7.02	4.12	4.00	9.87	10.00	7.03	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1200	7.02	4.01	4.00	10.03	10.00	7.0	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
35	0.00	0.00	1.37	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
810	0.0	0.0	98.6	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
315			100%	N	

Earth Systems

NJDEP Certification No. 13040

Date: 12/1/21 Job #/Name: PR - Sitewa Weather: Sunny 30 Personnel: MP

Equipment: ~~48907~~ U-52 Serial Number: 48907

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
815	6.37°C	4.21	4.00	9.25	10.00	7.06	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
~~[illegible]~~							
1215	7.08	4.10	4.00	10.20	10.00	2.01	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
820	0.004	0.000	1.15	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
835	0.3	0.0	102	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
840	0%		100	N	0%

Earth Systems

NJDEP Certification No. 13040

Date: 11/4/21 Job #/Name: Port Rekos - Jilewa Weather: 55° Personnel: AG

Equipment: G-5L Serial Number:

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
8:05	11.70	4.03	4.00	9.68	10.00	7.08	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1100	11.48	4.06	4.00	9.76	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8:12	0.009	0.000	1.84	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8:16	0.0	0.0	117	100	101	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
[illegible]	0	0	100	N	0.2

Earth Systems

NJDEP Certification No. 13040

Date: 8/8/21 Job #/Name: Port Reading - Sitchike Weather: 43° Clouds Personnel: AE

Equipment: 452 Serial Number: 48582

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
740	8.95	4.12	4.00	5.89	10.00	7.08	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1010	9.10	4.02	4.00	10.00	10.00	7.08	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
745	0.010	0.000	1.89	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
748	0.0	0.0	85.7	100	101	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value

Earth Systems
Environmental Engineering

NJDEP Certification No. 13040

Date: 6/3/21 Job #/Name: Port Reading - Sikhiza Weather: 55° Personnel: AG

Equipment: 4-52 Serial Number: 45913

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
8:11	11.60	4.45	4.00	8.56	10.00	7.00	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
11:36	11.35	4.10	4.00	10.21	10.00	7.10	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8:15	0.001	0.000	1.48	1.41	1.40	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8:20	2.3	0.0	110	100	101	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
8:22	0	0	100	N	0.1

Earth Systems

NJDEP Certification No. 13040

Date: 12/6/21 Job #/Name: Port Reading Weather: 55° Personnel: AE

Equipment: U-52 Serial Number: 45923

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
7:50	12.95	7.95	4.00	10.20	10.00	7.04	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
11:00	13.00	3.98	4.00	10.12	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:53	0.001	0.000	1.41	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:56	0.0	0.0	96.1	100	102	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
7:58	0	0	100	N	0.2

Earth Systems

NJDEP Certification No. 13040

Date: 12/7/21 Job #/Name: Port Reading Weather: 46° Personnel: AE

Equipment: 45923 Serial Number: 4-51

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
7:55	11.10	4.72	4.00	9.18	10.00		

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
11:15	11.00	4.10	4.00	10.05	10.00	7.01	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:50	0.017	0.000	1.16	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:50	4.3	0.0	110	100	102	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
7:55	0	0	101	N	0.1

Earth Systems

NJDEP Certification No. 13040

Date: 12/9/24 Job #/Name: PR Annual Weather: Clear 90 Personnel: RC

Equipment: U-52 Serial Number:

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23 16L758	Span Pt (pH 10)	Lot / Exp Date 3/31/21 16L436	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 3/31/23 16L1049
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
900		4.09	4.00	10.23	10.00	7.01	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1200	8.02	4.00	4.00	10.00	10.00	7.00	✓

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date 3/31/23 16L1038	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8/10	0.000	0.000	1.30	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date 3/15/22 21100045	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
821	0.0	0.0	111	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
826	0.0	0.0	99.4	N	

Earth Systems
Environmental Engineering
NJDEP Certification No. 13040

Date: 12/10/21 Job #/Name: PR Weather: Cold 35° Personnel: RL

Equipment: U-52 Serial Number:

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23 16C758	Span Pt (pH 10)	Lot / Exp Date 3/31/21 16C436	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 3/31/23 16C1059
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
830		4.22	4.00	10.08	10.00	7.09	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1227	9.32	4.03	4.00	10.03	10.00	7.0	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date 3/31/23 16C1036	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
840	0.00	0.000	1.20	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date 3/15/22 21100045	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
845	1.7	0.0	77.4	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
850	0.00	0.00	101%	N	

Earth Systems
Environmental Engineering
NJDEP Certification No. 13040

Date: 12/13/21 Job #/Name: PR Weather: Sunny 30s Personnel: M/

Equipment: U-52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
850	5 28°C	3.96	4.00	10.08	10.00	7.08	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1301 ~~855~~	7.34	4.00	—	10.00	—	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
855	0.002	0.000	1.28	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
900	1.2	0.0	98.8	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
905	0%	0%	100%	N	0%

Earth Systems
Environmental Engineering

NJDEP Certification No. 13040

Date: 12/13/21 Job #/Name: Port Reading - Spencer Weather: 50 Personnel: AE

Equipment: 4-52 Serial Number: 48572

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
8:50	8.82	4.43	4.00	9.73	10.00	7.00	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1110	9.40	4.00	4.00	10.04	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8:57	0.001	0.000	1.20	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
9:00	2.5	0.0	94.5	100	101	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
9:05	0	0	100	N	0.2

Earth Systems
Environmental Engineering

NJDEP Certification No. 13040

Date: 1/14/21 Job #/Name: Port Reading Stormwater Weather: 50° Cloudy Personnel: [illegible]

Equipment: YSI Serial Number: 45921

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
7:55	9.47	4.08	4.00	10.12	10.00	7.00	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
10:30	9.62	4.01	4.00	10.15	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:40	0.001	0.000	0.999	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
7:44	0.0	0.0	100	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
7:49	0	0	100	N	0.1

Earth Systems

NJDEP Certification No. 13040

Date: 11/29/21 Job #/Name: Port Reading Site wide Weather: Sunny 30's Personnel: IAIN

Equipment: U52 ~~044547~~ Serial Number: 044547

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23	Span Pt (pH 10)	Lot / Exp Date 3/31/23	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 3/31/23
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
8:40	4.15	3.90	4.00	10.15	10.00	7.08	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1340	9.03°C	4.00	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date 3/31/23	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8:50	0.018	0.000	1.36	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date 3/15/23	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
8:55	0.0	0.0	114	100	105	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date 1/27/22	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
8:56	0	0	100	N	0.1

Earth Systems
Environmental Engineering
NJDEP Certification No. 13040

Date: 11 [illegible] Job #/Name: [illegible] Weather: Cloudy 30 Personnel: MP JE

Equipment: U-52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
7[illegible]	2[illegible]	4.12	4.07	9.87	10.07	7.07	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1230	8.38	4.01	4.00	10.10	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
[illegible]	[illegible]	[illegible]	1.37	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
910	6.0	6.0	98.6	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
315			10[illegible]	N	

Earth Systems
Environmental Engineering
NJDEP Certification No. 13040

Date: 11/30/21 Job #/Name: Port Reading Weather: 35°F Overcast Personnel: Jeremy Fox

Equipment: Horiba U52 48907 Serial Number: _____

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
755	7°C	3.85	4.00	10.80	10.00	7.1	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1145	8.71°C	4.00	4.00	10.00	10.00	7.04	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
835	0.004	0.000	1.51	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
822	7.1	0.0	131	100	99.8	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
825			100	N	

Earth Systems

NJDEP Certification No. 13040

Date: 12/1/21 Job #/Name: PR - Sitewi Weather: Sunny 30. Personnel: MP

Equipment: ~~48907~~ U-52 Serial Number: 48907

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
815	6.37°C	4.21	4.00	4.25	10.00	7.06	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1200	8.30	4.00	4.00	10.00	10.00	7.01	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
82x	0.000	0.000	1.15	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
835	0.3	0.0	102	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
840	0%		100	N	0%

Earth Systems

NJDEP Certification No. 13040

Date: 12/1/21 Job #/Name: Port Reading Weather: Cloud, 39°F Personnel: JF

Equipment: ~~[illegible]~~ Horiba U-5000 Serial Number: 47011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
0823	39F	4.0	4.0	9.86	10.0	7.04	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1305	36°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
830	0.001	0.000	1.41	1.41	1.26	Y
	0.000	0.000	1.29	1.41	1.21	

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
841	0	0	94.0	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
845	0	0	98.4	N	

Earth Systems

NJDEP Certification No. 13040

Date: 12/2/21 Job #/Name: Port Reading Weather: 45°F Cloudy Personnel: JF

Equipment: Horiba U52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
805	45	4.32	4.00	9.71	10.00	6.96	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1145	42°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
814	0.005	0.000	1.65	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
817	1.4	0	103	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
	0	0	100.5	N	0

Earth Systems

NJDEP Certification No. 13040

Date: 12/2/21 Job #/Name: _____ Weather: Cloudy 40's Personnel: IAIN B

Equipment: U-52 Serial Number: 044547

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23	Span Pt (pH 10)	Lot / Exp Date 3/31/23	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 3/31/23
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
0805	48°F	5.84	4.00	5.05	10.00	7.01	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1200	42°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date 3/31/22	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0820	0	0	1.70	1.41	1.40	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date 3/15/22	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0825	1.4	0	97.9	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
0830	0	0	100	N	

Earth Systems
Environmental Engineering
NJDEP Certification No. 13040

Date: 12/3/21 Job #/Name: FORMER HESS ~~PORT READING~~ Weather: Sunny 30's Personnel: IAIN B

Equipment: _____ Serial Number: _____

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23	Span Pt (pH 10)	Lot / Exp Date 3/31/23	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 3/31/23
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
0810	40°F	3.08	4.00	10.60	10.00	6.99	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1230	40 °F	4.03	4.00	10.18	10.00	7.01	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date ~~3/31/22~~	Span (1.413 ms/cm)	Lot / Exp Date 3/31/22	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date 3/31/22
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0820	0.000	0.000	1.14	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date 3/15/22	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0826	7.1	0.0	128	100	98.9	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value

Earth Systems

NJDEP Certification No. 13040

Date: 12/6/21 Job #/Name: Port Reading Weather: Cloudy, 50°F Personnel: JF

Equipment: Horiba U52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
749	50°F	4.02	4.00	9.80	10.00	7.03	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1249	50°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
754	0.000	0.000	1.30	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
757	0.6	0.0	101	100	99.7	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
755	0	0	100	N	0

Earth Systems

NJDEP Certification No. 13040

Date: 12/6/21 Job #/Name: PORT READING Weather: Cloudy, damp 40's Personnel: IAIN B.

Equipment: U52 Serial Number: 04454,

pH

Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
			3/31/23		3/31/23		3/31/23
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
0745	45°F	3.35	4.00	11.00	10.00	7.09	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)

Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1305	45°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity

Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
				3/31/22		3/31/22
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0755	0.007	0.000	1.62	1.41	1.40	N

Turbidity

Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
				3/15/22		3/15/22
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0800	0.0	0.0	79.9	100	99.5	N

Dissolved Oxygen

Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value

Earth Systems

NJDEP Certification No. 13040

Date: 12/7/21 Job #/Name: PORT READING Weather: Sunny 35°F Personnel: IAIN B.

Equipment: HORIBA - U52 Serial Number: 48907

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23	Span Pt (pH 10)	Lot / Exp Date 3/31/23	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 3/31/23
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
0745	35°F	3.70	4.00	10.17	10.00	7.09	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1345	30°F	4.01	4.00	10.23	10.00	7.10	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date 3/31/22	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date 3/31/22
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0755	0.000	0.000	1.39	1.41	1.40	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date 3/15/22	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date 3/15/22
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0800	~~0.0~~ 4.5	0.0	103	100	98.7	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value

Earth Systems

NJDEP Certification No. 13040

Date: 12/7/21 Job #/Name: Port Reading Weather: Sunny, 35°F Personnel: JF

Equipment: Horiba U52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
943	35°F	4.05	4.00	9.87	10.0	7.1	N
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1143	35°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
750	0.200	0.000	1.34	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
500	2.3	0.0	92.2	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
845	0	0	100	N	0

Earth Systems

NJDEP Certification No. 13040

Date: 12/8/21 Job #/Name: Port Reading Weather: Cloudy, 35°F Personnel: JF

Equipment: Horiba U52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
745	35°F	3.74	4.00	10.49	10.00	7.1	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1245	35°F	4.13	4.00	10.00	10.00	7.08	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
749	0.036	0.000	2.07	1.41	1.40	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
752	0	0	112	100	99.7	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
754	0	0	100	N	0

Earth Systems

NJDEP Certification No. 13040

Date: 12/9/25 Job #/Name: Port Reading Weather: Sunny, 32°F Personnel: JF

Equipment: Horiba U52 Serial Number: 44211

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
840	32°F	3.90	4.00	9.97	10.00	7.1	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1240	32°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity							
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date	
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
847	0.0	0.0	1.27	1.41	1.41	N	

Turbidity							
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date	
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	
851	0.3	0.0	93.6	100	99.2	N	

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
855	0	0	100	N	0

Earth Systems

NJDEP Certification No. 13040

Date: 12/10/21 Job #/Name: Port Reading Weather: Cloudy, 40°F Personnel: JF

Equipment: Horiba U52 Serial Number: 44011

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date	Span Pt (pH 10)	Lot / Exp Date	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
811	40°F	4.38	4.00	9.37	10.00	7.1	
pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1310	40°F	4.25	4.00	10.00	10.00	6.94	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
818	0.001	0.000	1.29	1.41	1.41	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
821	0.6	0.0	108	100	100	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value
824	0	0	99.4	N	0

Earth Systems

NJDEP Certification No. 13040

Date: 12/10/21 Job #/Name: PORT READING Weather: Cloudy 35°F Personnel: IAIN B.

Equipment: U-52 Serial Number: 044547

pH							
Time	Temperature	Zero Pt (pH 4)	Lot / Exp Date 3/31/23	Span Pt (pH 10)	Lot / Exp Date 3/31/23	Initial Check (must be within +/- 0.1 units or need to recalibrate) (pH 7 - acceptable range 6.9-7.1)	Lot / Exp Date 3/31/23
		Initial Reading	Adjusted	Initial Reading	Adjusted		Recalibrate (Y/N)*
0810	35°F	3.62	4.00	10.68	10.00	7.08	N

pH 3 Hour Check (*2-point calibration only needs to be conducted if check value is out of range)							
Time (3 hr check)	Temperature	Zero Pt * (pH 4)	Lot / Exp Date	Span Pt * (pH 10)	Lot / Exp Date	Check (must be within +/-0.2 units or need to recalibrate) (pH 7 - acceptable range 6.8-7.2)	Lot / Exp Date
1315	35°F	4.00	4.00	10.00	10.00	7.00	N

Conductivity						
Time	Zero (Ambient Air)	Lot / Exp Date	Span (1.413 ms/cm)	Lot / Exp Date 3/31/22	Check (must be within +/-1% or need to recalibrate) (use 1.413 ms/cm - acceptable range 1.398 - 1.427)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0820	0.000	0.000	1.93	1.41	1.40	N

Turbidity						
Time	Zero	Lot / Exp Date	Span (100 NTU)	Lot / Exp Date	Check - must be within +/- 10% or need to recalibrate (use 100 NTU - acceptable range 90-110 NTU)	Lot / Exp Date
	Initial Reading	Adjusted	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)
0825	0.9	0.0	113	100	99.4	N

Dissolved Oxygen					
Time	Zero (0% Solution)	Lot / Exp Date	Air Span (100%)	Lot / Exp Date	Check - reading must be 0.3mg/L or less (0% Solution)
	Initial Reading	Adjusted	Check Value	Recalibrate (Y/N)	Check Value

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/2/21	FIELD PERSONNEL:	Iain B + Jeremy F.
WEATHER:	Cloudy 55°F	CERTIFICATION #:	13040

MONITOR WELL #:	AB-1	WELL DEPTH:	13'	SCREENED/OPEN INTERVAL:	5-13'
WELL PERMIT #:	2600063927	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 7.50 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.97 ft below TOC
	BENEATH INNER CAP:	0.0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1415	X		7.16	NA	0.354	NA	59	NA	1.65	NA	46.9	NA	14.26	NA	330	6.02
1420	X		7.01	0.15	0.355	1%	70	11	1.58	4.2%	51.8	10.4%	14.17	1%	330	6.08
1425	X		6.88	0.13	0.356	1%	61	9	1.30	17.7%	28.4	45.1%	14.32	1%	300	6.10
1430	X		6.87	0.01	0.359	1%	45	16	1.24	4.6%	23.6	16.9%	14.33	1%	300	6.10
1435	X		6.86	0.01	0.362	1%	35	10	1.21	2.4%	23.4	1.4%	14.37	1%	300	6.10
1440	X		6.86	—	0.364	1%	25	10	1.18	2.5%	22.9	2.1%	14.44	1%	300	6.10
1445	X		6.85	0.01	0.364	—	16	9	1.15	2.5%	22.8	1%	14.50	1%	300	6.10
1450		X	6.85	-	0.365	1%	7	9	1.13	1.7%	21.4	6.1%	14.54	1%	300	6.10

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/2/21	FIELD PERSONNEL:	Iain Burton
WEATHER:	Cloudy 50 F	CERTIFICATION #:	13040

MONITOR WELL #:	AB - 3	WELL DEPTH:	13'	SCREENED/OPEN INTERVAL:	5-13'
WELL PERMIT #:	2600063928	WELL DIAMETER:	4 Inches		

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 6.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.89 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1040	X		9.13	NA	4.66	NA	-234	NA	1.71	NA	20.8	NA	12.98	NA	250	4.50
1045	X		8.04	1.09	4.55	2.4%	-236	2	0.05	970%	16.5	20.6%	13.10	3.8%	250	4.53
1050	X		7.90	0.14	4.42	2.9%	-241	5	0.85	1600%	10.8	35.4%	13.17	1%	250	4.57
1055	X		7.82	0.08	4.31	2.0%	-249	8	0.85	-	7.0	35.1%	13.09	1%	250	4.59
1100	X		7.79	0.03	4.22	2.1%	-260	11	0.85	-	5.6	20%	13.15	1%	250	4.59
1105	X		7.77	0.02	4.13	2.1%	-269	9	0.85	-	3.0	28.5%	13.25	1%	250	4.60
1110	X		7.76	0.01	4.03	2.4%	-275	6	0.85	-	2.7	10%	13.30	1%	250	4.61
1115	X		7.75	0.01	3.97	1.5%	-278	3	0.85	-	2.8	3.7%	13.33	1%	250	4.63
1120	X		7.75	-	3.93	1.6%	-284	6	0.85	-	2.7	3.7%	13.40	1%	250	4.63
1125		X	7.75	-	3.87	1.5%	-291	7	0.85	-	2.5	7.4%	13.46	1%	250	4.64

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/2/21
WEATHER: Sunny, 47°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: AB - 4R
WELL PERMIT #: E201407933
WELL DEPTH: 15.5'
WELL DIAMETER: 4' Inches
SCREENED/OPEN INTERVAL: 5.5-15.5

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 7.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.85 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
915	X		6.39	NA	0.392	NA	27	NA	0.25	NA	212	NA	12.35	NA	300	3.92
920	X		6.41	0.02	0.395	1.8%	25	2	0.33	32%	166	22%	12.36	0.1%	300	3.94
925	X		6.39	0.02	0.390	2.3%	18	7	8.71	2539%	127	23%	12.44	0.6%	300	3.95
930	X		6.43	0.04	0.413	5.9%	20	2	8.66	0.6%	124	2.3%	12.46	0.1%	300	3.96
935	X		6.50	0.07	0.607	47%	-27	47	0.02	99%	82.3	34%	12.63	1.4%	300	3.98
940	X		6.89	0.39	1.62	167%	-168	~~[illegible]~~ 141	8.55	42650%	28.5	65%	13.02	3%	300	4.03
945	X		6.94	0.05	2.39	47%	-222	54	7.72	9.7%	29.2	4.2%	13.25	1.8%	300	4.08
950	X		6.97	0.03	4.75	~~[illegible]~~ 99%	-297	75	0.00	99%	14.5	101%	13.35	0.7%	300	4.10
955	X		6.99	0.02	4.82	1.4%	-299	2	0.00	~~[illegible]~~ 0	14.1	0.3%	13.46	0.8%	300	4.12
1000	X		7.01	0.02	4.85	0.6%	-300	1	0.00	0	14.0	0.7%	13.48	0.1%	300	4.14
1005	X		7.02	0.01	4.86	0.2%	-300	0	0.00	0	14.0	0	13.51	0.2%	300	4.16
COMMENTS:																
final	X		7.04	0.02	4.86	0	-300	0	0	0	13.8	14.2	13.44	0.2%	300	4.16

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/2/21	FIELD PERSONNEL:	Iain Burton
WEATHER:	Sunny 50 F	CERTIFICATION #:	13040

MONITOR WELL #:	AB - 4D	WELL DEPTH:	33'	SCREENED/OPEN INTERVAL:	28-33'
WELL PERMIT #:	E201309746	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 31.0 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION : 10.19 ft below TOC
	BENEATH INNER CAP:	0.0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0910	X		6.80	NA	27.4	NA	-247	NA	1.71	NA	166	NA	14.11	NA	300	11.39
0915	X		7.63	0.83	18.4	32.8%	-338	91	0.29	83.0%	137	17.4%	14.22	1%		11.35
0920	X		7.56	0.07	19.1	3.8%	-350	12	0.21	27.5%	74.4	45.4%	14.16	1%		11.30
0925	X		7.47	0.09	18.6	2.6%	-358	8	0.17	19.0%	48.7	34.5%	14.23	1%		11.25
0930	X		7.43	0.04	18.1	1%	-363	5	0.15	11.7%	33.7	30.8%	14.20	1%	250	11.25
0935	X		7.41	0.02	17.5	3.3%	-365	2	0.14	6.6%	11.2	66.8%	14.16	1%		11.25
0940	X		7.40	0.01	17.0	2.8%	-366	1	0.13	7.1%	10.9	2.7%	14.10	1%		11.25
0945	X		7.39	0.01	16.6	2.4%	-367	1	0.13	--	10.8	1.0%	14.17	1%		11.25
0950	X		7.38	0.01	16.4	1.2%	-368	1	0.13	-	10.4	3.7%	14.19	1%		11.25
0955		X	7.37	0.01	16.1	2.0%	-369	1	0.13	-	9.7	7.0%	14.22	1%		11.25

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/2/21
WEATHER: Sunny, 50°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: AB - 5
WELL PERMIT #: 2600063930
WELL DEPTH: 13'
WELL DIAMETER: 4" Inches
SCREENED/OPEN INTERVAL: 5-13'

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 7.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 4.98 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1050	X		7.31	NA	0.131	NA	-166	NA	0.27	NA	8.4	NA	13.95	NA	300	5.88
1055	X		7.05	0.26	0.135	3%	-162	4	0.20	26%	6.4	24%	14.00	0.4%	300	6.26
1100	X		6.84	0.21	0.141	4.4%	-163	1	0.15	25%	5.9	7.8%	14.10	0.7%	200	7.08
1105	X		6.64	0.20	0.145	2.8%	-163	0	0.25	67%	8.3	41%	14.22	0.9%	150	7.09
1110	X		6.60	0.04	0.142	2.0%	-167	4	0.24	4%	8.2	1.2%	14.40	1.3%	100	7.10
1115	X		6.58	0.02	0.140	1.4%	-163	4	0.23	4.2%	8.0	2.4%	14.37	2%	100	7.10
1120	X		6.58	0	0.140	0	-160	3	0.23	0	7.8	2.5%	14.51	0.9%	100	7.10
final		X	6.58		0.140		-160		0.23		7.6		14.57			

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 40 F	CERTIFICATION #:	13040

MONITOR WELL #: AB-6 WELL DEPTH: 10' SCREENED/OPEN INTERVAL: 1.5 -10.5
WELL PERMIT #: E201708820 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 6.00 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.22 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1050	X		7.51	NA	0.522	NA	32	NA	2.60	NA	122	NA	12.28	NA	200	3.44
1055	X		7.31	0.20	0.491	6.0%	55	23	1.88	28%	75.2	38%	12.28	–	200	3.53
1100	X		7.25	0.06	0.481	2.1%	65	10	1.74	7.4%	56.6	24.7%	12.40	0.9%	150	3.59
1105	X		7.22	0.03	0.479	0.4%	70	5	1.56	10.3%	42.5	24%	12.41	0.1%	150	3.60
1110	X		7.20	0.02	0.478	0.2%	75	5	1.52	2.6%	42.0	1.2%	12.45	0.3%	150	3.61
1115	X		7.18	0.02	0.479	0.2%	76	1	1.40	7.9%	40.5	3.6%	12.61	1.3%	150	3.61
1120	X		7.18	–	0.484	1.0%	77	1	1.27	9.3%	38.4	5.1%	12.51	0.8%	150	3.60
1125		X	7.18	–	0.486	0.4%	76	1	1.26	0.8%	35.0	8.9%	12.56	0.4%	150	3.61

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	JF
WEATHER:	Sunny 39F	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 1	WELL DEPTH:	12.2'	SCREENED/OPEN INTERVAL:	3-13'
WELL PERMIT #:	2500025391	WELL DIAMETER:	4" inches		

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 7.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.82 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1040	X		6.85	NA	1.77	NA	122	NA	4.11	NA	24.3	NA	15.11	NA	250	5.12
1045	X		6.48	0.37	1.77	-	118	4	3.83	6.8%	24.0	1.2%	15.55	2.9%	250	5.28
1050	X		6.43	0.05	1.77	-	117	1	3.85	0.5%	16.4	32%	15.53	0.1%	250	5.42
1055	X		6.42	0.01	1.77	-	117	-	3.87	0.5%	10.3	37%	15.47	0.4%	200	5.43
1100	X		6.41	0.01	1.76	0.6%	118	1	3.71	4.1%	2.7	73%	15.66	1.2%	200	5.44
1105	X		6.41	-	1.76	-	122	4	3.51	5.4%	2.5	7.4%	15.28	2.4%	200	5.44
1110	X		6.41	-	1.75	0.6%	122	-	3.43	2.3%	2.3	8.0%	14.84	2.8%	200	5.44
1115	X		6.41	-	1.75	-	122	-	3.39	1.2%	2.1	8.7%	14.65	1.3%	200	5.45
1120		X	6.41	-	1.75	-	120	2	3.34	1.2%	1.9	9.5%	14.46	1.3%	200	5.46

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/1/21	FIELD PERSONNEL:	RC
WEATHER:	Cloudy 40s	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 2	WELL DEPTH:	18'	SCREENED/OPEN INTERVAL:	3-18'
WELL PERMIT #:	2600025392	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 9.90 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.90 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1310	✓		6.93	NA	4.74	NA	-29	NA	0.75	NA	28.8	NA	17.41	NA	250	7.24
1315	✓		6.72	0.21	4.91	3.5%	-33	4	0.12	84%	17.0	41%	17.36	1%		7.25
1320	✓		6.55	0.17	5.04	2.6%	-35	2	0.12	-	10.2	40%	17.25	1%		7.24
1325	✓		6.52	0.03	5.05	1%	-37	2	0.12	-	5.8	43%	17.01	1%		7.25
1330	✓		6.49	0.03	5.06	1%	-39	2	0.12	-	5.7	1%	16.92	1%		7.25
1335	✓		6.47	0.02	5.07	1%	-40	1	0.12	-	5.6	1%	16.50	1%		7.24
1340	✓		6.46	0.01	5.08	1%	-42	2	0.12	-	5.5	1%	16.56	1%		7.25
1345		✓	6.45	0.01	5.08	-	-43	1	0.12	-	5.4	1%	16.60	1%		7.25

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 12

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/1/21	FIELD PERSONNEL:	RC
WEATHER:	Cloudy 40s	CERTIFICATION #:	13040

MONITOR WELL #: AD - 2DD
WELL PERMIT #: E201305268
WELL DEPTH: 44.60'
WELL DIAMETER: 2" Inches
SCREENED/OPEN INTERVAL: 40-45'

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 42.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 9.50 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1140	✓		12.38	NA	1.86	NA	-140	NA	0.49	NA	154	NA	16.16	NA	300	9.68
1145	✓		11.84	0.54	1.56	160%	-94	46	0.28	42%	410	166%	16.32	1%		
1150	✓		10.48	1.36	1.26	16%	-24	70	0.10	64%	1000	143%	16.60	1%		
1155	✓		9.48	1.00	1.19	19%	-51	27	0.10	-	666	33%	16.50	1%		
1200	✓		9.05	0.43	1.14	5.0%	-70	19	0.10	-	391	41%	16.40	1%		
1205	✓		8.62	0.43	1.15	4.0%	-72	2	0.10	-	226	42%	16.31	1%		
1210	✓		8.42	0.20	1.16	0.8%	-74	2	0.10	-	111	50%	16.20	1%		
1215	✓		8.12	0.30	1.18	0.8%	-60	14	0.10	-	90.1	18%	16.31	1%		
1220	✓		7.98	0.14	1.19	1.0%	-54	6	0.10	-	38.8	56%	16.42	1%		
1225	✓		7.82	0.16	1.20	0.8%	-71	17	0.10	-	22.6	41%	16.42	1%		
1230	✓		7.76	0.06	1.21	0.8%	-81	10	0.10	-	20.5	9.3%	16.48	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE: Former Hess - Port Reading
DATE:
WEATHER:

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL:
CERTIFICATION #: 13040

MONITOR WELL #: ~~AD-1~~ AO-20P
WELL PERMIT #: ~~2600000037~~
WELL DEPTH: ~~15~~ 44.60
WELL DIAMETER: ~~8~~ 2" Inches
SCREENED/OPEN INTERVAL: ~~2-15'~~ 40-44.6'

PID/FID READINGS (ppm):
BACKGROUND:
BENEATH OUTER CAP:
BENEATH INNER CAP:

PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : _____ ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1230	✓		7.76	NA	1.21	NA	-81	NA	0.10	NA	20.5	NA	16.48	NA	300	9.68
1235	✓		7.71	0.05	1.21	-	-87	6	0.10	-	19.8	3.4%	16.48	1%		
1240	✓		7.66	0.05	1.21	-	-96	9	0.10	-	18.2	8.0%	16.31	1%		
1245		X	7.61	0.05	1.21	-	-94	2	0.10	-	18.5	1.6%	16.25	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	RC
WEATHER:	Clear 40°	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 3	WELL DEPTH:	14'	SCREENED/OPEN INTERVAL:	4-14'
WELL PERMIT #:	2600025394	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 12.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.31 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1010	✓	✓	7.94	NA	.144	NA	99	NA	5.73	NA	35.4	NA	15.11	NA	400	10.95
~~1015~~ 1015	✓	✓	7.86	.08	.126	12.5	109	10	5.12	10%	101	185%	17.84	1%	300	11.99
1020	✓	✓	7.79	.07	.105	16%	116	7	4.43	3%	220	117%	14.71	.4%	300	11.03
1025	✓	✓	7.76	.03	.096	8%	122	6	3.90	20%	316	43%	14.70	.6%	300	~~11.04~~ 11.09
1030	✓	✓	7.70	.06	.093	3%	126	4	1.04	72%	298	6%	14.60	.6%	300	11.13
1035	✓	✓	7.70	—	.093	1%	126	—	.13	87%	170	80%	14.08	3%	300	11.14
1040	✓		7.69	.01	.092	—	127	1	0.0	—	33.0	61%	14.23	1%	300	11.15
1045	✓		7.69	—	.092	~~1%~~	128	1	0.0	—	12.6	7%	14.30	1%	300	11.17
1055	✓		7.69	—	.093	1%	128	—	0.0	—	11.7	7%	14.46	1%	300	11.18
1055	✓		7.68	.01	.091	1%	130	2	0.0	—	10.9	6%	14.30	1%	300	11.20
1100		✓	7.68	—	.090	1%	130	—	0.0	—	10.1	7%	14.39	1%	300	11.22

COMMENTS: STICK-UP

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	RC
WEATHER:	Clear 30°	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 3D	WELL DEPTH:	29.00'	SCREENED/OPEN INTERVAL:	24-29'
WELL PERMIT #:	E201305261	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 26.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 10.78 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
855	✓		6.91	NA	1.96	NA	170	NA	2.26	NA	27.9	NA	13.20	NA	400	10.97
900	✓		6.84	.07	2.06	5%	143	27	0.70	69%	54.5	95%	15.03	14%	400	10.95
905	✓		6.83	.01	2.04	1%	137	6	0.62	11%	62.1	14%	16.00	6%	400	10.95
910	✓		6.83	-	2.02	1%	126	1	0.43	30%	74.1	19%	15.96	1%	400	10.95
915	✓		6.84	.01	1.98	1%	126	-	0.10	76%	72.1	3%	17.08	7%	400	10.98
920	✓		6.86	.02	1.99	1%	129	3	0.16	60%	30.1	58%	17.16	1%	400	10.95
925	✓		6.87	.01	2.00	1%	130	1	0.16	-	28.1	7%	17.25	1%	400	10.95
930	✓		6.87	-	2.00	-	130	-	0.16	-	28.9	3%	17.31	1%	400	10.95
935	✓		6.87	-	2.00	-	131	1	0.16	-	27.4	5%	17.23	1%	400	10.95
940		✓	6.88	.01	2.01	1%	132	1	0.16	-	27.0	1%	17.13	1%	400	10.95

COMMENTS: STICK-UP

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/1/21	FIELD PERSONNEL:	AP
WEATHER:	Sunny 30s	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 4	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	2 - 15'
WELL PERMIT #:	2600063937	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 8.50 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.75 ft below TOC
	BENEATH INNER CAP:	0.0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
915	X		6.60	NA	2.59	NA	-24	NA	1.31	NA	65.8	NA	15.52	NA	250	7.01
920	X		6.41	0.19	2.41	7%	-51	27	0.81	38%	100	52%	15.48	1%	250	7.02
925	X		6.42	0.01	2.47	2.4%	-61	10	0.62	23%	92.3	8%	15.51	3%	250	7.02
930	X		6.42	–	2.47	–	-66	5	0.59	5%	90.0	2%	15.52	3%	250	7.03
935	X		6.43	0.01	2.47	–	-70	4	0.60	1%	89.6	1%	15.60	1%	250	7.04
940	X		6.43	–	2.47	–	-72	2	0.59	1%	88.1	2%	15.68	1%	250	7.04
945		X	6.42	0.01	2.47	–	-70	2	0.62	2%	90.0		15.75	1%	250	

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/1/21
WEATHER: Sunny, 46°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: AD - 5
WELL PERMIT #: 2600063938
WELL DEPTH: 15'
WELL DIAMETER: 4" Inches
SCREENED/OPEN INTERVAL: 2 - 15'

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 8.25 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 6.78 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1155	X		6.71	NA	1.44	NA	145	NA	4.53	NA	1.7	NA	18.56	NA	200	6.88
1200	X		6.68	0.03	1.50	4.2%	152	7	3.96	12.6%	1.5	11.8%	18.64	0.4%	200	6.85
1205	X		6.64	0.04	1.50	0	158	6	3.44	13.1%	1.4	6.7%	18.39	1.3%	200	6.80
1210	X		6.60	0.04	1.52	1.3%	160	2	3.43	0.3%	1.4	0	18.09	2.1%	200	6.79
1215	X		6.55	0.05	1.55	1.9%	167	7	3.10	9.6%	1.3	7.1%	18.53	2.4%	200	6.82
1220	X		6.52	0.03	1.58	1.9%	171	4	3.01	2.9%	1.2	7.6%	18.69	0.86%	200	6.83
1225	X		6.49	0.03	1.60	1.2%	176	5	2.85	5.3%	1.1	8.3%	18.47	1.2%	200	6.83
Final		X	6.48	0.01	1.62	1.2%	172	4	2.79	2.1%	1.1	0	18.50	0.2%	200	6.82

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/1/21	FIELD PERSONNEL:	MA
WEATHER:	Sunny 30,	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 5D	WELL DEPTH:	30'	SCREENED/OPEN INTERVAL:	25 - 30'
WELL PERMIT #:	E201116252	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 27.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 8.15 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1025	X		6.72	NA	1.62	NA	26	NA	1.44	NA	42.8	NA	15.75	NA	200	8.22
1030	X		6.61	0.09	1.76	8%	10	16	0.54	63%	43.9	3%	16.28	3%	200	8.22
1035	X		6.60	0.01	1.84	5%	-2	12	0.44	19%	41.8	5%	16.19	1%	250	8.22
1040	X		6.60	-	1.84	-	-8	6	0.42	5%	38.8	7%	16.34	1%	250	8.22
1045	X		6.62	0.02	1.86	1%	-11	3	0.40	1%	32.9	15%	16.60	2%	250	8.22
1050	X		6.63	0.01	1.85	1%	-12	1	0.40	-	22.1	3%	16.75	1%	250	8.22
1055	X		6.63	-	1.86	1%	-12	-	0.39	1%	21.7	2%	16.85	1%	250	8.22
1100	X		6.63	-	1.85	1%	-12	-	0.39	-	21.0	3%	16.92	1%	250	8.22
1105		X	6.63		1.87		-12		0.30		22.4		16.72		250	

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

2.1

Low Flow Sheets based on Revised Well Manual (11/19/2021)

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	Iain B.
WEATHER:	Sunny ; P. Cloudy 40°F	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 6	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	2 - 15'
WELL PERMIT #:	2600063939	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 11.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 8.24 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1035	✓		6.67	NA	0.706	NA	174	NA	2.77	NA	20.9	NA	15.46	NA	330	8.34
1040	✓		6.01	0.66	0.718	1.7%	194	20	1.40	50.4%	30.3	45%	15.69	0.8%	330	8.33
1045	✓		5.96	0.05	0.717	0.4%	200	6	1.34	4.3%	27.9	6.9%	15.93	1.2%	330	8.33
1050	✓		5.90	0.06	0.714	0.4%	204	4	1.40	4.3%	25.7	7.9%	15.87	1.2%	330	8.33
1055	✓		5.89	0.01	0.708	0.8%	202	2	1.36	2.9%	24.5	6.6%	15.89	1.0%	330	8.32
1100		✓	5.88	0.01	0.703	0.6%	201	1	1.32	2.9%	23.1	5.7%	15.93	1.0%	330	8.32

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/3/21	FIELD PERSONNEL:	AE
WEATHER:	50° Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 8	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	1 - 15'
WELL PERMIT #:	E201305260	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 10 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.4 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:30	X		6.57	NA	0.348	NA	-27	NA	5.70	NA	95.8	NA	17.60	NA	320	7.4
10:35	X		6.96	0.39	0.355	2%	-8	19	3.94	30%	81.0	15%	18.45	4%	|	|
10:40	X		7.01	0.05	0.355	0%	4	4	3.76	4%	73.8	8%	18.81	1%	|	|
10:45	X		7.03	0.02	0.357	1%	18	14	3.67	2%	58.3	21%	18.93	1%	|	|
10:50	X		7.03	0.00	0.358	1%	25	7	3.63	1%	54.1	7%	19.02	1%	|	|
10:55	X		7.03	0.00	0.358	0%	30	5	3.60	1%	57.1	5%	19.17	1%	|	|
11:00	X		7.03	0.00	0.360	1%	39	9	3.55	1%	53.6	7%	19.22	1%	|	|
11:05	~~X~~	X	7.03	0.00	0.362	1%	42	3	3.35	5%	50.1	4.7%	19.31	1%	✓	✓
~~11:10~~																

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/1/21
WEATHER: Sunny, 40°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: AD - 9D
WELL PERMIT #: E201305262
WELL DEPTH: 28'
WELL DIAMETER: 4" Inches
SCREENED/OPEN INTERVAL: 23-28'

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 24.75 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 8.22 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1040	X		6.35	NA	2.09	NA	87	NA	0.55	NA	1.8	NA	18.41	NA	200	8.30
1045	X		6.30	0.05	2.10	0.5%	116	29	0.35	36%	1.1	39%	18.10	1.7%	200	8.28
1050	X		6.30	0	2.10	0	133	17	0.30	14.3%	1.1	0	17.86	1.3%	200	8.25
1055	X		6.29	0.01	2.09	0.5%	141	8	0.35	16.7%	1.2	9%	17.65	1.2%	200	8.25
1100	X		6.28	0.01	2.09	0	143	2	0.21	40%	1.1	8%	18.17	2.9%	200	8.24
1105	X		6.28	0	2.09	0	143	0	0.20	4.8%	1.2	9%	18.09	0.4%	200	8.28
1110	X		6.28	0	2.08	0.5%	143	0	0.05	75%	1.2	0	18.15	0.3%	200	8.28
1115	X		6.28	0	2.09	0.5%	145	2	0.05	0	1.1	8%	18.55	2.2%	200	8.30
1120	X		6.28	0	2.09	0	147	2	0.05	0	1.1	0	18.62	0.4%	200	8.30
1125	X		6.28	0	2.09	0	148	1	0.05	0	1.1	0	18.73	0.6%	200	8.30
Final		X	6.32	0.04	2.10	0.5%	148	0	0.05	0	1.1	0	18.82	0.5%	200	8.30

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/11/21
WEATHER: Sunny, 45°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: AD - 9DD
WELL PERMIT #: E201713813
WELL DEPTH: 60'
WELL DIAMETER: 2" Inches
SCREENED/OPEN INTERVAL: 55-60'

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 57 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 6.50 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1320	X		6.59	NA	0.795	NA	-13	NA	1.01	NA	45.3	NA	17.02	NA	200	10.00
1325	X		6.59	0	0.796	0.1%	-20	7	0.49	51.4%	93.9	107%	17.25	1.4%	200	10.80
1330	X		6.59	0	0.795	0.1%	-18	2	0.42	14.3%	79.3	15.5%	16.65	3.5%	150	10.60
1335	X		6.59	0	0.798	0.4%	-16	2	0.51	21.4%	67.7	14.6%	16.97	1.9%	150	10.39
1340	X		6.59	0	0.798	0	-16	0	0.40	18%	59.1	12.7%	16.77	1.2%	150	10.20
1345	X		6.60	0.01	0.806	1	-18	2	0.38	5%	55.2	6.6%	16.91	0.8%	150	10.45
1350	X		6.62	0.02	0.805	0.1%	-20	2	0.40	5%	57.2	3.6%	16.69	1.3	150	10.24
1355	X		6.62	0	0.805	0	-22	2	0.38	5%	53.7	6.1%	16.60	0.5%	150	10.05
final		X	6.61	0.01	0.815	1.2%	-24	2	0.36	5.3%	51.6	3.9%	16.51	0.5%	150	10.01

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/1/21
WEATHER: Sunny, 35°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: AD - 10
WELL PERMIT #: E201713815
WELL DEPTH: 19'
WELL DIAMETER: 2" Inches
SCREENED/OPEN INTERVAL: 5-20'

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 10.2 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 8.79 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
915	X		5.99	NA	4.12	NA	-20	NA	0.39	NA	91.0	NA	14.15	NA	200	9.03
920	X		6.03	0.04	4.10	0.5%	-15	5	0.41	5.1%	66.0	27%	14.70	3.9%	200	9.03
925	X		5.98	0.05	4.12	~~1.2~~ 0.5%	-18	3	0.28	31.7%	122	85%	15.80	7.5%	200	9.00
930	X		5.97	0.01	4.15	0.7%	-19	1	0.24	14.3%	83.1	32%	16.58	5%	200	9.02
935	X		5.96	0.01	4.21	1.4%	-17	2	0.09	62.5%	68.3	18%	17.47	5.3%	200	9.04
940	X		5.97	0.01	4.26	1.2%	-20	3	0.05	44.4%	26.8	61%	18.31	4.8%	200	9.03
945	X		5.95	0.02	4.33	1.6%	-22	2	0.01	80%	18.7	30%	18.40	0.5%	200	9.09
950	X		5.94	0.01	4.35	0.4%	-22	0	0	100%	19.0	1.6%	18.62	1.2%	200	9.09
955	X		5.93	0.01	4.41	1.4%	-22	0	0	0	18.4	3.2%	18.84	1.2%	200	9.09
1000	X		5.92	0.01	4.45	0.9%	-23	1	0	0	18.1	1.6%	19.00	0.8%	200	9.09
1005	X		5.90	0.02	4.47	0.4%	-23	0	0	0	17.9	1.1%	19.05	0.3%	200	9.09
COMMENTS: Final		X	5.94	0.04	4.49	0.4%	-24	1	0	0	17.6	1.7%	18.90	1.3%	200	9.10

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/30/21	FIELD PERSONNEL:	JF
WEATHER:	Overcast, 45°F	CERTIFICATION #:	13040

MONITOR WELL #:	AD - 10DD	WELL DEPTH:	64'	SCREENED/OPEN INTERVAL:	59-64'
WELL PERMIT #:	E201713816	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0	PUMP INTAKE DEPTH: 61 ft below TOC
	BENEATH OUTER CAP:	0	DEPTH TO WATER BEFORE PUMP INSTALLATION : 8.62 ft below TOC
	BENEATH INNER CAP:	0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1350	X		6.28	NA	0.700	NA	13	NA	1.41	NA	111	NA	15.69	NA	200	10.94
1355	X		6.27	0.01	0.710	1.4%	15	2	1.42	4.7%	93	16.2%	15.82	0.8%	200	11.02
1400	X		6.27	0	0.753	6%	16	1	1.09	23%	70.7	24%	14.77	6.6%	200	11.07
1405	X		6.26	0.01	0.741	1.6%	14	2	0.88	19%	53.3	24.6%	16.35	10.7%	200	11.93
1410	X		6.26	0	0.738	0.4%	9	5	0.63	28%	30.6	43%	16.75	2.4%	200	13.05
1415	X		6.31	0.05	0.737	0.1%	7	2	0.59	6.3%	24.9	2.3%	16.83	0.5%	200	13.47
1420	X		6.30	0.01	0.735	0.3%	8	1	0.28	53%	13.6	55%	16.96	0.8%	200	14.24
1425	X		6.29	0.01	0.745	1.3%	5	3	0.30	7.1%	3.7	73%	16.66	5.9%	200	15.18
1430	X		6.29	0	0.740	0.6%	4	1	0.28	6.7%	4.0	8.1%	16.55	0.7%	200	15.80
1435	X		6.29	0	0.734	0.8%	1	3	0.30	7.1%	3.8	5%	16.40	0.1%	100	15.95
1440	X		6.29	0	0.732	0.3%	0	1	0.29	3.3%	3.6	5.3%	16.28	0.7%	100	16.07
COMMENTS: Final	X		6.30	0.01	0.733	0.1%	1	1	0.28	3.4%	3.5	2.8%	16.50	1.4%	100	16.32

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Port Reading
DATE: 12/8/21
WEATHER: Cloudy, 35°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: FA-1
WELL PERMIT #: E202000100
WELL DEPTH: 12'
WELL DIAMETER: 2" Inches
SCREENED/OPEN INTERVAL: 2-13'

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 6 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.80 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
820	X		5.94	NA	0.106	NA	175	NA	1.44	NA	149	NA	14.91	NA	200	3.90
825	X		5.86	0.08	0.108	1.9%	157	18	0.76	47%	100	33%	15.52	4%	200	3.88
830	X		5.94	0.08	0.110	1.9%	151	6	0.64	16%	71.1	30%	15.82	1.9%	200	3.89
835	X		6.00	0.06	0.113	2.7%	144	7	0.46	28%	40.4	43%	16.12	1.9%	200	3.88
840	X		6.03	0.03	0.115	1.8%	141	3	0.29	37%	25.1	38%	16.05	0.4%	200	3.88
845	X		6.05	0.02	0.116	0.8%	139	2	0.32	10.0%	22.5	10.0%	16.24	1.2%	200	3.88
850	X		6.08	0.03	0.118	1.7%	137	2	0.35	9.4%	20.8	7.6%	16.32	0.5%	200	3.88
855	X		6.10	0.02	0.120	1.7%	134	3	0.32	8.6%	19.2	7.7%	16.24	0.5%	200	3.89
900		X	6.10	0	0.121	0.8%	135	1	0.30	6.3%	17.8	7.3%	16.09	0.9%	200	3.88

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	Iain B
WEATHER:	P. Cloudy 42°F	CERTIFICATION #:	13040

MONITOR WELL #: FA-2 WELL DEPTH: 14' SCREENED/OPEN INTERVAL: 2-14'
WELL PERMIT #: E202000101 WELL DIAMETER: 2" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 7.00 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.00 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1240	✓		6.82	NA	0.141	NA	-3	NA	2.97	NA	458	NA	15.02	NA	320	5.90
1245	✓		6.89	0.07	0.139	1.4%	-22	19	2.10	29%	239	48%	14.55	3.1%	320	5.91
1250	✓		6.90	0.01	0.142	2.1%	-42	20	1.77	15.7%	156	34.7%	15.35	5.4%	320	5.92
1255	✓		6.94	0.04	0.145	2.1%	-51	9	1.68	5.1%	116	25.6%	15.32	1%	320	5.94
1300	✓		6.97	0.03	0.148	2.1%	-63	12	1.32	21.4%	77.1	33.6%	15.00	2.1%	320	5.94
1305	✓		6.99	0.02	0.152	2.7%	-71	8	1.45	9.8%	69.9	9.3%	14.93	1%	320	5.95
1310	✓		7.01	0.02	0.154	1.9%	-74	3	1.38	4.8%	35.2	49.6%	14.88	1%	320	5.95
1315	✓		7.02	0.01	0.156	1%	-78	4	1.41	1.5%	34.7	1.4%	14.75	1%	320	5.96
1320	✓		7.04	0.02	0.157	1%	-81	3	1.38	2.1%	33.1	4.6%	14.86	1%	320	5.96
1325	✓		7.04	—	0.157	-	-83	2	1.40	2.1%	32.6	1.5%	15.01	1.8%	320	5.97
1330		✓	7.05	0.01	0.158	1%	-84	1	1.42	2.1%	31.4	3.7%	15.13	1%	320	5.98

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess- Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	JF
WEATHER:	Sunny 40°F	CERTIFICATION #:	13040

MONITOR WELL #: FA-3 WELL DEPTH: 15' SCREENED/OPEN INTERVAL: 2-15'
WELL PERMIT #: E202000102 WELL DIAMETER: 2" Inches

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 11.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.18 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1230	X		6.36	NA	0.473	NA	-76	NA	0.58	NA	147	NA	17.40	NA	200	9.24
1235	X		6.29	0.07	0.445	5.9%	-69	7	0.25	60%	114	22%	18.59	6.8%	200	9.28
1240	X		6.20	0.09	0.437	1.8%	-59	10	0.14	39%	90.3	21%	18.42	0.9%	200	9.23
1245	X		6.12	0.08	0.415	5.0%	-54	5	0.14	-	71.5	21%	18.99	3.1%	200	9.30
1250	X		6.09	0.03	0.398	4.0%	-55	1	0.04	71%	30.1	58%	19.73	3.9%	200	9.28
1255	X		6.05	0.04	0.397	0.3%	-53	2	0.04	-	26.0	34%	19.81	0.4%	200	9.25
1300	X		6.01	0.04	0.394	0.8%	-55	2	0.04	-	19.6	2%	19.61	1.0%	200	9.26
1305	X		6.05	0.04	0.395	0.3%	-57	2	0.04	-	18.9	3.6%	19.62	0.1%	200	9.26
1310	X		6.05	-	0.400	1.3%	-59	2	0.04	-	17.8	5.8%	19.62	-	200	9.28
1315		X	6.06	0.01	0.406	1.5%	-61	2	0.04	-	16.9	5.1%	19.71	0.1%	200	9.29

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/8/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 38°F	CERTIFICATION #:	13040

MONITOR WELL #:	FA-4	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	2-15'
WELL PERMIT #:	E202000103.	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 11.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.44 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1005	X		6.51	NA	0.635	NA	-75	NA	0.27	NA	618	NA	17.46	NA	200	9.44
1010	X		6.67	0.16	0.758	19%	-99	24	0.03	89%	484	22%	17.86	2.3%		9.44
1015	X		6.75	0.08	0.845	11%	-108	9	0.10	233%	212	56%	17.44	2.4%		9.44
1020	X		6.79	0.04	0.858	1.2%	-113	5	0.10	-	137	35%	17.33	0.6%		9.44
1025	X		6.81	0.02	0.999	16%	-115	2	0.10	-	95.1	31%	18.25	5.3%		
1030	X		6.84	0.03	1.08	8%	-120	5	0.10	-	73.2	23%	18.34	0.5%		
1035	X		6.87	0.03	1.21	12%	-131	11	0.10	-	31.4	40%	20.06	9.4%		
1040	X		6.87	-	1.25	3%	-132	1	0.10	-	30.7	2.2%	19.94	1.3%		
1045	X		6.87	-	1.24	0.8%	-132	-	0.10	-	27.9	9.1%	19.60	1.2%		
1050	X		6.88	0.01	1.26	1.6%	-127	5	0.10	-	25.5	8.6%	19.61	0.4%		
1055		X	6.87	0.01	1.29	2.3%	-121	6	0.10	-	24.0	5.9%	19.40	1.1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/8/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 40°F	CERTIFICATION #:	13040

MONITOR WELL #: FA-6 WELL DEPTH: 18' SCREENED/OPEN INTERVAL: 5-18'
WELL PERMIT #: E202000105. WELL DIAMETER: 2" Inches

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 10.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.12 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1155	Y		6.08	NA	0.299	NA	18	NA	1.43	NA	912	NA	12.76	NA	250	7.31
1200	X		6.09	0.01	0.305	2%	4	14	0.75	48%	644	29%	13.17	3.2%	200	7.49
1205	Y		6.08	0.01	0.306	0.3%	0	4	0.62	17%	538	16%	13.35	1.4%	150	7.49
1210	X		6.09	0.01	0.313	2.3%	-4	4	0.54	13%	485	9.9%	13.58	1.7%	150	7.50
1215	X		6.10	0.01	0.322	2.9%	-8	4	0.42	15%	388	20%	13.62	0.3%	150	7.51
1220	X		6.11	0.01	0.332	3.1%	-12	4	0.38	9.5%	252	38%	13.64	0.1%	150	7.48
1225	X		6.16	0.05	0.342	3.0%	-14	2	0.40	5.2%	248	1.6%	13.61	0.2%	150	7.46
1230	X		6.13	0.02	0.347	1.4%	-15	1	0.37	7.5%	240	3.2%	13.60	0.1%	150	7.48
1235	X		6.13	–	0.353	1.7%	-17	2	0.34	8.1%	243	1.3%	13.67	0.5%	150	7.48
1240		X	6.13	–	0.359	1.7%	-18	1	0.31	8.8%	226	7.0%	13.67	–	150	7.47

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/8/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 42°F	CERTIFICATION #:	13040

MONITOR WELL #: FA-7 WELL DEPTH: 18' SCREENED/OPEN INTERVAL: 5-18'
WELL PERMIT #: E202000106 WELL DIAMETER: 2" Inches

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 11.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 9.14 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1325	X		5.88	NA	0.134	NA	84	NA	1.13	NA	724	NA	13.30	NA	200	9.28
1330	X		5.82	0.06	0.131	2.2%	88	4	0.59	48%	1000	38%	13.16	1.1%	200	9.30
1335	X		5.81	0.01	0.127	3.1%	86	2	0.64	8.4%	518	48%	13.56	3%	200	9.29
1340	X		5.82	0.01	0.118	7.0%	86	-	0.74	16%	295	43%	13.68	0.9%	200	9.29
1345	X		5.86	0.04	0.104	12.0%	87	1	0.59	21%	195	34%	13.68	-	200	9.30
1350	X		5.85	0.01	0.090	6.7%	86	1	0.49	17%	154	23%	13.90	1.6%	200	9.30
1355	X		5.86	0.01	0.092	2.2%	86	-	0.49	-	141	9%	13.80	0.7%	200	9.30
1400	X		5.86	-	0.090	2.2%	86	-	0.47	4.1%	129	8.5%	13.89	0.7%	200	9.30
1405	X		5.86	-	0.088	2.2%	86	-	0.43	8.5%	117	9.3%	13.96	0.5%	200	9.31
1410		X	5.86	-	0.088	-	87	1	0.46	7.0%	107	8.5%	13.90	0.4%	200	9.31

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 10/14/21
WEATHER: 50°s-mx

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: AV
CERTIFICATION #: 13040

MONITOR WELL #: LPG - 1
WELL PERMIT #: 2600063940
WELL DEPTH: 9'
WELL DIAMETER: 4" Inches
SCREENED/OPEN INTERVAL: 2 - 9'

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 7 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.6 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:00	X		5.92	NA	0.075	NA	144	NA	5.76	NA	107	NA	15.90	NA	295	5.62
1105	X		6.00	0.08	0.073	2%	137	7	2.46	58%	64	40%	15.83	1%		
1110	X		6.10	0.10	0.072	1%	131	6	1.26	47%	56.2	12%	15.50	2%		
1115	X		6.17	0.07	0.069	4%	128	3	1.04	17%	69.6	23%	15.92	3%		
1120	X		6.21	0.04	0.068	1%	124	4	1.04	0%	65.2	6%	14.94	1%		
1125	X		6.28	0.07	0.069	1%	120	4	1.00	3%	61.5	5%	15.98	1%		
1130	X		6.33	0.05	0.068	1%	116	4	0.95	5%	58.4	5%	15.04	1%		
1135		X	6.38	0.05	0.067	1%	110	6	0.90	5%	52.9	9%	15.12	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/14/21	FIELD PERSONNEL:	MP
WEATHER:	Sunny 40s	CERTIFICATION #:	13040

MONITOR WELL #:	LPG - 2	WELL DEPTH:	10'	SCREENED/OPEN INTERVAL:	2 - 10'
WELL PERMIT #:	2600063941	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.4

PUMP INTAKE DEPTH: 5.00 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.01 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1200	X		6.48	NA	4.34	NA	-27	NA	1.94	NA	309	NA	17.93	NA	250	3.10
1205	X		6.57	0.09	4.26	1.8%	-32	5	3.95	103%	282	8.7%	18.00	1%	250	3.11
1210	X		6.59	0.02	3.90	8.5%	-32	-	3.30	16.4%	275	2.5%	18.11	1%	250	3.11
1215	X		6.60	0.01	3.63	6.9%	-34	2	3.07	6.9%	250	9.0%	18.20	1%	250	3.11
1220	X		6.61	0.01	3.58	1.4%	-40	6	3.00	2.3%	242	3.2%	18.14	1%	250	3.11
1225	X		6.62	0.01	3.57	1%	-42	2	2.99	1%	236	2.5%	18.35	1.2%	250	3.11
1230	X		6.62	-	3.55	1%	-43	1	2.92	2.3%	220	6.8%	18.57	1.2%	250	3.11
1235		X	6.62	-	3.56	1%	-44	1	2.94	1%	215	2.3%	18.65	1%	250	3.11

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/30/21	FIELD PERSONNEL:	AP
WEATHER:	Cloudy 30s	CERTIFICATION #:	13040

MONITOR WELL #:	MW-1	WELL DEPTH:	16'	SCREENED/OPEN INTERVAL:	6-16'
WELL PERMIT #:	E201607933	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 13.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 11.10 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1030	X		12.45	NA	0.355	NA	-48	NA	6.49	NA	76.1	NA	13.96	NA	250	11.52
1035	X		12.50	0.05	0.373	5%	-49	1	2.77	57%	58.3	23%	14.41	3%	250	11.55
1040	X		12.53	0.02	0.373	—	-47	2	2.63	5%	49.0	16%	14.07	2%	200	11.55
1045	X		12.54	0.01	0.365	2%	-44	3	1.99	24%	39.7	19%	13.74	2%	200	11.56
1050	X		12.55	0.01	0.370	1%	-43	1	2.06	4%	35.4	10%	13.60	1%	200	11.57
1055	X		12.55	—	0.369	1%	-42	1	2.09	1%	33.1	6%	13.58	1%	200	11.59
1100	X		12.55	-	0.370	1%	-43	1	2.12	1%	30.0	9%	13.46	1%	200	11.59
1105		X	12.54	0.01	0.370	—	-40	3	2.09	1%	31.1	5%	13.50	1%	200	11.59

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/30/21	FIELD PERSONNEL:	JF
WEATHER:	35°F Overcast	CERTIFICATION #:	13040

MONITOR WELL #:	MW-2	WELL DEPTH:	13.0'	SCREENED/OPEN INTERVAL:	3-13'
WELL PERMIT #:	E201607934	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 6 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 4.41 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0855	X		6.44	NA	0.219	NA	58	NA	0.72	NA	152	NA	13.68	NA	200	4.89
0900	X		6.45	+.01	0.218	-0.4%	40	-18	0.67	-6.9%	126	-17.1%	13.81	10%	200	5.05
0905	X		6.49	+.04	0.231	+6%	27	-13	0.77	+14.9%	63.5	-50%	12.94	6%	150	5.09
0910	X		6.54	.05	0.234	1.2%	28	+1	0.75	2.6%	67.1	5.7%	12.09	7%	200	5.11
0915	X		6.50	.04	0.227	3%	18	-10	1.38	84%	40.2	-40%	14.50	20%	200	5.32
0920	X		6.53	.03	0.231	1.7	13	-5	0.59	-57%	27.4	32%	14.84	2.3%	150	5.37
0925	X		6.56	.03	0.240	3.8%	12	-1	0.35	40%	26.5	3.3%	13.57	8.6%	100	5.38
0930	X		6.57	.01	0.241	0.4%	11	-1	0.30	14%	26.8	1%	13.22	2.6%	100	5.36
0935	X		6.57	0	0.237	1.6%	13	+2	0.33	10%	22.9	14.5%	13.87	5%	200	5.60
0940	X		6.58	.01	0.243	2.5%	14	+1	0.27	18%	20.8	9.2%	14.23	2.6%	200	5.67
0945	X		6.60	.02	0.250	2.9%	18	+4	0.24	11%	19.7	5.2	13.30	6.5	200	5.67

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SITE: Former Hess - Port Reading
DATE: 11/30/21
WEATHER:
CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: MW-2 (cont'd)
WELL PERMIT #:
WELL DEPTH:
WELL DIAMETER: Inches
SCREENED/OPEN INTERVAL:

PID/FID READINGS (ppm): BACKGROUND:
BENEATH OUTER CAP:
BENEATH INNER CAP:
PUMP INTAKE DEPTH: ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
~~0950~~			~~6.59~~	NA		NA		NA		NA		NA		NA		
0950	X		6.59	.01	0.245	2%	20	2	0.23	4	18.8	4.5	13.42	1	200	5.82
0955	X		6.60	.01	0.250	2%	22	2	0.23	4	18.2	3.2	13.50	1	200	5.82
1000	X		6.60	0	0.256	2.4	23	1	0.23	4	17.8	2.1	13.56	1	200	5.83
Final		X	6.59	.01	0.253	1.1	25	8.6	0.25	8.6	17.1	4	13.70	1	200	5.95

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/30/21	FIELD PERSONNEL:	JF
WEATHER:	Overcast, 40°F	CERTIFICATION #:	13040

MONITOR WELL #:	MW-3	WELL DEPTH:	13'	SCREENED/OPEN INTERVAL:	3-13'
WELL PERMIT #:	E201607935	WELL DIAMETER:	2" inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 5.25 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 3.14 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1100	X		6.66	NA	0.178	NA	22	NA	0.63	NA	202	NA	12.76	NA	200	3.59
1105	X		6.64	0.02	0.171	4	27	5%	0.94	57%	134	34%	12.68	0.6%	200	3.61
1110	X		6.61	0.03	0.168	1.8%	32	5	0.23	77%	108	19%	12.13	4.3	100	3.60
1115	X		6.57	0.04	0.161	4.2%	28	4	0.12	48%	42	61%	14.39	18%	200	3.74
1120	X		6.58	0.01	0.160	0.6%	27	1	0.21	75%	23	45%	14.13	1.8%	150	3.79
1125	X		6.59	0.01	0.160	0	22	5	0.25	19%	14	39%	14.58	3.2%	200	3.79
1130	X		6.61	0.02	0.163	1.9%	20	2	0.10	60%	9.5	32%	14.32	1.8%	200	3.78
1135	X		6.61	0	0.163	0	20	0	0.09	10%	7.8	18%	14.44	1%	200	3.78
1140	X		6.63	0.02	0.165	1.2%	19	1	0.09	0	7.5	3%	14.29	1%	200	3.75
1145	X		6.60	0.03	0.166	0.6%	18	1	0.09	0%	6.9	8%	14.21	0.5%	200	3.81
1150	X		6.61	0.01	0.165	0.6%	18	0	0.09	0%	6.6	4.3%	14.19	0.1%	200	3.82
Final		X	6.61	0	0.169	2.4%	14	4	0.09	0%	7.1	7.5%	14.39	1.4%	200	3.88

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET ___ OF ___

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/30/21	FIELD PERSONNEL:	MP
WEATHER:	Cloudy 30,	CERTIFICATION #:	13040

MONITOR WELL #:	MW-4	WELL DEPTH:	18'	SCREENED/OPEN INTERVAL:	6-18'
WELL PERMIT #:	E201615028	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 8.50 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.52 ft below TOC
6.52 6.52

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
915	X		12.71	NA	0.590	NA	-137	NA	2.72	NA	437	NA	11.23	NA	200	6.79
920	X		12.81	0.10	0.583	1%	-163	26	2.23	18%	243	33%	11.52	3%	200	6.79
925	X		12.73	0.08	0.567	4%	-138	25	3.83	71%	311	6%	12.88	13%	200	6.80
930	X		12.85	0.12	0.570	1%	-164	26	3.50	8.6%	208	33%	11.57	10%	200	6.80
935	X		12.91	0.06	0.614	7%	-186	12	3.62	4%	134	35%	11.50	1%	200	6.80
940	X		12.93	0.02	0.620	1%	-190	4	3.50	3%	117	12.6%	11.32	2%	200	6.80
945	X		12.93	—	0.625	1%	-198	8	3.42	3%	110	6%	11.28	1%	200	6.80
950	X		12.94	0.01	0.627	1%	-201	3	3.38	1%	108	2%	11.20	1%	200	6.81
955	X		12.94	—	0.629	1%	-202	1	3.30	2%	108	—	11.24	1%	200	6.81
1000		X	12.92	0.02	0.627	1%	-198	4	3.41	3%	110	2%	11.38	2%	200	6.81

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/30/21	FIELD PERSONNEL:	MP
WEATHER:	Cloudy 30s	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 1	WELL DEPTH:	18'	SCREENED/OPEN INTERVAL:	6 - 18'
WELL PERMIT #:	2600063933	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 12.50 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.01 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1335	X		7.82	NA	0.273	NA	177	NA	1.80	NA	90.4	NA	15.92	NA	250	10.40
1340	X		7.69	0.13	0.273	–	176	1	1.61	11%	107	18%	15.99	1%	250	10.40
1345	X		7.64	0.05	0.271	1%	174	2	1.39	14%	94.1	12%	16.11	1%	250	10.40
1350	X		7.61	0.03	0.273	1%	172	2	1.28	8%	76.3	19%	15.96	1%	250	10.40
1355	X		7.57	0.04	0.272	1%	170	2	1.22	5%	52.1	31%	16.15	1%	250	10.40
1400	X		7.57	–	0.272	–	169	1	1.20	2%	51.8	1%	16.22	1%	250	10.40
1405	X		7.56	0.01	0.272	–	169	–	1.22	2%	51.3	1%	16.36	1%	250	10.40
1410	X		7.56	–	0.272	–	169	–	1.24	2%	51.2	1%	16.45	1%	250	10.40
1415		X	7.57	0.01	0.272	–	170	1	1.22	2%	51.8	1%	16.50	1%	250	10.40

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

4 hr check U-52
pH 4.0, [illegible]
turb – 100

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET ___ OF ___

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/3/21	FIELD PERSONNEL:	Iain B
WEATHER:	Sunny 48°F	CERTIFICATION #:	13040

MONITOR WELL #: PER-2 WELL DEPTH: 12' SCREENED/OPEN INTERVAL: 5-12'
WELL PERMIT #: 2600063924 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 7.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 4.98 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1330	✓		7.37	NA	0.174	NA	-51	NA	1.49	NA	16.7	NA	13.29	NA	330	5.55
1335	✓		7.03	0.34	0.170	2.3%	-29	22	0.60	60%	12.8	23%	14.08	1%		5.57
1340	✓		6.75	0.28	0.169	0.5%	-9	20	0.06	90%	9.9	10.3%	14.16	1%		5.59
1345	✓		6.63	0.12	0.169	-	-22	13	0.06	-	0.1	90%	14.09	1%		5.60
1350	✓		6.54	0.09	0.171	1.2%	-27	5	0.06	-	0.1	-	14.00	1%		5.61
1355	✓		6.49	0.05	0.171	-	-31	4	0.06	-	0.1	-	13.98	1%		5.62
1400	✓		6.46	0.03	0.171	-	-40	9	0.06	-	0.1	-	13.98	1%		5.62
1405		✓	6.43	0.03	0.172	0.8%	-48	8	0.06	-	0.1	-	13.90	1%		5.62

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/3/21	FIELD PERSONNEL:	Iain B.
WEATHER:	Sunny 45°F	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 2D	WELL DEPTH:	33'	SCREENED/OPEN INTERVAL:	28-33'
WELL PERMIT #:	E201305266	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 30.0 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.36 ft below TOC
	BENEATH INNER CAP:	0.0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1140	✓		6.40	NA	0.804	NA	68	NA	5.50	NA	37.0	NA	15.01	NA	300	6.55
1145	✓		6.43	0.03	0.818	1.7%	68	–	1.22	78%	16.3	56%	14.43	1%	300	6.56
1150	✓		6.42	0.01	0.823	0.6%	66	2	0.74	39%	24.2	125%	14.68	1%	300	6.56
1155	✓		6.42	–	0.826	0.6%	66	–	0.71	4.0%	24.1	0.2%	14.80	1%	300	6.57
1200	✓		6.42	–	0.830	0.6%	67	1	0.71	–	21.6	9.9%	14.74	1%	300	6.57
1205	✓		6.41	0.01	0.834	0.6%	66	1	0.71	–	20.8	3.7%	14.73	1%	300	6.56
1210	✓		6.41	–	0.835	0.2%	67	1	0.75	5.6%	20.2	3.0%	14.82	1%	300	6.57
1215		✓	6.41	–	0.837	0.2%	67	–	0.72	4.0%	19.8	2.0%	14.83	1%	300	6.57

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/3/21	FIELD PERSONNEL:	Iain B
WEATHER:	Sunny 40°F	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 2DDD	WELL DEPTH:	63'	SCREENED/OPEN INTERVAL:	53-63'
WELL PERMIT #:	E201812231	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 55 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 6.36 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1010	✓		6.16	NA	0.456	NA	-64	NA	7.68	NA	828	NA	14.26	NA	370	6.49
1015	✓		6.25	0.09	0.428	6%	-88	14	0.30	96%	210	75%	14.38	1%	330	6.50
1020	✓		6.30	0.05	0.422	1%	-91	3	0.22	26%	135	36%	14.31	1%	330	6.49
1025	✓		6.33	0.03	0.417	1%	-89	2	0.18	18%	108	20%	14.43	1%	330	6.49
1030	✓		6.34	0.01	0.416	1%	-89	–	0.20	1%	75.7	29%	14.39	1%	330	6.49
1035	✓		6.34	–	0.415	1%	-88	1	0.19	1%	73.8	2.5%	14.54	1%	330	6.49
1040	✓		6.36	0.02	0.413	1%	-88	–	0.20	1%	71.6	2.9%	14.62	1%	330	6.49
1045	✓		6.36	–	0.412	1%	-88	–	0.19	1%	71.0	1%	14.71	1%	330	6.52
1050		✓	6.37	0.01	0.411	1%	-89	1	0.18	1%	71.6	1%	14.74	1%	330	6.53

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	RC
WEATHER:	Clear 40°F	CERTIFICATION #:	13040

MONITOR WELL #: PER - 3 WELL DEPTH: 12' SCREENED/OPEN INTERVAL: 5-12'
WELL PERMIT #: 2600063925 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 8.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.29 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1345	✓		8.00	NA	1.79	NA	-101	NA	7.32	NA	87.8	NA	10.22	NA	300	4.95
1350	✓		7.75	0.25	1.97	10%	-99	2	1.30	82%	93.3	6%	9.86	3%	300	5.00
1355	✓		7.53	0.22	2.37	20%	-95	4	1.32	1%	110	17%	10.20	3%	300	5.02
1400	✓		7.42	0.11	2.56	8%	-92	3	1.38	1%	91.2	19%	9.60	5%	300	5.04
1405	✓		7.36	0.06	2.80	9%	-90	2	6.52	300%	73.8	15%	8.99	6%	300	5.04
1410	✓		7.30	0.04	2.97	6%	-89	1	6.47	1%	62.0	15%	8.71	3%	300	5.05
1415	✓		7.25	0.05	2.36	20%	-115	26	4.08	37%	38.8	37%	8.89	1%	300	5.06
1420	✓		7.20	0.05	2.31	2%	-122	7	4.07	1%	87.7	3%	8.89	–	300	5.07
1425	✓		7.19	0.01	2.32	1%	-127	2	4.08	1%	36.1	3%	8.72	2%	300	5.08
1430	✓		7.18	0.01	2.35	1%	-126	2	4.07	1%	34.9	3%	8.69	1%	300	5.09
1435		✓	7.16	0.02	2.37	1%	-130	4	4.08	1%	35.7	2%	8.71	1%	300	5.10

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	RC
WEATHER:		CERTIFICATION #:	13040

MONITOR WELL #:	PER - 3D	WELL DEPTH:	33'	SCREENED/OPEN INTERVAL:	28-33'
WELL PERMIT #:	E201309741	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND:
BENEATH OUTER CAP:
BENEATH INNER CAP:

PUMP INTAKE DEPTH: 30 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.01 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1200	✓		7.27	NA	6.35	NA	-100	NA	2.10	NA	18.8	NA	12.44	NA	400	6.22
1205	✓		7.32	.05	7.38	16%	-134	34	0.00	—	354	>100%	13.44	8%	400	6.40
1210	✓		7.36	.04	7.36	.2%	-140	6	0.00	—	301	14%	13.50	.4%	400	6.38
1215	✓		7.38	.02	7.32	.5%	-145	5	0.00	—	237	21%	13.61	.8%	400	6.38
1220	✓		7.40	.02	7.20	1.6%	-150	5	0.00	—	100	57%	13.59	.1%	400	6.38
1225	✓		7.43	.03	7.04	2.6%	-156	6	0.00	—	88.3	15%	13.55	.29%	400	6.30
1230	✓		7.46	.03	6.89	1.7%	-162	6	0.00	—	71.8	18%	13.50	.3%	400	6.26
1235	✓		7.47	.01	6.78	1.5%	-168	6	0.00	—	60.2	16%	13.57	.5%	400	6.14
1240	✓		7.49	.02	6.50	4%	-171	3	0.00	—	52.1	13%	13.49	.5%	400	6.14
1245	✓		7.50	.01	6.43	1%	-175	4	0.00	—	48.6	6%	13.50	.07%	400	6.14
1250	✓		7.52	.02	6.37	1%	-179	4	0.00	—	34.5	29%	13.54	.2%	400	6.14

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 2 OF 2

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	RC
WEATHER:	Clear 40°	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 3D	WELL DEPTH:	33'	SCREENED/OPEN INTERVAL:	28-33'
WELL PERMIT #:	E201309741	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: _____ BENEATH OUTER CAP: _____ BENEATH INNER CAP: _____

PUMP INTAKE DEPTH: _____ ft below TOC

DEPTH TO WATER BEFORE PUMP INSTALLATION : _____ ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1250	✓		7.52	NA	6.37	NA	-179	NA	0	NA	34.5	NA	13.54	NA	400	6.14
1255	✓		7.54	0.02	6.25	2%	-184	5	0	-	30.9	10%	13.50	1%	400	6.14
1300	✓		7.55	0.01	6.19	1%	-186	2	0	-	26.2	15%	13.59	1%	400	6.14
1305	✓		7.56	0.01	6.10	2%	-186	-	0	-	20.6	21%	13.58	1%	400	6.14
1310	✓		7.56	-	6.06	1%	-187	1	0	-	19.6	5%	13.58	-	400	6.14
1315	✓		7.57	0.01	5.99	1%	-190	3	0	-	19.2	2%	13.62	1%	400	6.14
1320	✓		7.57	-	5.95	1%	-193	3	0	-	19.4	2%	13.60	1%	400	6.14
1325		✓	7.57	-	5.91	1%	-195	2	0	-	19.1	3%	13.68	1%	400	6.14

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/13/21	FIELD PERSONNEL:	My
WEATHER:	Sunny 40s	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 4	WELL DEPTH:	18'	SCREENED/OPEN INTERVAL:	3 - 18'
WELL PERMIT #:	2600063934	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 9.00 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 6.90 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1200	X		6.72	NA	1.91	NA	-68	NA	7.49	NA	62.0	NA	15.17	NA	250	6.95
1205	X		6.73	0.01	1.99	4%	-74	6	7.42	1.0%	60.0	3.2%	15.82	4%	250	6.95
1210	X		6.79	0.06	2.10	5.5%	-83	9	6.18	16.7%	44.8	25.3%	16.16	2.1%	250	6.95
1215	X		6.82	0.03	2.16	2.8%	-86	3	6.14	1%	40.3	10%	16.05	1%	250	6.95
1220	X		6.85	0.03	2.20	1.9%	-89	3	6.12	1%	38.7	4.0%	15.94	1%	250	6.95
1225	X		6.86	0.01	2.21	1%	-89	-	6.11	1%	35.2	9.0%	15.89	1%	250	6.95
1230		X	6.86	-	2.20	1%	-89		6.13	1%	36.8	4.5%	15.87	1%	250	

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	4/7/21	FIELD PERSONNEL:	AE
WEATHER:	45° Cloudy	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 5	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	3 - 15'
WELL PERMIT #:	2600063935	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND: 0.0	PUMP INTAKE DEPTH: 13 ft below TOC	
	BENEATH OUTER CAP: 0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.2 ft below TOC	
	BENEATH INNER CAP: 0.0		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1310	X		8.35	NA	0.376	NA	-198	NA	2.00	NA	15.2	NA	14.83	NA	390	11.2
1315	X		7.57	0.78	0.292	22%	-177	21	2.14	53%	19.4	27%	15.74	6%		
1320	X		7.37	0.20	0.269	7%	-172	5	1.69	21%	22.4	10%	17.20	9%		
1325	X		7.26	0.11	0.265	1%	-166	6	1.35	20%	40.8	2%	17.68	2%		
1330	X		7.24	0.02	0.260	1%	-160	6	1.25	7%	37.5	8%	17.74	1%		
1335	X		7.20	0.04	0.257	1%	-157	3	1.19	4%	33.8	9%	17.79	1%		
1340	X		7.16	0.03	0.254	1%	-153	4	1.14	4%	31.2	7%	17.83	1%		
1345		X	7.10	0.06	0.250	1%	-150	3	1.12	1%	29.7	5%	17.88	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/30/21	FIELD PERSONNEL:	MP
WEATHER:	Cloudy, Snowy 30,	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 6R	WELL DEPTH:	20.[illegible]2'	SCREENED/OPEN INTERVAL:	3 - 22'
WELL PERMIT #:	P200800554	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 12.50 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 9.69 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1140	X		9.70	NA	0.154	NA	119	NA	3.04	NA	161	NA	13.65	NA	250	9.92
1145	X		9.03	0.67	0.156	1%	138	19	3.22	6%	146	9%	12.75	7%	250	9.92
1150	X		8.66	0.37	0.157	1%	152	14	3.92	21%	133	9%	12.65	1%	250	9.92
1155	X		8.40	0.26	0.157	—	164	12	2.70	31%	119	11%	12.55	1%	250	9.93
1200	X		8.22	0.18	0.157	—	171	7	2.60	4%	113	5%	12.40	1%	250	9.94
1205	X		8.08	0.14	0.157	—	176	5	2.78	15%	109	4%	12.18	2%	250	9.94
1210	X		8.04	0.04	0.157	—	179	3	2.93	1%	105	4%	12.12	1%	250	9.94
1215	X		8.00	0.04	0.157	—	178	1	3.02	1%	107	2%	12.11	1%	250	9.94
1220	X		7.98	0.02	0.157	—	179	1	2.93	1%	105	2%	12.13	1%	250	9.94
1225		X	7.96	0.02	0.158	1%	179	—	2.97	1%	103	2%	12.15	1%	252	

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/9/21
WEATHER: Sunny, 32°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: PER - 7
WELL PERMIT #: 2600063931
WELL DEPTH: 18'
WELL DIAMETER: 4" Inches
SCREENED/OPEN INTERVAL: 5-18'

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 9.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 7.28 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
905	X		6.51	NA	0.135	NA	147	NA	2.51	NA	166	NA	14.59	NA	200	7.43
910	X		6.46	0.05	0.134	0.7%	147	0	2.10	16%	183	10.2%	14.84	1.7%	150	7.51
915	X		6.46	0	0.133	0.7%	154	7	2.03	3.3%	190	3.8%	14.97	0.9%	150	7.54
920	X		6.51	0.05	0.132	0.8%	160	6	1.89	6.9%	211	10%	15.08	0.7%	150	7.55
925	X		6.53	0.02	0.132	0%	160	0	2.05	8.4%	216	2.4%	14.91	1.1%	150	7.52
930	X		6.48	0.05	0.132	0%	165	5	1.89	7.8%	200	7.4%	14.81	0.7%	150	7.52
935		X	6.49	0.01	0.130	1.5%	167	2	1.84	2.6%	217	8.5%	15.15	2.3%	150	7.55
940																

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 39°F	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 8	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	5 - 17'
WELL PERMIT #:	2600063932	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND: 0	PUMP INTAKE DEPTH: 8.3 ft below TOC	
	BENEATH OUTER CAP: 0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.31 ft below TOC	
	BENEATH INNER CAP: 0		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1320	X		6.77	NA	0.142	NA	64	NA	1.22	NA	70.4	NA	14.84	NA	250	6.40
1325	X		6.75	0.02	0.136	4.2%	82	18	0.71	42%	63.6	9.7%	15.25	1.0%	250	6.38
1330	X		6.72	0.03	0.137	0.7%	92	10	0.59	16.8%	49.5	22%	15.08	1.0%	250	6.38
1335	X		6.70	0.02	0.136	0.7%	96	4	0.55	5.5%	34.1	31%	15.08	1.0%	250	6.37
1340	X		6.68	0.02	0.136	–	96	–	0.52	7.7%	25.0	27%	15.18	1.0%	250	6.37
1345	X		6.67	0.01	0.138	1.5%	96	–	0.39	10.2%	22.8	8.8%	15.30	1.0%	250	6.37
1350	X		6.69	0.02	0.141	2.2%	93	3	0.35	8.5%	21.3	6.6%	14.95	1.0%	250	6.38
1355	X		6.67	0.02	0.145	2.8%	96	3	0.32	8.6%	19.3	9.4%	14.88	1.0%	250	6.39
1400	X		6.63	0.04	0.149	2.8%	92	4	0.29	9.4%	20.7	7.3%	14.79	1.0%	250	6.41
1405		X	6.62	0.01	0.152	2.0%	89	3	0.27	6.9%	20.9	1.3%	14.95	1.0%	250	6.41

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	RC
WEATHER:	Clear	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 9	WELL DEPTH:	18.5	SCREENED/OPEN INTERVAL:	3.5 - 18.5
WELL PERMIT #:	E201309742	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 6.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.75 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1240	✓		8.34	NA	0.532	NA	-236	NA	8.22	NA	319	NA	11.93	NA	280	4.04
1245	✓		8.12	0.22	0.519	2%	-238	2	6.30	23%	222	30%	11.90	1%	266	3.98
1250	✓		8.00	0.12	0.503	3%	-239	1	6.00	5%	167	24%	11.84	1%	260	3.98
1255	✓		7.96	0.04	0.469	6%	-241	2	5.45	9%	79.1	52%	11.67	1%	260	3.97
1300	✓		7.92	0.04	0.459	1%	-245	4	3.25	40%	58.2	26%	11.55	1%	260	3.97
1305	✓		7.90	0.02	0.450	1%	-247	2	2.71	16%	47.3	18%	11.60	1%	260	3.96
1310	✓		7.88	0.02	0.446	1%	-248	1	1.24	53%	34.9	26%	11.57	1%	260	3.92
1315	✓		7.84	0.04	0.440	1%	-249	1	1.24	—	33.6	4%	11.42	1%	260	3.92
1320	✓		7.82	0.02	0.438	1%	-250	1	1.23	1%	32.1	4%	11.40	1%	260	3.92
1325	✓		7.81	0.01	0.436	1%	-251	1	1.24	1%	31.0	4%	11.40	—	260	3.92
1330		✓	7.81	—	0.434	1%	-253	2	1.23	1%	30.0	3%	11.33	1%	260	3.92

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	RC
WEATHER:	Clear	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 9D	WELL DEPTH:	37'	SCREENED/OPEN INTERVAL:	32.5-37.5
WELL PERMIT #:	E201309743	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 35 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 5.84 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1115	✓		6.40	NA	2.47	NA	-124	NA	1.84	NA	1000	NA	13.53	NA	400	5.95
1120	✓		6.98	0.58	2.50	1%	-200	24	0.61	67%	1000	-	13.60	1%	400	5.90
1125	✓		7.39	0.41	2.52	1%	-248	48	1.30	113%	1000	-	13.73	1%	400	5.90
1130	✓		7.40	0.01	2.54	1%	-259	11	0.54	58%	679	32%	13.62	1%	400	5.90
1135	✓		7.43	0.03	2.56	1%	-260	1	1.54	100%	398	41%	13.71	1%	400	5.90
1140	✓		7.47	0.04	2.57	1%	-265	5	0.45	71%	233	41%	13.78	1%	400	5.90
1145	✓		7.48	0.01	2.41	6%	-268	3	0.45	-	186	20%	13.72	1%	400	5.90
1150	✓		7.49	0.01	2.48	3%	-270	2	0.30	33%	89.6	52%	13.71	1%	400	5.90
1155	✓		7.49	-	2.54	2%	-275	5	0.21	30%	25.2	72%	13.69	1%	400	5.90
1200	✓		7.49	-	2.60	2%	-277	2	0.21	-	24.8	2%	13.77	1%	400	5.90
1205	✓		7.49	-	2.60	-	-279	2	0.21	-	22.6	9%	13.80	1%	400	5.90
COMMENTS: 1210	✓		7.50	0.01	2.60	-	-280	1	0.21	-	21.8	4%	13.72	1%	400	5.90
1215	✓		7.50	-	2.60	-	-280	-	0.21	-	21.0	4%	13.78	1%	400	5.90

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 2

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	RL
WEATHER:	Clear	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 9DD	WELL DEPTH:	67.5'	SCREENED/OPEN INTERVAL:	63-68'
WELL PERMIT #:	E201313005	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 00
BENEATH INNER CAP: 00

PUMP INTAKE DEPTH: 65 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 6.12 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
930	✓		6.04	NA	3.85	NA	-61	NA	.80	NA	1660	NA	12.07	NA	400	6.20
935	✓		6.08	.04	3.96	3%	-57	4	.21	73%	1000	—	12.72	1%	400	5.77
940	✓		6.10	.02	4.03	1.7%	-55	2	.10	52%	1000	—	12.70	1%	400	5.77
945	✓		6.12	.02	4.00	.7%	-55	—	.10	—	1000	—	12.70	1%	400	5.76
950	✓		6.14	.02	3.99	.25%	-55	—	.09	11%	1000	—	12.66	1%	400	5.75
955	✓		6.15	.01	3.98	.25%	-56	1	.08	12%	1000	—	12.96	1%	400	5.76
1000	✓		6.16	.01	3.97	.25%	-56	—	.07	12%	1000	—	13.21	1%	400	5.76
1005	✓		6.16	—	4.00	.75%	-55	1	0.0	—	991	.9%	13.30	1%	400	5.78
1010	✓		6.17	.01	4.02	.5%	-54	1	0.0	—	796	20%	13.35	1%	400	5.80
1015	✓		6.17	—	4.02	—	-52	2	0.0	—	1000	27%	13.37	1%	400	5.81
1020	✓		6.17	—	4.04	.5%	-51	1	.06	100%	345	65%	13.37	1%	400	5.82

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SITE: Former Hess - Port Reading
DATE: 12/10/21
WEATHER: Clear
CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: RC
CERTIFICATION #: 13040

MONITOR WELL #: PER - 9DD
WELL PERMIT #: E201313005
WELL DEPTH: 67.5'
WELL DIAMETER: 2" Inches
SCREENED/OPEN INTERVAL: 63-68'

PID/FID READINGS (ppm): BACKGROUND: _____
BENEATH OUTER CAP: _____
BENEATH INNER CAP: _____
PUMP INTAKE DEPTH: _____ ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : _____ ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1020	✓		6.17	NA	4.04	NA	-51	NA	.06	NA	345	NA	13.37	NA	400	5.82
1025	✓		6.16	0.01	4.00	1%	-52	1	.05	17%	112	67%	13.40	1%	400	5.86
1030	✓		6.16	–	3.98	1%	-52	–	.05	–	101	10%	13.46	1%	400	5.90
1035	✓		6.16	–	3.97	1%	-52	–	.05	–	95.6	5%	13.50	1%	400	5.92
1040	✓		6.16	–	3.96	1%	-53	1	.05	–	90.0	6%	13.54	1%	400	6.00
1045		✓	6.16	–	3.94	1%	-53	–	.05	–	89.9	1%	13.60	1%	400	6.03

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/2/22	FIELD PERSONNEL:	JF
WEATHER:	Overcast, 50°F	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 10	WELL DEPTH:	18'	SCREENED/OPEN INTERVAL:	6.61-18.61
WELL PERMIT #:	E201309744	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0	PUMP INTAKE DEPTH: 9.00 ft below TOC
	BENEATH OUTER CAP:	0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 7.11 ft below TOC
	BENEATH INNER CAP:	0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1300	X		6.40	NA	0.543	NA	-22	NA	2.06	NA	10.9	NA	14.90	NA	200	7.70
1305	X		6.39	0.01	0.551	1.5%	-35	13	0.11	95%	10.0	8.2%	14.92	0.1%	200	7.77
1310	X		6.39	0	0.549	0.4%	-41	6	0.06	45%	9.2	8%	14.88	0.3%	150	7.84
1315	X		6.38	0.01	0.545	0.7%	-55	14	0	100%	8.2	10.8%	15.02	0.9%	150	7.98
1320	X		6.39	0.01	0.541	0.7%	-62	7	0	0	7.5	8.5%	15.09	0.5%	150	8.02
1325	X		6.44	0.05	0.536	0.9%	-75	13	0	0	6.9	8%	15.15	0.4%	150	8.10
1330	X		6.41	0.03	0.532	0.7%	-79	2	0	0	6.7	2.8%	15.09	0.4%	150	8.14
1335	X		6.41	0	0.527	0.9%	-83	4	0	0	6.4	4.4%	15.11	0.1%	150	8.17
1340	X		6.41	0	0.525	0.4%	-84	1	0	0	6.3	1.5%	15.23	0.8%	150	8.22
Final		X	6.41	0	0.523	0.4%	-86	2	0	0	6.2	1.6%	15.27	0.3%	150	8.31

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/2/21	FIELD PERSONNEL:	Ian B.
WEATHER:	Cloudy 55°F	CERTIFICATION #:	13040

MONITOR WELL #:	PER - 10D	WELL DEPTH:	33'	SCREENED/OPEN INTERVAL:	28 - 33'
WELL PERMIT #:	E201309745	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 31.0 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.81 ft below TOC
	BENEATH INNER CAP:	0.0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1310	✓		7.81	NA	7.04	NA	-252	NA	1.14	NA	13.8	NA	14.66	NA	250	11.35
1315	✓		7.60	0.21	7.28	3.5%	-285	33	0.12	89%	26.5	92%	14.72	1%	250	11.40
1320	✓		7.52	0.08	7.23	0.7%	-287	2	0.12	-	7.0	74%	14.94	1%	250	11.45
1325	✓		7.45	0.07	7.30	0.9%	-295	8	0.12	-	3.2	54%	14.99	1%	250	11.36
1330	✓		7.42	0.03	7.23	0.9%	-300	5	0.12	-	3.0	6.3%	14.99	-	250	11.36
1335	✓		7.42	-	7.15	1.1%	-305	5	0.12	-	3.1	3.3%	15.03	1%	250	11.36
1340	✓		7.41	0.01	7.09	0.8%	-312	7	0.12	-	3.0	3.3%	15.11	1%	250	11.39
1345		✓	7.40	0.01	7.04	0.7%	-318	6	0.12	-	3.1	3.3%	15.15	1%	250	11.39

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/12/21	FIELD PERSONNEL:	AE
WEATHER:	55° cloudy	CERTIFICATION #:	13040

MONITOR WELL #:	PL - 1RR	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	1 - 15'
WELL PERMIT #:	E201305259	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 3 ft below TOC	
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 0.1 ft below TOC	
	BENEATH INNER CAP:	0.0		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1320	X		7.25	NA	1.86	NA	-50	NA	4.00	NA	7.4	NA	12.90	NA	300	0.2
1325	X		6.85	0.40	1.84	1%	-48	2	1.95	100%	10.7	44%	12.69	1%		
1330	X		6.81	0.04	1.76	4%	-54	-6	1.51	22%	10.9	1%	12.41	2%		
1335	X		6.79	0.02	1.76	0%	-56	-2	1.29	14%	9.6	11%	12.40	1%		
1340	X		6.80	0.01	1.63	7%	-60	-4	1.00	22%	8.7	9%	12.37	1%		
1345	X		6.82	0.02	1.58	1%	-67	-7	1.00	0%	8.4	3%	12.35	1%		
1350	X		6.83	0.01	1.55	1%	-72	-5	1.00	0%	8.0	4%	12.38	1%		
1355	X		6.85	0.02	1.52	1%	-78	-6	1.00	0%	7.4	7%	12.32	1%		
1400		X	6.86	0.01	1.50	1%	-82	-4	1.00	0%	7.0	5%	12.36	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/2/21	FIELD PERSONNEL:	AE
WEATHER:	50° Cloudy	CERTIFICATION #:	13040

MONITOR WELL #:	~~PL-9R~~ PL-2	WELL DEPTH:	~~20~~ ~~[illegible]~~ 17	SCREENED/OPEN INTERVAL:	~~3.5-22.5'~~ 3-17
WELL PERMIT #:	P200800559	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.18 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:03	X		7.48	NA	1.07	NA	-7	NA	3.20	NA	141	NA	13.69	NA	317	2.20
9:08	X		6.76	0.72	1.07	0%	-54	47	0.12	100	62.6	55%	13.77	5%		
9:13	X		6.74	0.02	1.06	1%	-67	-15	0.12	0%	55.7	11%	14.02	1%		
9:18	X		6.75	0.01	1.04	1%	-75	-6	0.12	0%	48	13%	14.15	1%		
9:23	X		6.76	0.01	1.03	1%	-79	4	0.12	0%	43.3	9%	14.22	1%		
9:29	X		6.76	0.00	1.02	1%	-84	5	0.12	0%	44.1	1%	14.10	1%		
9:34	X		6.77	0.01	1.00	1%	-84	0	0.12	0%	45.3	1%	14.18	1%		
9:40		X	6.78	0.01	1.00	0%	90	6	0.12	0%	40.8	1%	14.21	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/2/21	FIELD PERSONNEL:	AE
WEATHER:	50°	CERTIFICATION #:	13040

MONITOR WELL #:	PL - 3R	WELL DEPTH:	20'	SCREENED/OPEN INTERVAL:	3.5-22.5'
WELL PERMIT #:	P200800555	WELL DIAMETER:	4" inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 6 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 4 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:40	X		6.33	NA	2.73	NA	-21	NA	4.10	NA	33.2	NA	13.74	NA	330	4.00
11:45	X		6.74	0.41	2.77	1%	-38	-17	1.10	100%	32.8	1%	13.68	1%		
11:50	X		6.82	0.08	2.81	1%	-46	-8	0.87	100%	31.0	1%	13.54	1%		
11:55	X		6.84	0.02	2.81	0%	-51	-5	0.23	100%	23.7	3%	13.74	1%		
12:00	X		6.85	0.01	2.82	1%	-54	-3	0.36	56%	21.7	1%	13.78	1%		
12:05	X		6.86	0.01	2.83	1%	-57	-3	0.36	0%	19.2	15%	13.58	1%		
12:10	X		6.85	0.01	2.88	1%	-59	-2	0.36	0%	16.0	16%	13.62	1%		
12:15	X		6.85	0.00	2.90	1%	-63	-4	0.36	0%	15.4	3%	13.66	1%		
12:20	X		6.85	0.00	2.94	1%	-68	-5	0.36	0%	14.1	3%	13.68	1%		
12:25	X		6.85	0.00	2.97	1%	-72	-4	0.36	0%	13.7	7%	13.72	1%		
12:30		X	6.85	0.00	2.98	1%	-77	-5	0.36	0%	12.5	8%	13.81	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/3/21	FIELD PERSONNEL:	AE
WEATHER:	50° Jimt	CERTIFICATION #:	13040

MONITOR WELL #:	PL-4RR	WELL DEPTH:	13.0	SCREENED/OPEN INTERVAL:	4-13'
WELL PERMIT #:	E201611638	WELL DIAMETER:	2 Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 7 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 4.8 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
13:45	X		7.38	NA	0.314	NA	89	NA	9.00	NA	131	NA	13.50	NA	328	4.8
13:50	X		7.20	0.18	0.294	6%	88	1	5.50	100	61.5	53%	12.56	6%		
13:55	X		7.16	0.16	0.290	1%	71	17	4.80	12%	51.8	15%	12.50	1%		
14:00	X		7.04	0.14	0.288	1%	68	3	3.52	26%	30.0	42%	12.47	1%		
14:05	X		7.00	0.04	0.279	1%	60	8	3.41	3%	28.9	3%	12.42	1%		
14:10	X		6.98	0.02	0.274	1%	56	4	3.20	6%	26.9	10%	12.40	1%		
14:15	X		6.90	0.08	0.270	1%	51	5	3.00	6%	24.7	8%	12.38	1%		
14:20		X	6.89	0.01	0.268	1%	45	7	2.78	7%	22.3	9%	12.36	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/8/21	FIELD PERSONNEL:	AE
WEATHER:	45° Clear	CERTIFICATION #:	13040

MONITOR WELL #:	PL - 6RR	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	2 - 15'
WELL PERMIT #:	E202000815	WELL DIAMETER:	4" inches		

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 4 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 14 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1335	X		10.67	NA	0.607	NA	-240	NA	2.37	NA	152	NA	13.38	NA	340	1.8
1340	X		8.83	1.8	0.727	19%	-249	9	0.10	100%	168	10%	13.03	25%		
1345	X		8.04	0.79	0.805	10%	-213	36	0.10	0%	95	43%	13.62	7%		
1350	X		8.00	0.04	0.814	1%	-208	5	0.10	0%	87.2	8%	13.68	1%		
1355	X		7.98	0.08	0.820	1%	200	8	0.10	0%	84.6	3%	13.72	1%		
1400	X		7.90	0.08	0.824	1%	198	2	0.10	0%	80.8	7%	13.74	1%		
1410		X	7.88	0.07	0.829	1%	195	3	0.10	0%	70.2	8%	13.79	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/13/21	FIELD PERSONNEL:	AE
WEATHER:	Sunny 40°	CERTIFICATION #:	13040

MONITOR WELL #:	PL - 8R	WELL DEPTH:	20'	SCREENED/OPEN INTERVAL:	3.5-22.5'
WELL PERMIT #:	P200800558	WELL DIAMETER:	4" inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.5

PUMP INTAKE DEPTH: 7.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.05 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1045	X		7.07	NA	0.237	NA	-60	NA	0.69	NA	54.8	NA	13.18	NA	250	5.15
1050	X		7.26	0.19	0.236	1%	-79	19	0.35	50%	65.8	200%	13.06	1.3%	210	5.16
1055	X		7.26	–	0.236	–	-83	4	0.33	6%	49.6	24.6%	13.19	1.4%	210	5.17
1100	X		7.26	–	0.235	1%	-87	4	0.33	–	36.0	27.6%	13.46	2.3%	250	5.17
1105	X		7.26	–	0.233	1%	-88	1	0.33	–	31.8	11.6%	13.66	1%	210	5.17
1110	X		7.27	0.01	0.231	1%	-89	1	0.33	–	27.8	12.6%	13.80	1%	210	5.17
1115	X		7.27	–	0.230	1%	-89	–	0.33	–	26.1	6%	13.95	1%	210	5.18
1120	X		7.27	–	0.228	1%	-89	–	0.33	–	25.6	2%	14.02	1%	210	5.18
1125	X		7.27	–	0.227	1%	-89	–	0.33	–	25.7	1%	14.14	1%	210	5.18
1130		X	7.27	–	0.227	1%	-88	1	0.33	–	25.9	1%	14.45	2%	210	

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/2/21	FIELD PERSONNEL:	AE
WEATHER:	55° cloudy	CERTIFICATION #:	13040

MONITOR WELL #:	~~PL-2~~ PL-9R	WELL DEPTH:	~~17~~ 22	SCREENED/OPEN INTERVAL:	~~3-17'~~ 3.5-22
WELL PERMIT #:	2600037761	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH:	5 ft below TOC	
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION:	2.63 ft below TOC	
	BENEATH INNER CAP:	0.0			

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:20	X		6.95	NA	0.453	NA	-16	NA	2.85	NA	40.5	NA	13.41	NA	340	2.65
10:25	X		6.65	0.30	0.439	3%	-8	8	0.75	73%	15.3	62%	13.24	1%		
10:30	X		6.62	0.03	0.436	1%	-9	-1	0.98	100%	13.6	11%	13.17	1%		
10:35	X		6.60	0.02	0.433	1%	-11	-2	0.14	85%	12.0	11%	13.17	0%		
10:40	X		6.60	0.00	0.432	1%	-13	2	0.14	0%	11.1	7%	13.28	1%		
10:45	X		6.60	0.00	0.432	0	-13	0	0.14	0%	10.5	5%	13.34	1%		
10:50	X		6.60	0.00	0.433	1%	-14	-1	0.14	0%	9.5	7%	13.40	1%		
10:55		X	6.60	0.00	0.433	0%	-15	-1	0.14	0%	9.1	4%	13.48	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 50°F	CERTIFICATION #:	13040

MONITOR WELL #:	SC-1	WELL DEPTH:	15.5	SCREENED/OPEN INTERVAL:	5.5-15.5'
WELL PERMIT #:	E201910392	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 7.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.09 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
910	X		6.41	NA	17.4	NA	-126	NA	0.61	NA	82.0	NA	12.91	NA	250	2.68
915	X		6.39	0.02	16.3	6.3%	-117	9	0.16	74%	65.2	20.5%	12.71	1%	250	2.70
920	X		6.38	0.01	16.2	0.6%	-111	6	0.08	50%	51.4	21%	12.54	1%	250	2.71
925	X		6.38	-	16.2	-	-107	4	0.03	70%	44.1	14%	12.47	1%	250	2.72
930	X		6.38	-	16.0	1.2%	-108	1	0.03	-	44.9	1.8%	12.85	1%	250	2.73
935	X		6.36	0.02	15.2	5%	-109	1	0.03	-	29.1	35%	12.91	1%	250	2.73
940	X		6.37	0.01	14.9	2%	-107	2	0.03	-	28.8	1.0%	12.88	1%	250	2.73
945	X		6.35	0.02	14.5	2.7%	-111	4	0.03	-	27.9	3.1%	13.02	1%	250	2.73
950	X		6.35	-	14.3	1.4%	-108	3	0.03	-	26.3	5.7%	12.89	1%	250	2.73
955		X	6.35	-	14.3	-	-112	4	0.03	-	25.8	1.9%	13.08	1%	250	2.73

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	Iain B.
WEATHER:	Cloudy 50 °F	CERTIFICATION #:	13040

MONITOR WELL #:	SC-1D	WELL DEPTH:	30'	SCREENED/OPEN INTERVAL:	23 - 33'
WELL PERMIT #:	E201910393	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0	PUMP INTAKE DEPTH: 25 ft below TOC
	BENEATH OUTER CAP:	0	DEPTH TO WATER BEFORE PUMP INSTALLATION : 0.10 ft below TOC
	BENEATH INNER CAP:	0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1055	✓		7.02	NA	0.545	NA	-94	NA	0.34	NA	163	NA	13.48	NA	320	0.50
1100	✓		6.90	0.12	0.566	1%	-81	13	0.20	41%	43.1	97%	13.71	1%	320	0.50
1105	✓		6.86	0.04	0.566	1%	-82	1	0.17	15%	56.1	30%	13.78	1%	320	0.50
1110	✓		6.84	0.02	0.576	4.8%	-82	0	0.04	76%	20.1	64%	13.90	1%	320	0.50
1115	✓		6.84	–	0.577	1%	-83	1	0.04	–	19.6	2.5%	13.97	1%	320	
1120	✓		6.83	0.01	0.576	1%	-84	1	0.04	–	20.0	2.5%	14.06	1%	320	
1125	✓		6.83	–	0.575	1%	-86	2	0.04	–	20.9	4.5%	14.14	1%	320	
1130		✓	6.83	–	0.574	1%	-88	2	0.04	–	21.6	3.3%	14.18	1%	320	

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	Iain B
WEATHER:	Cloudy 45°F	CERTIFICATION #:	13040

MONITOR WELL #:	SC-1DD	WELL DEPTH:	60'	SCREENED/OPEN INTERVAL:	50-60'
WELL PERMIT #:	E201910394	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 52.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 0.60 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0915	✓		6.65	NA	0.414	NA	-85	NA	0.87	NA	710	NA	13.21	NA	320	0.88
0920	✓		6.69	0.04	0.516	24.6%	-107	22	0.21	76%	741	4.3%	13.18	1%	320	0.88
0925	✓		6.78	0.09	0.510	1.1%	-117	10	0.09	57%	396	47%	13.30	1%	320	0.86
0930	✓		6.83	0.05	0.534	4.7%	-112	5	0.09	-	162	59%	13.37	1%	320	0.86
0935	✓		6.85	0.02	0.538	1.0%	-109	3	0.09	-	109	33%	13.38	1%	320	0.86
0940	✓		6.86	0.01	0.542	1.0%	-106	3	0.09	-	37.3	65%	13.42	1%	320	0.85
0945	✓		6.87	0.01	0.544	1.0%	-105	1	0.09	-	9.2	75%	13.44	1%	320	0.85
0950	✓		6.88	0.01	0.544	-	-104	1	0.09	-	8.9	3.3%	13.50	1%	320	0.85
0955	✓		6.89	0.01	0.544	-	-104	-	0.09	-	8.5	4.5%	13.53	1%	320	0.86
1000	✓		6.89	-	0.544	-	-103	1	0.09	-	8.2	3.5%	13.57	1%	320	0.86
1005		✓	6.90	0.01	0.544	-	-103	-	0.09	-	8.2	-	13.59	1%	320	0.87

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 55°F	CERTIFICATION #:	13040

MONITOR WELL #:	SC-2	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	5.5 - 15.5'
WELL PERMIT #:	E201910395	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0	PUMP INTAKE DEPTH: 7.5 ft below TOC
	BENEATH OUTER CAP:	0	DEPTH TO WATER BEFORE PUMP INSTALLATION : 1.01 ft below TOC
	BENEATH INNER CAP:	0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1340	X		6.16	NA	14.3	NA	-361	NA	0.02	NA	123	NA	15.12	NA	320	1.44
1345	X		6.09	0.07	13.1	8.4%	-420	59	0.02	-	172	40%	14.95	1.1%	250	1.35
1350	X		6.07	0.02	11.8	10%	-413	7	0.02	-	191	11%	14.73	1.5%	250	1.35
1355	X		6.04	0.03	9.93	16%	-442	29	0.02	-	108	24%	15.39	4.5%	250	1.35
1400	X		6.04	-	9.61	3.2%	-443	1	0.02	-	38.8	64%	15.20	1.2%	250	1.35
1405	X		6.04	-	9.58	1%	-437	6	0.02	-	37.1	4.4%	15.45	1.6%	250	1.36
1410	X		6.08	0.04	9.50	1%	-431	6	0.02	-	36.5	1.6%	15.18	1.7%	250	1.37
1415	X		6.07	0.01	9.45	1%	-424	7	0.02	-	36.0	1.4%	14.94	1.6%	250	1.37
1420		X	6.07	-	9.45	-	-418	6	0.02	-	36.4	1.3%	14.84	0.7%	250	1.37

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 50 °F	CERTIFICATION #:	13040

MONITOR WELL #:	SC-2D	WELL DEPTH:	35'	SCREENED/OPEN INTERVAL:	25 - 35'
WELL PERMIT #:	E201910396	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 27.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 2.34 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1035	X		7.16	NA	2.75	NA	-221	NA	0.88	NA	457	NA	13.31	NA	225	2.34
1040	X		7.14	0.02	3.56	29%	-258	37	0.51	42%	344	25%	13.42	1%	225	2.34
1045	X		7.12	0.02	4.48	26%	-292	34	0.11	78%	232	33%	13.55	1%	225	2.34
1050	X		7.08	0.04	4.88	9%	-311	19	0.04	64%	100	57%	13.51	1%	225	2.34
1055	X		7.07	0.01	4.87	1%	-314	3	1.11	260%	95.6	4.6%	13.81	2%	225	2.34
1100	X		7.06	0.01	4.83	1%	-314	-	0.04	6.7%	68.6	39%	13.83	1%	225	2.34
1105	X		7.06	-	4.80	1%	-311	3	0.04	100%	54.4	21%	13.99	1%	225	2.34
1110	X		7.06	-	4.75	1%	-312	1	0.04	-	50.7	6.8%	14.07	1%	225	2.34
1115	X		7.07	0.01	4.65	2.1%	-308	4	0.04	-	51.0	1.0%	14.12	1%	225	2.34
1120	X		7.06	0.01	4.52	2.6%	-306	2	0.04	-	51.9	1.0%	14.13	1%	225	2.34
1125		X	7.06	-	4.48	1.0%	-305	1	0.04	-	51.2	1.0%	14.13	1%	225	2.34

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 55°F	CERTIFICATION #:	13040

MONITOR WELL #:	SC-2DD	WELL DEPTH:	60'	SCREENED/OPEN INTERVAL:	51-61'
WELL PERMIT #:	E201910397	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 53.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 2.14 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1210	X		7.49	NA	0.887	NA	-139	NA	0.75	NA	652	NA	14.00	NA	250	2.48
1215	X		7.30	0.19	0.892	5.6%	-135	4	0.42	44%	373	43%	13.94	1%	250	2.50
1220	X		7.11	0.19	0.892	-	-129	6	0.19	55%	180	52%	14.13	1%	250	2.52
1225	X		7.00	0.11	0.892	-	-123	6	0.14	26%	113	37%	14.11	1%	250	2.54
1230	X		6.95	0.05	0.891	1%	-120	3	0.09	36%	91.9	19%	14.11	-	250	2.52
1235	X		6.88	0.07	0.891	-	-114	6	0.06	33%	70.0	23%	14.17	1%	250	2.50
1240	X		6.86	0.02	0.889	1%	94	20	0.05	16.6%	51.9	26%	14.25	1%	250	2.52
1245	X		6.83	0.03	0.885	1%	92	2	0.05	-	51.6	1.5%	14.37	1%	250	2.50
1250	X		6.80	0.03	0.884	1%	88	4	0.05	-	51.0	1.1%	14.53	1%	250	2.49
1255	X		6.78	0.02	0.883	1%	88	-	0.05	-	49.9	2.1%	14.61	1%	250	2.49
1300		X	6.76	0.02	0.883	-	88	-	0.05	-	49.0	1.1%	14.55	1%	250	2.49

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	Iain B.
WEATHER:	P. Cloudy 55°F	CERTIFICATION #:	13040

MONITOR WELL #:	SC-2DDD	WELL DEPTH:	78'	SCREENED/OPEN INTERVAL:	68-78'
WELL PERMIT #:	E201910398	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0; BENEATH OUTER CAP: 0; BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 70.0 ft below TOC

DEPTH TO WATER BEFORE PUMP INSTALLATION : 2.12 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1240	✓		7.19	NA	0.622	NA	-114	NA	0.67	NA	668	NA	15.27	NA	320	2.57
1245	✓		6.64	0.55	0.673		-81	33	0.22		495	26%	15.33	1%	320	2.58
1250	✓		6.40	0.24	0.688		-66	15	0.20		440	11.1%	15.37	1%	320	2.55
1255	✓		6.32	0.08	0.688	–	-64	2	0.11		242	45%	15.42	1%	320	2.58
1300	✓		6.28	0.04	0.690		-66	2	0.08		70.1	71%	15.45	1%	320	2.60
1305	✓		6.26	0.02	0.692		-67	1	0.08	–	69.8	0.4%	15.49	1%	320	2.61
1310	✓		6.25	0.01	0.688		-68	1	0.08	–	68.3	2.1%	15.64	1%	320	2.61
1315	✓		6.24	0.01	0.687		-68	–	0.08	–	69.1	1.1%	15.66	1%	320	2.62
1320		✓	6.23	0.01	0.689		-68	–	0.08	–	68.3	1.0%	15.63	1%	320	2.62

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	8/16/21	FIELD PERSONNEL:	AE
WEATHER:	55° Cloudy	CERTIFICATION #:	13040

MONITOR WELL #:	SC-3	WELL DEPTH:	14'	SCREENED/OPEN INTERVAL:	7.75-17.75'
WELL PERMIT #:	E201910399	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 10 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.66 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:00	X		6.60	NA	8.96	NA	-74	NA	10.85	NA	5.8	NA	11.91	NA	315	5.00
9:05	X		6.60	0.00	9.25	3.2%	-190	-116	7.30	32%	8.7	50%	12.11	1%		
9:10	X		6.62	0.02	9.16	1%	-235	-45	6.20	15%	9.4	8%	12.13	1%		
9:15	X		6.59	0.03	8.69	5%	-256	-21	5.16	16%	8.7	7%	12.10	1%		
9:20	X		6.51	0.08	8.09	6%	-271	-15	4.60	10%	7.4	14%	12.04	1%		
9:25	X		6.47	0.04	7.50	7%	-289	-18	4.01	12%	6.6	10%	11.02	1%		
9:30	X		6.40	0.07	7.43	1%	-280	9	3.89	3%	6.2	9%	12.00	1%		
9:35	X		6.36	0.04	7.26	2.2%	-289	9	3.58	9%	6.0	3%	11.95	1%		
9:40	X		6.30	0.06	7.20	1%	-297	8	3.20	9%	5.8	3%	11.92	1%		
9:45		X	6.28	0.02	7.09	1%	-302	5	3.15	3%	5.5	5%	11.90	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	10/6/21	FIELD PERSONNEL:	AE
WEATHER:	55° cloudy	CERTIFICATION #:	13040

MONITOR WELL #:	SC-3D	WELL DEPTH:	35'	SCREENED/OPEN INTERVAL:	28 - 38'
WELL PERMIT #:	E201910400	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 30 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 4 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:05	X		6.81	NA	2.78	NA	-26	NA	4.30	NA	12.8	NA	17.12	NA	320	4
12:10	X		6.72	0.44	4.30	54%	-143	-57	0.57	86%	5.6	56%	14.58	1%		
12:15	X		7.36	0.04	4.36	1.3%	-151	-8	0.57	0%	5.1	8%	14.61	1%		
12:20	X		7.38	0.02	4.38	1%	-159	-8	0.57	0%	2.9	43%	14.76	1%		
12:25	X		7.40	0.02	4.39	1%	-166	-7	0.57	0%	2.5	13%	14.84	1%		
12:30	X		7.40	0.00	4.40	1%	169	-3	0.57	0%	2.3	8%	14.89	1%		
12:35	X		7.71	0.01	4.41	1%	~~-16~~ 172	-3	0.57	0%	2.1	8%	14.94	1%		
12:40	X		7.72	0.01	4.42	1%	175	-3	0.57	0%	2.1	0%	15.01	1%		
12:45		X	7.43	0.01	4.43	1%	182	-7	0.57	0%	2.1	0%	15.10	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/6/21	FIELD PERSONNEL:	AE
WEATHER:	55°F Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	SC-300	WELL DEPTH:	68'	SCREENED/OPEN INTERVAL:	58 - 68'
WELL PERMIT #:	E20191040 1	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 61 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 5.1 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:30	X		7.02	NA	6.91	NA	-179	NA	0.40	NA	14.5	NA	17.93	NA	330	5-10
10:35	X		6.89	0.13	10.8	56%	-168	11	0.40	-	10.8	25%	17.06	5%		
10:40	Y		6.49	0.40	17.6	62%	-153	15	0.40	-	1.2	88%	17.05	1%		
10:45	Y		6.34	0.14	19.0	7.9%	-151	2	0.40	-	1.0	17%	17.17	1%		
10:50	X		6.28	0.06	19.3	1%	-151	-	0.40	-	1.0	-	17.21	1%		
10:55	Y		6.30	0.02	19.3	-	-151	-	0.40	-	1.0	-	17.22	1%		
11:00	Y		6.35	0.05	19.3	-	-151	-	0.40	-	1.0	-	17.23	1%		
11:05		X	6.40	0.05	19.1	1%	-150	1	0.40	-	1.0	-	17.26	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	AC
WEATHER:	45°	CERTIFICATION #:	13040

MONITOR WELL #:	SC-3DDD	WELL DEPTH:	80	SCREENED/OPEN INTERVAL:	74-84'
WELL PERMIT #:	E201910402	WELL DIAMETER:	2 Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 76 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.89 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
8:55	X		2.45	NA	11.9	NA	331	NA	4.19	NA	411.5	NA	10.20	NA	730	5.89
9:00	X		3.87	1.42	19.8	66%	180	151	2.10	49%	58.1	40%	10.81	5%		
9:05	X		5.31	1.44	24.4	23%	-8	172	0.87	100%	69.0	18%	11.10	2.6%		
9:10	X		5.47	0.16	24.8	1.6%	-24	-16	0.61	29%	18.3	73%	11.76	5%		
9:15	X		5.50	0.03	24.9	1%	-25	-1	0.61	0%	4.8	73%	11.98	1%		
9:20	X		5.52	0.02	25.0	1%	-26	-1	0.61	0%	1.2	75%	12.23	2%		
9:25	X		5.59	0.07	25.0	1%	-25	-1	0.61	0%	1.2	0%	12.29	1%		
9:30	X		5.64	0.05	24.9	1%	-25	0	0.61	0%	1.2	0%	12.37	1%		
9:40	X		5.68	0.04	25.0	1%	-29	-4	0.61	0%	1.2	0%	12.41	1%		
9:45		X	5.69	0.01	24.8	1%	-29	0	0.61	0%	1.2	0%	12.48	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/16/21	FIELD PERSONNEL:	AE
WEATHER:	58° Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	SC-4	WELL DEPTH:	15	SCREENED/OPEN INTERVAL:	5.5 - 15.5'
WELL PERMIT #:	E201910403	WELL DIAMETER:	2 Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 7 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.8 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1325	X		6.80	NA	2.07	NA	-144	NA	1.62	NA	48.4	NA	17.02	NA	315	3.8
1330	X		6.76	0.16	1.99	3.8%	-173	-29	6.60	100%	39.3	39%	17.16	1%		
1335	X		6.75	0.01	1.96	3%	-175	-2	5.39	18%	57.6	100%	17.23	1%		
1340	X		6.72	0.03	1.94	1%	-172	3	4.64	13%	65.0	33%	17.35	1%		
1345	X		6.73	0.01	1.91	1%	-174	-2	4.00	13%	51.1	21%	17.57	1%		
1350	X		6.74	0.01	1.89	1%	-170	4	3.85	3%	47.2	7%	17.62	1%		
1355	X		6.76	0.02	1.85	1%	-168	2	3.56	7%	42.8	9%	17.68	1%		
1400	X		6.76	0.00	1.81	1%	-167	1	3.29	7%	38.6	9%	17.72	1%		
1405		X	6.77	0.01	1.79	1%	-165	2	3.00	8%	35.4	8%	17.78	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	AC
WEATHER:	45°	CERTIFICATION #:	13040

MONITOR WELL #:	SC-4D	WELL DEPTH:	35	SCREENED/OPEN INTERVAL:	25 - 35'
WELL PERMIT #:	E201910404	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 27 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: ~~27~~ 4.99 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:35	X		7.41	NA	6.70	NA	-197	NA	11.03	NA	15.1	NA	14.6	NA	335	5.06
11:40	X		7.24	0.17	7.19	7.3%	-280	-83	9.61	12%	36.4	100%	14.5	1%		
11:45	X		7.24	0.00	6.83	5%	297	-17	8.61	10%	61.8	67%	14.77	2%		
11:50	X		7.22	0.02	6.42	14%	-306	-9	7.78	9%	64.5	4%	14.78	1%		
11:55	X		7.21	0.01	6.29	2%	310	-4	7.41	4%	64.9	1%	14.75	1%		
12:00	X		7.20	0.01	6.23	1%	314	-4	7.00	5	62.8	3%	14.77	1%		
12:05	X		7.20	0.00	6.21	1%	320	-6	6.94	1%	60.2	4%	14.72	1%		
12:10		X	7.19	0.01	6.15	1%	325	-5	6.72	3%	67.2	6%	14.70	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	AE
WEATHER:	45°	CERTIFICATION #:	13040

MONITOR WELL #:	SC-4DD	WELL DEPTH:	60'	SCREENED/OPEN INTERVAL:	50- 60'
WELL PERMIT #:	E201910405	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 52 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.03 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:35	X		6.08	NA	3.98	NA	-10	NA	4.02	NA	120	NA	14.65	NA	330	6.04
10:40	X		6.93	0.85	6.85	72%	-107	-97	0.37	100%	26	79%	14.47	1%	|	|
10:45	X		7.01	0.08	7.02	2.4%	-120	-13	0.37	0%	20	23%	14.57	1%	|	|
10:50	X		7.02	0.01	7.15	1.8%	-123	-3	0.37	0%	19.9	1%	14.61	1%	|	|
10:55	X		7.02	0.00	7.20	1%	-123	0	0.37	0%	18.2	8%	14.60	1%	|	|
11:00	X		7.03	0.01	7.24	1%	-124	-1	0.37	0%	17.5	3%	14.63	1%	|	|
11:05		X	7.03	0.00	7.28	1%	-124	0	0.37	0%	17.0	2%	14.62	1%	|	|

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/13/21	FIELD PERSONNEL:	AJ
WEATHER:	536 Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	SM - 1	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	5 - 15'
WELL PERMIT #:	E201412972	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 7 ft below TOC	
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION : 5 ft below TOC	
	BENEATH INNER CAP:	0.0		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:15	X		7.35	NA	0.304	NA	-24	NA	0.61	NA	248	NA	14.93	NA	300	5.2
11:20	X		6.77	0.58	0.306	1%	-9	15	0.52	100%	215	5%	15.21	2%		5.3
11:25	X		6.73	0.04	0.303	1%	1	8	0.49	5%	200	6%	15.19	1%		5.4
11:30	X		6.48	0.25	0.303	0%	17	16	0.48	100%	210	5%	15.56	2%		
11:35	X		6.44	0.04	0.318	4%	11	6	0.48	0%	180	14%	15.55	1%		
11:40	X		6.46	0.02	0.320	3%	9	2	0.48	0%	174	3%	15.61	1%		
11:45	X		6.49	0.03	0.324	1%	7	2	0.48	0%	160	8%	15.71	1%		
11:50	X		6.50	0.01	0.325	1%	8	1	0.48	0%	154	3%	15.78	1%		
11:55		X	6.50	0.00	0.320	1%	12	4	0.48	0%	144	6%	15.87	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Fort Redwood	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	7/14/21	FIELD PERSONNEL:	AG
WEATHER:	50° Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	SP - 1	WELL DEPTH:	13'	SCREENED/OPEN INTERVAL:	3 - 13'
WELL PERMIT #:	2600025338	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.6
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 8 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 6 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:10	X		8.31	NA	0.102	NA	74	NA	5.72	NA	1000	NA	15.70	NA	290	6
9:15	X		7.41	1.10	0.101	1%	114	45	4.60	10	1000	0%				
9:20	X		7.07	0.46	0.098	100	131	13	3.97	10%	1000	0%	16.81			
9:25	X		6.99	1.17	0.098	0%	134	2	4.48	1%	1000	0%	20.87			
9:30	X		6.96	0.07	0.098	0%	136	2	4.49	1%	1000	0	20.84	1%		
9:35	X		6.93	0.03	0.098	0%	139	3	4.79	1%	76.1	100%	20.17	1%		
9:40	X		6.92	0.01	0.098	0%	143	4	4.70	1%	70.2	7%	19.95	1%		
9:45	X		6.91	0.01	0.098	0%	144	1	4.65	1%	65.8	6%	19.97	1%		
9:50	X		6.91	0.00	0.098	0%	145	1	4.62	1%	61.8	4%	19.99	1%		
9:55		X	6.90	0.01	0.098	0%	146	1	4.57	1%	60.9	1%	20.90	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	10/14/21	FIELD PERSONNEL:	AE
WEATHER:	50° Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	SP - 2	WELL DEPTH:	13'	SCREENED/OPEN INTERVAL:	3 - 13'
WELL PERMIT #:	2600025339	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 12 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.2 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
10:40	X		5.29	NA	0.139	NA	246	NA	2.06	NA	54	NA	16.86	NA	195	5.3
10:45	X		5.10	0.19	0.139	0 %	265	-19	1.02	50 %	463	10 %	16.71	1 %		
10:50	X		4.94	0.16	0.139	0 %	275	10	0.56	45 %	310	33 %	16.48	1 %		
10:55	X		4.93	0.01	0.139	0 %	269	6	0.40	28 %	264	14 %	16.60	1 %		
11:00	X		4.93	0.00	0.140	1 %	263	3	0.40	0 %	226	14 %	16.63	1 %		
11:05	X		4.98	0.05	0.141	1 %	254	9	0.40	0 %	210	7 %	16.84	1 %		
11:10	X		4.97	0.01	0.142	1 %	248	6	0.40	0 %	195	7 %	16.79	1 %		
11:15	X		4.98	0.01	0.144	1 %	239	9	0.40	0 %	176	9 %	16.70	1 %		
11:20		X	4.99	0.01	0.145	1 %	231	8	0.40	0 %	164	6 %	16.74	1 %		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/13/21	FIELD PERSONNEL:	MI
WEATHER:	Sunny 50s	CERTIFICATION #:	13040

MONITOR WELL #:	SP - 3	WELL DEPTH:	13'	SCREENED/OPEN INTERVAL:	3 - 13'
WELL PERMIT #:	2600025340	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 5.50 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.95 ft below TOC
	BENEATH INNER CAP:	0.0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1335	X		6.52	NA	0.141	NA	-14	NA	5.37	NA	204	NA	13.10	NA	250	4.02
1340	X		6.40	0.08	0.145	2.8%	12	2	5.27	1.8%	149	27.1%	13.38	2.1%	250	4.02
1345	X		6.44	0.04	0.152	4.8%	-26	14	5.24	1.0%	144	3.3%	13.63	1.9%	250	4.01
1350	X		6.44	–	0.154	1.3%	-33	7	5.17	1.3%	139	3.5%	13.61	1.0%	250	4.01
1355	X		6.45	0.01	0.157	1.9%	-39	6	5.11	1.1%	142	2.2%	13.56	1.0%	250	4.02
1400	X		6.48	0.03	0.161	2.5%	-43	4	5.06	1.0%	141	1.0%	13.57	1.0%	250	4.01
1405		X	6.48	–	0.162	1.0%	-44	1	5.07		142	1.0%	13.55	1.0%	250	4.02

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/13/21	FIELD PERSONNEL:	AC
WEATHER:	53° Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	TF - 1	WELL DEPTH:	12'	SCREENED/OPEN INTERVAL:	2-12'
WELL PERMIT #:	2600018989	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 5.25 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 3.25 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:30	X		6.85	NA	0.153	NA	-105	NA	0.23	NA	67.7	NA	10.97	NA	750	3.25
9:35	X		6.78	0.05	0.154	1%	-110	-5	0.23	0%	79.1	24%	10.86	1%		3.29
9:40	X		6.72	0.01	0.153	1%	108	2	0.23	0%	28.5	41%	11.94	1%		3.34
9:45	X		6.79	0.07	0.148	3%	119	-11	0.23	0%	14.8	48%	12.03	1%		3.39
9:50	X		6.86	0.07	0.161	8%	126	-7	0.23	0%	10.0	32%	12.10	1%		3.42
9:55	X		6.88	0.02	0.163	1%	129	-3	0.23	0%	9.8	2%	12.15	1%		3.48
10:00	X		6.89	0.01	0.165	1%	133	-4	0.23	0%	9.4	4%	12.18	1%		3.51
10:05	X		6.92	0.03	0.168	1%	138	-5	0.23	0%	9.0	4%	12.16	1%		3.58
10:10		X	6.94	0.02	0.170	1%	141	-3	0.12	0%	9.0	0%	12.19	1%		3.62

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/13/21	FIELD PERSONNEL:	MP
WEATHER:	Sunny 40,	CERTIFICATION #:	13040

MONITOR WELL #:	TF - 3	WELL DEPTH:	12'	SCREENED/OPEN INTERVAL:	2 - 12'
WELL PERMIT #:	2600018990	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 4.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 2.40 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
925	X		6.62	NA	0.222	NA	103	NA	3.57	NA	36.4	NA	9.71	NA	250	2.71
930	X		6.71	0.09	0.221	1%	97	6	3.51	1.6%	31.0	14.8%	9.70	1%	250	2.73
935	X		6.77	0.06	0.221	–	95	2	3.56	1.4%	26.0	16.1%	9.75	1%	250	2.74
940	X		6.82	0.05	0.219	1%	96	1	3.67	3.1%	20.2	22%	9.66	1%	250	2.74
945	X		6.85	0.03	0.217	1%	96	–	3.63	1%	12.0	41%	9.91	2.6%	250	2.74
950	X		6.87	0.02	0.216	1%	95	1	3.64	1%	11.2	6.7%	10.08	1.7%	250	2.75
955	X		6.88	0.01	0.215	1%	94	1	3.65	1%	11.0	1.8%	10.17	0.9%	250	2.76
1000	X		6.89	0.01	0.216	1%	94	–	3.65	–	10.6	4.5%	10.27	1.0%	250	2.76
1005		X	6.90	0.01	0.216	–	92	2	3.69	1%	9.9	6.6%	10.21	1%	250	

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	JF
WEATHER:	Sunny 35°F	CERTIFICATION #:	13040

MONITOR WELL #:	TL - 1	WELL DEPTH:	14'	SCREENED/OPEN INTERVAL:	2 - 14'
WELL PERMIT #:	E201305269	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 9.00 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 7.00 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1015	X		6.23	NA	7.48	NA	-40	NA	2.11	NA	96.0	NA	14.50	NA	250	7.38
1020	X		6.65	0.42	8.59	15%	-76	36	0.93	56%	133	39%	15.49	6.8%	225	7.63
1025	X		6.73	0.08	8.42	2%	-79	3	0.34	63%	143	7.5%	15.44	1%	200	7.64
1030	X		6.77	0.04	8.23	2.3%	-78	1	0.07	79%	139	2.8%	15.07	2.4%	200	7.64
1035	X		6.79	0.02	8.13	1.2%	-75	3	0.07	-	127	8.6%	15.00	1%	200	7.64
1040	X		6.82	0.03	7.94	2.3%	-70	5	0.07	-	118	7.0%	14.85	1%	200	7.64
1045	X		6.82	-	7.78	2.0%	-67	3	0.07	-	108	8.5%	14.70	1%	200	7.64
1050		X	6.81	0.01	7.71	1%	-68	1	0.07	-	112	3.7%	14.65	1%	200	7.64

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/9/21	FIELD PERSONNEL:	JF
WEATHER:	Sunny 35°F	CERTIFICATION #:	13040

MONITOR WELL #:	TL-2	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	2-15'
WELL PERMIT #:	E201305270	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 9.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.70 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1145	X		6.92	NA	0.803	NA	-107	NA	1.12	NA	21.5	NA	15.99	NA	200	6.78
1150	X		6.93	0.01	0.804	1%	-109	2	1.05	6.3%	14.9	31%	15.99	1 -	200	6.78
1155	X		6.94	0.01	0.801	1%	-110	1	1.00	4.8%	7.5	49%	16.07	1%		
1200	X		6.94	-	0.803	1%	-111	1	1.00	-	7.0	6.6%	16.03	1%		
1205	X		6.97	0.03	0.807	1%	-111	-	1.00	-	6.9	1.4%	16.39	2%		
1210	X		6.96	0.01	0.810	1%	-112	1	1.00	-	6.4	7.2%	16.34	1%		
1215		X	6.96	-	0.816	1%	-112	-	1.00	-	6.1	4.7%	16.26	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 40 °F	CERTIFICATION #:	13040

MONITOR WELL #: TL - 3 WELL DEPTH: 10' SCREENED/OPEN INTERVAL: 2 - 10'

WELL PERMIT #: E201305271 WELL DIAMETER: 2" Inches

PID/FID READINGS (ppm): BACKGROUND: 0 BENEATH OUTER CAP: 0 BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 8.50 ft below TOC

DEPTH TO WATER BEFORE PUMP INSTALLATION : 6.97 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
905	X		6.86	NA	2.95	NA	-89	NA	0.82	NA	92.2	NA	11.40	NA	250	7.60
910	X		6.90	0.04	2.62	11%	-88	1	0.35	57%	81.4	12%	10.93	4.1%	200	7.68
915	X		7.00	0.10	2.73	4.2%	-88	–	0.30	14%	67.0	18%	10.33	5.5%	200	7.69
920	X		7.04	0.04	2.70	1.1%	-90	1	0.35	17%	59.0	12%	10.25	1%	200	7.71
925	X		7.07	0.03	2.69	1%	-90	–	0.31	11%	53.7	9%	10.19	1%	200	7.71
930	X		7.18	0.11	2.66	1.1%	-88	2	0.45	45%	18.5	66%	9.96	2%	200	7.73
935	X		7.17	0.01	2.66	–	-90	2	0.43	4%	18.0	2.7%	9.72	2%	200	7.74
940	X		7.13	0.04	2.67	1%	-86	4	0.40	7%	16.5	8.3%	9.99	2%	200	7.74
945	X		7.15	0.02	2.64	1.1%	-89	3	0.39	2%	16.1	2.4%	10.15	1.0%	200	7.74
950		X	7.15	–	2.68	1.5%	-90	1	0.38	2%	15.8	1.9%	10.19	1%	200	7.74

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	6/8/21	FIELD PERSONNEL:	AE
WEATHER:	50° clear	CERTIFICATION #:	13040

MONITOR WELL #:	TM - 1	WELL DEPTH:	20'	SCREENED/OPEN INTERVAL:	5.5 - 20.5'
WELL PERMIT #:	2600052623	WELL DIAMETER:	4" inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 10.8 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.8 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
12:05	X		5.24	NA	1.32	NA	207	NA	6.12	NA	47.8	NA	14.20	NA	314	10.8
12:10	X		5.18	0.06	1.43	8%	236	29	0.26	100%	25.5	2%	14.99	5%		
12:15	X		5.17	0.01	1.43	0%	239	3	0.26	0%	19.8	22%	15.22	1%		
12:20	X		5.16	0.01	1.40	2%	230	9	0.26	0%	19	4%	15.41	2%		
12:25	X		5.15	0.01	1.38	1%	238	8	0.26	0%	18.2	4%	15.64	1%		
12:30	X		5.14	0.01	1.36	1%	241	3	0.26	0%	16.4	9%	15.68	1%		
12:35		X	5.13	0.01	1.35	1%	247	6	0.26	0%	14.8	9%	15.78	1%		10.9

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/8/21	FIELD PERSONNEL:	AC
WEATHER:	45° Clouds	CERTIFICATION #:	13040

MONITOR WELL #:	TM - 2	WELL DEPTH:	21'	SCREENED/OPEN INTERVAL:	6.5 - 21.5'
WELL PERMIT #:	2600052624	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 13.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 11.55 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
8:30	X		6.60	NA	0.580	NA	-84	NA	7.90	NA	515	NA	13.12	NA	340	11.58
8:35	X		6.48	0.12	0.574	1%	-94	10	5.75	27%	361	19%	13.93	6%		
8:40	X		6.48	0.00	0.578	1%	-94	0	4.35	24%	348	3%	14.23	2		
8:45	X		6.48	0.00	0.575	1%	-98	-4	4.00	8%	314	9%	14.34	1%		
8:50	X		6.47	0.01	0.573	1%	-99	-1	3.77	5%	300	4%	14.39	1%		
8:55	X		6.47	0.00	0.570	1%	-102	-3	3.42	9%	285	5%	14.42	1%		
9:00		X	6.47	0.00	0.568	1%	-104	-2	3.12	8%	262	8%	14.48	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/8/21	FIELD PERSONNEL:	AE
WEATHER:	45°	CERTIFICATION #:	13040

MONITOR WELL #:	TM - 3	WELL DEPTH:	20'	SCREENED/OPEN INTERVAL:	5.5 - 20.5'
WELL PERMIT #:	2600052625	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.6
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 13.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 11.5 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:30	X		6.06	NA	0.382	NA	10	NA	4.65	NA	254	NA	13.59	NA	379	11.5
9:35	X		5.94	0.12	0.377	2%	29	-19	0.10	100%	203	20%	15.24	12		
9:40	X		5.94	0.00	0.376	1%	24	5	0.10	0%	138	32%	15.41	1%		
9:45	X		5.94	0.00	0.378	1%	20	4	0.10	0%	111	19%	15.54	1%		
9:50	X		5.95	0.01	0.381	1%	15	5	0.10	0%	84.8	23%	15.66	1%		
9:55	X		5.96	0.01	0.389	1%	5	10	0.10	0%	64.7	27%	15.73	1%		
10:00	X		5.97	0.01	0.392	1%	-3	2	0.10	0%	57.8	6%	15.78	1%		
10:05	X		5.97	0.00	0.395	1%	-2	1	0.10	0%	52.3	9%	15.82	1%		
10:10	X		5.98	0.01	0.399	1%	-8	-6	0.10	0%	47.5	9%	15.84	1%		
10:20		X	5.98	0.00	0.401	1%	-10	-2	0.10	0%	43.6	8%	15.89	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/8/21	FIELD PERSONNEL:	AG
WEATHER:	45° cloud,	CERTIFICATION #:	13040

MONITOR WELL #:	TM - 4	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	5.5 - 15.5'
WELL PERMIT #:	2600052626	WELL DIAMETER:	4" inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 12.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 10.1 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
10:45	X		6.38	NA	0.147	NA	1	NA	8.34	NA	185	NA	13.74	NA	350	10.2
10:50	X		6.04	0.34	0.142	1%	111	111	5.10	29%	173	64	14.07	5%		
10:55	X		6.00	0.04	0.143	1%	130	18	5.24	11%	68.1	60%	14.37	2%		
11:00	X		6.00	0.00	0.144	1%	126	4	5.00	4%	53.6	21%	14.30	1%		
11:05	X		6.01	0.01	0.145	1%	118	-12	4.40	12%	44.2	17%	14.48	1%		
11:10	X		6.02	0.01	0.146	1%	+122	4	4.32	1%	40.1	9%	14.51	1%		
11:15	X		6.02	0.00	0.147	1%	+128	6	4.24	1%	37.8	5%	14.53	1%		
11:20	X		6.03	0.01	0.147	1%	131	3	4.00	5%	34.2	9%	14.58	1%		
11:25		X	6.04	0.01	0.149	1%	135	4	3.85	3%	30.8	9%	14.61	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/13/21	FIELD PERSONNEL:	AE
WEATHER:	50°	CERTIFICATION #:	13040

MONITOR WELL #:	TM - 5	WELL DEPTH:	20'	SCREENED/OPEN INTERVAL:	5.5 - 20.5'
WELL PERMIT #:	2600052627	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 10 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 8.75 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
11:55	X		7.18	NA	0.522	NA	62	NA	7.00	NA	13.0	NA	16.89	NA	330	8.45
11:60	X		6.87	0.31	0.529	1.3%	79	-17	5.62	100%	10.7	17%	17.12	1.3%		
12:05	X		6.79	0.08	0.532	1%	85	-6	4.96	11%	6.3	9%	17.40	1%		
12:10	X		6.76	0.03	0.534	1%	89	-4	5.58	12%	5.7	9%	17.40	0%		
12:15	X		6.75	0.01	0.536	1%	-91	-2	5.31	4%	4.9	14%	17.40	0%		
12:20	X		6.75	0.00	0.541	2%	-92	-1	5.25	1%	4.2	14%	17.48	1%		
12:25	X		6.75	0.00	0.551	1%	-94	-2	5.15	1%	4.0	4%	17.52	1%		
12:30	X		6.75	0.00	0.553	1%	-96	-2	5.60	2%	4.0	0%	17.58	1%		
12:35	X		6.75	0.00	0.557	1%	-100	-4	4.89	2%	4.6	0%	17.62	1%		
12:40		X	6.75	0.00	0.559	1%	-103	-3	4.62	5%	4.0	0%	17.69	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess - Port Reading
DATE: 12/10/21
WEATHER: Sunny, 40°F

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: JF
CERTIFICATION #: 13040

MONITOR WELL #: TM - 6R
WELL PERMIT #: E201207155
WELL DEPTH: 20'
WELL DIAMETER: 4" inches
SCREENED/OPEN INTERVAL: 5 - 20'

PID/FID READINGS (ppm):
BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 9.00 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.28 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1315	X		6.22	NA	0.302	NA	-5	NA	0.89	NA	3.3	NA	13.76	NA	200	6.41
1320	X		6.19	0.03	0.303	0.3%	-6	1	0.45	49%	2.9	12%	13.30	3.3%	200	6.48
1325	X		6.19	0	0.299	1.3%	-8	2	0.35	22%	2.7	6.9%	13.33	0.2%	200	6.58
1330	X		6.18	0.01	0.297	0.7%	-9	1	0.29	17%	2.8	3.7%	13.37	0.3%	150	6.66
1335	X		6.18	0	0.296	0.3%	-9	0	0.21	28%	2.6	7.1%	13.38	0.1%	150	6.67
1340	X		6.18	0	0.296	0%	-9	0	0.23	9.5%	2.4	7.7%	13.32	0.4%	100	6.67
1345	X		6.18	0	0.294	0.7%	-9	0	0.21	8.7%	2.6	8.3%	13.17	1.1%	100	6.67
1350		X	6.18	0	0.294	0%	-9	0	0.20	4.8%	2.5	3.8%	13.24	0.5%	100	6.67

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	JF
WEATHER:	Cloudy 47°F	CERTIFICATION #:	13040

MONITOR WELL #:	TM - 7	WELL DEPTH:	21.5'	SCREENED/OPEN INTERVAL:	6.5 - 21.5'
WELL PERMIT #:	2600052629	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 10.00 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 7.49 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1200	X		6.67	NA	0.517	NA	-24	NA	1.38	NA	2.4	NA	13.20	NA	250	7.72
1205	X		6.53	0.14	0.520	1%	-32	8	0.48	65%	1.8	25%	13.27	1%	250	7.75
1210	X		6.51	0.02	0.517	1%	-38	6	0.25	48%	1.6	11%	13.37	1%	250	7.77
1215	X		6.51	-	0.516	1%	-41	3	0.07	69%	1.7	6%	13.23	1%	250	7.79
1220	X		6.51	-	0.511	1%	-43	2	0.07	-	1.6	6%	13.33	1%	250	7.80
1225	X		6.51	-	0.511	-	-44	1	0.07	-	1.5	6%	13.42	1%	250	7.81
1230	X		6.51	-	0.515	1%	-45	1	0.07	-	1.6	6%	13.47	1%	250	7.81
1235		X	6.51	-	0.515	-	-46	1	0.07	-	1.5	6%	13.56	1%	250	7.81

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	Iain B
WEATHER:	Sunny 35°F	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 1R	WELL DEPTH:	18'	SCREENED/OPEN INTERVAL:	4 - 18'
WELL PERMIT #:	E201305263	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 8.6 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.65 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
900	x		7.04	NA	0.338	NA	109	NA	4.21	NA	124	NA	13.06	NA	320	6.79
905	x		7.39	0.35	0.336	1%	105	4	5.28	25%	82.1	34%	13.20	1%	320	6.80
910	x		7.44	0.05	0.336	1%	105	-	4.87	7%	70.5	14%	13.25	1%	320	6.81
915	x		7.48	0.04	0.334	1%	105	-	4.32	11.3%	64.5	9.2%	13.39	1%	320	6.81
920	x		7.53	0.05	0.334	-	105	-	4.39	1.6%	31.8	50%	13.43	1%	320	6.83
925	x		7.57	0.04	0.335	1%	104	1	3.95	10%	31.2	2%	13.53	1%	320	6.82
930	x		7.61	0.04	0.335	-	104	-	3.88	2%	31.8	2%	13.49	1%	320	6.82
935	x		7.63	0.02	0.335	-	103	1	3.91	1%	29.6	7%	13.49	1%	320	6.81
940		x	7.64	0.01	0.333	1%	102	1	3.95	1%	29.3	1%	13.60	1%	320	6.80

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/7/21	FIELD PERSONNEL:	JF
WEATHER:	Sunny 35°F	CERTIFICATION #:	13040

MONITOR WELL #: TR - 2R WELL DEPTH: 20' SCREENED/OPEN INTERVAL: 1 - 20'
WELL PERMIT #: P200800560 WELL DIAMETER: 4" Inches

PID/FID READINGS (ppm): BACKGROUND: 0
BENEATH OUTER CAP: 0
BENEATH INNER CAP: 0

PUMP INTAKE DEPTH: 3.5 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 0.0 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
0900	X		9.41	NA	0.795	NA	-65	NA	0.90	NA	39.9	NA	10.47	NA	250	0.25
0905	X		9.58	0.17	0.724	8.9%	-99	34	0.25	72%	31.4	21.3%	10.87	3.8%	250	0.25
0910	X		9.63	0.05	0.687	5.1%	-109	10	0.11	56%	26.2	16%	10.54	3.1%	250	0.25
0915	X		9.64	0.01	0.682	1%	-111	2	0.08	27%	20.4	22%	10.54	-	250	0.25
0920	X		9.64	-	0.670	2%	-112	1	0.05	38%	18.5	9.3%	10.63	1%	250	0.25
0925	X		9.64	-	0.665	1%	-111	1	0.04	20%	13.4	19%	10.63	-	250	0.25
0930	X		9.63	0.01	0.661	1%	-111	-	0.04	-	13.4	-	10.47	1%	250	0.25
0935	X		9.64	0.01	0.658	1%	-109	2	0.04	-	12.4	7.5%	10.35	1%	250	0.25
0940	X		9.63	0.01	0.657	1%	-107	2	0.04	-	11.7	5.6%	10.38	1%	250	0.25
0945		X	9.63	-	0.656	1%	-107	-	0.04	-	11.1	5.1%	10.30	1%	250	0.25

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/29/21	FIELD PERSONNEL:	AE
WEATHER:	35° Cloudy	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 3RR	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	1 - 15'
WELL PERMIT #:	E201305493	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND: 0.0	PUMP INTAKE DEPTH: 4 ft below TOC	
	BENEATH OUTER CAP: 0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION 2.31 ft below TOC	
	BENEATH INNER CAP: 0.0		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1400	X		7.85	NA	0.304	NA	-10	NA	1.96	NA	102	NA	14.44	NA	300	2.40
1405	X		7.60	0.25	0.296	2.6%	-22	-12	1.85	2%	90.1	11%	14.60	1%		
1410	X		7.42	0.18	0.295	1%	-20	2	1.89	2%	80.2	10%	14.57	1%		
1415	X		7.38	0.04	0.294	1%	-19	1	1.91	1%	75.8	5%	14.60	1%		
1420	X		7.30	0.08	0.292	1%	-17	2	1.98	1%	71.5	5%	14.55	1%		
1425	X		7.25	0.05	0.290	1%	-15	2	1.94	1%	67.9	5%	14.52	1%		
1430		X	7.20	0.05	0.288	1%	-10	5	1.90	1%	64.9	8%	14.50	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/29/21	FIELD PERSONNEL:	AV
WEATHER:	40° Cloud,	CERTIFICATION #:	13040

MONITOR WELL #:	TR-3D	WELL DEPTH:	25'	SCREENED/OPEN INTERVAL:	15-25'
WELL PERMIT #:	E201812225	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 17 ft below TOC	
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION : 1.9 ft below TOC	
	BENEATH INNER CAP:	0.0		

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1300	X		6.85	NA	1.85	NA	-11	NA	0.30	NA	N/A	NA	15.70	NA	320	2.00
1305	X		6.88	0.03	1.76	4%	-19	-8	0.10	66%	620	100%	15.72	1%		
1310	X		6.88	0.01	1.73	1%	-14	-5	0.10	0%	439	29%	15.86	1%		
1315	X		6.88	0.01	1.74	1%	-14	0	0.10	0%	310	27%	16.04	1%		
1320	X		6.88	0.00	1.77	1%	-13	-1	0.10	0%	127	59%	16.15	1%		
1325	X		6.86	0.02	1.82	2.8%	-10	+3	0.10	0%	115	9.4%	16.19	1%		
1330	X		6.84	0.02	1.87	2.7%	-9	1	0.10	0%	108	6%	16.24	1%		
1335	X		6.80	0.04	1.89	1%	-9	0	0.10	0%	100	7%	16.28	1%		
1340		X	6.78	0.02	1.91	1%	-7	2	0.10	0%	95	4%	16.31	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	~~35°~~ 11/29/21	FIELD PERSONNEL:	AE
WEATHER:	35°	CERTIFICATION #:	13040

MONITOR WELL #:	TR-3DD	WELL DEPTH:	60'	SCREENED/OPEN INTERVAL:	50-60'
WELL PERMIT #:	E201812226	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 52 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 34 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
1150	X		9.75	NA	0.752	NA	768	NA	0.96	NA	96	NA	15.40	NA	320	9.88
1155	X		8.82	0.93	0.777	3.3%	-171	-3	0.11	27%	494	47%	15.46	1%		7.92
1200	X		8.32	0.50	0.775	0.2%	-136	35	0.08	27%	377	23%	15.13	1%		
1205	X		8.04	0.28	0.766	1.1%	-99	37	0.05	37%	310	17%	15.10	1%		
1210	X		7.24	0.80	0.752	1.8%	-45	54	0.05	0%	270	12%	15.39	1%		
1215	X		7.20	0.04	0.750	1%	-40	4	0.05	0%	266	1%	15.43	1%		
1220	X		7.18	0.02	0.768	2.4%	-31	9	0.05	0%	248	6%	15.48	1%		
1225	X		7.10	0.08	0.764	1%	-28	3	0.05	0%	231	6%	15.53	1%		
1230		X	7.11	0.01	0.760	1%	-20	8	0.05	0%	210	9%	15.58	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
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LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	Iain B
WEATHER:	Cloudy 45°F	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 4R	WELL DEPTH:	15'	SCREENED/OPEN INTERVAL:	1 - 15'
WELL PERMIT #:	E201207157	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 5.80 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 3.80 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
0945	X		7.34	NA	0.438	NA	-92	NA	2.79	NA	110	NA	12.26	NA	330	4.16
0950	X		7.45	0.11	0.436	1%	-118	26	2.20	21%	79.7	28%	12.62	4%		4.17
0955	X		7.48	0.03	0.436	-	-132	14	1.62	26%	65.8	17%	12.78	1%		4.18
1000	X		7.49	0.01	0.432	1%	-131	1	1.08	33%	36.9	44%	12.90	1%		4.19
1005	X		7.51	0.02	0.428	1%	-139	8	1.00	7.4%	35.1	5%	13.07	1%		4.20
1010	X		7.60	0.09	0.424	1%	-145	6	0.97	3.0%	33.4	5%	13.29	1%		4.21
1015	X		7.54	0.06	0.423	1%	-152	7	0.93	4.1%	31.9	4%	13.31	1%		4.22
1020		X	7.54	-	0.421	1%	-154	2	0.89	4.3%	31.2	1%	13.40	1%		4.23

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	Iain B
WEATHER:	Cloudy 45°F	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 4D	WELL DEPTH:	30'	SCREENED/OPEN INTERVAL:	25-30'
WELL PERMIT #:	E201207156	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 27.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.41 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1300	✓		7.14	NA	0.611	NA	-129	NA	0.57	NA	148	NA	16.13	NA	330	6.11
1305	✓		7.23	0.09	0.623	2%	-193	64	0.12	79%	169	14%	16.06	1%	330	6.08
1310	✓		7.26	0.03	0.621	1%	-203	10	0.12	-	156	7.7%	15.98	1%	330	6.06
1315	✓		7.28	0.02	0.619	1%	-213	10	0.12	-	155	1%	15.70	1%	330	6.04
1320	✓		7.28	-	0.619	1%	-217	4	0.12	-	150	1%	15.64	1%	330	6.04
1325		✓	7.28	-	0.619	1%	-220	3	0.12	-	148	1%	15.53	1%	330	6.01

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	12/10/21	FIELD PERSONNEL:	Iain B
WEATHER:	Cloudy 45°F	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 4DD	WELL DEPTH:	56'	SCREENED/OPEN INTERVAL:	51 - 56'
WELL PERMIT #:	E201305267	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 53.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 5.91 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1100	X		6.78	NA	0.364	NA	-67	NA	1.41	NA	227	NA	15.33	NA	330	6.25
1105	X		6.85	0.07	0.316	13%	-67	-	1.40	1%	125	50%	15.38	1%	330	6.23
1110	X		6.80	0.05	0.344	8%	-43	24	1.40	-	34.8	72%	15.71	1%	330	6.27
1115	X		6.73	0.07	0.393	14%	-28	15	1.39	1%	27.1	22%	15.61	1%	330	6.25
1120	X		6.69	0.04	0.400	1.7%	-20	8	1.39	-	28.2	4%	15.51	1%	330	6.23
1125	X		6.71	0.02	0.410	2.5%	-17	3	1.39	-	26.8	5%	15.63	1%	330	6.25
1130	X		6.68	0.03	0.414	1%	-15	2	1.38	1%	25.7	4%	15.75	1%	330	6.24
1135		X	6.66	0.02	0.418	1%	-14	1	1.38	-	24.8	1%	15.78	1%	330	6.23

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/29/21	FIELD PERSONNEL:	Iain B.
WEATHER:	Sunny 30s	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 5	WELL DEPTH:	12'	SCREENED/OPEN INTERVAL:	2 - 12'
WELL PERMIT #:	E201013006	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 6.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION : 4.28 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1125	X		6.75	NA	0.850	NA	-42	NA	1.24	NA	5.2	NA	16.11	NA	330	4.76
1130	X		6.75	–	0.851	1%	-54	12	0.31	75%	5.6	7.6%	16.27	1%	330	4.78
1135	X		6.75	–	0.845	1%	-60	6	0.08	74%	4.3	23%	16.30	1%	330	4.80
1140	X		6.76	0.01	0.841	1%	-63	3	0.08	–	4.9	14%	16.41	1%	330	4.80
1145	X		6.76	–	0.844	1%	-66	3	0.77	800%	9.1	85%	16.35	1%	330	4.81
1150	X		6.78	0.02	0.850	1%	-67	1	0.24	68%	4.0	56%	16.40	1%	330	4.82
1155	X		6.79	0.01	0.859	1.5%	-73	6	0.25	4.1%	3.9	2.5%	16.58	1%	330	4.83
1200	X		6.81	0.02	0.860	1%	-76	3	0.26	4.1%	3.9	–	16.70	1%	330	4.83
1205	X		6.83	0.02	0.866	1%	-76	–	0.26	–	3.8	2.6%	16.72	1%	330	4.85
1210		X	6.83	–	0.865	1%	-73	3	0.25	4.1%	3.9	2.6%	16.72	–	330	4.87

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE: Former Hess-Port Reading
DATE: 11/29/21
WEATHER: 50°

CONSULTING FIRM: EARTH SYSTEMS
FIELD PERSONNEL: AE
CERTIFICATION #: 13040

MONITOR WELL #: TR-5D
WELL PERMIT #: E201812227
WELL DEPTH: 25'
WELL DIAMETER: 2" Inches
SCREENED/OPEN INTERVAL: 15-25'

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 18 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 6.29 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:50	X		8.75	NA	1.04	NA	-38	NA	1.13	NA	212	NA	16.26	NA	310	6.30
9:55	X		7.49	1.26	1.06	1.9%	-48	-10	0.54	52%	220	1	16.53	1%		
6:00	X		7.01	0.48	1.04	1%	-49	-1	0.34	37%	62	100%	16.66	1%		
6:05	X		6.80	0.21	0.960	7%	-35	14	0.17	50%	299	52%	16.77	1%		
10:10	X		6.69	0.11	0.925	3.6%	-22	13	0.17	0%	214	28%	16.85	1%		
10:15	X		6.66	0.03	0.913	1%	-17	5	0.17	0%	130	39%	16.94	1%		
10:20	X		6.64	0.02	0.913	0%	-14	4	0.17	0%	124	4%	16.92	1%		
10:25	X		6.60	0.04	0.910	1%	-17	-3	0.17	0%	120	1%	16.99	1%		
10:30	X		6.58	0.02	0.905	1%	-13	-4	0.17	0%	116	1%	17.00	1%		
10:35		X	6.55	0.03	0.900	1%	-10	-3	0.17	0%	110	1%	17.08	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess-Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/29/21	FIELD PERSONNEL:	Iain B
WEATHER:	Sunny 30s	CERTIFICATION #:	13040

MONITOR WELL #:	TR-5DD	WELL DEPTH:	60'	SCREENED/OPEN INTERVAL:	50-60'
WELL PERMIT #:	E201812228	WELL DIAMETER:	2" Inches		

PID/FID READINGS (ppm):
BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 52 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 5.04 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
922	X		6.39	NA	0.642	NA	-46	NA	1.13	NA	435	NA	15.26	NA	330	6.10
927	X		6.72	0.33	0.723	13%	-45	1	0.57	50%	225	48%	15.75	3.2%	330	6.12
932	X		6.79	0.07	0.743	2.7%	-47	2	0.12	79%	66.1	71%	15.70	1%		6.10
937	X		6.84	0.05	0.749	1%	-47	-	0.10	20%	31.0	53%	15.65	1%		6.08
942	X		6.87	0.03	0.751	1%	-48	1	0.07	30%	13.2	57%	15.69	1%		6.05
947	X		6.89	0.02	0.740	1.3%	-48	-	0.09	28%	5.3	60%	15.71	1%		6.05
952	X		6.91	0.02	0.753	1.8%	-48	-	0.05	44%	2.2	58%	15.70	1%		6.00
957	X		6.92	0.01	0.753	-	-49	1	0.05	-	2.2	-	15.67	1%		5.95
1002	X		6.92	-	0.753	-	-48	1	0.05	-	2.1	4.5%	15.71	1%		6.00
1007	X		6.93	0.01	0.754	1%	-48	-	0.05	-	2.0	5%	15.67	1%		6.01
1012		X	6.93	-	0.755	1%	-48	-	0.05	-	1.9	5.2%	15.78	1%		6.01

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	6/3/21	FIELD PERSONNEL:	AE
WEATHER:	50° Sunny	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 6	WELL DEPTH:	12'	SCREENED/OPEN INTERVAL:	2 - 12'
WELL PERMIT #:	E201013007	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm):	BACKGROUND:	0.0	PUMP INTAKE DEPTH: 6 ft below TOC
	BENEATH OUTER CAP:	0.0	DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.1 ft below TOC
	BENEATH INNER CAP:	0.0	

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B) READING	pH CHANGE*	SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1) READING	SPECIFIC CONDUCTIVITY CHANGE*	REDOX POTENTIAL (mv) READING	REDOX POTENTIAL CHANGE*	DISSOLVED OXYGEN (mg/l) (SM 4500OG) READING	DISSOLVED OXYGEN CHANGE*	TURBIDITY (NTU) (EPA 180.1) READING	TURBIDITY CHANGE*	TEMPERATURE (degrees C) (SM 2550) READING	TEMPERATURE CHANGE*	PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
9:20	X		7.4	NA	0.138	NA	-8	NA	3.50	NA	10.2	NA	14.75	NA	300	4.1
9:25	X		6.54	1.08	0.123	10%	-4	4	0.48	100%	14.1	38%	15.16	1%		
9:30	X		6.36	0.18	0.124	0%	-5	-1	0.48	0%	5.1	63%	15.16	0%		
9:35	X		6.35	0.01	0.123	0%	-6	-1	0.48	0%	4.5	11%	15.15	1%		
9:40	X		6.35	0.00	0.126	2%	-10	-4	0.48	0%	4.1	8%	15.15	0%		
9:45	X		6.35	0.00	0.128	1%	-14	-4	0.48	0%	4.1	0%	15.20	1%		
9:50	X		6.35	0.00	0.129	1%	-17	-3	0.48	0%	4.	1%	15.22	1%		
9:55	X		6.34	0.01	0.130	1%	-19	-2	0.48	0%	4	1%	15.24	1%		
10:00		X	6.34	0.00	0.132	1%	-22	-3	0.48	0%	4	1%	15.26	1%		

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity

Earth Systems
Environmental Engineering

LOW FLOW SAMPLING DATA SHEET

SHEET 1 OF 1

SITE:	Former Hess - Port Reading	CONSULTING FIRM:	EARTH SYSTEMS
DATE:	11/29/21	FIELD PERSONNEL:	Ian B.
WEATHER:	P. Cloud y 30°,	CERTIFICATION #:	13040

MONITOR WELL #:	TR - 6D	WELL DEPTH:	30'	SCREENED/OPEN INTERVAL:	25 - 30'
WELL PERMIT #:	E201305265	WELL DIAMETER:	4" Inches		

PID/FID READINGS (ppm): BACKGROUND: 0.0
BENEATH OUTER CAP: 0.0
BENEATH INNER CAP: 0.0

PUMP INTAKE DEPTH: 27.0 ft below TOC
DEPTH TO WATER BEFORE PUMP INSTALLATION: 4.36 ft below TOC

TIME	PURGING	SAMPLING	pH (pH units) (SM 4500H+B)		SPECIFIC CONDUCTIVITY (mS/cm) (EPA 120.1)		REDOX POTENTIAL (mv)		DISSOLVED OXYGEN (mg/l) (SM 4500OG)		TURBIDITY (NTU) (EPA 180.1)		TEMPERATURE (degrees C) (SM 2550)		PUMPING RATE (ml/min)	DEPTH TO WATER (ft below TOC)
			READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*	READING	CHANGE*		
1320	✓		6.75	NA	0.186	NA	131	NA	4.93	NA	25.8	NA	15.25	NA	330	4.48
1325	✓		6.43	0.32	0.826	344%	157	26	1.99	60%	48.4	88%	15.68	2.8%	330	4.47
1330	✓		6.41	0.02	0.847	2.5%	160	3	1.38	31%	50.5	4.3%	15.78	1%	330	4.47
1335	✓		6.42	0.01	0.860	1.5%	163	3	1.20	13%	41.3	18%	15.85	1%		4.46
1340	✓		6.42	–	0.849	1.3%	164	1	1.00	16%	28.0	32%	15.70	1%		4.47
1345	✓		6.43	0.01	0.845	1%	163	1	0.98	2%	27.4	2.1%	15.88	1%		4.47
1350	✓		6.43	–	0.843	1%	165	2	0.95	3%	29.4	8.0%	16.00	1%		4.48
1355	✓		6.43	–	0.841	1%	166	1	0.98	3%	29.0	1.4%	16.03	1%		4.48
1400		✓	6.43	–	0.841	1%	166	–	1.00	1%	29.4	1.4%	16.08	1%		4.48

COMMENTS:

*INDICATOR PARAMETERS HAVE STABLIZED WHEN 3 CONSECUTIVE READINGS ARE WITHIN: ± 0.1 for pH; ± 3% for Specific Conductivity and Temperature; ± 10 mv for Redox Potential; and ± 10% for Dissolved Oxygen and Turbidity