Evergreen Resources Management
2 Righter Parkway, Suite 200
Wilmington, DE 19803

July 29, 2016

Mr. David Brown
Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, Pennsylvania 19401

RE: Philadelphia Refinery Remediation Program
Groundwater Remediation Status Report, First Half 2016

Dear Mr. Brown:

Enclosed for your review is a semi-annual summary report for Operation & Maintenance (O&M) work completed at the Philadelphia Energy Solutions Refining & Marketing, LLC (PES) Philadelphia Refinery Complex and the Sunoco Logistics Belmont Terminal between January 1 and June 30, 2016. Detailed information regarding O&M activity is included in the attached tables and figures for the Philadelphia Refinery Complex as prepared by Stantec Consulting Services Inc. (Stantec). **Figure 1** is a site location map showing the facility location with respect to the surrounding area, and **Figure 2** is a site plan which identifies remediation system areas. This letter summarizes the information detailed in the tables plus additional activities under the Site Wide Approach such as investigations of the various Areas of Interest (AOIs).

In compliance with the 2003 Consent Order and Agreement (CO&A) entered into between Sunoco Inc., (R&M) (Sunoco) and the Pennsylvania Department of Environmental Protection (PADEP) for the Philadelphia Refinery Complex located at 3144 Passyunk Avenue in Philadelphia, Pennsylvania, Sunoco has conducted site characterization activities for all 11 AOIs. This facility has since been entered into the Pennsylvania One Cleanup Program. On November 30, 2011, Sunoco submitted a "Work Plan for Site Wide Approach under the One Cleanup Program" (Site Wide Approach) to the PADEP and the United States Environmental Protection Agency (USEPA). The Site Wide Approach clarifies the technical approach beyond the CO&A and provides an anticipated schedule for future Act 2 submissions with respect to the Philadelphia Refinery Complex remediation program. Effective December 30, 2013, Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC (Evergreen) assumed Sunoco/Atlantic's legacy remediation liabilities with respect to the Philadelphia Refinery. All remediation of Sunoco/Atlantic's historic environmental liabilities at the Philadelphia Refinery will be managed moving forward by Evergreen. Status and anticipated dates of forthcoming Remedial Investigation Report (RIR) submittals will be updated in the semi-annual Groundwater Remediation Status Reports. This particular status report will include an updated schedule for submittals under Act 2 within each AOI section.

On September 8, 2012, Sunoco conveyed the Philadelphia Refinery to PES. As part of that transaction, Sunoco retained responsibility for remediation activities for environmental conditions existing at the time of the transfer. Accordingly, Evergreen will continue to submit the required documentation and implement the required remedial obligations. Moving forward, Evergreen will submit a report with the O&M summary, Act 2 submittal updates, figures, and tables on an annual basis coinciding with the annual groundwater gauging and monitoring. On the

alternating six month interval, Evergreen will submit an abbreviated letter report detailing the O&M summary without figures and limited tables.

AOI 1 – Belmont Terminal / No. 1 Tank Farm / No. 2 Tank Farm

Consent Order / Characterization Status

Sunoco submitted to the PADEP and the USEPA a Site Characterization Report (SCR) for AOI 1 dated June 30, 2005. Based on comments received by the PADEP with regard to the AOI 1 SCR, Sunoco prepared and submitted to the PADEP a revised SCR for AOI 1 dated July 17, 2006. The recommendations in the AOI 1 report were to supplement the existing remediation system along the northwestern portion of the Belmont Terminal and southeastern portion of the No. 2 Tank Farm. Sunoco has implemented these actions as detailed in previous quarterly reports. In addition, Sunoco provided the PADEP a Remedial Action Plan (RAP) for AOI 1 in January 2008. As a result of the 26th Street North recovery system study and the S-50 Area (26th Street South) investigation, an addendum to the RAP was considered necessary. In December 2008, a RAP Addendum for AOI 1 was submitted to address the 26th Street North recovery system data analysis and the 26th Street South investigation and subsequent remedial actions. Evergreen intends to submit a revised RIR for AOI 1 in August 2016.

Belmont Terminal – Operation During the First Half of 2016

On August 30, 2012, the Frontage Road system was turned off and will remain offline unless there are significant increases in light non-aqueous phase liquid (LNAPL) in the recovery wells. The recovery wells were gauged on February 9 and May 9, 2016, and no product was detected.

The Loading Rack system consists of six dual-phase pumping systems (RW-4, RW-21, RW-22, RW-23, RW-24, and RW-25). Each recovery well contains separate pumps controlled by density floats and conductivity probes to pump groundwater and LNAPL. Recovered groundwater is discharged to an onsite process sewer. Product thicknesses are checked weekly, and pumps are turned on/off as needed based on recoverable product accumulations in each recovery well. The recovered LNAPL is stored in a 5,000-gallon holding tank, the contents of which are recycled by the refinery on an as needed basis.

The Loading Rack system was operational for the reporting period with the following exceptions:

- On January 8, the flow meter was clogged.
- RW-21 and RW-25 were not operational for the reporting period.

A total of 2,938,579 gallons of groundwater and 307 gallons of LNAPL was recovered by the Loading Rack system during the first half of 2016. Recovery totals and details of minor maintenance can be found in **Appendix 1**.

Shunk Street Sewer Ventilation System and Biofilter – Operation During the First Half of 2016

The biofilter was operational for the reporting period. System data for the first half of 2016 can be found in **Appendix 1**.

26th Street Sewer Area – System Performance and Operation During the First Half of 2016

26th Street North:

Sunoco conducted a performance assessment of the 26th Street North recovery system to better determine the effectiveness of remediation in this area. In general, reporting of only groundwater and LNAPL recovery provides

limited indication of system performance, and should be supplemented with measurements related to maintaining water-table drawdown and inducing a hydraulic gradient towards collection points. It was concluded in the AOI 1 RAP Addendum that the extent of LNAPL had not changed significantly, but had decreased over time, indicating stability of LNAPL along the 26th Street North area.

The 26th Street Sewer Area system was modified during the second half of 2015 to increase the overall effectiveness of the system. All of the four-inch diameter recovery wells (S-180, S-181, S-182, S-183, S-184, S-185, S-186, S-187, S-188, S-189, S-190, S-191 and S-192) were replaced with six-inch diameter recovery wells.

Within each well, a QED Environmental Systems Model AP-4+T AutoPump was installed to recover groundwater and LNAPL. Each recovery well contains a two-inch diameter lateral discharge line that connects to a four-inch high density polyethylene (HDPE) trunk line, which transfers the total fluids to an onsite process sewer. The pumps utilize compressed air, which is supplied by a Kaeser rotary screw air compressor. A one-inch diameter air line runs to each recovery well and is reduced to a 3/8-inch diameter line in each well vault at the pneumatic pumps.

The 26th Street Sewer Area system was started on October 12, 2015. The system was operational for the reporting period with the following exceptions:

- Due to maintenance on the manifolds, the system remained off until January 5.
- On March 2, all of the pumps were removed for semi-annual maintenance.
- The system was shut off from March 25 to March 28 due to a pump fire near 129 Tank.
- On June 13, the system was shut down for repairs on S-185.
- The compressor was inoperable on June 22 and June 27.

A total of 5,996,578 gallons of total fluids were recovered by this system during the first half of 2016. System performance data for the 26th Street Sewer Area system can be found in **Appendix 1**.

<u>26th Street South:</u>
A comprehensive groundwater investigation was conducted in the S-50 area. This data and proposed remedial action was included in the AOI 1 RAP Addendum. To minimize the migration of soluble phase contaminants, a biologically active aerobic barrier utilizing oxygen injection was recommended for the area. A thirty-point oxygen injection system was installed in 2009.

Due to the presence of LNAPL within the capture zone, the 26th Street South oxygen injection system was shut off on August 22, 2014. The system remained off for the first half of 2016. The conceptualization of a recovery system will be evaluated in the AOI 1 Cleanup Plan.

<u>26th Street and Packer Avenue Sewer Biofilter System – Operation During the First Half of 2016</u>

The 26th Street and Packer Avenue Sewers Biofilter system was taken offline on September 30, 2015 for upgrades. Upgrades to the biofilter included replacing the compost beds, repairing the duct work, and replacing or repairing the fans. They system was restarted on June 6, 2016, and remains operational during the final stages of startup which is expected to be completed in the third quarter of 2016.

AOI 2 – Point Breeze Processing Area

Consent Order / Characterization Status

The AOI 2 SCR/RIR was submitted to the PADEP and the USEPA on September 29, 2010. A revised RIR will be completed by the end of 2016.

Pollock Street West End System– Operation During the First Half of 2016

During October 2011, heavier than usual quantities of oil were observed within the Pollock Street sewer outfall. As a result, Sunoco completed the expansion of the existing vertical recovery well remediation system in the vicinity of the Pollock Street sewer outfall in February 2012. The system, referred to as the Pollock Street West End system, consists of a total of ten 4-inch diameter recovery wells on the east side of River Road and twenty 6-inch diameter recovery wells on the west side of River Road. Product thicknesses are checked bi-weekly, and pumps are turned on/off as needed based on recoverable product accumulations in each well. Groundwater and LNAPL are removed from select recovery wells using pneumatic submersible pumps. All liquids are processed through an oil/water separator. Water is discharged to a refinery process sewer (S-10 Sump), and LNAPL is recovered in a series of two 550-gallon tanks and then recycled by the refinery. A report describing the details of the investigation and remediation performed in response to the oil observed in the Pollock Street sewer outfall was submitted to the PADEP and the USEPA on June 29, 2012.

The Pollock Street West End system was operational for the reporting period with the following exceptions:

- On January 4, the system was down on holding tank full alarm.
- RW-105, RW-122, and RW-124 were shut off March 31 for annual maintenance to the discharge lines and manifolds.
- The system was down on high oil/water separator alarm on April 18; the floats were cleaned, and the system was restarted.
- On May 23, the flow meter was inoperable.
- The system was shut down from May 31 to June 1 to repair the transfer pumps.

A total of 1,637,200 gallons of groundwater and 741 gallons of LNAPL was recovered by the Pollock Street West End system during the first half of 2016. Operational and performance data can be found in **Appendix 1**.

Pollock Street Vertical Well System – Operation During the First Half of 2016

The Pollock Street Vertical Well system consists of RW-101, RW-102, and RW-103. All other vertical wells were previously turned off or incorporated into the Pollock Street West End system. On April 4, 2013 the vertical recovery wells were turned off for main discharge line cleaning and the installation of a new pump at horizontal well HW-1. Subsequently, HW-1 maintained adequate drawdown; therefore, the Pollock Street Vertical Well system was no longer needed. The recovery equipment was removed from RW-101, RW-102, and RW-103 on August 2, 2013.

Pollock Street Horizontal Well System – Operation During the First Half of 2016

The Pollock Street Horizontal Well system consists of HW-1, HW-2, and HW-3. HW-1 was installed in July 2004 along the north side of the Pollock Street sewer from approximately RW-103 to approximately 100 feet west of RW-101. HW-2 and HW-3 were installed from approximately RW-103 to the intersection of Pollock Street and 16th Street in the first quarter of 2006. Groundwater and LNAPL from HW-1 and HW-2 discharges directly into a benzene NESHAP controlled sewer whereas groundwater and LNAPL from HW-3 discharges directly into an onsite

process sewer.

The horizontal wells were operational for the reporting period with the following exceptions:

- HW-3 and HW-2 remained off until January 8 and February 10, respectively, when the pumps were reinstalled, and the systems were restarted.
- On March 14 and 21, the HW-2 pump was inoperable.
- The flow meter for HW-2 was clogged on March 28.
- The HW-2 pump was removed on April 4, repaired, and reinstalled on April 8.
- On January 11 and January 13, HW-3 was inoperable. The pump was removed for repairs and restarted on January 15.

Totalizers were installed in HW-1 and HW-2 on May 25, 2013 and July 6, 2015, respective. The estimated flow rate for HW-3 for the second half of 2015 is 15.38 gallons per minute (gpm).

A total of 8,529,739 gallons of total fluids were recovered by the Pollock Street Horizontal Well Recovery system this reporting period. Details of minor maintenance and system recovery totals for the first half of 2016 can be found in **Appendix 1**.

Pollock Street Sewer Outfall – Operation During the First Half of 2016

The Pollock Street Sewer outfall is checked by PES personnel and all findings are recorded. This practice will continue and any identified LNAPL will be handled with spill control equipment to minimize or prevent releases to the Schuylkill River. Evergreen has continued to maintain boom and sorbent sweeps around the tide gate area. Outfall cleaning, including the changing of sorbents and removal of any fugitive LNAPL from the outfall, occurs a minimum of twice per week. The skimmer discharges to a refinery process sewer (S-13 Sump).

The outfall skimmer remained off for the first half of 2016 due to the lack of recoverable oil in the outfall.

Short Pier – Operation During the First Half of 2016

There was no evidence of LNAPL migration to the Schuylkill River during the reporting period. Unless evidence of LNAPL migration to the river occurs, the system will remain offline.

Passyunk Avenue Sewer

The Passyunk Avenue Sewer CSO is checked by PES personnel once per shift at low tide and findings are recorded. LNAPL was not observed at the Schuylkill River outfall during the first half of 2016.

AOI 3 – Impoundment Area

There are no groundwater or LNAPL recovery systems active in this area. The AOI 3 SCR/RIR was submitted to the PADEP and the USEPA on September 27, 2010. The SCR/RIR stated that given the limited occurrence and mobility of LNAPL observed in RW-2, the recovery system will remain offline. The disposition of remediation systems in AOI 3 will be revisited in the Cleanup Plan. A revised RIR for AOI 3 will be completed by the end of 2016.

AOI 4 – No. 4 Tank Farm Area

Consent Order / Characterization Status

AOI 1 and AOI 4 were identified by Sunoco as the first areas of the refinery to be investigated in accordance with the Phase II Corrective Action Schedule included in the Current Conditions Report (CCR). Sunoco submitted a SCR to the PADEP and the USEPA for AOI 4 on August 24, 2006. A repackaged SCR/RIR was submitted to the agencies on October 16, 2013. A "Disapproval of Remedial Investigation Report" was received from the PADEP on January 16, 2014. A revised RIR will be completed by the end of 2016.

Penrose Avenue Remediation System – Operation During the First Half of 2016

Following characterization of AOI 4, Sunoco recommended the installation of a hydraulic control system on the southern border of AOI 4. This system is permitted for discharge by the Philadelphia Water Department (PWD) and Philadelphia Air Management Services (AMS). Installation of the remediation system was completed in December 2012. Following minor modifications to the system to facilitate water discharge monitoring in accordance with the PWD groundwater discharge permit, the system was started on March 20, 2013.

The system was operational for the reporting period with the following exceptions:

- The flow meter was inoperable on January 21.
- RW-701, RW-702, RW-703, and RW-704 were removed for semi-annual maintenance on January 29.
- On February 3, February 8, February 17, March 22, April 19, April 26 and May 3, the flow meter was inoperable.
- The system was not operational on May 18 for necessary maintenance.

A total of 2,180,350 gallons of groundwater and 116 gallons of LNAPL was recovered by the Penrose Avenue Remediation system during the reporting period. Details of minor maintenance as well as groundwater and LNAPL recovery totals for the first half of 2016 can be found in **Appendix 1**.

S-30 and S-36 LNAPL Recovery Systems – Operation During the First Half of 2016

Due to the absence of recoverable product in the recovery wells, S-30, S-34, S-35, and S-36 remain offline. The disposition of the S-30 recovery system will be revisited in the Cleanup Plan.

AOI 5 – Girard Point South Tank Field

Consent Order / Characterization Status

In accordance with the Site Wide Approach, a repackaged Site Characterization Report/Remedial Investigation Report/Cleanup Plan (SCR/RIR/Cleanup Plan) was submitted to the PADEP and the USEPA on December 13, 2011. Sunoco received a Remedial Investigation Report/Cleanup Plan Disapproval from the PADEP on March 15, 2012. A revised RIR will be completed in 2016.

9 Berth – Operation During the First Half of 2016

The system was taken offline in January 2009 and remains offline due to limited presence of LNAPL.

AOI 6 – Girard Point Chemicals Processing Area

Consent Order / Characterization Status

AOI 6 was identified by Sunoco as the third area of the refinery to be investigated in accordance with the Phase II Corrective Action Schedule included in the CCR. A SCR for AOI 6 was submitted to the PADEP and the USEPA on September 29, 2006. A repackaged SCR/RIR was submitted to the agencies on September 3, 2013. A "Disapproval of Remedial Investigation Report/Disapproval of Site Characterization Report" was received on November 27, 2013. A revised RIR will be completed by the end of 2016.

27 Pump House – Operation During the First Half of 2016

The 27 Pump House Total Fluids Recovery system was turned off September 20, 2010 due to absence of recoverable product. Passive remediation began on October 10, 2010 with the installation of absorbent socks in wells B-124, B-132, B-137, B-139, B-142, B-143, and B-147. Based on limited recoverable LNAPL in the proximal wells, passive remediation was discontinued on January 26, 2015.

AOI 7 – Girard Point Fuels Processing Area

Consent Order / Characterization Status

In accordance with the Site Wide Approach, a repackaged AOI 7 SCR/RIR was submitted to the PADEP and the USEPA on February 29, 2012. A RIR Addendum was submitted to the agencies on September 19, 2013. On December 18, 2013, Sunoco received comments on the RIR Addendum from the PADEP. These comments will be addressed in the revised RIR expected to be completed by the end of 2016.

No. 3 Separator / Bulkhead Area – Operation During the First Half of 2016

On July 12, 2011, Sunoco reported a hydrocarbon sheen on the Schuylkill River to the National Response Center. The sheen was directly adjacent to the Girard Point No. 3 Separator. In response to the sheen on the river, Sunoco investigated the source of hydrocarbons to the river through the installation of monitoring wells and exploratory excavation around a process sewer junction box associated with the 137 Crude Unit and the No. 3 Separator. The monitoring wells demonstrated measurable oil on the water table, and the exploratory excavation revealed integrity issues with the junction box. The junction box and associated bulkhead penetration were sealed with concrete.

Construction of a ten recovery well hydraulic control system was completed on August 23, 2012. Groundwater and LNAPL are extracted using pneumatic submersible pumps, and total fluids pass through an oil/water separator. Water is discharged to an onsite process sewer, and LNAPL is recovered in a 1,100-gallon holding tank and recycled by the refinery.

The system was operational for the first half of 2016 with the following exception:

- On January 14, all ten pumps were removed for semi-annual maintenance. The system was down on high oil/water separator alarm on May 2.

A total of 1,556,600 gallons of groundwater and 1,854 gallons of LNAPL was recovered by the system during the first half of 2016. System operation details and performance data for the No. 3 Separator system can be found in **Appendix 1**.

AOI 8 – Point Breeze North Yard

Consent Order / Characterization Status

A SCR was submitted to the PADEP on September 30, 2008. A repackaged SCR/RIR incorporating the PADEP's comments on AOI 8 was submitted to the PADEP and the USEPA on January 31, 2012. Comments from the PADEP on the SCR/RIR were received by email on July 7, 2012. A revised RIR will be completed in 2017 based on the abovementioned PADEP comments.

PGW Border Recovery System – Operation During the First Half of 2016

The PGW Total Fluids Recovery system is offline. The system is being evaluated for upgrades in 2016.

Jackson Street Sewer Area – Operation During the First Half of 2016

The Jackson Street Sewer Total Fluids Recovery system is offline. Due to limited LNAPL presence in the area, the system will remain off unless there are significant increases in LNAPL in the proximal wells. The Jackson Street combined sewer overflow outfall ("CSO") is checked once per shift by PES refinery personnel for a sheen or the presence of LNAPL. There has been no evidence of sheening to the Schuylkill River throughout the first half of 2016.

Jackson Street Sewer Water Curtain – Operation During the First Half of 2016

The Jackson Street Sewer Water Curtain was operational during the first half of 2016. Due to reliability issues, the flow meter for the water curtain was taken out of service in December 2009. Water flow rate is irrelevant to system operation. System data for the first half of 2016 is included in **Appendix 1**.

Sunoco agreed at the July 30, 2009 meeting to sample the air in the sewer onsite and offsite following notification from the PADEP of a neighborhood (28th and McKean Streets) complaint. No complaints regarding sewer odors were received during the first half of 2016.

North Yard Bulkhead Area and No. 3 Tank Farm Separator – Operation During the First Half of 2016

The system was taken offline due to limited LNAPL presence in the area. The system will remain off unless there are significant increases in LNAPL in the proximal wells.

AOI 9 – Schuylkill River Tank Farm

There are no groundwater or LNAPL recovery systems operational in AOI 9. A SCR was submitted to the PADEP and the USEPA on October 30, 2009. A revised RIR was submitted to the agencies in December 2015. The RIR was denied and an RIR Addendum to address the deficiencies will be submitted in 2017.

AOI 10 – West Yard

There are no groundwater or LNAPL recovery systems operational in AOI 10. A SCR/RIR was submitted to the PADEP and the USEPA on June 29, 2011. Approval of the RIR was received from the PADEP on January 6, 2012. An ecological assessment was conducted in 2015 and 2016 and an Ecological Risk Assessment Report submitted in June 2016.

AOI 11 – Deep Aquifer

The SCR/RIR was submitted to the PADEP and the USEPA on September 12, 2011. Sunoco received comments to the report by email on December 9, 2011. The Final Report was submitted to the agencies on June 21, 2013. Sunoco received a "Disapproval of Final Report" from the PADEP dated September 26, 2013.

Groundwater Monitoring

The current monitoring program consists of quarterly groundwater and LNAPL gauging of select wells, annual groundwater and LNAPL gauging of site-wide wells, and annual groundwater sampling of select perimeter monitoring wells. During the first, third, and fourth quarters, select wells are gauged to monitor LNAPL thickness and determine hydraulic effects of targeted recovery systems. The site-wide annual well gauging event is typically conducted during the second quarter of each year with results used to identify the presence of LNAPL and determine groundwater flow patterns.

Liquid level measurements collected during the first quarter of 2016 are provided in **Table 1**. The second quarter 2016 site-wide annual gauging liquid level measurements are provided in **Table 2** of this report. The second quarter 2016 groundwater gauging data was used to generate a product thickness map (**Figure 3**) and site-wide groundwater contour maps. **Figure 4** presents groundwater contour elevations for the shallow and intermediate monitoring wells, and a deep groundwater elevation map is included as **Figure 5**.

The purpose of the annual groundwater sampling event is to evaluate concentration trends at the perimeter of the Philadelphia Refinery Complex. The annual groundwater sampling program consists of sampling select wells throughout the Point Breeze Refinery and Girard Point Refinery. The annual perimeter groundwater sampling event was conducted in conjunction with annual site-wide gauging in May 2016.

The annual perimeter groundwater samples are analyzed pursuant to Pennsylvania's Land Recycling Program for leaded and unleaded gasoline and No. 2, 4, 5, and 6 fuel oils. These parameters include benzene, cumene (isopropylbenzene), 1,2-dichloroethane (EDC), ethylbenzene, methyl tert butyl ether (MTBE), toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and total xylenes by EPA SW846 Method 8260B; 1,2-dibromoethane (EDB) by EPA SW 846 Method 8011; anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluorene, naphthalene, phenanthrene, and pyrene by EPA SW846 Method 8270D; dissolved lead by EPA SW846 Method 6010C. A summary of the annual perimeter sampling event conducted in May 2016 is provided in **Table 3**. A summary of the historical perimeter groundwater sampling analytical data is provided in **Table 4**. The laboratory analytical reports for the 2016 annual perimeter groundwater sampling event are included electronically in **Appendix 2**.

Please contact me at (302) 477-1305 or TLDOERR@evergreenresmgt.com with any questions or comments.

Best Regards,

Evergreen Resources Management Operations

Tiffani L. Doerr, PG
Project Manager

Enclosures: Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Apparent LNAPL Thickness Map, May 2016
Figure 4 – Water-Table Groundwater Elevation Map, May 2016
Figure 5 – Lower Aquifer Groundwater Elevation Map, May 2016
Table 1 – First Quarter 2016 Gauging Data
Table 2 – Second Quarter 2016 Gauging Data
Table 3 – May 2016 Perimeter Groundwater Sampling Analytical Results
Table 4 – Historical Perimeter Groundwater Sampling Analytical Results
Appendix 1 – Remediation System Recovery Data
Appendix 2 – Laboratory Analytical Data Reports (electronic)

cc: Mr. Paul Gotthold
United States Environmental Protection Agency
1650 Arch Street
Philadelphia, Pennsylvania 19103

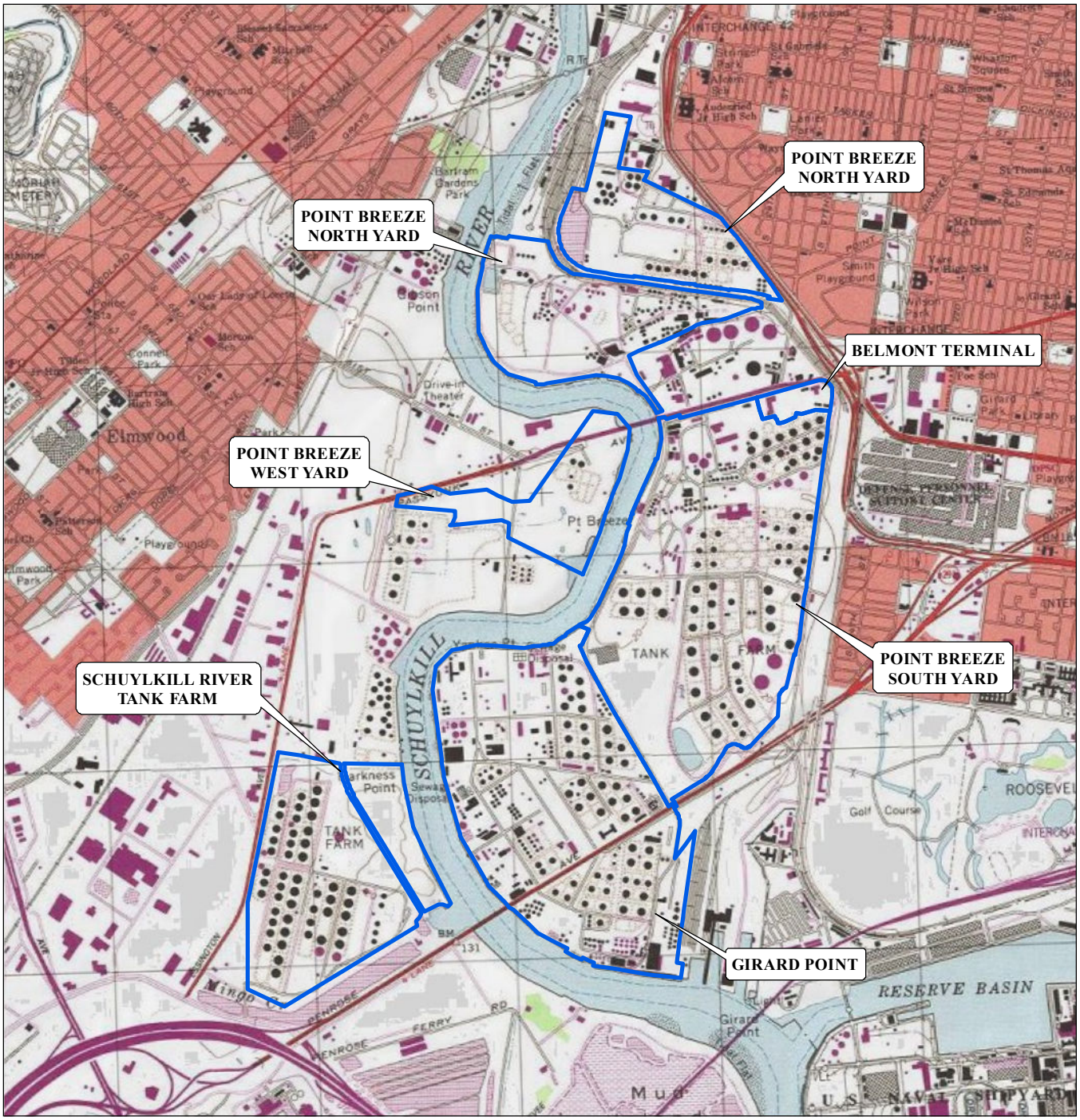
Mr. Nicholas Maliha, PE
Philadelphia Water Department
1101 Market Street, ARA Mark, 4th Floor
Philadelphia, Pennsylvania 19107

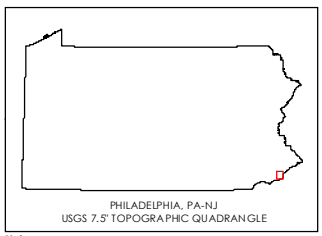
Mr. Charles D. Barksdale, Jr. PE
PES Refining & Marketing, LLC
3144 Passyunk Avenue
Philadelphia, Pennsylvania 19145

Ms. Jennifer Menges
Stantec Consulting Services Inc.
1060 Andrew Drive, Suite 140
West Chester, Pennsylvania 19380

File: Philadelphia Refinery Remediation Program
Groundwater Remediation Status Report, First Half 2016

FIGURES





Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
2. Source: Stantec, USGS
3. Service Layer Credits: Copyright© 2013 National Geographic Society, i-cubed

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0 1,250 2,500 Feet

1:30,000 (at original document size of 8.5x11)

Stantec

EVERGREEN

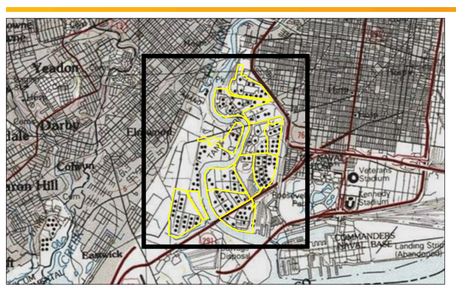
Project Location
City of Philadelphia, Pennsylvania

213402429
Prepared by GWC on 7/11/2016
Technical Review by ADK on 7/15/2016
Independent Review by JLM on 7/28/2016

Client/Project
EVERGREEN RESOURCES MANAGEMENT OPERATIONS
PHILADELPHIA REFINERY COMPLEX
3144 PASSYUNK AVENUE
PHILADELPHIA, PA 19145

Figure No.
1

Title
SITE LOCATION MAP



Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
2. Sources: Stantec
3. Aerial & Topo Source: Copyright:© 2013 National Geographic Society, i-cubed
   Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation
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Legend

- WATER TABLE MONITORING WELL
- RECOVERY WELL
- LOWER AQUIFER MONITORING WELL
- INJECTION WELL
- DAMAGED MONITORING WELL
- DESTROYED MONITORING WELL
- UNABLE TO LOCATE WELL
- STAFF GAUGE
- PIEZOMETER
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- REMEDIATION SYSTEMS DESIGNATED AS CURRENTLY ACTIVE
- REMEDIATION SYSTEMS DESIGNATED AS INACTIVE
- AREA OF INTEREST (AOI)

0 400 800 Feet

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Figure No.

2

Title

SITE PLAN

Client/Project

EVERGREEN RESOURCES MANAGEMENT OPERATIONS
PHILADELPHIA REFINERY COMPLEX
3144 PASSYUNK AVENUE
PHILADELPHIA, PA 19145

Project Location

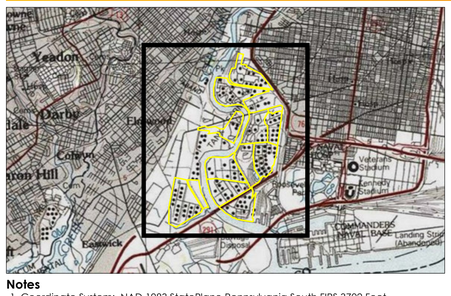
City of Philadelphia, Pennsylvania

213402429

Prepared by GWC on 7/11/2016
Technical Review by ADK on 7/15/2016
Independent Review by JLM on 7/28/2016

Stantec

EVERGREEN



Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
2. Sources: Stantec
3. Callouts denote product thickness measured in feet using an interface probe.
4. Dataset shows only wells that were gauged in May 2016.
5. Aerial & Topo Copyright:© 2013 National Geographic Society, i-cubed
   Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation
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Legend

- WELL – LNAPL OBSERVED
- WELL – LNAPL NOT OBSERVED
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- REMEDIATION SYSTEMS DESIGNATED AS CURRENTLY ACTIVE
- REMEDIATION SYSTEMS DESIGNATED AS INACTIVE
- AREA OF INTEREST (AOI)
- 0.01 APPARENT LIGHT NON-AQUEOUS PHASE LIQUID THICKNESS (FEET)

0 400 800 Feet

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Figure No.

3

Title

APPARENT LNAPL THICKNESS MAP MAY 2016

Client/Project

EVERGREEN RESOURCES MANAGEMENT OPERATIONS
PHILADELPHIA REFINERY COMPLEX
3144 PASSYUNK AVENUE
PHILADELPHIA, PA 19145

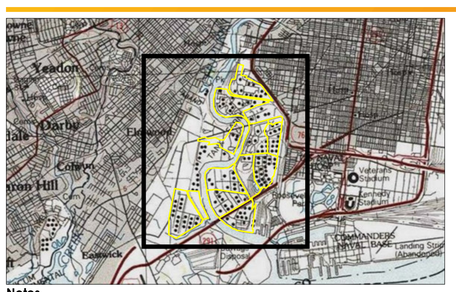
Project Location

City of Philadelphia, Pennsylvania

213402429

Prepared by GWC on 7/11/2016
Technical Review by ADK on 7/14/2016
Independent Review by ANP on 7/14/2016

Stantec



Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec
3. Callouts denote corrected groundwater elevation in feet. Depth to groundwater was measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
5. Water-levels in the aquifer(s) beneath AOI 9 are influenced by and reflective of year-round pumping from the Mingo Creek Flood Control Basin. The City of Philadelphia Water Department controls the water elevation in that basin between elevations -10 and -11 feet NAVD 88. As such, true water-table conditions in the AOI 9 area are unclear and contours (dashed) are presented as interpreted by Stantec at the time of well gauging.
6. Gauging conducted under pumping conditions.
7. Contour Interval = 1 foot
8. Aerial & Topo Copyright© 2013 National Geographic Society, i-cubed
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Legend

- WATER TABLE MONITORING WELL
- RECOVERY WELL
- DAMAGED MONITORING WELL
- DESTROYED MONITORING WELL
- UNABLE TO LOCATE WELL
- PIEZOMETER
- GROUNDWATER ELEVATION CONTOUR (FEET NAVD 88)
- AOI 9 WATER-LEVEL ELEVATION (1 FOOT INTERVAL)
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- AREA OF INTEREST (AOI)
- 2.04 GROUNDWATER ELEVATION (FEET NAVD 88)
- NM NOT MEASURED OR GROUNDWATER ELEVATION NOT CALCULATED DUE TO LACK OF SURVEYED REFERENCE ELEVATION
- WP-9 4.64 WELLS NOT USED FOR GROUNDWATER CONTOURING (FEET NAVD 88)

0 400 800 Feet

1:4,800 (At original document size of 36x48)

N

Figure No.

4

Title

WATER-TABLE GROUNDWATER ELEVATION MAP MAY 2016

Client/Project

EVERGREEN RESOURCES MANAGEMENT OPERATIONS
PHILADELPHIA REFINERY COMPLEX
3144 PASSYUNK AVENUE
PHILADELPHIA, PA 19145

Project Location

City of Philadelphia, Pennsylvania

213402429

Prepared by GWC on 7/11/2016
Technical Review by ADK on 7/14/2016
Independent Review by ANP on 7/14/2016

Stantec

EVERGREEN

AOI 8
AOI 10
AOI 1
AOI 2
AOI 3
AOI 4
AOI 7
AOI 6
AOI 5
AOI 9
BELMONT TERMINAL
SCHUYLKILL RIVER
MINGO CREEK FLOOD CONTROL BASIN
bing

Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec
3. Callouts denote corrected groundwater elevation in feet. Depth to groundwater was measured in each well to the nearest one-hundredth of a foot using an interface probe.
4. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
5. Determination of whether wells in AOI 9 are screened across the water table or in the lower aquifer are ongoing. Lower aquifer contours are not shown in this AOI.
6. Contour Interval = 1 foot
7. Aerial & Topo Copyright:© 2013 National Geographic Society, i-cubed
   Image courtesy of USGS Earthstar Geographics SIO © 2016 Microsoft Corporation
   Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

Legend

- LOWER AQUIFER MONITORING WELL
- DESTROYED MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (FEET NAVD 88)
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- AREA OF INTEREST (AOI)
- -5.74 GROUNDWATER ELEVATION (FEET NAVD 88)
- NM NOT MEASURED OR GROUNDWATER ELEVATION NOT CALCULATED DUE TO LACK OF SURVEYED REFERENCE ELEVATION
- B-133D -4.88 WELL NOT USED FOR GROUNDWATER CONTOURING (FEET NAVD 88)

0 400 800 Feet

1:4,800 (At original document size of 36x48)

N

Figure No.

5

Title

LOWER AQUIFER GROUNDWATER ELEVATION MAP MAY 2016

Client/Project

EVERGREEN RESOURCES MANAGEMENT OPERATIONS
PHILADELPHIA REFINERY COMPLEX
3144 PASSYUNK AVENUE
PHILADELPHIA, PA 19145

Project Location

City of Philadelphia,
Pennsylvania

213402429

Prepared by GWC on 7/11/2016
Technical Review by ADK on 7/14/2016
Independent Review by JKD on 7/18/2016

Stantec

EVERGREEN

Table 1
First Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-127	2/9/2016	---	16.44	---	0.66	Shallow	No	Static	
AOI 1	S-162	2/9/2016	17.25	17.26	0.01	0.81	Shallow	No	Static	
AOI 1	S-164	2/9/2016	---	15.66	---	1.04	Shallow	No	Static	
AOI 1	S-179	2/9/2016	---	20.69	---	3.84	Intermediate	Yes	Static	
AOI 1	S-180	2/9/2016	23.54	23.55	0.01	-1.34	Intermediate	Yes	Pumping	
AOI 1	S-181	2/9/2016	23.64	23.64	<0.01	-0.77	Intermediate	Yes	Pumping	
AOI 1	S-182	2/9/2016	22.79	22.79	<0.01	0.22	Intermediate	Yes	Pumping	
AOI 1	S-183	2/9/2016	---	23.51	---	-0.03	Intermediate	Yes	Pumping	
AOI 1	S-184	2/9/2016	---	16.19	---	7.29	Intermediate	Yes	Pumping	
AOI 1	S-185	2/9/2016	---	21.21	---	2.67	Intermediate	Yes	Pumping	
AOI 1	S-186	2/9/2016	---	24.20	---	0.16	Intermediate	Yes	Pumping	
AOI 1	S-187	2/9/2016	22.99	22.99	<0.01	1.53	Intermediate	Yes	Pumping	
AOI 1	S-188	2/9/2016	---	24.69	---	0.13	Intermediate	Yes	Pumping	
AOI 1	S-189	2/9/2016	26.21	26.21	<0.01	-0.41	Intermediate	Yes	Pumping	
AOI 1	S-190	2/9/2016	---	25.39	---	0.18	Intermediate	Yes	Pumping	
AOI 1	S-191	2/9/2016	---	25.05	---	0.78	Intermediate	Yes	Pumping	
AOI 1	S-192	2/9/2016	---	25.81	---	0.21	Intermediate	Yes	Pumping	
AOI 1	S-193	2/9/2016	---	24.37	---	3.73	Intermediate	Yes	Static	
AOI 1	S-194	2/9/2016	---	27.15	---	3.89	Shallow	No	Static	
AOI 1	S-196	2/9/2016	---	45.74	---	4.31	Shallow	No	Static	
AOI 1	S-197	2/9/2016	---	45.57	---	4.21	Shallow	No	Static	
AOI 1	S-198	2/9/2016	25.41	26.61	1.20	3.67	Intermediate	No	Static	
AOI 1	S-199	2/9/2016	25.09	26.37	1.28	3.83	Intermediate	No	Static	
AOI 1	S-200	2/9/2016	---	25.27	---	3.79	Intermediate	No	Static	
AOI 1	S-201	2/9/2016	24.01	25.22	1.21	3.68	Intermediate	No	Static	
AOI 1	S-202	2/9/2016	---	28.02	---	4.59	Intermediate	No	Static	
AOI 1	S-203	2/9/2016	27.98	28.90	0.92	3.89	Intermediate	No	Static	
AOI 1	S-205	2/9/2016	18.02	19.39	1.37	9.95	Intermediate	No	Static	
AOI 1	S-206	2/9/2016	---	26.90	---	4.88	Intermediate	No	Static	
AOI 1	S-207	2/9/2016	---	13.19	---	14.01	Intermediate	No	Static	
AOI 1	S-208	2/9/2016	---	19.33	---	1.53	Intermediate	No	Static	
AOI 1	S-209	2/9/2016	---	26.04	---	0.94	Intermediate	No	Static	
AOI 1	S-210	2/9/2016	---	23.90	---	-0.21	Intermediate	No	Static	
AOI 1	S-211	2/9/2016	---	14.15	---	1.10	Intermediate	No	Static	
AOI 1	S-212	2/9/2016	---	17.47	---	0.90	Intermediate	No	Static	
AOI 1	S-213	2/9/2016	---	14.68	---	0.53	Intermediate	No	Static	
AOI 1	S-214	2/9/2016	---	19.21	---	0.63	Intermediate	No	Static	
AOI 1	S-215	2/9/2016	---	26.61	---	7.76	Intermediate	No	Static	
AOI 1	S-226	2/9/2016	---	21.89	---	0.19	Intermediate	No	Static	
AOI 1	S-227	2/9/2016	---	22.55	---	-0.76	Intermediate	No	Static	
AOI 1	S-228	2/9/2016	---	21.86	---	-0.68	Intermediate	No	Static	
AOI 1	S-230	2/9/2016	---	18.32	---	1.87	Intermediate	No	Static	
AOI 1	S-231	2/9/2016	---	20.04	---	-0.10	Intermediate	No	Static	
AOI 1	S-232	2/9/2016	---	20.60	---	-0.29	Intermediate	No	Static	
AOI 1	S-255	2/9/2016	---	22.14	---	-0.23	Intermediate	No	Static	
AOI 1	S-256	2/9/2016	---	21.90	---	-0.49	Intermediate	No	Static	
AOI 1	S-257	2/9/2016	---	23.59	---	-0.32	Intermediate	No	Static	
AOI 1	S-258	2/9/2016	---	23.91	---	-1.11	Intermediate	No	Static	
AOI 1	S-259	2/9/2016	---	24.42	---	-1.86	Intermediate	No	Static	
AOI 1	S-260	2/9/2016	---	22.68	---	-0.98	Intermediate	No	Static	
AOI 1	S-261	2/9/2016	---	22.86	---	4.55	Intermediate	No	Static	
AOI 1	S-262	2/9/2016	---	18.60	---	0.84	Intermediate	No	Static	
AOI 1	S-263	2/9/2016	---	16.14	---	0.64	Intermediate	No	Static	
AOI 1	S-264D	2/9/2016	---	25.98	---	0.65	Deep	No	Static	

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First Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-265	2/9/2016	14.40	14.41	0.01	16.78	Intermediate	Yes	Static	
AOI 1	S-267	2/9/2016	---	18.82	---	14.05	Intermediate	Yes	Static	
AOI 1	S-268	2/9/2016	---	27.13	---	4.32	Intermediate	Yes	Static	
AOI 1	S-269	2/9/2016	---	19.81	---	2.75	Intermediate	No	Static	
AOI 1	S-270	2/9/2016	---	21.19	---	1.94	Intermediate	No	Static	
AOI 1	S-271	2/9/2016	---	24.93	---	3.55	Intermediate	No	Static	
AOI 1	S-272	2/9/2016	---	24.44	---	3.92	Intermediate	No	Static	
AOI 1	S-273	2/9/2016	---	24.09	---	3.66	Intermediate	No	Static	
AOI 1	S-274	2/9/2016	23.89	23.90	0.01	3.48	Intermediate	No	Static	
AOI 1	S-275	2/9/2016	---	23.09	---	3.48	Intermediate	No	Static	
AOI 1	S-276	2/9/2016	23.39	23.39	<0.01	3.21	Intermediate	No	Static	
AOI 1	S-277	2/9/2016	23.23	23.80	0.57	2.35	Intermediate	No	Static	
AOI 1	S-312	2/9/2016	---	5.27	---	12.61	Shallow/Intermediate	No	Static	
AOI 1	S-388D	2/9/2016	---	25.34	---	0.85	Deep	No	Static	
AOI 1	S-389D	2/9/2016	---	25.18	---	1.12	Deep	No	Static	
AOI 1	S-390D	2/9/2016	---	25.41	---	1.07	Deep	No	Static	
AOI 1	S-391D	2/9/2016	NM	NM	NM	NM	Deep	No	Static	WELL IS DESTROYED
AOI 1	S-392D	2/9/2016	---	19.22	---	0.75	Deep	No	Static	
AOI 1	S-396	2/9/2016	---	24.94	---	1.25	Intermediate	No	Static	
AOI 1	S-397	2/9/2016	---	25.57	---	1.03	Intermediate	No	Static	
AOI 1	S-398	2/9/2016	---	24.75	---	0.81	Intermediate	No	Static	
AOI 1	S-399	2/9/2016	---	19.41	---	0.75	Intermediate	No	Static	
AOI 1	S-400	2/9/2016	NM	NM	NM	NM	Deep	No	Static	WELL IS DESTROYED
AOI 1	S-401	2/9/2016	---	26.19	---	2.20	Intermediate	No	Static	
AOI 1	S-402	2/9/2016	29.03	29.11	0.08	4.40	Not Classified	No	Static	
AOI 1	S-403	2/9/2016	---	23.55	---	3.27	Not Classified	No	Static	
AOI 1	S-404	2/9/2016	11.52	11.57	0.05	16.98	Not Classified	No	Static	LNAPL IS VERY VISCOUS
AOI 1	S-405	2/9/2016	22.50	22.50	<0.01	3.64	Not Classified	No	Static	
AOI 1	S-417	2/9/2016	26.86	27.41	0.55	5.29	Not Classified	Yes	Static	
AOI 1	S-418	2/9/2016	---	17.47	---	-0.11	Not Classified	No	Static	WELL CASING BROKEN AT GRADE
AOI 1	S-419	2/9/2016	---	15.08	---	0.94	NA	No	Static	
AOI 2	C-HEADER	2/10/2016	---	8.93	---	11.68	Shallow/Intermediate	No	Static	
AOI 2	PGW-MW-8S	2/10/2016	---	30.03	---	5.05	Shallow	No	Static	
AOI 2	PZ-100	2/10/2016	---	18.04	---	0.03	Shallow	No	Static	
AOI 2	PZ-101	2/10/2016	---	10.02	---	7.15	Shallow	No	Static	
AOI 2	River1	2/10/2016	---	12.60	---	NA	NA	No	Static	AT 0945
AOI 2	River3	2/10/2016	---	11.77	---	NA	NA	No	Static	
AOI 2	RW-100	2/10/2016	19.36	19.80	0.44	1.31	Shallow	Yes	Static	
AOI 2	RW-101	2/10/2016	18.41	18.93	0.52	1.30	Shallow	Yes	Static	
AOI 2	RW-102	2/10/2016	15.86	15.87	0.01	1.61	Shallow	Yes	Static	
AOI 2	RW-103	2/10/2016	17.77	18.48	0.71	2.15	Shallow	Yes	Static	
AOI 2	RW-104	2/10/2016	---	9.88	---	-0.92	Shallow	Yes	Static	
AOI 2	RW-105	2/10/2016	14.41	14.41	<0.01	-5.72	Shallow	Yes	Pumping	
AOI 2	RW-106	2/10/2016	---	8.74	---	0.56	Shallow	Yes	Static	
AOI 2	RW-107	2/10/2016	---	9.63	---	0.92	Shallow	Yes	Static	
AOI 2	RW-108	2/10/2016	---	7.66	---	2.24	Shallow	Yes	Static	
AOI 2	RW-109	2/10/2016	7.95	8.03	0.08	1.90	Shallow	Yes	Static	
AOI 2	RW-113	2/10/2016	---	9.84	---	0.39	Shallow	Yes	Static	
AOI 2	RW-114	2/10/2016	---	12.81	---	0.20	Shallow	Yes	Static	
AOI 2	RW-115	2/10/2016	---	9.72	---	0.48	Shallow	Yes	Static	
AOI 2	RW-116	2/10/2016	---	10.20	---	0.61	Shallow	Yes	Static	
AOI 2	RW-117	2/10/2016	9.35	9.36	0.01	0.43	Shallow	Yes	Static	
AOI 2	RW-118	2/10/2016	11.31	11.31	<0.01	0.52	Shallow	Yes	Static	
AOI 2	RW-119	2/10/2016	---	12.26	---	0.59	Shallow	Yes	Static	

Table 1
First Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	RW-120	2/10/2016	12.92	13.70	0.78	0.55	Shallow	Yes	Static	
AOI 2	RW-121	2/10/2016	---	14.70	---	0.60	Shallow/Intermediate	Yes	Static	
AOI 2	RW-122	2/10/2016	---	20.80	---	-10.56	Shallow	Yes	Pumping	
AOI 2	RW-123	2/10/2016	---	9.72	---	0.25	Shallow	Yes	Static	
AOI 2	RW-124	2/10/2016	---	22.05	---	-12.89	Shallow	Yes	Pumping	
AOI 2	RW-125	2/10/2016	---	12.55	---	1.72	Shallow	Yes	Static	
AOI 2	RW-126	2/10/2016	8.80	8.81	0.01	0.43	Shallow	Yes	Static	
AOI 2	RW-127	2/10/2016	---	13.39	---	0.51	Shallow	Yes	Static	
AOI 2	RW-128	2/10/2016	8.21	8.22	0.01	0.22	Shallow	Yes	Static	
AOI 2	RW-129	2/10/2016	8.89	8.89	<0.01	0.95	Shallow	Yes	Static	
AOI 2	RW-600	2/10/2016	---	3.74	---	5.31	Shallow/Intermediate	Yes	Static	
AOI 2	RW-601	2/10/2016	---	9.17	---	2.51	Shallow/Intermediate	Yes	Static	
AOI 2	S-48	2/10/2016	19.75	20.00	0.25	1.47	Shallow/Intermediate	No	Static	
AOI 2	S-53	2/10/2016	18.19	18.71	0.52	3.42	Shallow	No	Static	
AOI 2	S-54	2/10/2016	21.69	22.01	0.32	1.22	Intermediate	No	Static	
AOI 2	S-61	2/10/2016	16.41	16.70	0.29	1.85	Shallow/Intermediate	No	Static	
AOI 2	S-62	2/10/2016	---	19.90	---	1.48	Intermediate	No	Static	
AOI 2	S-63	2/10/2016	20.38	20.38	<0.01	0.90	Shallow	No	Static	
AOI 2	S-64	2/10/2016	---	8.10	---	2.46	Shallow/Intermediate	No	Static	
AOI 2	S-65	2/10/2016	9.67	9.68	0.01	0.95	Shallow/Intermediate	No	Static	
AOI 2	S-71	2/10/2016	---	20.42	---	3.62	Shallow/Intermediate	No	Static	
AOI 2	S-72	2/10/2016	---	26.41	---	4.65	Intermediate	No	Static	
AOI 2	S-72D	2/10/2016	---	32.28	---	2.23	Deep	No	Static	
AOI 2	S-91	2/10/2016	18.81	18.82	0.01	4.32	Intermediate	No	Static	LNAPL IS VERY VISCOUS
AOI 2	S-92	2/10/2016	10.14	10.19	0.05	9.92	Intermediate	No	Static	
AOI 2	S-93	2/10/2016	---	16.94	---	1.31	Intermediate	Yes	Static	
AOI 2	S-105	2/10/2016	---	10.38	---	2.15	Shallow	No	Static	
AOI 2	S-107	2/10/2016	9.19	9.20	0.01	3.12	Shallow/Intermediate	No	Static	
AOI 2	S-108	2/10/2016	---	5.65	---	5.07	Shallow/Intermediate	No	Static	
AOI 2	S-110	2/10/2016	---	15.12	---	10.55	Shallow/Intermediate	No	Static	
AOI 2	S-130	2/10/2016	18.97	18.98	0.01	3.51	Shallow/Intermediate	No	Static	
AOI 2	S-131	2/10/2016	15.05	15.06	0.01	3.71	Shallow	No	Static	WELL IS BROKEN AT GRADE - CONCRETE AND VAULT TORN OUT
AOI 2	S-132	2/10/2016	---	18.43	---	2.60	Shallow/Intermediate	No	Static	
AOI 2	S-133	2/10/2016	---	18.57	---	3.45	Shallow/Intermediate	No	Static	
AOI 2	S-134	2/10/2016	---	20.26	---	1.77	Shallow/Intermediate	No	Static	
AOI 2	S-135	2/10/2016	20.79	21.77	0.98	2.27	Shallow	No	Static	
AOI 2	S-136	2/10/2016	---	17.81	---	2.78	Shallow/Intermediate	No	Static	
AOI 2	S-137	2/10/2016	---	17.70	---	2.34	Shallow/Intermediate	No	Static	
AOI 2	S-139	2/10/2016	---	19.56	---	1.90	Shallow/Intermediate	No	Static	
AOI 2	S-140	2/10/2016	---	19.81	---	2.22	Shallow/Intermediate	No	Static	WELL CASING IS BROKEN OFF AT THE TOP
AOI 2	S-141	2/10/2016	20.68	20.93	0.25	1.21	Shallow/Intermediate	No	Static	
AOI 2	S-142	2/10/2016	21.07	21.10	0.03	-1.23	Shallow	No	Static	
AOI 2	S-143	2/10/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	WELL IS BLOCKED AT 9.80 FT BTOC
AOI 2	S-150	2/10/2016	---	17.37	---	3.46	Shallow/Intermediate	No	Static	
AOI 2	S-152	2/10/2016	---	6.59	---	3.90	Shallow/Intermediate	No	Static	
AOI 2	S-153	2/10/2016	---	8.10	---	1.71	Shallow/Intermediate	No	Static	
AOI 2	S-154	2/10/2016	---	11.15	---	-0.53	Shallow/Intermediate	No	Static	
AOI 2	S-156	2/10/2016	18.06	18.36	0.30	2.74	Shallow	No	Static	
AOI 2	S-157	2/10/2016	16.29	19.40	3.11	3.22	Shallow/Intermediate	No	Static	
AOI 2	S-159	2/10/2016	16.97	16.98	0.01	1.90	Shallow/Intermediate	No	Static	
AOI 2	S-165	2/10/2016	---	16.86	---	1.25	Shallow/Intermediate	No	Static	
AOI 2	S-166	2/10/2016	---	16.40	---	1.83	Shallow/Intermediate	No	Static	
AOI 2	S-174	2/10/2016	10.31	11.71	1.40	9.12	Shallow	No	Static	
AOI 2	S-175	2/10/2016	17.21	17.22	0.01	2.82	Shallow	No	Static	

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Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	S-177	2/10/2016	---	18.20	---	1.36	Shallow/Intermediate	No	Static	
AOI 2	S-178	2/10/2016	---	12.81	---	6.73	Shallow/Intermediate	No	Static	
AOI 2	S-246A	2/10/2016	---	10.05	---	1.71	Shallow/Intermediate	No	Static	
AOI 2	S-247	2/10/2016	---	10.51	---	1.58	Shallow/Intermediate	No	Static	
AOI 2	S-248	2/10/2016	---	9.27	---	1.53	Shallow/Intermediate	No	Static	
AOI 2	S-249	2/10/2016	---	10.76	---	1.85	Shallow/Intermediate	No	Static	
AOI 2	S-251	2/10/2016	---	18.30	---	0.97	Shallow/Intermediate	Yes	Static	
AOI 2	S-252	2/10/2016	---	18.36	---	0.93	Shallow/Intermediate	Yes	Static	
AOI 2	S-253	2/10/2016	---	19.15	---	1.68	Shallow/Intermediate	Yes	Static	
AOI 2	S-254	2/10/2016	---	19.50	---	1.38	Shallow/Intermediate	Yes	Static	
AOI 2	S-292	2/10/2016	---	18.88	---	9.89	Shallow/Intermediate	No	Static	WELL CASING IS BROKEN AT GRADE
AOI 2	S-294	2/10/2016	---	29.79	---	4.68	Intermediate	No	Static	
AOI 2	S-294D	2/10/2016	---	31.91	---	2.77	Deep	No	Static	
AOI 2	S-295	2/10/2016	---	23.92	---	8.82	Shallow/Intermediate	No	Static	
AOI 2	S-297	2/10/2016	25.50	25.61	0.11	4.49	Shallow/Intermediate	No	Static	
AOI 2	S-298	2/10/2016	14.55	14.61	0.06	12.43	Shallow/Intermediate	No	Static	
AOI 2	S-299	2/10/2016	---	20.66	---	3.34	Shallow/Intermediate	No	Static	
AOI 2	S-300	2/10/2016	---	20.21	---	5.07	Shallow/Intermediate	No	Static	
AOI 2	S-301	2/10/2016	---	16.00	---	4.41	Shallow/Intermediate	No	Static	
AOI 2	S-302	2/10/2016	21.83	22.16	0.33	2.08	Intermediate	No	Static	
AOI 2	S-302D	2/10/2016	---	24.63	---	-0.03	Deep	No	Static	
AOI 2	S-303	2/10/2016	---	20.39	---	2.20	Shallow/Intermediate	No	Static	
AOI 2	S-304	2/10/2016	11.74	11.74	<0.01	10.45	Shallow/Intermediate	No	Static	
AOI 2	S-305	2/10/2016	---	18.65	---	1.08	Intermediate	No	Static	
AOI 2	S-305D	2/10/2016	---	19.89	---	0.59	Deep	No	Static	
AOI 2	S-306	2/10/2016	---	21.76	---	0.71	Intermediate	No	Static	
AOI 2	S-307	2/10/2016	---	16.55	---	2.02	Shallow/Intermediate	No	Static	
AOI 2	S-308	2/10/2016	---	24.06	---	4.05	Shallow/Intermediate	No	Static	
AOI 2	S-309	2/10/2016	---	18.10	---	1.63	Shallow/Intermediate	No	Static	
AOI 2	S-310	2/10/2016	---	8.89	---	8.51	Shallow/Intermediate	No	Static	WELL CASING IS DAMAGED
AOI 2	S-311	2/10/2016	25.01	25.02	0.01	1.17	Intermediate	No	Static	
AOI 2	S-313	2/10/2016	---	19.19	---	1.71	Shallow	Yes	Static	
AOI 2	S-314	2/10/2016	---	19.26	---	1.44	Shallow	Yes	Static	
AOI 2	S-315	2/10/2016	19.35	19.80	0.45	1.06	Shallow	Yes	Static	
AOI 2	S-316	2/10/2016	---	18.13	---	2.77	Shallow	Yes	Static	
AOI 2	S-317	2/10/2016	---	18.60	---	1.59	Shallow	Yes	Static	
AOI 2	S-318	2/10/2016	---	22.31	---	1.44	Shallow/Intermediate	No	Static	
AOI 2	S-328	2/10/2016	---	19.01	---	2.96	Shallow/Intermediate	No	Static	
AOI 2	S-333	2/10/2016	---	11.98	---	1.75	Shallow/Intermediate	No	Static	
AOI 2	S-335	2/10/2016	---	11.15	---	-1.05	Shallow/Intermediate	No	Static	WELL CASING IS BROKEN AT GRADE
AOI 2	S-336	2/10/2016	---	9.60	---	1.92	Shallow/Intermediate	No	Static	
AOI 2	S-337	2/10/2016	---	11.02	---	1.19	Shallow/Intermediate	No	Static	
AOI 2	S-338	2/10/2016	12.74	12.89	0.15	2.77	Shallow/Intermediate	No	Static	
AOI 2	S-346	2/10/2016	18.10	18.79	0.69	1.25	Shallow/Intermediate	No	Static	
AOI 2	S-347	2/10/2016	17.74	18.41	0.67	1.26	Shallow/Intermediate	No	Static	
AOI 2	S-348	2/10/2016	14.43	17.18	2.75	4.82	Shallow/Intermediate	No	Static	
AOI 2	S-349	2/10/2016	14.68	14.81	0.13	3.92	Shallow/Intermediate	No	Static	
AOI 2	S-350	2/10/2016	---	26.97	---	4.51	Shallow/Intermediate	No	Static	
AOI 2	S-351	2/10/2016	---	30.49	---	4.75	Shallow/Intermediate	No	Static	
AOI 2	S-354	2/10/2016	---	24.20	---	3.83	Shallow/Intermediate	No	Static	
AOI 2	S-355	2/10/2016	26.79	26.90	0.11	4.01	Shallow/Intermediate	No	Static	
AOI 2	S-357	2/10/2016	20.18	20.74	0.56	7.82	Shallow/Intermediate	No	Static	
AOI 2	S-359	2/10/2016	---	17.83	---	2.45	Shallow/Intermediate	No	Static	
AOI 2	S-360	2/10/2016	22.59	22.59	<0.01	1.22	Shallow/Intermediate	No	Static	

Table 1
First Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	S-361	2/10/2016	---	23.83	---	2.54	Shallow/Intermediate	No	Static	
AOI 2	S-362	2/10/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	WELL IS BLOCKED AT 4.13 FT BTOC
AOI 2	S-363	2/10/2016	---	24.81	---	1.05	Shallow/Intermediate	No	Static	
AOI 2	S-406	2/10/2016	---	10.24	---	1.96	Shallow/Intermediate	No	Static	
AOI 2	S-420	2/10/2016	---	6.15	---	3.11	Shallow	No	Static	
AOI 2	SD-1	2/10/2016	---	6.98	---	12.52	Shallow	No	Static	
AOI 3	RW-2	2/8/2016	11.43	11.92	0.49	-0.24	Intermediate	Yes	Static	
AOI 4	RW-700	2/8/2016	---	20.30	---	-2.29	Intermediate	Yes	Pumping	
AOI 4	RW-701	2/8/2016	---	19.55	---	-1.28	Intermediate	Yes	Pumping	
AOI 4	RW-702	2/8/2016	---	31.55	---	-10.60	Intermediate	Yes	Pumping	
AOI 4	RW-703	2/8/2016	---	29.00	---	-8.38	Intermediate	Yes	Pumping	
AOI 4	RW-704	2/8/2016	---	21.70	---	-1.47	Intermediate	Yes	Pumping	
AOI 4	RW-705	2/8/2016	---	14.65	---	1.27	Intermediate	Yes	Static	
AOI 4	RW-706	2/8/2016	---	19.40	---	-3.51	Intermediate	Yes	Pumping	
AOI 4	RW-707	2/8/2016	---	15.48	---	0.81	Intermediate	Yes	Static	
AOI 4	RW-708	2/8/2016	---	17.95	---	-2.46	Intermediate	Yes	Pumping	
AOI 4	RW-709	2/8/2016	---	14.46	---	0.84	Intermediate	Yes	Static	
AOI 4	RW-710	2/8/2016	---	15.27	---	0.61	Intermediate	Yes	Static	
AOI 4	RW-711	2/8/2016	---	14.59	---	0.90	Intermediate	Yes	Static	
AOI 4	RW-712	2/8/2016	---	14.68	---	0.88	Intermediate	Yes	Static	
AOI 4	RW-713	2/8/2016	---	14.11	---	0.91	Intermediate	Yes	Static	
AOI 4	RW-714	2/8/2016	---	14.24	---	0.97	Intermediate	Yes	Static	
AOI 4	RW-715	2/8/2016	---	14.41	---	0.96	Intermediate	Yes	Static	
AOI 4	RW-716	2/8/2016	---	14.53	---	1.02	Intermediate	Yes	Static	
AOI 4	RW-717	2/8/2016	---	14.55	---	1.06	Intermediate	Yes	Static	
AOI 4	S-30	2/8/2016	21.12	28.98	7.86	0.97	Intermediate	Yes	Static	
AOI 5	RWBH-1	2/8/2016	1.93	1.94	0.01	3.40	Shallow	Yes	Static	
AOI 5	RWBH-2	2/8/2016	2.30	3.42	1.12	1.72	Shallow	Yes	Static	
AOI 6	B-124	2/8/2016	4.61	6.74	2.13	3.96	Shallow	Yes	Static	
AOI 6	B-133	2/8/2016	4.63	4.64	0.01	2.70	Shallow	Yes	Static	
AOI 6	B-134	2/8/2016	---	5.01	---	1.51	Shallow	Yes	Static	
AOI 6	B-136	2/8/2016	4.08	4.11	0.03	5.07	Shallow	Yes	Static	
AOI 6	B-137	2/8/2016	3.75	4.29	0.54	4.91	Shallow	Yes	Static	
AOI 6	B-138	2/8/2016	---	3.93	---	5.40	Shallow	Yes	Static	
AOI 6	B-139	2/8/2016	NM	NM	NM	NM	Shallow	Yes	Static	WELL IS DESTROYED
AOI 6	B-140	2/8/2016	NM	NM	NM	NM	Shallow	Yes	Static	WELL IS DESTROYED
AOI 6	B-142	2/8/2016	6.62	7.60	0.98	2.99	Shallow	Yes	Static	
AOI 6	B-143	2/8/2016	4.41	5.09	0.68	4.48	Shallow	Yes	Static	
AOI 6	B-147	2/8/2016	5.34	5.40	0.06	3.55	Shallow	Yes	Static	
AOI 6	SUMP-1	2/8/2016	5.12	5.25	0.13	5.56	Shallow	Yes	Static	
AOI 7	RW-801	2/8/2016	---	19.05	---	-12.78	Shallow	Yes	Pumping	
AOI 7	RW-802	2/8/2016	---	21.20	---	-15.50	Shallow	Yes	Pumping	
AOI 7	RW-803	2/8/2016	---	21.15	---	-15.37	Shallow	Yes	Pumping	
AOI 7	RW-804	2/8/2016	---	20.80	---	-15.02	Shallow	Yes	Pumping	
AOI 7	RW-805	2/8/2016	---	18.15	---	-12.40	Shallow	Yes	Pumping	
AOI 7	RW-806	2/8/2016	---	20.20	---	-14.79	Shallow	Yes	Pumping	
AOI 7	RW-807	2/8/2016	---	20.70	---	-13.86	Shallow	Yes	Pumping	
AOI 7	RW-808	2/8/2016	---	18.80	---	-12.72	Shallow	Yes	Pumping	
AOI 7	RW-809	2/8/2016	---	19.90	---	-13.35	Shallow	Yes	Pumping	
AOI 7	RW-810	2/8/2016	---	17.10	---	-10.66	Shallow	Yes	Pumping	
AOI 8	RW-200	2/11/2016	---	5.85	---	6.17	Intermediate	Yes	Static	
AOI 8	RW-201	2/11/2016	22.90	23.31	0.41	9.03	Intermediate	Yes	Static	
AOI 8	RW-202	2/11/2016	---	20.74	---	8.77	Intermediate	Yes	Static	
AOI 8	RW-203	2/11/2016	22.73	22.85	0.12	8.36	Intermediate	Yes	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 8	RW-204	2/11/2016	NM	NM	NM	NM	Intermediate	Yes	Static	
AOI 8	RW-205	2/11/2016	19.10	21.85	2.75	10.33	Intermediate	Yes	Static	
AOI 8	RW-206	2/11/2016	21.24	23.21	1.97	9.48	Intermediate	Yes	Static	
AOI 8	RW-300	2/11/2016	15.20	15.42	0.22	6.40	Intermediate	Yes	Static	
AOI 8	RW-301	2/11/2016	12.25	12.25	<0.01	NA	Intermediate	Yes	Static	
AOI 8	RW-302	2/11/2016	---	13.51	---	10.58	Intermediate	Yes	Static	
AOI 8	RW-303	2/11/2016	---	14.30	---	10.68	Intermediate	Yes	Static	
AOI 8	RW-304	2/11/2016	---	15.13	---	10.15	Intermediate	Yes	Static	
AOI 8	RW-305	2/11/2016	---	15.09	---	10.18	Intermediate	Yes	Static	
AOI 8	RW-306	2/11/2016	13.08	13.09	0.01	10.50	Intermediate	Yes	Static	
AOI 8	RW-307	2/11/2016	---	14.76	---	8.50	Intermediate	Yes	Static	
AOI 8	RW-308	2/11/2016	---	16.75	---	8.86	Intermediate	Yes	Static	
AOI 8	RW-309	2/11/2016	---	15.71	---	9.52	Intermediate	Yes	Static	
AOI 8	RW-500	2/11/2016	---	2.75	---	4.81	Intermediate	Yes	Static	
AOI 8	RW-501	2/11/2016	---	6.72	---	3.07	Intermediate	Yes	Static	
AOI 8	RW-502	2/11/2016	9.07	9.48	0.41	3.36	Intermediate	Yes	Static	
BELMONT	MW-26	2/9/2016	22.78	24.18	1.40	3.66	Shallow	No	Static	
BELMONT	MW-27	2/9/2016	24.66	25.80	1.14	3.76	Shallow	No	Static	
BELMONT	MW-28	2/9/2016	---	24.62	---	4.16	Intermediate	No	Static	
BELMONT	MW-29	2/9/2016	24.75	24.93	0.18	4.16	Intermediate	No	Static	
BELMONT	MW-30	2/9/2016	---	24.44	---	7.26	Shallow	No	Static	
BELMONT	MW-31	2/9/2016	---	25.82	---	4.74	Shallow	No	Static	
BELMONT	MW-32	2/9/2016	---	25.36	---	3.78	Intermediate	No	Static	
BELMONT	MW-33	2/9/2016	---	27.31	---	2.68	Shallow	No	Static	
BELMONT	MW-35	2/9/2016	---	27.10	---	3.55	Intermediate	No	Static	
BELMONT	MW-36	2/9/2016	---	28.42	---	4.15	Intermediate	No	Static	
BELMONT	MW-37	2/9/2016	---	27.86	---	4.06	Intermediate	No	Static	
BELMONT	MW-38	2/9/2016	---	23.65	---	3.97	Intermediate	No	Static	
BELMONT	MW-39	2/9/2016	---	23.59	---	3.96	Intermediate	No	Static	
BELMONT	MW-40	2/9/2016	23.95	24.26	0.31	3.87	Intermediate	No	Static	
BELMONT	MW-41	2/9/2016	---	23.55	---	3.80	Intermediate	No	Static	
BELMONT	MW-43	2/9/2016	---	26.35	---	4.26	Intermediate	No	Static	
BELMONT	MW-44	2/9/2016	25.79	25.79	<0.01	3.52	Intermediate	No	Static	
BELMONT	OW-2	2/9/2016	---	27.47	---	4.20	Shallow	No	Static	
BELMONT	OW-12	2/9/2016	---	26.07	---	4.15	Shallow	No	Static	
BELMONT	OW-13	2/9/2016	---	28.04	---	4.16	Shallow	No	Static	
BELMONT	OW-14	2/9/2016	---	28.02	---	4.19	Shallow	No	Static	
BELMONT	OW-16	2/9/2016	27.34	27.35	0.01	4.04	Shallow	No	Static	
BELMONT	OW-17	2/9/2016	---	26.31	---	3.68	Shallow	No	Static	
BELMONT	OW-18	2/9/2016	---	27.36	---	3.48	Intermediate	No	Static	
BELMONT	OW-19	2/9/2016	NM	NM	NM	NM	Intermediate	No	Static	NOT ACCESSIBLE - VEHICLE PARKED ON TOP OF WELL
BELMONT	OW-20	2/9/2016	---	27.78	---	4.09	Shallow	No	Static	
BELMONT	PZ-400	2/9/2016	---	24.37	---	3.73	Shallow	No	Static	
BELMONT	RW-1	2/9/2016	---	25.68	---	3.87	Intermediate	Yes	Static	
BELMONT	RW-4	2/9/2016	28.03	28.60	0.57	2.29	Intermediate	Yes	Pumping	
BELMONT	RW-6	2/9/2016	---	26.85	---	4.21	Intermediate	Yes	Static	
BELMONT	RW-7	2/9/2016	---	24.28	---	3.93	Intermediate	Yes	Static	
BELMONT	RW-15	2/9/2016	---	27.02	---	3.03	Intermediate	Yes	Static	
BELMONT	RW-21	2/9/2016	---	25.02	---	3.84	Shallow	Yes	Static	
BELMONT	RW-22	2/9/2016	---	23.20	---	3.83	Shallow	Yes	Static	
BELMONT	RW-23	2/9/2016	27.50	27.94	0.44	-0.48	Intermediate	Yes	Pumping	
BELMONT	RW-24	2/9/2016	26.05	26.30	0.25	1.06	Intermediate	Yes	Pumping	
BELMONT	RW-25	2/9/2016	26.02	26.70	0.68	3.97	Intermediate	Yes	Static	
BELMONT	RW-26	2/9/2016	---	22.71	---	6.50	Intermediate	Yes	Static	

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Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
BELMONT	RW-27	2/9/2016	---	26.17	---	3.54	Intermediate	Yes	Static	
BELMONT	RW-28	2/9/2016	---	24.41	---	5.33	Intermediate	Yes	Static	
BELMONT	RW-29	2/9/2016	---	25.90	---	3.54	Intermediate	Yes	Static	
BELMONT	RW-30	2/9/2016	---	25.77	---	3.62	Intermediate	Yes	Static	
BELMONT	RW-31	2/9/2016	---	25.68	---	3.70	Intermediate	Yes	Static	
BELMONT	RW-32	2/9/2016	---	18.10	---	10.95	Intermediate	Yes	Static	
BELMONT	RW-400	2/9/2016	---	28.08	---	0.11	Intermediate	Yes	Static	
BELMONT	S-74	2/9/2016	---	25.94	---	-13.59	Shallow	No	Static	
BELMONT	S-75	2/9/2016	---	27.44	---	3.79	Shallow	No	Static	
BELMONT	S-76	2/9/2016	27.10	27.95	0.85	3.76	Shallow	No	Static	
BELMONT	S-330	2/9/2016	---	25.74	---	4.11	Intermediate	No	Static	
BELMONT	S-331	2/9/2016	---	27.25	---	4.03	Intermediate	No	Static	
BELMONT	S-332	2/9/2016	---	26.21	---	4.04	Intermediate	No	Static	
BELMONT	S-393D	2/9/2016	---	29.42	---	2.64	Deep	No	Static	
BELMONT	S-394	2/9/2016	---	29.69	---	2.43	Deep	No	Static	
BELMONT	S-395	2/9/2016	---	27.85	---	4.37	Shallow	No	Static	
BELMONT	TW-3	2/9/2016	---	28.04	---	4.07	Shallow	No	Static	
BELMONT	TW-5	2/9/2016	---	27.75	---	4.32	Shallow	No	Static	
BELMONT	TW-8	2/9/2016	---	26.19	---	3.95	Shallow	No	Static	
BELMONT	TW-9	2/9/2016	---	27.80	---	4.30	Shallow	No	Static	
BELMONT	TW-10	2/9/2016	26.34	26.34	<0.01	3.89	Shallow	No	Static	
BELMONT	TW-11	2/9/2016	---	28.25	---	4.15	Shallow	No	Static	

Notes:
Groundwater remediation systems identified on the site plan (**Figure 2**) as active were pumping at the time of the gauging event
For product thicknesses <0.01 ft, the corrected groundwater elevation was calculated using 0.01 foot.
LNAPL = Light non-aqueous phase liquid
ft = Feet
ft btoc = Feet below top of casing
NAVD 88 = North American Vertical Datum of 1988
--- = LNAPL not present
NM = Field reading not measured and/or corrected groundwater elevation not calculated due to lack of surveyed reference elevation
NA = Not Accessible, Not Applicable, or Not Available
Not Classified = Well classification not available

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	ARCO-1	5/9/2016	---	26.87	---	0.08	Intermediate	No	Static	
AOI 1	ARCO-1D	5/9/2016	---	26.70	---	0.36	Deep	No	Static	
AOI 1	ARCO-2	5/9/2016	---	26.01	---	-0.01	Intermediate	No	Static	
AOI 1	ARCO-3	5/9/2016	---	24.64	---	-0.33	Intermediate	No	Static	
AOI 1	PZ-401	5/9/2016	---	20.94	---	2.79	Shallow	No	Static	
AOI 1	PZ-402	5/9/2016	20.89	21.35	0.46	2.41	Shallow	No	Static	
AOI 1	PZ-403	5/9/2016	23.61	23.62	0.01	0.80	Shallow	No	Static	VERY THICK PRODUCT
AOI 1	PZ-404	5/9/2016	26.55	26.79	0.24	-0.58	Shallow	No	Static	
AOI 1	RW-110	5/9/2016	---	16.80	---	0.87	Shallow	Yes	Static	
AOI 1	RW-111	5/9/2016	---	16.91	---	0.81	Shallow	Yes	Static	
AOI 1	RW-112	5/9/2016	---	16.86	---	0.75	Shallow	Yes	Static	
AOI 1	RW-401	5/9/2016	21.90	22.22	0.32	2.81	Intermediate	Yes	Static	
AOI 1	RW-402	5/9/2016	23.66	23.66	<0.01	-1.94	Intermediate	Yes	Pumping	
AOI 1	RW-403	5/9/2016	---	22.05	---	2.08	Intermediate	Yes	Static	
AOI 1	RW-404	5/9/2016	22.90	22.90	<0.01	0.85	Intermediate	Yes	Static	
AOI 1	RW-405	5/9/2016	24.75	24.90	0.15	-0.66	Intermediate	Yes	Static	
AOI 1	RW-406	5/9/2016	24.16	24.59	0.43	4.35	Intermediate	Yes	Static	
AOI 1	S-41	5/9/2016	---	25.84	---	-0.09	Intermediate	No	Static	
AOI 1	S-42I	5/10/2016	---	25.28	---	-1.72	Intermediate	No	Static	
AOI 1	S-43	5/9/2016	---	23.97	---	-0.75	Intermediate	No	Static	
AOI 1	S-44	5/10/2016	---	25.36	---	-2.02	Intermediate	No	Static	
AOI 1	S-45	5/9/2016	---	23.34	---	-1.77	Intermediate	No	Static	
AOI 1	S-46	5/9/2016	---	21.69	---	0.87	Intermediate	No	Static	
AOI 1	S-46D	5/9/2016	---	14.53	---	1.18	Deep	No	Static	
AOI 1	S-47I	5/9/2016	---	21.31	---	0.90	Intermediate	No	Static	
AOI 1	S-50	5/9/2016	---	22.61	---	-0.13	Shallow	No	Static	
AOI 1	S-51	5/9/2016	---	22.38	---	0.16	Shallow	No	Static	
AOI 1	S-52	5/12/2016	---	22.84	---	0.70	Intermediate	No	Static	
AOI 1	S-77	5/9/2016	10.02	10.74	0.72	20.64	Shallow	No	Static	
AOI 1	S-77P	5/9/2016	---	29.01	---	4.03	Shallow	No	Static	
AOI 1	S-78	5/9/2016	---	26.31	---	4.62	Intermediate	No	Static	
AOI 1	S-79	5/12/2016	23.68	24.02	0.34	7.24	Intermediate	No	Static	
AOI 1	S-79P	5/9/2016	---	26.90	---	3.52	Shallow	No	Static	
AOI 1	S-80	5/9/2016	---	28.51	---	3.62	Shallow	No	Static	
AOI 1	S-80D	5/9/2016	---	29.84	---	1.90	Deep	No	Static	
AOI 1	S-81	5/9/2016	NM	NM	NM	NM	Shallow	No	Static	DESTROYED
AOI 1	S-82	5/9/2016	23.80	23.94	0.14	3.46	Shallow	No	Static	
AOI 1	S-83	5/9/2016	20.83	21.28	0.45	2.41	Shallow	No	Static	
AOI 1	S-84P	5/9/2016	---	19.56	---	3.70	Shallow	No	Static	
AOI 1	S-85	5/9/2016	---	24.28	---	0.85	Shallow	No	Static	
AOI 1	S-86	5/9/2016	26.60	26.61	0.01	0.45	Intermediate	No	Static	
AOI 1	S-87I	5/9/2016	---	24.80	---	1.07	Intermediate	No	Static	
AOI 1	S-88	5/9/2016	---	25.29	---	-1.19	Intermediate	No	Static	
AOI 1	S-88A	5/9/2016	---	24.02	---	-0.21	Shallow	No	Static	CASING BROKEN AT GRADE
AOI 1	S-89	5/9/2016	26.58	26.59	0.01	-0.59	Intermediate	No	Static	
AOI 1	S-95	5/9/2016	---	22.40	---	0.59	Intermediate	No	Static	
AOI 1	S-98	5/9/2016	---	23.59	---	5.21	Intermediate	No	Static	
AOI 1	S-99	5/9/2016	---	25.11	---	0.29	Intermediate	No	Static	
AOI 1	S-100	5/9/2016	23.71	24.52	0.81	3.07	Intermediate	No	Static	
AOI 1	S-101	5/9/2016	---	47.39	---	1.73	Intermediate	No	Static	
AOI 1	S-116	5/9/2016	NM	NM	NM	NM	Shallow	No	Static	COVERED
AOI 1	S-117	5/9/2016	---	17.25	---	1.16	Shallow	No	Static	

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-118	5/9/2016	---	17.49	---	0.41	Shallow	No	Static	
AOI 1	S-125	5/9/2016	23.33	23.43	0.10	2.64	Shallow	No	Static	
AOI 1	S-126	5/9/2016	11.82	12.01	0.19	16.63	Shallow	No	Static	VERY THICK PRODUCT
AOI 1	S-127	5/9/2016	---	16.29	---	0.81	Shallow	No	Static	
AOI 1	S-162	5/9/2016	---	16.92	---	1.14	Shallow	No	Static	
AOI 1	S-164	5/9/2016	---	15.67	---	1.03	Shallow	No	Static	
AOI 1	S-179	5/9/2016	---	21.23	---	3.30	Intermediate	Yes	Static	
AOI 1	S-180	5/9/2016	23.56	23.57	0.01	-1.36	Intermediate	Yes	Pumping	
AOI 1	S-181	5/9/2016	23.66	23.66	<0.01	-0.79	Intermediate	Yes	Pumping	
AOI 1	S-182	5/9/2016	---	22.77	---	0.23	Intermediate	Yes	Pumping	
AOI 1	S-183	5/9/2016	23.47	23.47	<0.01	0.02	Intermediate	Yes	Pumping	
AOI 1	S-184	5/9/2016	---	19.59	---	3.89	Intermediate	Yes	Pumping	
AOI 1	S-185	5/9/2016	---	21.20	---	2.68	Intermediate	Yes	Pumping	
AOI 1	S-186	5/9/2016	---	24.21	---	0.15	Intermediate	Yes	Pumping	
AOI 1	S-187	5/9/2016	---	22.96	---	1.55	Intermediate	Yes	Pumping	
AOI 1	S-188	5/9/2016	---	24.70	---	0.12	Intermediate	Yes	Pumping	
AOI 1	S-189	5/9/2016	---	26.20	---	-0.41	Intermediate	Yes	Pumping	
AOI 1	S-190	5/9/2016	---	25.41	---	0.16	Intermediate	Yes	Pumping	
AOI 1	S-191	5/9/2016	---	25.07	---	0.76	Intermediate	Yes	Pumping	
AOI 1	S-192	5/9/2016	---	25.83	---	0.19	Intermediate	Yes	Pumping	
AOI 1	S-193	5/9/2016	---	24.41	---	3.69	Intermediate	Yes	Static	
AOI 1	S-194	5/9/2016	---	26.94	---	4.10	Shallow	No	Static	
AOI 1	S-196	5/9/2016	---	45.80	---	4.25	Shallow	No	Static	
AOI 1	S-197	5/9/2016	---	45.62	---	4.16	Shallow	No	Static	
AOI 1	S-198	5/9/2016	25.50	26.79	1.29	3.56	Intermediate	No	Static	
AOI 1	S-199	5/9/2016	25.24	26.65	1.41	3.66	Intermediate	No	Static	
AOI 1	S-200	5/9/2016	---	25.49	---	3.57	Intermediate	No	Static	
AOI 1	S-201	5/9/2016	24.20	24.63	0.43	3.65	Intermediate	No	Static	
AOI 1	S-202	5/9/2016	---	28.39	---	4.22	Intermediate	No	Static	
AOI 1	S-203	5/9/2016	28.25	29.12	0.87	3.63	Intermediate	No	Static	
AOI 1	S-205	5/9/2016	18.30	19.44	1.14	9.70	Intermediate	No	Static	
AOI 1	S-206	5/9/2016	---	27.34	---	4.44	Intermediate	No	Static	
AOI 1	S-207	5/9/2016	---	13.77	---	13.43	Intermediate	No	Static	
AOI 1	S-208	5/9/2016	---	19.41	---	1.45	Intermediate	No	Static	
AOI 1	S-209	5/9/2016	---	26.12	---	0.86	Intermediate	No	Static	
AOI 1	S-210	5/9/2016	---	23.96	---	-0.27	Intermediate	No	Static	
AOI 1	S-211	5/9/2016	---	14.10	---	1.15	Intermediate	No	Static	
AOI 1	S-212	5/9/2016	---	17.52	---	0.85	Intermediate	No	Static	
AOI 1	S-213	5/9/2016	---	14.57	---	0.64	Intermediate	No	Static	
AOI 1	S-214	5/9/2016	---	19.21	---	0.63	Intermediate	No	Static	
AOI 1	S-215	5/9/2016	---	26.69	---	7.68	Intermediate	No	Static	
AOI 1	S-226	5/9/2016	---	21.95	---	0.13	Intermediate	No	Static	
AOI 1	S-227	5/9/2016	---	22.43	---	-0.64	Intermediate	No	Static	
AOI 1	S-228	5/9/2016	---	21.77	---	-0.59	Intermediate	No	Static	
AOI 1	S-230	5/9/2016	---	16.60	---	3.59	Intermediate	No	Static	
AOI 1	S-231	5/9/2016	---	20.23	---	-0.29	Intermediate	No	Static	
AOI 1	S-232	5/9/2016	---	20.59	---	-0.28	Intermediate	No	Static	
AOI 1	S-255	5/9/2016	---	20.29	---	1.62	Intermediate	No	Static	
AOI 1	S-256	5/9/2016	---	21.57	---	-0.16	Intermediate	No	Static	
AOI 1	S-257	5/9/2016	---	23.32	---	-0.05	Intermediate	No	Static	
AOI 1	S-258	5/9/2016	---	23.61	---	-0.81	Intermediate	No	Static	
AOI 1	S-259	5/9/2016	---	24.45	---	-1.89	Intermediate	No	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-260	5/9/2016	NM	NM	NM	NM	Intermediate	No	Static	DRY AT 19.94
AOI 1	S-261	5/9/2016	---	24.39	---	3.02	Intermediate	No	Static	
AOI 1	S-262	5/9/2016	---	18.74	---	0.70	Intermediate	No	Static	
AOI 1	S-263	5/9/2016	---	16.29	---	0.49	Intermediate	No	Static	
AOI 1	S-264D	5/10/2016	---	26.11	---	0.52	Deep	No	Static	
AOI 1	S-265	5/9/2016	14.66	14.66	<0.01	16.53	Intermediate	Yes	Static	
AOI 1	S-267	5/9/2016	---	18.10	---	14.77	Intermediate	Yes	Static	
AOI 1	S-268	5/9/2016	---	27.18	---	4.27	Intermediate	Yes	Static	
AOI 1	S-269	5/9/2016	---	20.35	---	2.21	Intermediate	No	Static	
AOI 1	S-270	5/9/2016	---	21.56	---	1.57	Intermediate	No	Static	
AOI 1	S-271	5/9/2016	---	25.01	---	3.47	Intermediate	No	Static	
AOI 1	S-272	5/9/2016	---	24.26	---	4.10	Intermediate	No	Static	
AOI 1	S-273	5/9/2016	---	24.20	---	3.55	Intermediate	No	Static	
AOI 1	S-274	5/9/2016	23.90	23.95	0.05	3.46	Intermediate	No	Static	
AOI 1	S-275	5/9/2016	---	23.29	---	3.28	Intermediate	No	Static	
AOI 1	S-276	5/9/2016	23.54	23.90	0.36	2.98	Intermediate	No	Static	
AOI 1	S-277	5/9/2016	23.18	23.75	0.57	2.40	Intermediate	No	Static	
AOI 1	S-312	5/9/2016	---	5.35	---	12.53	Shallow/Intermediate	No	Static	
AOI 1	S-388D	5/9/2016	---	25.35	---	0.84	Deep	No	Static	
AOI 1	S-389D	5/9/2016	---	25.22	---	1.08	Deep	No	Static	
AOI 1	S-390D	5/9/2016	---	25.41	---	1.07	Deep	No	Static	
AOI 1	S-391D	5/9/2016	NM	NM	NM	NM	Deep	No	Static	DESTROYED
AOI 1	S-392D	5/9/2016	---	19.23	---	0.74	Deep	No	Static	
AOI 1	S-396	5/9/2016	---	25.01	---	1.18	Intermediate	No	Static	
AOI 1	S-397	5/9/2016	---	25.56	---	1.04	Intermediate	No	Static	
AOI 1	S-398	5/9/2016	---	24.75	---	0.81	Intermediate	No	Static	
AOI 1	S-399	5/9/2016	---	19.44	---	0.72	Intermediate	No	Static	
AOI 1	S-400	5/9/2016	NM	NM	NM	NM	Deep	No	Static	DESTROYED
AOI 1	S-401	5/9/2016	---	26.02	---	2.37	Intermediate	No	Static	
AOI 1	S-402	5/9/2016	29.28	29.30	0.02	4.17	Not Classified	No	Static	
AOI 1	S-403	5/9/2016	---	23.93	---	2.89	Not Classified	No	Static	
AOI 1	S-404	5/9/2016	11.54	11.59	0.05	16.96	Not Classified	No	Static	PRODUCT VERY THICK
AOI 1	S-405	5/9/2016	---	22.79	---	3.34	Not Classified	No	Static	PAD AND MANHOLE ARE DESTROYED
AOI 1	S-417	5/9/2016	---	27.17	---	5.11	Not Classified	Yes	Static	WELL IS MARKED 409 INSIDE CAP
AOI 1	S-418	5/9/2016	---	14.29	---	3.07	Not Classified	No	Static	CASING BROKE AT GRADE
AOI 1	S-419	5/9/2016	---	15.11	---	0.91	NA	No	Static	
AOI 2	C-HEADER	5/10/2016	---	6.57	---	14.04	Shallow/Intermediate	No	Static	
AOI 2	PGW-MW-8S	5/10/2016	---	30.39	---	4.69	Shallow	No	Static	
AOI 2	PZ-100	5/10/2016	---	16.65	---	1.42	Shallow	No	Static	
AOI 2	PZ-101	5/10/2016	---	6.75	---	10.42	Shallow	No	Static	
AOI 2	River1	5/10/2016	---	11.10	NA	NA	NA	No	Static	AT 0910
AOI 2	River3	5/10/2016	---	10.93	NA	NA	NA	No	Static	
AOI 2	RW-100	5/10/2016	19.28	19.63	0.35	1.40	Shallow	Yes	Static	
AOI 2	RW-101	5/10/2016	17.56	18.12	0.56	2.14	Shallow	Yes	Static	
AOI 2	RW-102	5/10/2016	15.26	15.27	0.01	2.21	Shallow	Yes	Static	
AOI 2	RW-103	5/10/2016	17.03	17.15	0.12	2.97	Shallow	Yes	Static	
AOI 2	RW-104	5/10/2016	---	7.68	---	1.28	Shallow	Yes	Static	
AOI 2	RW-105	5/10/2016	---	14.45	---	-5.77	Shallow	Yes	Pumping	
AOI 2	RW-106	5/10/2016	10.20	10.21	0.01	-0.90	Shallow	Yes	Static	
AOI 2	RW-107	5/10/2016	---	9.25	---	1.30	Shallow	Yes	Static	
AOI 2	RW-108	5/10/2016	---	7.69	---	2.21	Shallow	Yes	Static	
AOI 2	RW-109	5/10/2016	8.14	8.23	0.09	1.70	Shallow	Yes	Static	

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AOI 2	RW-113	5/10/2016	11.18	11.18	<0.01	-0.94	Shallow	Yes	Static	
AOI 2	RW-114	5/10/2016	14.25	14.25	<0.01	-1.23	Shallow	Yes	Static	
AOI 2	RW-115	5/10/2016	---	11.29	---	-1.09	Shallow	Yes	Static	
AOI 2	RW-116	5/10/2016	---	11.79	---	-0.98	Shallow	Yes	Static	
AOI 2	RW-117	5/10/2016	10.46	10.48	0.02	-0.68	Shallow	Yes	Static	
AOI 2	RW-118	5/10/2016	12.61	12.61	<0.01	-0.78	Shallow	Yes	Static	
AOI 2	RW-119	5/10/2016	13.84	13.97	0.13	-1.01	Shallow	Yes	Static	
AOI 2	RW-120	5/10/2016	---	17.16	---	-3.58	Shallow	Yes	Pumping	
AOI 2	RW-121	5/10/2016	---	16.47	---	-1.17	Shallow/Intermediate	Yes	Static	
AOI 2	RW-122	5/10/2016	---	10.88	---	-0.64	Shallow	Yes	Pumping	PUMP WAS HUNG UP ON ARRIVAL
AOI 2	RW-123	5/10/2016	---	10.60	---	-0.63	Shallow	Yes	Static	
AOI 2	RW-124	5/10/2016	---	18.54	---	-9.38	Shallow	Yes	Pumping	
AOI 2	RW-125	5/10/2016	---	12.23	---	2.04	Shallow	Yes	Static	
AOI 2	RW-126	5/10/2016	9.45	9.46	0.01	-0.22	Shallow	Yes	Static	
AOI 2	RW-127	5/10/2016	---	19.19	---	-5.29	Shallow	Yes	Pumping	
AOI 2	RW-128	5/10/2016	8.29	8.44	0.15	0.12	Shallow	Yes	Static	
AOI 2	RW-129	5/10/2016	8.71	8.82	0.11	1.11	Shallow	Yes	Static	
AOI 2	RW-600	5/10/2016	---	4.84	---	4.21	Shallow/Intermediate	Yes	Static	
AOI 2	RW-601	5/10/2016	---	9.06	---	2.62	Shallow/Intermediate	Yes	Static	
AOI 2	S-48	5/10/2016	19.75	19.97	0.22	1.48	Shallow/Intermediate	No	Static	
AOI 2	S-53	5/10/2016	18.97	19.24	0.27	2.67	Shallow	No	Static	
AOI 2	S-54	5/10/2016	21.66	21.94	0.28	1.26	Intermediate	No	Static	
AOI 2	S-61	5/10/2016	16.60	16.84	0.24	1.67	Shallow/Intermediate	No	Static	
AOI 2	S-63	5/10/2016	---	20.73	---	0.54	Shallow	No	Static	
AOI 2	S-64	5/10/2016	---	8.91	---	1.65	Shallow/Intermediate	No	Static	
AOI 2	S-65	5/10/2016	8.68	8.71	0.03	1.93	Shallow/Intermediate	No	Static	
AOI 2	S-71	5/10/2016	---	20.22	---	3.82	Shallow/Intermediate	No	Static	
AOI 2	S-72	5/10/2016	---	26.82	---	4.24	Intermediate	No	Static	
AOI 2	S-72D	5/10/2016	---	32.24	---	2.27	Deep	No	Static	
AOI 2	S-91	5/10/2016	20.44	20.45	0.01	2.69	Intermediate	No	Static	
AOI 2	S-92	5/10/2016	10.79	10.83	0.04	9.27	Intermediate	No	Static	
AOI 2	S-93	5/10/2016	---	17.31	---	0.94	Intermediate	Yes	Static	
AOI 2	S-105	5/10/2016	---	10.12	---	2.41	Shallow	No	Static	WELL HIT, CASING BENT, CONCRETE PAD DAMAGED
AOI 2	S-107	5/10/2016	9.15	9.16	0.01	3.16	Shallow/Intermediate	No	Static	
AOI 2	S-108	5/10/2016	---	6.11	---	4.61	Shallow/Intermediate	No	Static	
AOI 2	S-110	5/10/2016	---	15.24	---	10.43	Shallow/Intermediate	No	Static	
AOI 2	S-130	5/10/2016	---	19.40	---	3.08	Shallow/Intermediate	No	Static	
AOI 2	S-131	5/10/2016	---	16.13	---	2.63	Shallow	No	Static	PAD NEEDS TO BE REPLACED
AOI 2	S-132	5/10/2016	---	18.86	---	2.17	Shallow/Intermediate	No	Static	
AOI 2	S-133	5/10/2016	---	19.57	---	2.45	Shallow/Intermediate	No	Static	
AOI 2	S-134	5/10/2016	---	20.35	---	1.68	Shallow/Intermediate	No	Static	
AOI 2	S-135	5/10/2016	22.11	23.30	1.19	0.92	Shallow	No	Static	
AOI 2	S-136	5/10/2016	---	18.51	---	2.08	Shallow/Intermediate	No	Static	
AOI 2	S-137	5/10/2016	---	17.88	---	2.16	Shallow/Intermediate	No	Static	PAD NEEDS TO BE REPLACED
AOI 2	S-139	5/10/2016	---	18.92	---	2.54	Shallow/Intermediate	No	Static	
AOI 2	S-140	5/10/2016	---	19.13	---	2.90	Shallow/Intermediate	No	Static	
AOI 2	S-141	5/10/2016	19.88	20.21	0.33	2.00	Shallow/Intermediate	No	Static	
AOI 2	S-142	5/10/2016	19.38	19.50	0.12	0.45	Shallow	No	Static	
AOI 2	S-143	5/10/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	BLOCKED AT 9.85 FEET
AOI 2	S-150	5/10/2016	---	17.26	---	3.57	Shallow/Intermediate	No	Static	
AOI 2	S-152	5/10/2016	---	7.24	---	3.25	Shallow/Intermediate	No	Static	
AOI 2	S-153	5/10/2016	---	7.57	---	2.24	Shallow/Intermediate	No	Static	

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AOI 2	S-154	5/10/2016	---	10.45	---	0.17	Shallow/Intermediate	No	Static	
AOI 2	S-156	5/10/2016	18.66	18.79	0.13	2.16	Shallow	No	Static	
AOI 2	S-157	5/10/2016	---	17.52	---	2.42	Shallow/Intermediate	No	Static	
AOI 2	S-159	5/10/2016	16.61	16.61	<0.01	2.27	Shallow/Intermediate	No	Static	
AOI 2	S-165	5/10/2016	---	16.76	---	1.35	Shallow/Intermediate	No	Static	
AOI 2	S-166	5/10/2016	---	16.13	---	2.10	Shallow/Intermediate	No	Static	
AOI 2	S-174	5/10/2016	10.53	12.40	1.87	8.83	Shallow	No	Static	
AOI 2	S-175	5/10/2016	17.78	18.79	1.01	2.12	Shallow	No	Static	
AOI 2	S-177	5/12/2016	---	18.00	---	1.56	Shallow/Intermediate	No	Static	
AOI 2	S-178	5/10/2016	---	18.11	---	1.43	Shallow/Intermediate	No	Static	
AOI 2	S-246A	5/10/2016	---	9.91	---	1.85	Shallow/Intermediate	No	Static	
AOI 2	S-247	5/10/2016	---	10.91	---	1.18	Shallow/Intermediate	No	Static	
AOI 2	S-248	5/10/2016	---	9.75	---	1.05	Shallow/Intermediate	No	Static	
AOI 2	S-249	5/10/2016	---	11.04	---	1.57	Shallow/Intermediate	No	Static	
AOI 2	S-251	5/10/2016	---	18.34	---	0.93	Shallow/Intermediate	Yes	Static	
AOI 2	S-252	5/10/2016	---	18.57	---	0.72	Shallow/Intermediate	Yes	Static	
AOI 2	S-253	5/10/2016	---	18.58	---	2.25	Shallow/Intermediate	Yes	Static	
AOI 2	S-254	5/10/2016	---	19.09	---	1.79	Shallow/Intermediate	Yes	Static	
AOI 2	S-292	5/10/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	DRY AT 19.50
AOI 2	S-294	5/10/2016	---	29.87	---	4.60	Intermediate	No	Static	
AOI 2	S-294D	5/10/2016	---	32.01	---	2.67	Deep	No	Static	
AOI 2	S-295	5/10/2016	---	23.81	---	8.93	Shallow/Intermediate	No	Static	
AOI 2	S-297	5/10/2016	23.69	24.01	0.32	6.26	Shallow/Intermediate	No	Static	WELL BROKE AT GRADE
AOI 2	S-298	5/10/2016	14.80	15.11	0.31	12.12	Shallow/Intermediate	No	Static	
AOI 2	S-299	5/10/2016	---	20.45	---	3.55	Shallow/Intermediate	No	Static	
AOI 2	S-300	5/10/2016	---	20.41	---	4.87	Shallow/Intermediate	No	Static	
AOI 2	S-301	5/10/2016	---	16.94	---	3.47	Shallow/Intermediate	No	Static	
AOI 2	S-302	5/10/2016	21.44	21.75	0.31	2.47	Intermediate	No	Static	
AOI 2	S-302D	5/10/2016	---	23.98	---	0.62	Deep	No	Static	
AOI 2	S-303	5/10/2016	---	19.70	---	2.89	Shallow/Intermediate	No	Static	
AOI 2	S-304	5/10/2016	14.20	14.20	<0.01	7.99	Shallow/Intermediate	No	Static	
AOI 2	S-305	5/10/2016	---	18.58	---	1.15	Intermediate	No	Static	
AOI 2	S-305D	5/10/2016	---	19.82	---	0.66	Deep	No	Static	
AOI 2	S-306	5/10/2016	---	22.82	---	-0.35	Intermediate	No	Static	
AOI 2	S-307	5/10/2016	---	16.29	---	2.28	Shallow/Intermediate	No	Static	
AOI 2	S-308	5/12/2016	---	24.17	---	3.94	Shallow/Intermediate	No	Static	
AOI 2	S-309	5/10/2016	---	17.66	---	2.07	Shallow/Intermediate	No	Static	
AOI 2	S-310	5/10/2016	---	8.39	---	9.01	Shallow/Intermediate	No	Static	CASING BENT
AOI 2	S-311	5/10/2016	25.00	25.11	0.11	1.16	Intermediate	No	Static	
AOI 2	S-313	5/10/2016	---	18.61	---	2.29	Shallow	Yes	Static	
AOI 2	S-314	5/10/2016	---	18.78	---	1.92	Shallow	Yes	Static	
AOI 2	S-315	5/10/2016	---	24.20	---	-3.73	Shallow	Yes	Pumping	
AOI 2	S-316	5/10/2016	---	15.74	---	5.16	Shallow	Yes	Static	
AOI 2	S-317	5/10/2016	---	18.15	---	2.04	Shallow	Yes	Static	
AOI 2	S-318	5/10/2016	---	21.90	---	1.85	Shallow/Intermediate	No	Static	
AOI 2	S-328	5/10/2016	---	18.66	---	3.31	Shallow/Intermediate	No	Static	
AOI 2	S-333	5/10/2016	---	12.32	---	1.41	Shallow/Intermediate	No	Static	
AOI 2	S-335	5/10/2016	---	10.01	---	0.09	Shallow/Intermediate	No	Static	
AOI 2	S-336	5/10/2016	---	9.10	---	2.42	Shallow/Intermediate	No	Static	
AOI 2	S-337	5/10/2016	---	10.31	---	1.90	Shallow/Intermediate	No	Static	
AOI 2	S-338	5/10/2016	12.54	12.73	0.19	2.96	Shallow/Intermediate	No	Static	
AOI 2	S-346	5/10/2016	---	18.09	---	1.40	Shallow/Intermediate	No	Static	

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	S-347	5/10/2016	17.78	18.44	0.66	1.22	Shallow/Intermediate	No	Static	
AOI 2	S-348	5/10/2016	13.53	17.25	3.72	5.60	Shallow/Intermediate	No	Static	PRODUCT THICKNESS IS CORRECT
AOI 2	S-349	5/10/2016	14.89	15.00	0.11	3.71	Shallow/Intermediate	No	Static	
AOI 2	S-350	5/10/2016	---	27.16	---	4.32	Shallow/Intermediate	No	Static	
AOI 2	S-351	5/10/2016	---	30.81	---	4.43	Shallow/Intermediate	No	Static	
AOI 2	S-354	5/10/2016	---	24.66	---	3.37	Shallow/Intermediate	No	Static	
AOI 2	S-355	5/10/2016	27.10	27.12	0.02	3.72	Shallow/Intermediate	No	Static	
AOI 2	S-357	5/10/2016	20.62	21.30	0.68	7.36	Shallow/Intermediate	No	Static	
AOI 2	S-359	5/10/2016	---	17.52	---	2.76	Shallow/Intermediate	No	Static	
AOI 2	S-360	5/10/2016	22.50	22.50	<0.01	1.31	Shallow/Intermediate	No	Static	VERY LIGHT FILM OF PRODUCT
AOI 2	S-361	5/10/2016	---	23.71	---	2.66	Shallow/Intermediate	No	Static	
AOI 2	S-362	5/10/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	BLOCKED AT 4.15
AOI 2	S-363	5/10/2016	24.86	24.87	0.01	1.00	Shallow/Intermediate	No	Static	
AOI 2	S-406	5/10/2016	---	9.87	---	2.33	Shallow/Intermediate	No	Static	
AOI 2	S-420	5/10/2016	---	6.48	---	2.78	Shallow	No	Static	
AOI 2	SD-1	5/10/2016	---	7.38	---	12.12	Shallow	No	Static	
AOI 3	BF-88	5/9/2016	---	9.68	---	0.93	Shallow	No	Static	
AOI 3	BF-90	5/9/2016	---	1.54	---	5.95	Shallow	No	Static	
AOI 3	BF-90D	5/9/2016	---	9.92	---	-0.15	Intermediate/Deep	No	Static	
AOI 3	BF-99	5/9/2016	---	10.45	---	0.51	Shallow/Intermediate	No	Static	
AOI 3	BF-100	5/9/2016	---	11.80	---	0.56	Shallow/Intermediate	No	Static	
AOI 3	BF-104	5/9/2016	---	5.25	---	6.49	Shallow/Intermediate	No	Static	
AOI 3	BF-105	5/9/2016	---	11.30	---	0.61	Shallow/Intermediate	No	Static	
AOI 3	BF-106	5/9/2016	---	13.43	---	0.19	Shallow/Intermediate	No	Static	
AOI 3	BF-107	5/9/2016	---	11.81	---	0.55	Shallow/Intermediate	No	Static	
AOI 3	BF-108	5/9/2016	---	11.04	---	-0.06	Deep	No	Static	
AOI 3	RW-2	5/9/2016	11.37	11.82	0.45	-0.17	Intermediate	Yes	Static	
AOI 3	S-1	5/9/2016	---	4.59	---	4.16	Shallow	No	Static	
AOI 3	S-2	5/9/2016	NM	NM	NM	NM	Shallow	No	Static	WELL IN ACCESSIBLE IN HIGH WEEDS
AOI 3	S-3	5/9/2016	---	7.37	---	3.43	Shallow	No	Static	
AOI 3	S-5	5/9/2016	---	2.91	---	2.91	Shallow	No	Static	
AOI 3	S-8	5/9/2016	---	7.43	---	-1.01	Deep	No	Static	
AOI 3	S-9	5/9/2016	---	3.03	---	3.55	Shallow	No	Static	
AOI 3	S-10	5/9/2016	---	4.61	---	1.46	Shallow/Intermediate	No	Static	
AOI 3	S-11	5/9/2016	---	2.87	---	3.51	Shallow	No	Static	
AOI 3	S-12	5/9/2016	---	5.11	---	1.12	Shallow/Intermediate	No	Static	
AOI 3	S-13	5/9/2016	---	7.49	---	-1.13	Deep	No	Static	
AOI 3	S-14	5/9/2016	---	2.57	---	3.17	Shallow	No	Static	
AOI 3	S-16	5/9/2016	---	22.54	---	1.14	Shallow/Intermediate	No	Static	
AOI 3	S-17	5/9/2016	---	15.68	---	1.17	Shallow/Intermediate	No	Static	
AOI 3	S-18	5/9/2016	---	3.84	---	19.65	Shallow	No	Static	
AOI 3	S-19	5/9/2016	NM	NM	NM	NM	Shallow	No	Static	BLOCKED AT 1.38 FEET
AOI 3	S-20	5/9/2016	---	19.16	---	1.10	Shallow/Intermediate	No	Static	
AOI 3	S-21	5/9/2016	15.90	15.90	<0.01	6.84	Shallow	No	Static	
AOI 3	S-22	5/9/2016	---	19.65	---	-0.99	Deep	No	Static	
AOI 3	S-23	5/9/2016	---	19.12	---	1.16	Intermediate	No	Static	
AOI 3	S-24	5/9/2016	NM	NM	NM	NM	Shallow	No	Static	BLOCKED AT 1.39 FEET
AOI 3	S-25	5/9/2016	---	10.96	---	1.15	Shallow/Intermediate	No	Static	
AOI 3	S-59	5/9/2016	9.44	9.45	0.01	3.04	Shallow/Intermediate	No	Static	
AOI 3	S-60	5/9/2016	11.46	12.00	0.54	0.68	Shallow/Intermediate	No	Static	
AOI 3	S-66	5/9/2016	NM	NM	NM	NM	Intermediate	No	Static	26.03 DRY
AOI 3	S-69	5/9/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	BLOCKED AT 1.09 FEET

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 3	S-69D	5/9/2016	---	11.60	---	-0.25	Deep	No	Static	
AOI 3	S-113	5/9/2016	11.88	12.68	0.80	0.64	Shallow/Intermediate	No	Static	
AOI 3	S-280	5/9/2016	---	24.24	---	2.28	Intermediate	No	Static	
AOI 3	S-280D	5/9/2016	---	25.68	---	0.20	Deep	No	Static	
AOI 3	S-281	5/9/2016	NM	NM	NM	NM	Intermediate	No	Static	NOT ACCESSIBLE. INSIDE LOCKD FENCE
AOI 3	S-283	5/9/2016	---	11.09	---	0.05	Intermediate	No	Static	
AOI 3	S-284	5/9/2016	---	4.91	---	4.60	Shallow/Intermediate	No	Static	
AOI 3	S-284D	5/9/2016	---	11.83	---	0.29	Deep	No	Static	
AOI 3	S-285	5/9/2016	13.85	14.05	0.20	1.34	Shallow/Intermediate	No	Static	
AOI 3	S-288	5/9/2016	---	10.82	---	8.27	Shallow/Intermediate	No	Static	
AOI 3	S-290	5/9/2016	---	10.21	---	1.48	Shallow/Intermediate	No	Static	
AOI 3	S-291	5/9/2016	---	7.85	---	4.14	Shallow	No	Static	
AOI 3	S-382	5/9/2016	16.18	18.07	1.89	3.88	Shallow	No	Static	
AOI 3	S-383	5/9/2016	NM	NM	NM	NM	Shallow	No	Static	WELL DAMAGED. CONVERT TO FLUSH MOUNT
AOI 3	S-384	5/9/2016	---	16.09	---	0.42	Shallow	No	Static	
AOI 3	S-385	5/9/2016	---	12.10	---	0.81	Shallow	No	Static	
AOI 3	S-386	5/9/2016	---	13.06	---	0.69	Shallow	No	Static	
AOI 3	S-387	5/9/2016	---	4.26	---	2.85	Shallow	No	Static	
AOI 3	S-407	5/9/2016	---	13.37	---	0.64	NA	No	Static	
AOI 3	S-409	5/9/2016	---	2.65	---	19.64	NA	No	Static	
AOI 3	S-410	5/9/2016	12.34	12.72	0.38	9.90	NA	No	Static	
AOI 3	S-411	5/9/2016	---	24.22	---	0.83	NA	No	Static	
AOI 3	S-412	5/9/2016	---	12.64	---	0.47	NA	No	Static	
AOI 3	S-413	5/9/2016	---	17.35	---	0.56	NA	No	Static	
AOI 3	S-414	5/9/2016	---	22.13	---	0.40	NA	No	Static	
AOI 4	MW-1	5/10/2016	---	15.48	---	0.90	Shallow	No	Static	
AOI 4	MW-4	5/10/2016	NM	NM	NM	NM	Shallow	No	Static	WELL COVERED IN LARGE SOIL PILE-DESTROYED
AOI 4	RW-700	5/10/2016	---	20.30	---	-2.29	Intermediate	Yes	Pumping	
AOI 4	RW-701	5/10/2016	---	19.60	---	-1.33	Intermediate	Yes	Pumping	
AOI 4	RW-702	5/10/2016	---	31.55	---	-10.60	Intermediate	Yes	Pumping	
AOI 4	RW-703	5/10/2016	---	29.00	---	-8.38	Intermediate	Yes	Pumping	
AOI 4	RW-704	5/10/2016	---	21.70	---	-1.47	Intermediate	Yes	Pumping	
AOI 4	RW-705	5/10/2016	---	14.58	---	1.34	Intermediate	Yes	Static	
AOI 4	RW-706	5/10/2016	---	19.40	---	-3.51	Intermediate	Yes	Pumping	
AOI 4	RW-707	5/10/2016	---	15.52	---	0.77	Intermediate	Yes	Static	
AOI 4	RW-708	5/10/2016	---	17.05	---	-1.56	Intermediate	Yes	Pumping	
AOI 4	RW-709	5/10/2016	---	14.49	---	0.81	Intermediate	Yes	Static	
AOI 4	RW-710	5/10/2016	---	15.32	---	0.56	Intermediate	Yes	Static	
AOI 4	RW-711	5/10/2016	---	14.61	---	0.88	Intermediate	Yes	Static	
AOI 4	RW-712	5/10/2016	---	14.73	---	0.83	Intermediate	Yes	Static	
AOI 4	RW-713	5/10/2016	---	14.16	---	0.86	Intermediate	Yes	Static	
AOI 4	RW-714	5/10/2016	---	14.30	---	0.91	Intermediate	Yes	Static	
AOI 4	RW-715	5/10/2016	---	14.49	---	0.88	Intermediate	Yes	Static	
AOI 4	RW-716	5/10/2016	---	14.60	---	0.95	Intermediate	Yes	Static	
AOI 4	RW-717	5/10/2016	---	14.61	---	1.00	Intermediate	Yes	Static	
AOI 4	S-26	5/10/2016	---	19.75	---	1.01	Intermediate	No	Static	
AOI 4	S-27	5/10/2016	NM	NM	NM	NM	Intermediate	No	Static	UNABLE TO LOCATE
AOI 4	S-28	5/10/2016	NM	NM	NM	NM	Shallow	No	Static	DRY OR BLOCK AT 18.80
AOI 4	S-29	5/10/2016	20.55	23.10	2.55	2.41	Intermediate	No	Static	
AOI 4	S-30	5/10/2016	21.22	28.91	7.69	0.90	Intermediate	Yes	Static	
AOI 4	S-31	5/10/2016	NM	NM	NM	NM	Shallow	No	Static	DRY OR BLOCK AT 14.07
AOI 4	S-32	5/10/2016	23.05	23.07	0.02	1.15	Shallow	No	Static	

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AOI 4	S-34	5/10/2016	---	19.65	---	1.24	Shallow	No	Static	
AOI 4	S-35	5/10/2016	---	20.29	---	0.65	Shallow	No	Static	
AOI 4	S-36	5/10/2016	---	23.51	---	0.72	Shallow	No	Static	
AOI 4	S-38	5/10/2016	---	18.02	---	0.93	Shallow	No	Static	
AOI 4	S-39	5/10/2016	---	21.82	---	1.06	Intermediate	No	Static	
AOI 4	S-40	5/10/2016	NM	NM	NM	NM	Shallow	No	Static	FLOODED AROUND WELL
AOI 4	S-56	5/10/2016	---	13.81	---	1.19	Shallow	No	Static	
AOI 4	S-57	5/10/2016	---	10.49	---	2.01	Shallow	No	Static	
AOI 4	S-59D	5/10/2016	---	16.40	---	0.73	Deep	No	Static	
AOI 4	S-96	5/10/2016	---	19.01	---	0.76	Shallow	No	Static	
AOI 4	S-97	5/10/2016	NM	NM	NM	NM	Shallow	No	Static	COVERED
AOI 4	S-102	5/10/2016	---	17.36	---	0.86	Shallow	No	Static	
AOI 4	S-103	5/10/2016	---	24.96	---	1.15	Shallow	No	Static	
AOI 4	S-104	5/10/2016	15.60	16.89	1.29	2.80	Shallow	No	Static	
AOI 4	S-119	5/10/2016	---	25.94	---	0.66	Intermediate	No	Static	
AOI 4	S-119D	5/10/2016	---	24.66	---	0.44	Deep	No	Static	
AOI 4	S-120	5/10/2016	---	18.22	---	1.60	Intermediate	No	Static	
AOI 4	S-121	5/10/2016	---	20.30	---	0.82	Intermediate	No	Static	
AOI 4	S-122	5/10/2016	---	24.70	---	1.01	Intermediate	No	Static	
AOI 4	S-123	5/10/2016	---	21.29	---	0.84	Intermediate	No	Static	
AOI 4	S-124	5/10/2016	22.36	22.39	0.03	0.83	Intermediate	No	Static	
AOI 4	S-216	5/10/2016	---	14.81	---	0.95	Intermediate	No	Static	
AOI 4	S-218	5/10/2016	---	24.64	---	1.10	Intermediate	No	Static	
AOI 4	S-218D	5/10/2016	---	24.48	---	NA	NA	No	Static	
AOI 4	S-219	5/10/2016	---	22.07	---	1.02	Intermediate	No	Static	
AOI 4	S-220	5/10/2016	19.69	20.14	0.45	1.05	Intermediate	No	Static	
AOI 4	S-221	5/10/2016	22.05	23.18	1.13	0.75	Intermediate	No	Static	
AOI 4	S-222	5/10/2016	---	15.18	---	1.11	Intermediate	No	Static	
AOI 4	S-223	5/10/2016	---	14.94	---	0.94	Intermediate	No	Static	
AOI 4	S-224	5/10/2016	---	15.12	---	0.91	Intermediate	No	Static	
AOI 4	S-225	5/10/2016	---	16.26	---	-1.27	Intermediate	No	Static	
AOI 4	S-233	5/10/2016	20.37	21.26	0.89	3.82	Intermediate	No	Static	
AOI 4	S-234	5/10/2016	---	20.59	---	0.64	Intermediate	No	Static	
AOI 4	S-235	5/10/2016	22.24	22.43	0.19	0.85	Intermediate	No	Static	
AOI 4	S-236	5/10/2016	22.11	23.01	0.90	0.70	Intermediate	No	Static	
AOI 4	S-237	5/10/2016	21.93	23.34	1.41	0.63	Intermediate	No	Static	
AOI 4	S-238	5/10/2016	---	22.04	---	0.88	Intermediate	No	Static	
AOI 4	S-239	5/10/2016	---	14.88	---	0.94	Intermediate	No	Static	
AOI 4	S-240	5/10/2016	22.93	24.13	1.20	0.72	Intermediate	No	Static	
AOI 4	S-241	5/10/2016	25.09	26.90	1.81	0.67	Intermediate	No	Static	
AOI 4	S-242	5/10/2016	---	20.97	---	0.92	Intermediate	No	Static	
AOI 4	S-243	5/10/2016	---	14.64	---	1.10	Intermediate	No	Static	
AOI 4	S-244	5/10/2016	---	11.92	---	10.02	Intermediate	No	Static	
AOI 4	S-245	5/10/2016	---	21.25	---	0.96	Intermediate	No	Static	
AOI 4	S-246	5/10/2016	---	17.69	---	3.87	Intermediate	No	Static	
AOI 4	S-278	5/10/2016	19.96	20.00	0.04	1.06	Intermediate	No	Static	
AOI 4	S-279	5/10/2016	25.23	25.23	<0.01	1.23	Intermediate	No	Static	
AOI 4	S-282	5/10/2016	19.98	20.00	0.02	0.80	Shallow/Intermediate	No	Static	
AOI 4	S-329	5/10/2016	---	20.18	---	0.74	Intermediate	No	Static	
AOI 4	S-364	5/10/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	WELL DAMAGED, NEEDS TO BE STRAIGHTENED
AOI 4	S-365	5/10/2016	20.30	20.30	<0.01	0.46	Shallow/Intermediate	No	Static	
AOI 4	S-366	5/10/2016	---	21.50	---	0.76	Shallow/Intermediate	No	Static	

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AOI 4	S-367	5/10/2016	---	15.18	---	0.84	Shallow/Intermediate	No	Static	
AOI 4	S-368	5/10/2016	16.70	18.40	1.70	1.11	Shallow/Intermediate	No	Static	
AOI 4	S-369	5/10/2016	---	29.51	---	-0.09	Shallow/Intermediate	No	Static	
AOI 4	S-370	5/10/2016	---	11.33	---	0.73	Shallow/Intermediate	No	Static	
AOI 4	S-371	5/10/2016	---	19.81	---	2.24	Shallow/Intermediate	No	Static	
AOI 4	S-372	5/9/2016	---	18.74	---	0.99	Shallow/Intermediate	No	Static	
AOI 4	S-379	5/10/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	DRY OR BLOCKED AT 15.90
AOI 4	S-380	5/10/2016	---	20.44	---	0.88	Shallow/Intermediate	No	Static	
AOI 4	S-381	5/10/2016	---	25.16	---	0.70	Shallow/Intermediate	No	Static	
AOI 4	S-38D	5/10/2016	---	18.18	---	-0.48	Deep	No	Static	
AOI 4	S-38D2	5/10/2016	---	18.78	---	-0.59	Deep	No	Static	
AOI 4	S-408	5/10/2016	---	14.71	---	1.17	NA	No	Static	
AOI 4	S-415	5/10/2016	---	18.48	---	0.75	NA	No	Static	
AOI 5	A-1	5/12/2016	NM	NM	NM	NM	Shallow	No	Static	UNABLE TO LOCATE WELL, MAY BE DESTROYED
AOI 5	A-3	5/12/2016	---	7.01	---	1.23	Shallow	No	Static	
AOI 5	A-5	5/12/2016	4.24	4.28	0.04	0.77	Shallow	No	Static	
AOI 5	A-6	5/12/2016	---	3.98	---	2.76	Shallow	No	Static	
AOI 5	A-7	5/12/2016	4.86	5.50	0.64	1.98	Shallow	No	Static	
AOI 5	A-9	5/12/2016	---	3.16	---	2.64	Shallow	No	Static	
AOI 5	A-10	5/12/2016	---	3.55	---	4.73	Shallow	No	Static	
AOI 5	A-11	5/12/2016	---	5.06	---	2.71	Shallow	No	Static	
AOI 5	A-12	5/12/2016	---	4.90	---	2.67	Shallow	No	Static	
AOI 5	A-15	5/12/2016	---	1.18	---	3.93	Shallow	No	Static	
AOI 5	A-19D	5/12/2016	---	12.69	---	-2.05	Deep	No	Static	UNABE TO LOCATE WELL, IT MAY BE COVERED OR DESTROYED
AOI 5	A-21	5/12/2016	2.21	2.22	0.01	5.95	Shallow	No	Static	VERY THICK PRODUCT
AOI 5	A-21D	5/12/2016	---	16.99	---	-5.74	Deep	No	Static	
AOI 5	A-22	5/12/2016	---	6.00	---	1.95	Shallow	No	Static	
AOI 5	A-23	5/12/2016	---	3.24	---	3.07	Shallow	No	Static	
AOI 5	A-24	5/12/2016	---	2.38	---	3.15	Shallow	No	Static	
AOI 5	A-25	5/12/2016	---	4.75	---	4.05	Shallow	No	Static	
AOI 5	A-26	5/12/2016	---	5.03	---	3.62	Shallow	No	Static	
AOI 5	A-27	5/12/2016	---	6.42	---	3.59	Shallow	No	Static	
AOI 5	A-39	5/12/2016	---	3.10	---	4.58	Shallow	No	Static	
AOI 5	A-40	5/12/2016	---	6.99	---	1.64	Shallow	No	Static	
AOI 5	A-41	5/12/2016	---	3.80	---	1.83	Shallow	No	Static	
AOI 5	A-44	5/12/2016	---	8.36	---	1.65	Shallow	No	Static	
AOI 5	A-45	5/12/2016	3.71	3.72	0.01	1.01	Shallow	No	Static	VERY THICK PRODUCT
AOI 5	A-46	5/12/2016	---	8.24	---	2.58	Shallow	No	Static	
AOI 5	A-47	5/12/2016	NM	NM	NM	NM	Shallow	No	Static	WELL DAMAGED, CASING LYING ON GROUND
AOI 5	A-48	5/12/2016	---	4.41	---	2.04	Shallow	No	Static	
AOI 5	A-49	5/12/2016	---	3.46	---	3.74	Shallow	No	Static	
AOI 5	A-118	5/12/2016	---	2.39	---	5.91	Shallow	No	Static	
AOI 5	A-122	5/12/2016	---	4.90	---	2.54	Shallow	No	Static	
AOI 5	A-133	5/12/2016	---	6.76	---	6.26	Shallow	No	Static	
AOI 5	A-134	5/12/2016	---	7.52	---	1.62	Shallow	No	Static	
AOI 5	A-135	5/12/2016	---	7.56	---	3.20	Shallow	No	Static	
AOI 5	A-136	5/12/2016	6.73	6.74	0.01	1.97	Shallow	No	Static	
AOI 5	A-137	5/12/2016	---	6.79	---	1.84	Shallow	No	Static	
AOI 5	A-139	5/12/2016	NM	NM	NM	NM	Shallow	No	Static	WELL DAMAGED, CASING BLOCKED AT 3.40
AOI 5	A-140	5/12/2016	NM	NM	NM	NM	Shallow	No	Static	WELL DAMAGED, CASING LAYING ON GROUND
AOI 5	A-142	5/12/2016	---	5.62	---	2.94	Shallow	No	Static	
AOI 5	A-143	5/12/2016	---	8.04	---	1.46	Shallow	No	Static	

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 5	A-148	5/12/2016	---	2.54	---	5.47	Shallow	No	Static	
AOI 5	A-149	5/12/2016	---	3.38	---	5.11	Shallow	No	Static	
AOI 5	A-150	5/12/2016	---	5.39	---	4.25	Shallow	No	Static	
AOI 5	A-151	5/12/2016	---	4.49	---	3.00	Shallow	No	Static	
AOI 5	A-152	5/12/2016	---	3.27	---	1.58	Shallow	No	Static	
AOI 5	A-155	5/12/2016	5.32	5.33	0.01	3.07	Shallow	No	Static	
AOI 5	A-156	5/12/2016	---	5.58	---	3.30	Shallow	No	Static	
AOI 5	A-157	5/12/2016	---	4.74	---	3.88	Shallow	No	Static	
AOI 5	A-163	5/12/2016	---	6.14	---	4.35	NA	No	Static	
AOI 5	A-164	5/12/2016	---	5.01	---	3.90	NA	No	Static	
AOI 5	A-166	5/12/2016	---	7.95	---	3.33	Not Classified	No	Static	
AOI 5	A-167	5/12/2016	---	5.79	---	3.67	Not Classified	No	Static	
AOI 5	A-168	5/12/2016	---	6.07	---	4.62	Not Classified	No	Static	
AOI 5	A-169	5/12/2016	---	4.56	---	4.06	Not Classified	No	Static	
AOI 5	A-170	5/12/2016	---	2.70	---	1.93	NA	No	Static	
AOI 5	A-171	5/12/2016	---	5.73	---	1.91	NA	No	Static	
AOI 5	A-172	5/12/2016	---	4.36	---	1.96	NA	No	Static	
AOI 5	A-173	5/12/2016	NM	NM	NM	NM	NA	No	Static	NOT ACCESSIBLE, ACCESS BLOCKED UNDER STEEL ROAD PLATE
AOI 5	A-174	5/12/2016	---	4.39	---	3.63	Not Classified	No	Static	
AOI 5	A-175	5/12/2016	---	4.18	---	0.55	NA	No	Static	
AOI 5	A-176	5/12/2016	3.88	4.36	0.48	0.64	NA	No	Static	VERY THICK PRODUCT
AOI 5	A-179	5/12/2016	3.21	5.82	2.61	5.03	NA	No	Static	VERY THICK PRODUCT
AOI 5	A-180	5/12/2016	NM	NM	NM	NM	NA	No	Static	DESTROYED
AOI 5	A-181	5/12/2016	---	3.45	---	3.07	NA	No	Static	
AOI 5	A-182	5/12/2016	---	5.36	---	1.54	NA	No	Static	
AOI 5	A-183	5/12/2016	4.02	4.95	0.93	4.26	NA	No	Static	VERY THICK PRODUCT
AOI 5	A-184	5/12/2016	6.03	6.04	0.01	NA	NA	No	Static	VERY THICK PRODUCT
AOI 5	A-185	5/12/2016	NM	NM	NM	NM	NA	No	Static	WELL DAMAGED, CASING BLOCKED
AOI 5	A-186	5/12/2016	---	5.05	---	3.21	NA	No	Static	
AOI 5	PZ-2	5/12/2016	---	5.04	---	5.84	Shallow	No	Static	
AOI 5	PZ-3	5/12/2016	---	7.29	---	3.24	Shallow	No	Static	
AOI 5	RW-6S	5/12/2016	---	4.80	---	3.42	Shallow	Yes	Static	
AOI 5	SW-1	5/12/2016	7.31	8.80	1.49	2.32	Shallow	No	Static	
AOI 5	SW-2	5/12/2016	---	7.10	---	2.84	Shallow	No	Static	
AOI 5	SW-3	5/12/2016	---	7.99	---	1.98	Shallow	No	Static	
AOI 5	SW-4	5/12/2016	5.15	5.16	0.01	2.00	Shallow	No	Static	VERY THICK PRODUCT
AOI 5	SW-5	5/12/2016	5.15	5.16	0.01	5.34	Shallow	No	Static	VERY THICK PRODUCT
AOI 5	SWR-1	5/12/2016	---	4.79	---	3.49	Shallow	Yes	Static	
AOI 5	SWR-2	5/12/2016	---	7.78	---	2.28	Shallow	Yes	Static	
AOI 5	SWR-3	5/12/2016	---	7.00	---	3.61	Shallow	Yes	Static	
AOI 5	WP-8	5/12/2016	---	5.48	---	1.51	Shallow	No	Static	
AOI 5	WP-9	5/12/2016	---	1.93	---	6.64	Shallow	No	Static	
AOI 5	WP9-8	5/12/2016	4.63	6.48	1.85	3.89	Shallow	No	Static	
AOI 5	WP-14	5/12/2016	---	7.06	---	2.06	Shallow	No	Static	
AOI 5	WP16-3	5/12/2016	---	7.62	---	3.45	Shallow	No	Static	
AOI 5	WP-A	5/12/2016	4.41	4.42	0.01	5.19	Shallow	No	Static	VERY THICK PRODUCT
AOI 5	WP-B	5/12/2016	6.40	6.49	0.09	3.67	Shallow	No	Static	
AOI 5	WP-C	5/12/2016	---	3.83	---	2.70	Shallow	No	Static	
AOI 5	WP-D	5/12/2016	---	5.13	---	3.13	Shallow	No	Static	
AOI 5	WP-E	5/12/2016	---	4.63	---	2.72	Shallow	No	Static	
AOI 6	B-39	5/11/2016	1.12	1.58	0.46	4.30	Shallow	No	Static	COULD NOT LOCATE
AOI 6	B-43	5/11/2016	---	3.90	---	3.31	Shallow	No	Static	COULD NOT LOCATE

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Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 6	B-45	5/11/2016	---	0.77	---	4.33	Shallow	No	Static	
AOI 6	B-46	5/11/2016	---	0.93	---	7.10	Shallow	No	Static	
AOI 6	B-47	5/12/2016	3.13	3.14	0.01	5.17	Shallow	No	Static	PRODUCT IS VERY VISCOUS
AOI 6	B-48	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	FLOODED TO TOC
AOI 6	B-48D	5/11/2016	---	11.46	---	-2.04	Deep	No	Static	
AOI 6	B-92	5/11/2016	---	5.44	---	4.79	Shallow	No	Static	
AOI 6	B-94	5/11/2016	---	6.76	---	3.59	Shallow	No	Static	
AOI 6	B-95	5/11/2016	---	3.94	---	4.93	Shallow	No	Static	
AOI 6	B-115	5/11/2016	---	2.47	---	5.03	Shallow	No	Static	
AOI 6	B-116	5/11/2016	5.19	9.46	4.27	-0.69	Shallow	No	Static	
AOI 6	B-117	5/11/2016	---	7.54	---	-1.57	Shallow	No	Static	
AOI 6	B-123	5/11/2016	---	4.51	---	6.25	Shallow	No	Static	
AOI 6	B-124	5/11/2016	4.89	6.67	1.78	3.74	Shallow	Yes	Static	
AOI 6	B-125	5/11/2016	---	4.72	---	3.79	Shallow	No	Static	
AOI 6	B-126	5/11/2016	---	4.91	---	3.60	Shallow	No	Static	
AOI 6	B-129	5/11/2016	---	5.88	---	2.14	Shallow	No	Static	
AOI 6	B-130	5/11/2016	5.20	5.40	0.20	4.48	Shallow	No	Static	
AOI 6	B-131	5/11/2016	---	4.51	---	4.21	Shallow	No	Static	
AOI 6	B-132	5/11/2016	4.67	4.68	0.01	2.20	Shallow	No	Static	
AOI 6	B-132D	5/11/2016	---	16.45	---	-6.14	Deep	No	Static	
AOI 6	B-133	5/11/2016	---	4.97	---	2.36	Shallow	Yes	Static	
AOI 6	B-133D	5/11/2016	---	10.58	---	-1.98	Deep	No	Static	
AOI 6	B-134	5/11/2016	---	4.62	---	1.90	Shallow	Yes	Static	
AOI 6	B-134D	5/11/2016	---	11.74	---	-3.62	Deep	No	Static	
AOI 6	B-135	5/11/2016	4.75	4.87	0.12	1.61	Shallow	No	Static	
AOI 6	B-136	5/11/2016	4.96	4.98	0.02	4.19	Shallow	Yes	Static	
AOI 6	B-137	5/11/2016	4.92	5.07	0.15	3.79	Shallow	Yes	Static	
AOI 6	B-138	5/11/2016	---	4.25	---	5.08	Shallow	Yes	Static	
AOI 6	B-139	5/11/2016	NM	NM	NM	NM	Shallow	Yes	Static	DESTROYED
AOI 6	B-141	5/11/2016	---	3.04	---	5.65	Shallow	No	Static	DAMAGED, BROKEN <1FT ABOVE GROUND SURFACE AT ANGLE
AOI 6	B-142	5/11/2016	6.76	7.75	0.99	2.85	Shallow	Yes	Static	
AOI 6	B-143	5/11/2016	4.72	5.54	0.82	4.15	Shallow	Yes	Static	
AOI 6	B-144	5/11/2016	4.69	4.70	0.01	4.33	Shallow	No	Static	
AOI 6	B-145	5/11/2016	---	4.40	---	5.41	Shallow	No	Static	
AOI 6	B-147	5/11/2016	5.67	5.78	0.11	3.22	Shallow	Yes	Static	
AOI 6	B-148	5/11/2016	5.14	6.03	0.89	1.96	Shallow	No	Static	
AOI 6	B-149	5/11/2016	2.70	3.37	0.67	4.95	Shallow	No	Static	
AOI 6	B-150	5/11/2016	2.67	5.98	3.31	4.69	Shallow	No	Static	
AOI 6	B-151	5/11/2016	---	3.55	---	4.19	Shallow	No	Static	
AOI 6	B-152	5/11/2016	---	0.84	---	4.20	Shallow	No	Static	
AOI 6	B-153	5/11/2016	---	2.40	---	3.97	Shallow	No	Static	
AOI 6	B-154	5/11/2016	---	3.28	---	5.40	Shallow	No	Static	
AOI 6	B-155	5/11/2016	---	5.23	---	3.31	Shallow	No	Static	
AOI 6	B-156	5/11/2016	---	5.52	---	3.34	Shallow	No	Static	
AOI 6	B-158	5/11/2016	---	2.86	---	5.35	Shallow	No	Static	
AOI 6	B-160	5/11/2016	---	4.18	---	4.35	Shallow	No	Static	
AOI 6	B-161	5/11/2016	4.32	4.38	0.06	3.97	Shallow	No	Static	
AOI 6	B-162	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	FLOODED - NO ACCESS
AOI 6	B-163	5/11/2016	---	1.51	---	5.94	Shallow	No	Static	
AOI 6	B-164	5/11/2016	---	5.07	---	3.75	Shallow	No	Static	
AOI 6	B-165	5/11/2016	---	2.82	---	2.97	Shallow	No	Static	
AOI 6	B-166	5/11/2016	---	2.78	---	4.69	Shallow	No	Static	

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Second Quarter 2016 Gauging Data
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AOI 6	B-167	5/11/2016	---	3.17	---	3.56	Shallow	No	Static	
AOI 6	B-168	5/11/2016	---	2.41	---	4.05	Shallow	No	Static	
AOI 6	B-169	5/11/2016	---	1.89	---	4.23	Shallow	No	Static	
AOI 6	B-170	5/11/2016	---	1.75	---	-1.71	Shallow	No	Static	
AOI 6	B-173	5/11/2016	---	4.62	---	NA	NA	No	Static	
AOI 6	B-174	5/11/2016	---	2.85	---	NA	Not Classified	No	Static	
AOI 6	PZ-132A	5/11/2016	---	5.95	---	4.20	Shallow	No	Static	
AOI 6	PZ-135A	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	WELL DESTROYED, REMOVED FROM GROUND
AOI 6	PZ-135B	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	WELL DESTROYED, REMOVED FROM GROUND
AOI 6	RW-9	5/11/2016	4.91	5.66	0.75	3.71	Shallow	Yes	Static	
AOI 6	SUMP-1	5/11/2016	5.39	5.52	0.13	5.29	Shallow	Yes	Static	
AOI 6	U-1	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	DRY AT 7.46 FT BTOC
AOI 6	U-2	5/11/2016	---	6.59	---	2.80	Shallow	No	Static	
AOI 6	U-3	5/11/2016	5.84	7.01	1.17	3.74	Shallow	No	Static	
AOI 6	U-4	5/11/2016	---	3.81	---	5.41	Shallow	No	Static	
AOI 6	U-5	5/11/2016	---	7.52	---	2.27	Shallow	No	Static	
AOI 6	URS-1	5/11/2016	---	5.68	---	4.34	Shallow	No	Static	
AOI 6	URS-2	5/11/2016	---	3.83	---	4.06	Shallow	No	Static	
AOI 6	URS-3	5/11/2016	---	3.99	---	3.61	Shallow	No	Static	
AOI 6	URS-4	5/11/2016	---	9.09	---	0.85	Shallow	No	Static	
AOI 6	URS-5	5/11/2016	5.11	5.11	<0.01	2.84	Shallow	No	Static	
AOI 6	WP9-3	5/11/2016	---	2.04	---	4.12	Shallow	No	Static	
AOI 6	WP9-4	5/11/2016	---	5.07	---	3.97	Shallow	No	Static	
AOI 6	WPM-2	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	INACCESSIBLE
AOI 6	WPM-3	5/11/2016	---	3.09	---	4.94	Shallow	No	Static	
AOI 6	WPM-11	5/11/2016	---	0.88	---	5.63	Shallow	No	Static	
AOI 7	C-49	5/12/2016	---	4.97	---	4.61	Shallow	No	Static	
AOI 7	C-50	5/12/2016	---	7.10	---	5.67	Shallow	No	Static	
AOI 7	C-50D	5/12/2016	---	11.48	---	0.01	Deep	No	Static	
AOI 7	C-51	5/12/2016	---	4.90	---	4.36	Shallow	No	Static	
AOI 7	C-52	5/12/2016	---	5.23	---	2.40	Shallow	No	Static	
AOI 7	C-53A	5/12/2016	---	3.64	---	5.83	Shallow	No	Static	
AOI 7	C-54	5/12/2016	---	0.92	---	5.69	Shallow	No	Static	
AOI 7	C-55	5/12/2016	---	4.73	---	4.68	Shallow	No	Static	
AOI 7	C-56	5/12/2016	---	2.53	---	8.19	Shallow	No	Static	
AOI 7	C-57	5/12/2016	---	2.69	---	5.81	Shallow	No	Static	
AOI 7	C-58	5/12/2016	---	2.01	---	5.41	Shallow	No	Static	
AOI 7	C-60	5/12/2016	---	3.61	---	3.83	Shallow	No	Static	
AOI 7	C-61	5/12/2016	---	3.52	---	4.41	Shallow	No	Static	
AOI 7	C-62	5/12/2016	---	4.89	---	6.51	Shallow	No	Static	
AOI 7	C-63	5/12/2016	---	6.06	---	1.35	Shallow	No	Static	
AOI 7	C-64	5/12/2016	8.35	8.43	0.08	-0.22	Shallow	No	Static	
AOI 7	C-65	5/12/2016	4.63	5.04	0.41	6.18	Shallow	No	Static	
AOI 7	C-65D	5/12/2016	---	2.12	---	7.50	Deep	No	Static	
AOI 7	C-95	5/9/2016	---	5.78	---	6.47	Shallow	No	Static	
AOI 7	C-96	5/12/2016	---	5.98	---	6.90	Shallow	No	Static	
AOI 7	C-97	5/12/2016	16.46	18.83	2.37	-6.31	Shallow	No	Static	
AOI 7	C-98	5/12/2016	---	6.08	---	4.47	Shallow	No	Static	
AOI 7	C-104	5/12/2016	---	6.68	---	2.85	Shallow	No	Static	
AOI 7	C-105	5/12/2016	---	3.88	---	5.29	Shallow	No	Static	
AOI 7	C-106	5/12/2016	8.48	10.93	2.45	2.89	Shallow	No	Static	
AOI 7	C-107	5/12/2016	NM	NM	NM	NM	Shallow	No	Static	WELL IS DESTROYED

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AOI 7	C-108	5/12/2016	---	4.39	---	3.88	Shallow	No	Static	
AOI 7	C-109	5/12/2016	---	4.42	---	5.58	Shallow	No	Static	
AOI 7	C-110	5/12/2016	---	5.76	---	6.82	Shallow	No	Static	
AOI 7	C-111	5/12/2016	---	5.55	---	6.62	Shallow	No	Static	
AOI 7	C-112	5/12/2016	---	3.12	---	7.84	Shallow	No	Static	
AOI 7	C-113	5/12/2016	---	4.58	---	7.07	Shallow	No	Static	
AOI 7	C-114	5/12/2016	---	3.79	---	7.17	Shallow	No	Static	
AOI 7	C-127	5/12/2016	---	8.19	---	1.61	Shallow	No	Static	
AOI 7	C-129	5/12/2016	---	4.81	---	4.13	Shallow/Intermediate	No	Static	
AOI 7	C-129D	5/12/2016	---	10.34	---	-1.15	Deep	No	Static	
AOI 7	C-130	5/12/2016	---	6.75	---	5.23	Shallow	No	Static	
AOI 7	C-131	5/12/2016	---	3.63	---	6.51	Shallow	No	Static	
AOI 7	C-132	5/12/2016	---	4.24	---	5.73	Shallow	No	Static	
AOI 7	C-133	5/12/2016	---	1.26	---	6.47	Shallow	No	Static	
AOI 7	C-134D	5/11/2016	---	11.27	---	-1.87	Deep	No	Static	
AOI 7	C-136	5/12/2016	---	4.85	---	4.00	Shallow	No	Static	
AOI 7	C-137	5/12/2016	---	1.90	---	2.01	Shallow	No	Static	
AOI 7	C-138	5/12/2016	---	5.17	---	1.78	Shallow	No	Static	
AOI 7	C-139	5/12/2016	---	2.83	---	4.49	Shallow	No	Static	
AOI 7	C-140	5/12/2016	---	1.35	---	6.20	Shallow	No	Static	
AOI 7	C-142	5/12/2016	---	8.83	---	2.52	Shallow/Intermediate	No	Static	
AOI 7	C-143	5/12/2016	---	9.42	---	-2.97	Shallow/Intermediate	No	Static	
AOI 7	C-144D	5/12/2016	---	13.60	---	-4.64	Deep	No	Static	
AOI 7	C-145	5/12/2016	---	5.47	---	1.45	Shallow	No	Static	
AOI 7	C-146	5/12/2016	11.12	11.30	0.18	-4.41	Shallow	No	Static	
AOI 7	C-147	5/12/2016	11.25	11.27	0.02	-4.38	Shallow	No	Static	
AOI 7	C-148	5/12/2016	---	14.03	---	-4.69	Shallow	No	Static	
AOI 7	C-150	5/12/2016	13.73	15.75	2.02	-5.86	Shallow	No	Static	
AOI 7	C-151	5/12/2016	---	12.52	---	-4.61	Shallow	No	Static	
AOI 7	C-152	5/12/2016	---	10.56	---	-1.18	Shallow	No	Static	
AOI 7	C-153	5/12/2016	14.36	14.64	0.28	-6.13	Shallow	No	Static	
AOI 7	C-154	5/12/2016	12.02	12.02	<0.01	-4.12	Shallow	No	Static	
AOI 7	C-155	5/12/2016	---	5.94	---	3.23	Shallow	No	Static	
AOI 7	C-157	5/12/2016	---	3.34	---	3.24	Shallow	No	Static	
AOI 7	C-158	5/12/2016	NM	NM	NM	NM	Shallow	No	Static	COULD NOT READ. WELL SEPERATED AT 2.70 FEET
AOI 7	C-159	5/12/2016	---	3.63	---	3.16	Shallow	No	Static	
AOI 7	C-160	5/12/2016	---	9.90	---	-3.03	Shallow	No	Static	WELL IS DRY
AOI 7	C-161	5/12/2016	---	10.05	---	-0.98	Shallow	No	Static	
AOI 7	C-162	5/12/2016	---	11.56	---	-3.06	Shallow	No	Static	
AOI 7	C-163	5/12/2016	---	4.30	---	2.58	Shallow	No	Static	
AOI 7	C-164	5/12/2016	---	4.85	---	1.98	Shallow	No	Static	
AOI 7	C-165	5/12/2016	---	6.06	---	2.40	Shallow	No	Static	
AOI 7	C-166	5/12/2016	---	7.05	---	-0.06	Shallow	No	Static	WELL IS DRY
AOI 7	C-167	5/12/2016	---	12.20	---	-4.39	Shallow	No	Static	WELL IS DRY
AOI 7	C-168	5/12/2016	3.91	4.27	0.36	3.45	Shallow	No	Static	WELL DAMAGED. NEEDS NEW 8": COUPLING AND RISER
AOI 7	C-169	5/12/2016	8.82	9.65	0.83	-1.96	Shallow	No	Static	
AOI 7	River4	5/12/2016	---	6.05	NA	NA	NA	No	Static	
AOI 7	RW-801	5/12/2016	19.00	19.00	<0.01	-12.72	Shallow	Yes	Pumping	
AOI 7	RW-802	5/12/2016	---	21.10	---	-15.40	Shallow	Yes	Pumping	
AOI 7	RW-803	5/12/2016	---	21.10	---	-15.32	Shallow	Yes	Pumping	
AOI 7	RW-804	5/12/2016	---	20.70	---	-14.92	Shallow	Yes	Pumping	
AOI 7	RW-805	5/12/2016	---	17.30	---	-11.55	Shallow	Yes	Pumping	

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 7	RW-806	5/12/2016	---	20.20	---	-14.79	Shallow	Yes	Pumping	
AOI 7	RW-807	5/12/2016	---	18.90	---	-12.06	Shallow	Yes	Pumping	
AOI 7	RW-808	5/12/2016	---	18.80	---	-12.72	Shallow	Yes	Pumping	
AOI 7	RW-809	5/12/2016	---	20.10	---	-13.55	Shallow	Yes	Pumping	
AOI 7	RW-810	5/12/2016	16.30	16.30	<0.01	-9.85	Shallow	Yes	Pumping	
AOI 7	WP14-2	5/12/2016	---	9.95	---	-2.04	Shallow	No	Static	WELL IS DRY
AOI 8	N-1	5/11/2016	---	12.30	---	9.97	Shallow	No	Static	
AOI 8	N-2	5/11/2016	---	18.17	---	8.16	Shallow	No	Static	
AOI 8	N-3	5/11/2016	---	15.45	---	11.21	Shallow	No	Static	
AOI 8	N-4	5/11/2016	---	17.90	---	8.46	Deep	No	Static	
AOI 8	N-5	5/11/2016	---	9.43	---	16.53	Shallow	No	Static	
AOI 8	N-6	5/11/2016	---	12.27	---	18.78	Shallow	No	Static	
AOI 8	N-8	5/11/2016	---	26.13	---	11.48	Shallow	No	Static	
AOI 8	N-9	5/11/2016	---	32.27	---	3.63	Deep	No	Static	
AOI 8	N-10	5/11/2016	---	4.41	---	15.55	Shallow	No	Static	
AOI 8	N-11	5/11/2016	---	18.36	---	11.38	Intermediate	No	Static	
AOI 8	N-12	5/11/2016	NM	NM	NM	NM	Intermediate	No	Static	BLOCKED AT 2.10 FEET
AOI 8	N-13	5/11/2016	---	12.77	---	14.00	Deep	No	Static	
AOI 8	N-14	5/11/2016	21.11	21.14	0.03	10.88	Intermediate	No	Static	
AOI 8	N-15	5/11/2016	---	20.89	---	8.46	Intermediate	No	Static	
AOI 8	N-16	5/11/2016	---	23.16	---	9.82	Intermediate	No	Static	
AOI 8	N-17	5/11/2016	---	21.72	---	12.70	Intermediate	No	Static	
AOI 8	N-18	5/11/2016	---	21.70	---	11.20	Intermediate	No	Static	
AOI 8	N-19	5/11/2016	---	29.50	---	3.28	Deep	No	Static	
AOI 8	N-20	5/11/2016	---	17.48	---	10.91	Shallow	No	Static	
AOI 8	N-21	5/11/2016	---	22.10	---	5.91	Deep	No	Static	
AOI 8	N-23	5/11/2016	NM	NM	NM	NM	Intermediate	No	Static	WELL IS LOST. COULD NOT LOCATE
AOI 8	N-24	5/11/2016	---	9.18	---	8.55	Shallow	No	Static	
AOI 8	N-25	5/11/2016	3.33	4.02	0.69	15.41	Shallow	No	Static	
AOI 8	N-26	5/11/2016	---	5.41	---	15.62	Shallow	No	Static	WELL IS DAMAGED. NEEDS 2" COUPLING AND NEW RISER
AOI 8	N-29	5/11/2016	---	26.41	---	10.03	Shallow	No	Static	
AOI 8	N-30	5/11/2016	---	33.23	---	3.07	Deep	No	Static	
AOI 8	N-34	5/11/2016	4.15	4.16	0.01	6.81	Intermediate	No	Static	
AOI 8	N-37	5/11/2016	---	12.57	---	5.65	Shallow	No	Static	
AOI 8	N-38	5/11/2016	---	6.89	---	3.20	Shallow	No	Static	
AOI 8	N-38D	5/11/2016	---	10.09	---	0.34	Deep	No	Static	
AOI 8	N-42	5/11/2016	7.70	7.71	0.01	7.20	Shallow	No	Static	
AOI 8	N-44D	5/11/2016	NM	NM	NM	NM	Deep	No	Static	DESTROYED
AOI 8	N-47	5/11/2016	19.86	20.51	0.65	11.98	Intermediate	No	Static	
AOI 8	N-48	5/11/2016	21.81	22.06	0.25	9.42	Intermediate	No	Static	
AOI 8	N-49	5/11/2016	24.50	26.17	1.67	9.03	Intermediate	No	Static	
AOI 8	N-51	5/11/2016	23.56	23.89	0.33	8.26	Intermediate	No	Static	
AOI 8	N-55	5/11/2016	---	5.68	---	4.58	Shallow	No	Static	
AOI 8	N-56	5/11/2016	---	9.07	---	4.30	Shallow	No	Static	
AOI 8	N-57	5/11/2016	---	6.33	---	4.58	Shallow	No	Static	
AOI 8	N-58	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	BLOCKED AT 4.60
AOI 8	N-59	5/11/2016	5.20	5.21	0.01	1.75	Shallow	No	Static	VERY THICK PRODUCT
AOI 8	N-61	5/11/2016	4.26	4.27	0.01	4.65	Shallow	No	Static	PRODUCT VERY THICK
AOI 8	N-64	5/11/2016	---	4.81	---	3.97	Shallow	No	Static	
AOI 8	N-66	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	DESTROYED
AOI 8	N-67	5/11/2016	---	3.33	---	14.90	Shallow	No	Static	
AOI 8	N-68	5/11/2016	9.34	9.48	0.14	14.87	Shallow	No	Static	

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AOI 8	N-69	5/11/2016	---	15.21	---	7.99	Intermediate	No	Static	
AOI 8	N-70	5/11/2016	---	14.88	---	7.29	Intermediate	No	Static	
AOI 8	N-72	5/11/2016	---	9.29	---	3.38	Shallow	No	Static	
AOI 8	N-73	5/11/2016	---	7.55	---	1.35	Intermediate	No	Static	
AOI 8	N-74	5/11/2016	---	6.50	---	1.38	Shallow	No	Static	
AOI 8	N-75	5/11/2016	5.52	5.53	0.01	2.67	Intermediate	No	Static	PRODUCT VERY THICK
AOI 8	N-76	5/11/2016	20.40	25.88	5.48	9.47	Intermediate	Yes	Static	
AOI 8	N-77	5/11/2016	---	6.32	---	12.29	Shallow	No	Static	
AOI 8	N-79	5/11/2016	---	11.46	---	10.41	Intermediate	No	Static	
AOI 8	N-82	5/11/2016	23.06	23.34	0.28	10.41	Shallow	No	Static	
AOI 8	N-83	5/11/2016	---	15.55	---	5.90	Intermediate	No	Static	
AOI 8	N-84	5/11/2016	---	14.61	---	11.27	Shallow	No	Static	
AOI 8	N-85	5/11/2016	---	13.94	---	11.35	Shallow	No	Static	
AOI 8	N-86	5/11/2016	---	15.11	---	10.73	Intermediate	No	Static	
AOI 8	N-87	5/11/2016	---	15.53	---	10.73	Shallow	No	Static	
AOI 8	N-89	5/11/2016	---	14.36	---	9.05	Intermediate	No	Static	
AOI 8	N-90	5/11/2016	---	15.10	---	10.61	Shallow	No	Static	
AOI 8	N-91	5/11/2016	---	1.80	---	19.10	Shallow	No	Static	CASING DAMAGED. NEEDS 4" COUPLING AND NEW RISER
AOI 8	N-92	5/11/2016	---	7.53	---	13.33	Shallow	No	Static	
AOI 8	N-93	5/11/2016	---	14.94	---	10.15	Shallow	No	Static	
AOI 8	N-94	5/11/2016	---	5.61	---	14.75	Shallow	No	Static	
AOI 8	N-97	5/11/2016	---	13.84	---	9.12	NA	No	Static	
AOI 8	N-98	5/11/2016	---	23.62	---	10.91	Intermediate	No	Static	
AOI 8	N-99	5/11/2016	---	18.58	---	9.68	Intermediate	No	Static	
AOI 8	N-100	5/11/2016	---	17.72	---	9.29	Intermediate	No	Static	
AOI 8	N-101	5/11/2016	---	16.15	---	11.00	Intermediate	No	Static	
AOI 8	N-102	5/11/2016	22.25	22.88	0.63	10.92	Intermediate	No	Static	PRODUCT IS VERY VISCOUS
AOI 8	N-103	5/11/2016	---	17.40	---	11.93	Intermediate	No	Static	LOOKS LIKE CASING HAS BEEN CUT DOWN
AOI 8	N-104	5/11/2016	---	16.82	---	10.82	Intermediate	No	Static	
AOI 8	N-105	5/11/2016	---	17.41	---	10.70	Intermediate	No	Static	
AOI 8	N-106	5/11/2016	---	7.74	---	15.29	Intermediate	No	Static	
AOI 8	N-107	5/11/2016	15.32	15.43	0.11	11.04	Intermediate	No	Static	
AOI 8	N-108	5/11/2016	10.35	10.86	0.51	12.01	Intermediate	No	Static	
AOI 8	N-109	5/11/2016	---	12.29	---	6.13	Intermediate	No	Static	
AOI 8	N-111	5/11/2016	---	6.74	---	4.02	Intermediate	No	Static	
AOI 8	N-112	5/11/2016	10.01	10.36	0.35	5.68	Intermediate	No	Static	
AOI 8	N-113	5/11/2016	8.55	10.51	1.96	5.44	Intermediate	No	Static	
AOI 8	N-114	5/11/2016	---	8.65	---	5.72	Intermediate	No	Static	
AOI 8	N-115	5/11/2016	7.77	7.97	0.20	7.54	Intermediate	No	Static	
AOI 8	N-116	5/11/2016	5.78	7.20	1.42	5.35	Intermediate	No	Static	
AOI 8	N-118	5/11/2016	---	14.48	---	8.70	Intermediate	No	Static	
AOI 8	N-119	5/11/2016	NM	NM	NM	NM	Intermediate	No	Static	LOST/DESTROYED. UNDER SOIL PILE
AOI 8	N-121	5/11/2016	NM	NM	NM	NM	Intermediate	No	Static	LOST/DESTROYED. UNDER SOIL PILE
AOI 8	N-122	5/11/2016	---	10.49	---	6.56	Intermediate	No	Static	
AOI 8	N-126	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	DESTROYED
AOI 8	N-127	5/11/2016	24.26	24.40	0.14	9.17	Intermediate	No	Static	
AOI 8	N-128	5/11/2016	NM	NM	NM	NM	Intermediate	No	Static	DESTROYED
AOI 8	N-129	5/11/2016	19.16	19.66	0.50	9.69	Intermediate	No	Static	
AOI 8	N-130	5/11/2016	20.38	20.72	0.34	11.14	Intermediate	No	Static	
AOI 8	N-132	5/11/2016	---	3.91	---	7.20	Shallow	No	Static	BROKE AT GRADE
AOI 8	N-133	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	BLOCKED AT 4.35
AOI 8	N-137	5/11/2016	17.34	17.38	0.04	8.24	Intermediate	No	Static	CHANGED OUT WICK

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AOI 8	N-138	5/11/2016	27.00	27.13	0.13	8.27	Intermediate	No	Static	CHANGED OUT WICK
AOI 8	N-139	5/11/2016	26.78	26.94	0.16	8.18	Intermediate	No	Static	CHANGED OUT WICK
AOI 8	N-140	5/11/2016	---	17.15	---	9.59	Shallow	No	Static	
AOI 8	N-141	5/11/2016	---	13.94	---	10.45	Shallow	No	Static	
AOI 8	N-142	5/11/2016	26.49	26.49	<0.01	8.08	Shallow	No	Static	
AOI 8	N-143	5/11/2016	---	22.72	---	10.30	Shallow	No	Static	
AOI 8	N-144	5/11/2016	---	25.88	---	8.40	Shallow	No	Static	
AOI 8	N-145	5/11/2016	---	17.93	---	8.06	Shallow	No	Static	
AOI 8	N-146	5/11/2016	17.55	18.00	0.45	8.72	Shallow	No	Static	
AOI 8	N-503	5/11/2016	8.85	9.30	0.45	3.51	Shallow	No	Static	
AOI 8	N-504	5/11/2016	---	9.19	---	3.12	Intermediate	No	Static	
AOI 8	PZ-201	5/11/2016	22.04	22.34	0.30	10.21	Intermediate	No	Static	
AOI 8	PZ-202	5/11/2016	22.14	22.25	0.11	11.24	Intermediate	No	Static	
AOI 8	PZ-203	5/11/2016	---	20.18	---	13.93	Intermediate	No	Static	
AOI 8	PZ-204	5/11/2016	20.70	22.26	1.56	8.03	Intermediate	No	Static	PRODUCT VERY THICK
AOI 8	PZ-300	5/11/2016	---	17.38	---	9.39	Intermediate	No	Static	
AOI 8	PZ-501	5/11/2016	---	4.63	---	4.37	Shallow	No	Static	
AOI 8	PZ-502	5/11/2016	3.20	3.21	0.01	4.72	Intermediate	No	Static	PRODUCT VERY THICK
AOI 8	PZ-503	5/11/2016	---	4.11	---	4.58	Shallow	No	Static	
AOI 8	PZ-504	5/11/2016	---	3.09	---	4.54	Shallow	No	Static	
AOI 8	PZ-505	5/11/2016	---	3.90	---	4.56	Shallow	No	Static	
AOI 8	PZ-506	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	DESTROYED OR COVERED
AOI 8	PZ-507	5/11/2016	---	9.00	---	3.68	Shallow	No	Static	
AOI 8	River2	5/11/2016	---	8.56	NA	NA	NA	No	Static	
AOI 8	RW-200	5/11/2016	---	5.89	---	6.13	Intermediate	Yes	Static	
AOI 8	RW-201	5/11/2016	22.90	23.15	0.25	9.06	Intermediate	Yes	Static	
AOI 8	RW-202	5/11/2016	---	20.48	---	9.03	Intermediate	Yes	Static	
AOI 8	RW-203	5/11/2016	22.53	22.60	0.07	8.56	Intermediate	Yes	Static	
AOI 8	RW-204	5/11/2016	19.21	20.97	1.76	9.18	Intermediate	Yes	Static	
AOI 8	RW-205	5/11/2016	19.19	21.82	2.63	10.25	Intermediate	Yes	Static	
AOI 8	RW-206	5/11/2016	21.29	22.86	1.57	9.48	Intermediate	Yes	Static	
AOI 8	RW-300	5/11/2016	15.25	15.47	0.22	6.35	Intermediate	Yes	Static	
AOI 8	RW-301	5/11/2016	---	12.27	---	10.14	Intermediate	Yes	Static	
AOI 8	RW-302	5/11/2016	---	13.52	---	10.57	Intermediate	Yes	Static	
AOI 8	RW-303	5/11/2016	---	14.25	---	10.73	Intermediate	Yes	Static	
AOI 8	RW-304	5/11/2016	---	15.04	---	10.24	Intermediate	Yes	Static	
AOI 8	RW-305	5/11/2016	---	15.04	---	10.23	Intermediate	Yes	Static	
AOI 8	RW-306	5/11/2016	13.10	13.12	0.02	10.48	Intermediate	Yes	Static	
AOI 8	RW-307	5/11/2016	---	14.81	---	8.45	Intermediate	Yes	Static	
AOI 8	RW-308	5/11/2016	---	16.80	---	8.81	Intermediate	Yes	Static	
AOI 8	RW-309	5/11/2016	---	15.72	---	9.51	Intermediate	Yes	Static	
AOI 8	RW-500	5/11/2016	---	2.89	---	4.67	Intermediate	Yes	Static	
AOI 8	RW-501	5/11/2016	---	5.99	---	3.80	Intermediate	Yes	Static	
AOI 8	RW-502	5/11/2016	8.46	8.72	0.26	3.99	Intermediate	Yes	Static	
AOI 9	MW-1SRTF	5/12/2016	3.05	3.61	0.56	4.38	Shallow/Intermediate	No	Static	
AOI 9	MW-2SRTF	5/12/2016	---	3.26	---	4.07	Shallow/Intermediate	No	Static	
AOI 9	MW-3SRTF	5/12/2016	---	2.87	---	4.12	Shallow/Intermediate	No	Static	
AOI 9	RW-A	5/12/2016	---	2.15	---	-4.02	Shallow/Intermediate	Yes	Static	
AOI 9	RW-B	5/12/2016	3.33	3.33	<0.01	4.08	Shallow/Intermediate	Yes	Static	
AOI 9	RW-B5	5/12/2016	---	3.70	---	4.14	Shallow/Intermediate	Yes	Static	
AOI 9	S-74D1SRTF	5/12/2016	---	21.06	---	-8.32	Deep	No	Static	
AOI 9	S-74D2SRTF	5/12/2016	---	17.08	---	-4.00	Deep	No	Static	

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AOI 9	S-74SRTF	5/12/2016	---	8.27	---	6.27	Shallow/Intermediate	No	Static	
AOI 9	S-75SRTF	5/12/2016	---	8.04	---	3.49	Shallow/Intermediate	No	Static	
AOI 9	S-76DSRTF	5/12/2016	---	16.79	---	-8.16	Deep	No	Static	
AOI 9	S-76SRTF	5/12/2016	---	5.82	---	1.14	Shallow/Intermediate	No	Static	
AOI 9	S-77SRTF	5/12/2016	---	12.24	---	-7.89	Shallow/Interm/Deep	No	Static	
AOI 9	S-78SRTF	5/12/2016	---	9.86	---	-8.36	Shallow/Interm/Deep	No	Static	
AOI 9	S-79SRTF	5/12/2016	---	7.19	---	-5.35	Shallow/Interm/Deep	No	Static	
AOI 9	S-80SRTF	5/12/2016	---	3.23	---	-0.66	Shallow/Interm/Deep	No	Static	
AOI 9	S-81SRTF	5/12/2016	---	9.79	---	-8.33	Shallow/Interm/Deep	No	Static	
AOI 9	S-82SRTF	5/12/2016	NM	NM	NM	NM	Shallow/Interm/Deep	No	Static	FLOODED - NO ACCESS
AOI 9	S-83SRTF	5/12/2016	---	2.33	---	0.05	Shallow/Interm/Deep	No	Static	
AOI 9	S-105SRTF	5/12/2016	---	4.94	---	-2.99	Shallow/Intermediate	No	Static	
AOI 9	S-106DSRTF	5/12/2016	---	18.59	---	-9.13	Deep	No	Static	
AOI 9	S-106SRTF	5/12/2016	---	5.85	---	4.17	Shallow/Intermediate	No	Static	
AOI 9	S-108SRTF	5/12/2016	---	4.06	---	0.25	Shallow/Intermediate	No	Static	
AOI 9	S-109SRTF	5/12/2016	---	2.35	---	0.00	Shallow/Intermediate	No	Static	
AOI 9	S-110DSRTF	5/12/2016	---	11.97	---	-8.88	NA	No	Static	
AOI 9	S-110SRTF	5/12/2016	---	6.51	---	-3.02	Shallow/Interm/Deep	No	Static	
AOI 9	S-111SRTF	5/12/2016	---	8.37	---	-7.59	Shallow/Interm/Deep	No	Static	
AOI 9	S-112SRTF	5/12/2016	---	10.11	---	-8.60	Shallow/Interm/Deep	No	Static	
AOI 9	S-113SRTF	5/12/2016	---	11.67	---	-8.65	Shallow/Interm/Deep	No	Static	
AOI 9	S-114SRTF	5/12/2016	---	10.73	---	-8.57	Shallow/Interm/Deep	No	Static	
AOI 9	S-115DSRTF	5/12/2016	---	11.12	---	-8.42	NA	No	Static	
AOI 9	S-115SRTF	5/12/2016	---	11.50	---	-8.75	Shallow/Interm/Deep	No	Static	
AOI 9	S-116SRTF	5/12/2016	---	9.71	---	-8.84	Shallow/Interm/Deep	No	Static	
AOI 9	S-117SRTF	5/12/2016	---	8.44	---	-5.57	Shallow/Intermediate	No	Static	
AOI 9	S-118DSRTF	5/12/2016	---	12.15	---	-8.89	NA	No	Static	
AOI 9	S-118SRTF	5/12/2016	---	10.75	---	-7.12	Shallow/Intermediate	No	Static	
AOI 9	S-119SRTF	5/12/2016	---	3.62	---	-1.27	Shallow/Intermediate	No	Static	
AOI 9	S-120DSRTF	5/12/2016	---	21.38	---	-9.01	Deep	No	Static	
AOI 9	S-120SRTF	5/12/2016	---	9.18	---	2.89	Shallow/Intermediate	No	Static	
AOI 9	S-121SRTF	5/12/2016	---	8.17	---	-7.16	Shallow/Intermediate	No	Static	
AOI 9	S-122SRTF	5/12/2016	9.10	9.11	0.01	-6.68	Shallow/Interm/Deep	No	Static	
AOI 9	S-123SRTF	5/12/2016	---	10.77	---	-8.35	Shallow/Interm/Deep	No	Static	HAD TO DIG OUT DIRT AND ROCKS
AOI 9	S-124SRTF	5/12/2016	---	7.19	---	0.69	Shallow/Interm/Deep	No	Static	
AOI 9	S-125SRTF	5/12/2016	---	5.65	---	1.53	Shallow/Interm/Deep	No	Static	
AOI 9	S-126SRTF	5/12/2016	---	7.49	---	4.34	Shallow/Interm/Deep	No	Static	
AOI 9	S-127SRTF	5/12/2016	---	8.42	---	3.71	Shallow/Interm/Deep	No	Static	
AOI 9	S-128SRTF	5/12/2016	---	10.33	---	2.98	Shallow/Interm/Deep	No	Static	
AOI 9	S-129SRTF	5/12/2016	NM	NM	NM	NM	Shallow/Interm/Deep	No	Static	NO ACCESS
AOI 9	S-130SRTF	5/12/2016	---	9.02	---	2.39	Shallow/Interm/Deep	No	Static	
AOI 9	S-131SRTF	5/12/2016	---	4.18	---	4.63	Shallow/Interm/Deep	No	Static	
AOI 9	S-132SRTF	5/12/2016	---	6.90	---	1.80	Shallow/Interm/Deep	No	Static	
AOI 9	S-133SRTF	5/12/2016	---	3.42	---	1.26	Shallow/Interm/Deep	No	Static	
AOI 9	S-134SRTF	5/12/2016	---	7.45	---	2.89	Shallow/Interm/Deep	No	Static	
AOI 9	S-135SRTF	5/12/2016	---	10.70	---	-7.72	NA	No	Static	
AOI 9	S-136SRTF	5/12/2016	---	4.96	---	0.32	NA	No	Static	
AOI 9	WPA-1	5/12/2016	---	5.86	---	-3.13	Shallow/Intermediate	No	Static	
AOI 9	WPA-2	5/12/2016	---	6.06	---	-3.37	Shallow/Intermediate	No	Static	
AOI 9	WPA-3	5/12/2016	---	6.76	---	-3.51	Shallow/Intermediate	No	Static	
AOI 9	WPA-5	5/12/2016	NM	NM	NM	NM	Shallow/Intermediate	No	Static	BOTTOM AT 7.50 FT BTOC
AOI 9	WPB-2	5/12/2016	---	7.24	---	4.06	Shallow/Intermediate	No	Static	

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 9	WPB-3	5/12/2016	NM	NM	NM	NM	Shallow	No	Static	COULD NOT LOCATE
AOI 9	WPB-4	5/12/2016	---	4.03	---	4.01	Shallow/Intermediate	No	Static	
AOI 9	WPB-5	5/12/2016	---	8.57	---	3.75	Shallow/Intermediate	No	Static	
AOI 10	W-1	5/16/2016	8.75	8.75	<0.01	0.86	Shallow	No	Static	
AOI 10	W-1D	5/16/2016	---	10.10	---	0.63	Intermediate	No	Static	
AOI 10	W-2	5/16/2016	---	14.46	---	4.99	Shallow	No	Static	
AOI 10	W-4	5/16/2016	NM	NM	NM	NM	Shallow	No	Static	NOT ACCESSIBLE. AREA AROUND WELL IS FLOODED
AOI 10	W-5	5/16/2016	---	2.69	---	5.04	Shallow	No	Static	
AOI 10	W-6	5/16/2016	NM	NM	NM	NM	Shallow	No	Static	WELL IS LOST. IT MAY BE UNDER A LARGE FALLEN TREE
AOI 10	W-8	5/16/2016	3.11	3.12	0.01	5.33	Shallow	No	Static	VERY VISCOUS PRODUCT. IT WAS HARD TO GET A GOOD READING.
AOI 10	W-9	5/16/2016	---	10.46	---	-1.17	Intermediate	No	Static	
AOI 10	W-10	5/16/2016	3.61	3.61	<0.01	3.96	Shallow	No	Static	
AOI 10	W-11	5/16/2016	---	4.42	---	3.64	Shallow	No	Static	
AOI 10	W-12	5/16/2016	---	3.32	---	3.78	Shallow	No	Static	
AOI 10	W-13	5/16/2016	---	8.66	---	-2.01	Intermediate	No	Static	
AOI 10	W-14	5/16/2016	---	2.87	---	4.39	Shallow	No	Static	
AOI 10	W-15	5/16/2016	---	2.41	---	6.37	Shallow	No	Static	
AOI 10	W-16	5/16/2016	---	2.52	---	4.12	Shallow	No	Static	
AOI 10	W-17	5/16/2016	---	3.35	---	3.87	Shallow	No	Static	
AOI 10	W-18	5/16/2016	---	3.50	---	4.62	Shallow	No	Static	WELL IS DRY
AOI 10	W-19	5/16/2016	---	11.65	---	-1.59	Intermediate	No	Static	
AOI 10	W-20	5/16/2016	---	3.97	---	6.14	Shallow	No	Static	
AOI 10	W-22	5/16/2016	---	1.28	---	5.16	Shallow	No	Static	
AOI 10	W-23	5/16/2016	---	2.45	---	5.10	Shallow	No	Static	
AOI 10	W-24	5/16/2016	NM	NM	NM	NM	Shallow	No	Static	NO ACCESS. AREA AROUND WELL IS FLOODED
AOI 10	W-25	5/16/2016	---	5.96	---	4.19	Shallow	No	Static	
AOI 10	W-26	5/16/2016	---	12.88	---	-2.90	Intermediate	No	Static	
AOI 10	W-27	5/16/2016	---	12.83	---	-1.97	Shallow	No	Static	
AOI 10	W-28	5/16/2016	---	3.53	---	5.08	Shallow	No	Static	
AOI 10	W-29	5/16/2016	---	6.71	---	5.11	Shallow	No	Static	
AOI 10	W-30	5/16/2016	---	3.62	---	5.03	Shallow	No	Static	
AOI 10	W-31	5/16/2016	3.68	3.69	0.01	4.59	Shallow	No	Static	
AOI 10	W-32	5/16/2016	9.89	10.15	0.26	4.93	Shallow	No	Static	
AOI 10	W-32D	5/16/2016	---	15.50	---	-0.80	Intermediate	No	Static	
AOI 10	W-33	5/16/2016	---	11.75	---	5.32	Shallow	No	Static	
AOI 10	W-34	5/16/2016	---	7.84	---	6.30	Shallow	No	Static	
BELMONT	MW-26	5/9/2016	22.80	24.18	1.38	3.64	Shallow	No	Static	
BELMONT	MW-27	5/9/2016	24.80	25.75	0.95	3.66	Shallow	No	Static	
BELMONT	MW-28	5/9/2016	---	24.93	---	3.85	Intermediate	No	Static	
BELMONT	MW-29	5/9/2016	NM	NM	NM	NM	Intermediate	No	Static	
BELMONT	MW-30	5/9/2016	---	27.20	---	4.50	Shallow	No	Static	
BELMONT	MW-31	5/9/2016	---	25.79	---	4.77	Shallow	No	Static	
BELMONT	MW-32	5/9/2016	---	25.35	---	3.79	Intermediate	No	Static	
BELMONT	MW-33	5/9/2016	---	24.53	---	5.46	Shallow	No	Static	
BELMONT	MW-35	5/9/2016	---	27.09	---	3.56	Intermediate	No	Static	
BELMONT	MW-36	5/9/2016	---	28.41	---	4.16	Intermediate	No	Static	
BELMONT	MW-37	5/9/2016	---	27.41	---	4.51	Intermediate	No	Static	
BELMONT	MW-38	5/9/2016	---	23.68	---	3.94	Intermediate	No	Static	
BELMONT	MW-39	5/9/2016	---	23.62	---	3.93	Intermediate	No	Static	
BELMONT	MW-40	5/9/2016	24.01	24.33	0.32	3.81	Intermediate	No	Static	
BELMONT	MW-41	5/9/2016	---	23.63	---	3.72	Intermediate	No	Static	
BELMONT	MW-43	5/9/2016	---	26.67	---	3.94	Intermediate	No	Static	

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
BELMONT	MW-44	5/9/2016	---	25.70	---	3.60	Intermediate	No	Static	
BELMONT	OW-12	5/9/2016	---	26.00	---	4.22	Shallow	No	Static	
BELMONT	OW-13	5/9/2016	---	28.03	---	4.17	Shallow	No	Static	
BELMONT	OW-14	5/9/2016	---	28.08	---	4.13	Shallow	No	Static	
BELMONT	OW-16	5/9/2016	---	27.32	---	4.06	Shallow	No	Static	
BELMONT	OW-17	5/9/2016	---	26.36	---	3.63	Shallow	No	Static	
BELMONT	OW-18	5/9/2016	---	26.52	---	4.32	Intermediate	No	Static	
BELMONT	OW-19	5/9/2016	---	26.27	---	4.73	Intermediate	No	Static	
BELMONT	OW-20	5/9/2016	---	27.78	---	4.09	Shallow	No	Static	
BELMONT	PZ-400	5/9/2016	---	24.42	---	3.68	Shallow	No	Static	
BELMONT	RW-1	5/9/2016	---	25.67	---	3.88	Intermediate	Yes	Static	
BELMONT	RW-4	5/9/2016	27.93	30.10	2.17	2.04	Intermediate	Yes	Static	
BELMONT	RW-6	5/9/2016	---	26.90	---	4.16	Intermediate	Yes	Static	
BELMONT	RW-7	5/9/2016	---	24.22	---	3.99	Intermediate	Yes	Static	
BELMONT	RW-15	5/9/2016	---	27.01	---	3.04	Intermediate	Yes	Static	
BELMONT	RW-21	5/9/2016	---	24.97	---	3.89	Shallow	Yes	Static	
BELMONT	RW-22	5/9/2016	---	23.15	---	3.88	Shallow	Yes	Static	
BELMONT	RW-23	5/9/2016	26.50	26.90	0.40	0.53	Intermediate	Yes	Static	
BELMONT	RW-24	5/9/2016	26.10	29.43	3.33	0.29	Intermediate	Yes	Static	
BELMONT	RW-25	5/9/2016	26.08	26.75	0.67	3.91	Intermediate	Yes	Static	
BELMONT	RW-26	5/9/2016	---	25.53	---	3.68	Intermediate	Yes	Static	
BELMONT	RW-27	5/9/2016	---	26.29	---	3.42	Intermediate	Yes	Static	
BELMONT	RW-28	5/9/2016	---	24.64	---	5.10	Intermediate	Yes	Static	
BELMONT	RW-29	5/9/2016	---	25.96	---	3.48	Intermediate	Yes	Static	
BELMONT	RW-30	5/9/2016	---	25.85	---	3.54	Intermediate	Yes	Static	
BELMONT	RW-31	5/9/2016	---	25.73	---	3.65	Intermediate	Yes	Static	
BELMONT	RW-32	5/9/2016	---	17.01	---	12.04	Intermediate	Yes	Static	
BELMONT	RW-400	5/9/2016	---	27.36	---	0.83	Intermediate	Yes	Static	
BELMONT	S-74	5/9/2016	---	25.99	---	-13.64	Shallow	No	Static	
BELMONT	S-75	5/9/2016	---	27.52	---	3.71	Shallow	No	Static	
BELMONT	S-76	5/9/2016	27.04	28.07	1.03	3.78	Shallow	No	Static	
BELMONT	S-330	5/9/2016	---	25.80	---	4.05	Intermediate	No	Static	
BELMONT	S-332	5/9/2016	---	25.91	---	4.34	Intermediate	No	Static	
BELMONT	S-331	5/9/2016	---	27.49	---	3.79	Intermediate	No	Static	
BELMONT	S-393D	5/9/2016	---	29.50	---	2.56	Deep	No	Static	
BELMONT	S-394	5/9/2016	---	29.76	---	2.36	Deep	No	Static	
BELMONT	S-395	5/9/2016	---	27.83	---	4.39	Shallow	No	Static	
BELMONT	TW-3	5/9/2016	---	28.03	---	4.08	Shallow	No	Static	
BELMONT	TW-5	5/9/2016	---	27.52	---	4.55	Shallow	No	Static	
BELMONT	TW-8	5/9/2016	---	26.20	---	3.94	Shallow	No	Static	
BELMONT	TW-9	5/9/2016	---	27.85	---	4.25	Shallow	No	Static	
BELMONT	TW-10	5/9/2016	26.43	26.43	<0.01	3.80	Shallow	No	Static	
BELMONT	TW-11	5/9/2016	---	28.29	---	4.11	Shallow	No	Static	
PGW	PGW-MW-5	5/11/2016	---	27.09	---	7.25	Shallow	No	Static	
PGW	PGW-MW-6	5/11/2016	---	5.99	---	NA	Shallow	No	Static	
PGW	PGW-MW-7	5/11/2016	15.98	16.00	0.02	6.96	Shallow	No	Static	WICK IN WELL
PGW	PGW-MW-8	5/11/2016	---	24.53	---	5.72	Shallow	No	Static	
PGW	PGW-MW-9	5/11/2016	---	25.49	---	6.95	Shallow	No	Static	VERY LIGHT SHEEN
PGW	PGW-MW-20	5/11/2016	---	6.00	---	NA	Shallow	No	Static	WICK IN WELL
PGW	PGW-MW-21	5/11/2016	---	4.91	---	8.18	Shallow	No	Static	
PGW	PGW-MW-30	5/11/2016	20.63	23.10	2.47	11.63	Shallow	No	Static	
PGW	PGW-MW-42	5/11/2016	---	16.68	---	16.48	Shallow	No	Static	

Table 2
Second Quarter 2016 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
PGW	PGW-MW-44	5/11/2016	---	21.30	---	10.90	Shallow	No	Static	
PGW	PGW-MW-45	5/11/2016	23.43	23.43	<0.01	10.12	Shallow	No	Static	
PGW	PGW-RW-3	5/11/2016	NM	NM	NM	NM	Shallow	No	Static	NO ACCESS, SHED LOCKED

Notes:
Groundwater monitoring was performed under static conditions except where indicated.
For product thicknesses <0.01 ft, the corrected groundwater elevation was calculated using 0.01 foot.
LNAPL = Light non-aqueous phase liquid
ft = Feet
ft btoc = Feet below top of casing
NAVD 88 = North American Vertical Datum of 1988
--- = LNAPL not present
NM = Field reading not measured and/or corrected groundwater elevation not calculated due to lack of surveyed reference elevation
NA = Not Accessible, Not Applicable, or Not Available
Not Classified = Well classification not available

Table 3
May 2016 Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

				BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
Area of Interest	**Sample Location**	**Sample Date**	**Sample Type**	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 1	S-41	10-May-16		ND (5)	ND (5)	ND (5)	ND (5)	ND	6	28	2	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	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 (1.0)
	S-43	10-May-16		11	7	3	7	28	5	56	1	ND (2)	ND (2)	ND (1)	ND (0.029)	ND (0.5)	4	2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-44	11-May-16		310	14	ND (5)	19	343	120	14	1	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	0.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
		11-May-16	Field Duplicate	310	14	ND (5)	17	341	120	14	1	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	0.7	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-50	10-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-51	10-May-16		ND (5)	ND (5)	ND (5)	ND (5)	ND	32	28	0.6	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-193	18-May-16		240	5	9	38	292	10	16	1	19	11	ND (0.5)	0.029	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.82 J
	S-196	16-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	0.013 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-231	10-May-16		29	15	11	18	73	4	29	4	10	16	ND (1)	ND (0.029)	ND (0.5)	0.6	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 (1.0)
	S-232	10-May-16		2	ND (1)	ND (1)	ND (1)	2	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-268	18-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
AOI 2	RW-108	11-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.030)	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 (1.0)
	S-72	11-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	9	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	3	3	2	4	1	1	2	3	1	ND (1.0)
	S-154	11-May-16		2	1	ND (1)	7	10	34	5	0.6	ND (2)	ND (2)	ND (1)	ND (0.029)	ND (0.5)	0.9	0.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-249	11-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-351	12-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.030)	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 (1.0)
AOI 3	S-1	12-May-16		ND (1)	1	ND (1)	ND (1)	1	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-3	12-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-25	12-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-280	20-May-16		16000	26 J	ND (25)	ND (25)	16026	ND (25)	ND (25)	ND (0.1)	ND (25)	ND (25)	ND (25)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
AOI 4	S-38	18-May-16		180	96	79	83	438	ND (0.5)	13	26	17	7	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-39	12-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-40	19-May-16		18	4	1	1	24	ND (0.5)	16	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.2 J	1	2	0.4 J	0.5 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-120	18-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-122	12-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-222	18-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-223	19-May-16		2200	330	440	1500	4470	ND (10)	16 J	87	490	170	ND (10)	ND (0.0097)	ND (0.1)	0.8	0.2 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
AOI 5	A-133	19-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.9	ND (0.1)	ND (0.1)	1	ND (0.1)	0.2 J	0.4 J	0.2 J	0.2 J	ND (0.1)	ND (0.13)
		19-May-16	Field Duplicate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	1	ND (0.1)	ND (0.1)	1	ND (0.1)	0.2 J	0.3 J	0.2 J	0.2 J	ND (0.1)	ND (0.13)
	A-137	19-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	1	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	0.3 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	WP-14	20-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.4 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.7	0.5	0.6	1	0.3 J	0.6	0.7	0.7	0.6	0.31 J
AOI 6	B-43	23-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	4	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	3	0.9	ND (0.1)	7	0.7	2	2	2	1	ND (0.13)
	B-95	23-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.4 J	ND (0.1)	ND (0.1)	0.7	ND (0.1)	0.2 J	0.3 J	0.2 J	0.2 J	ND (0.13)	
AOI 7	C-104	24-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.1 J	6	0.3 J	2	0.5 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	
	C-127	24-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	5	4	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	3	0.3 J	0.7	0.4 J	0.1 J	0.1 J	ND (0.1)	0.6	ND (0.13)	
	C-129	24-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)	

See notes on last page.

Table 3
May 2016 Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date	Sample Type	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES, TOTAL (DIMETHYLBENZENE) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 8	N-1	23-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-2	23-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.4 J	0.6	0.1 J	1	0.2 J	0.4 J	0.5 J	0.5 J	0.4 J	ND (0.13)
	N-3	27-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.9	0.3 J	0.7	1	0.5	0.7	0.9	0.8	0.6	1.6
	N-8	24-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-37	26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-57	26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	56	ND	ND (0.5)	0.7 J	ND (0.1)	1 J	ND (0.5)	ND (0.5)	ND (0.0097)	0.3 J	ND (0.1)	0.1 J	0.3 J	ND (0.1)	0.2 J	0.4 J	0.3 J	0.5 J	0.23 J
	N-64	26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0094)	0.3 J	4	2	0.6	1	0.3 J	0.2 J	0.2 J	0.1 J	0.14 J
	N-74	27-May-16		26	ND (0.5)	ND (0.5)	ND (0.5)	26	ND (0.5)	0.6 J	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	3	0.5 J	0.5 J	0.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-85	26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0093)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-98	24-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-99	26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0093)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-100	23-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-111	26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	1 J	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.5 J	3	ND (0.1)	0.9	0.5 J	0.3 J	0.3 J	0.2 J	0.2 J	ND (0.13)
		26-May-16	Field Duplicate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	2 J	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.3 J	3	ND (0.1)	0.8	0.4 J	0.2 J	0.3 J	0.2 J	0.3 J	ND (0.13)
BELMONT	MW-30	16-May-16		61	2	ND (0.5)	2	65	ND (0.5)	1 J	14	1 J	ND (0.5)	ND (0.5)	0.022 J	48	6	34	57	2	21	30	56	28	ND (0.13)
	MW-37	16-May-16		130000	1100	ND (100)	ND (100)	131100	ND (100)	ND (100)	10	ND (100)	ND (100)	ND (100)	0.024 J	ND (0.1)	0.7	0.8	0.2 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-74	16-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	TW-8	16-May-16		500	0.9 J	560	89	1149.9	4	150	6000	530	52	2	ND (0.0097)	9	56	67	18	15	7	5	6	3	ND (0.13)

Notes:

15.2	Concentration was detected.
ND (0.03)	Analyte was not detected at a concentration greater than the laboratory reporting limit.
J	Indicates an estimated value.
µg/L	Micrograms per liter

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 1	S-41	19-Oct-04			70	5.5	ND (1.8)	ND (3.2)	75.5	490	63	ND (3.6)	-	-	ND (1.5)	ND (0.0020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		13-Nov-09			3	3	3	1 J	10	56	120	ND (1)	ND (0.5)	0.7 J	ND (0.5)	ND (0.0098)	ND (0.057)	-	1.9	ND (0.095)	-	-	-	-	-	0.22 J
		11-Nov-10			14	3	2	3	22	23	41	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (1)	2 J	1 J	ND (1)	-	-	-	-	-	0.20 J
		22-Nov-11			4	2	3	1	10	25	110	ND (0.95)	0.5 J	0.5 J	ND (0.5)	ND (0.0097)	ND (0.076)	5.8	1.4	ND (0.095)	-	-	-	-	-	0.22 J
		19-Jul-12			19	3	1 J	3	26	13	35	ND (0.09)	ND (1)	ND (1)	ND (1)	ND (0.0097)	ND (0.09)	2	0.8	ND (0.09)	0.1 J	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	0.22 J
		2-Apr-13			1.3 J	1.1 J	3.1	0.65 J	6.15	17.4	101	ND (0.10)	ND (4.0)	ND (4.0)	ND (2.0)	ND (0.020)	ND (0.10)	1.79	1.33	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		23-May-14			2.2	1.5	1.1	2.6	-	9.6	47.7	ND (0.10)	ND (2.0)	0.36 J	ND (1.0) J	ND (0.020)	ND (0.10)	1.45	0.868	ND (0.10)	0.117	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		8-Dec-14			0.93	2.1	1.6	1.3	-	6.5	91.0	ND (0.10)	ND (2.0)	0.23 J	ND (1.0)	ND (0.020)	ND (0.10)	2.21	1.77	ND (0.10)	0.192	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.2 J
		18-May-15			6	2	0.9 J	3	11.9	5	20	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	2	1	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.50 J
		10-May-16			ND (5)	ND (5)	ND (5)	ND (5)	ND	6	28	2	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-43	1-Jan-93	DM		12000	190	1300	1000	14490	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		17000	1700	250 J	1680	20630	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		28-Dec-95			12000	1200	170	860	14230	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	DM		2100	110	120	110	2440	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			13000	210	1200	1000	15410	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			6700	94 J	720	470	7984	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		2-Dec-99			3600	ND (100)	ND (100)	250	3850	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		16-Nov-00			990	ND (100)	ND (100)	ND (200)	990	ND (100)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		14-Nov-01			6100	ND (500)	ND (500)	ND (1000)	6100	ND (500)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		12-Nov-02			5500	170	790	460	6920	-	-	-	-	-	-	-	ND (15)	-	-	-	-	ND (13)	ND (10)	ND (14)	-	-
		13-Nov-03			3600	130	836	489	5055	18.8	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		19-Oct-04			720	31	150	90	991	ND (4.4)	39	50	-	-	11	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		30-Nov-06			890	32	48	34	1004	7.0	13	9.0	-	-	ND (1.0)	ND (0.0099)	1.0 J	ND (1.0)	2.0 J	3.0 J	-	-	-	-	-	0.2 J
		5-Dec-07			15	1.0	3.0	3.0	22	-	2.0 J	1.0 J	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.40 J
		7-Nov-08			140	15	30	20	205	4	32	6	8	5	ND (0.5)	ND (0.0098)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	7.7
		17-Nov-09			860	59	200	210	1329	6	40	61	140	71	ND (0.5)	ND (0.0098)	0.19	-	0.64	0.44	-	-	-	-	-	0.37 J
		11-Nov-10			850	91	410	340	1691	9	76	110	210	93	ND (1)	ND (0.0096)	ND (10)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	0.29 J
		22-Nov-11			29	3	19	16	67	ND (0.5)	4	16	11	2.2	ND (0.5)	ND (0.0099)	0.95	2.2	1.9	1.1	-	-	-	-	-	2.6
		19-Jul-12			260	36	190	110	596	3	30	51	75	38	ND (0.5)	ND (0.0097)	0.4 J	-	1	0.5	0.1 J	0.3 J	0.3 J	0.5 J	0.2 J	8.7
		2-Apr-13			371	52.7	222	78.9	724.6	2.7	31.7	28.2	74.5	44.5	ND (2.5)	ND (0.020)	ND (0.10)	0.668	0.330	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		27-May-14			44.3	7.4	13.7	9.5	-	4.5	55.4	1.66	2.9	1.8 J	ND (1.0)	ND (0.020)	ND (0.10)	1.14	0.370	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.5 J
		12-Dec-14			36.6	15.2	33.0	20.9	-	4.4	69.2	7.52	6.6	5.2	ND (1.0)	ND (0.020)	ND (0.10)	3.27	1.56	0.122	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		18-May-15			50	21	52	34	157	5	68	29	19	14	ND (0.5)	ND (0.0097)	0.4 J	5	5	0.6	0.2 J	0.3 J	0.3 J	0.5 J	0.3 J	0.11 J
		10-May-16			11	7	3	7	28	5	56	1	ND (2)	ND (2)	ND (1)	ND (0.029)	ND (0.5)	4	2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-44	18-Oct-04			1700	37	16	28	1722	19	51	ND (10)	-	-	ND (5.0)	0.058	ND (0.16)	ND (11)	ND (11)	ND (11)	-	-	-	-	-	ND (5.0)
		18-Nov-09			1100	27	7	38	1172	270	17	ND (1)	0.8 J	4	ND (0.5)	ND (0.0097)	ND (40)	-	2.5	ND (0.099)	-	-	-	-	-	0.14 J
		11-Nov-10			660	20	10	20	710	260	30	ND (1)	ND (5)	ND (5)	ND (5)	ND (0.0096)	ND (1)	2 J	1 J	ND (1)	-	-	-	-	-	0.25 J
		21-Nov-11			850	20	14	24	908	180	38	ND (1.1)	ND (5)	6 J	ND (5)	ND (0.0096)	ND (0.089)	3.4	0.95	ND (0.11)	-	-	-	-	-	0.17 J
		20-Jul-12			590	13	5	12	620	180	23	1	ND (3)	ND (3)	ND (3)	ND (0.0096)	0.2 J	3	2	0.3 J	0.3 J	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	0.38 J
		3-Apr-13			450	14.3	7.8	16.5	488.6	146	53.3	ND (0.10)	37.1	1.8 J	ND (4.0)	ND (0.020)	ND (0.10)	1.33	0.611	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		27-May-14			575	22.5	9.1	28.6	-	144	44.8	ND (0.10)	0.68 J	2.4	ND (1.0)	ND (0.020)	ND (0.10)	1.18	0.687	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		15-Dec-14			260	11.6	3.6	17.2	-	134	23.0	ND (0.10)	0.45 J	2.3	ND (1.0)	ND (0.020)	ND (0.10)	1.47	0.956	ND (0.10)	ND (0.10)	ND (0.10) J	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		18-May-15			340	16	5	20	381	110	34	3	0.6 J	2	ND (0.5)	ND (0.0097)	0.2 J	4	4	0.3 J	0.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.26 J
		11-May-16			310	14	ND (5)	19	343	120	14	1	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	0.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
		11-May-16		Field Duplicate	310	14	ND (5)	17	341	120	14	1	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	0.7	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-50	1-Jan-85	DM		23000	ND	5400	23000	51400	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		24000	ND	2300	1520	27820	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		24000	ND	ND	ND	24000	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		290	20 J	160 J	40 J	510	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		28-Dec-95			17000	1600	98 J	3000	21698	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	DM		14	ND (0.3)	ND (0.4)	ND (0.6)	14	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			21000	210	1300	2200	24710	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			18000	57 J	570	980	19607	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		2-Dec-99			28000	ND (1000)	ND (1000)	ND (2000)	28000	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		16-Nov-00			47000	ND (100)	240	370	47610	590	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		27-Nov-01			53000	1400	9	1300	55709	5200	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (2)	ND (2)	ND (3)	-	-
		30-Nov-06			42000	94 J	720	630	43444	99 J	ND (50)	170 J	-	-	ND (50)	ND (0.0098)	ND (1.0)	1.0 J	1.0 J	ND (1.0)	-	-	-	-	-	0.15 J
		4-Dec-07			31000	86	420	370	31876	-	35 J	93 J	-	-	ND (25)	ND (0.0098)	ND (1.0)	ND (1.0)	1.0 J	ND (1.0)	-	-	-	-	-	0.14 J
		10-Nov-08			16000	160	400	1400	17960	390	36	110 J	260	90 J	ND (25)	ND (0.0096)	ND (1)	-	1 J	ND (1)	-	-	-	-	-	0.073 J
		19-Nov-09			4700	10	75	22	4807	45	10 J	37 J	42	17 J	ND (5)	ND (0.0097)	0.18 J	-	0.66	ND (0.098)	-	-	-	-	-	ND (0.050)
		11-Nov-10			7600	12	34	11	7657	39	7 J	13	8 J	5 J	ND (5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	0.083 J
		21-Nov-11			190	1	1	0.5 J	192.5	1	2	3.7	ND (0.5)	0.5 J	ND (0.5)	ND (0.0097)	ND (0.076)	0.20 J	0.083 J	ND (0.095)	-	-	-	-	-	ND (0.080)
		24-Jul-12			130	2	ND (0.5)	2	134	ND (0.5)	2 J	1	1 J	0.9 J	ND (0.5)	ND (0.0098)	ND (0.09)	0.2 J	0.3 J	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.034)
		3-Apr-13			0.46 J	ND (1.0)	ND (1.0)	0.29 J	0.75	ND (1.0)	ND (2.0)	ND (0.11)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	0.090 J
		20-May-14			509	2.2 J	13.5	1.2 J	-	ND (5.0)	4.2 J	2.46	1.2 J	3.1 J	ND (5.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		15-Dec-14			2390	9.8	19.7	ND (5.0)	-	5.7	6.1	4.53	ND (10)	3.9 J	ND (5.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10) J	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		18-May-15			2000	8	34	ND (3)	2042	3 J	9 J	16	ND (3)	5 J	ND (3)	ND (0.0097)	ND (0.1)	0.1 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.092 J
		10-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-51	19-Apr-05			590	ND (100)	ND (100)	190	780	1900	ND (100)	15	-	-	ND (100)	ND (0.029)	ND (10)	ND (10)	10	ND (10)	-	-	-	-	-	ND (1)
		5-Dec-07			120	10	5.0 J	9.0	144.0	-	60	ND (5.0)	-	-	ND (3.0)	0.034	ND (10)	22 J	24 J	ND (10)	-	-	-	-	-	0.32 J
		10-Nov-08			5000	32	160	38	5230	41	14 J	22 J	14 J	14 J	ND (5)	ND (0.0096)	ND (0.9)	-	ND (0.9)	ND (0.9)	-	-	-	-	-	ND (0.050)
		17-Nov-09			250	8	5	5	268	120	61	1 J	5	7	ND (0.5)	ND (0.0097)	13	-	39	ND (60)	-	-	-	-	-	0.93 J
		11-Nov-10			140	5	3	3	151	51	55	1 J	ND (0.5)	0.6 J	ND (0.5)	ND (0.0098)	ND (1)	3 J	2 J	ND (1)	-	-	-	-	-	0.98 J
		23-Nov-11			12	ND (0.5)	ND (0.5)	ND (0.5)	12	ND (0.5)	ND (0.5)	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.52	0.19 J	0.55	0.71	-	-	-	-	-	-	0.41 J
		2-Apr-13			4.1	3.3	1.4 J	4.4	13.2	33.6	74.7	ND (0.10)	ND (5.0)	ND (5.0)	ND (2.5)	ND (0.020)	ND (0.10)	2.50	1.47	0.176	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		23-May-14			9.9	2.6 J	ND (5.0)	2.3 J	-	36.0	62.5	ND (0.10)	ND (10)	ND (10)	ND (5.0) J	ND (0.020)	ND (0.10)	1.51	0.775	0.212	ND (0.10)	ND (0.10)	ND (0.10)	0.130	ND (0.10)	ND (3.0)
		12-Dec-14			13.9	2.7	2.6	4.1	-	20.7	51.4	ND (0.10)	0.26 J	ND (2.0)	ND (1.0)	ND (0.020)	0.210	1.62	1.10	0.395	0.183	0.203	0.155	0.185	0.121	1.8 J
		19-May-15			5	3	1	4	13	39	79	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	3	1	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.099 J
		10-May-16			ND (5)	ND (5)	ND (5)	ND (5)	ND	32	28	0.6	ND (10)	ND (10)	ND (5)	ND (0.029)	ND (0.5)	2	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES, TOTAL (DIMETHYLBENZENE) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 1	S-52	19-Oct-04			57	5.3	ND (5.0)	ND (10)	62.3	960	30	34	-	-	ND (5.0)	ND (0.020)	ND (0.16)	ND (11)	ND (11)	ND (11)	-	-	-	-	-	ND (5.0)
		19-Apr-05			230	ND (50)	ND (50)	ND (50)	230	1200	ND (50)	ND (10)	-	-	ND (50)	ND (0.029)	ND (10)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (1)
		7-Nov-05			72	ND (10)	ND (10)	11	83	1390	33	ND (10)	-	-	ND (10)	ND (0.02)	ND (0.01)	1.5	0.8	0.2	-	-	-	-	-	ND (10)
		25-Jul-12			1 J	2	ND (1)	ND (1)	3	420	12	ND (0.1)	ND (1)	ND (1)	ND (1)	ND (0.0098)	ND (0.1)	2	0.1 J	0.2 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.43 J
		3-Apr-13			1.3	1.5	0.24 J	0.72 J	3.76	316	15.4	ND (0.11)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.11)	0.697	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	0.39 J
		20-May-14			ND (2.5)	ND (5.0)	ND (2.5)	ND (5.0)	-	194	15.8	ND (0.10)	ND (10)	ND (10)	ND (5.0)	ND (0.020)	ND (0.10)	1.06	0.123	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		9-Dec-14			0.26 J	0.40 J	ND (1.0)	0.30 J	-	133	7.3	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	1.09	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.6 J
	S-82	8-Nov-05			19900 D	91	248	850	-	3100 D	-	205	-	-	489	ND (0.02)	0.4	13.4	17	1.9	-	-	0.7	ND (0.3)	0.3	ND (0.3)	-
	S-88	5-Dec-06			22.0	6.0	5.0	1.0 J	34 J	81.0	24.0	ND (1.0)	-	-	ND (1.0)	ND (0.0099)	3.0 J	8.0	10.0	10.0	-	-	-	-	-	1.3
		14-Dec-07			5.0	2.0	1.0	ND (0.5)	8.0	-	13	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	5.0 J	2.0 J	3.0 J	6.0	-	-	-	-	-	1.1
		7-Nov-08			29	8	2	3	42	70	29	ND (1)	ND (0.5)	0.5 J	ND (0.5)	ND (0.0097)	6	-	11	7	3 J	3 J	2 J	3 J	2 J	3.1
		24-Feb-09			30	8	4	27	42	69	27	ND (1)	13	9	ND (0.5)	ND (0.0096)	ND (9.0)	5.3	11	ND (16)	3.7	2.3	2.2	3.4	ND (6.0)	2.1
		26-Jun-09			29	11	4	6	-	92	48	ND (1)	0.8 J	1 J	ND (0.5)	ND (0.010)	0.40	4.4	5.1	ND (0.90)	1.2	0.25	0.20	0.20	0.40	2.1
		8-Sep-09			35	24	6	28	93	77	42	7	7	7	ND (0.5)	ND (0.0099)	ND (1)	3 J	3 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	1.8
		20-Nov-09			12	4	3	3	22	47	16	ND (2)	2 J	2 J	ND (1)	ND (0.0097)	1.8 J	3.1 J	3.2	1.6 J	0.98 J	0.45	0.89	1.3	1.9 J	1.5
		8-Mar-10			17	8	2	4	31	100	29	ND (1)	0.5 J	1 J	ND (0.5)	ND (0.0097)	2.5	2.7 J	2.4	1.8 J	0.70 J	0.54	0.83	1.7	ND (2.3)	17.9
		5-May-10			8	3	ND (1)	1 J	12	170	15	ND (2)	ND (1)	ND (1)	ND (1)	ND (0.018)	360	160	240	350	83	90	160	250	330	2060
		22-Jul-10			19	8	2	6	35	100	38	ND (1)	0.9 J	0.8 J	ND (0.5)	ND (0.0097)	ND (9.7)	9.2	11	13	3.8	ND (2.8)	4.3	9.1	ND (20)	0.98 J
		19-Jul-12			11	4	0.8 J	4	19.8	340	27	ND (0.09)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.5	3	2	0.8	0.7	0.2 J	0.2 J	0.3 J	0.1 J	42.6
		28-May-14			15.1	7.1	ND (5.0)	4.4 J	-	186	42.1	ND (0.10)	ND (10)	ND (10)	ND (5.0)	ND (0.020)	4.06	4.71	4.39	3.77	1.36	2.37	2.00	2.29	1.00	ND (3.0)
		12-Dec-14			11.8	5.1	1.1	4.1	-	422	34.6	ND (0.10)	0.28 J	ND (2.0)	ND (1.0)	ND (0.020)	0.164	2.13	1.73	0.350	0.366	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.7 J
	S-99	12-Oct-04			150	25	6.2	25	206.2	ND (5.0)	72	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		6-Nov-08			46	14	ND (3)	14	74	36	30	ND (5)	ND (3)	ND (3)	ND (3)	ND (0.0098)	ND (1)	-	4 J	1 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	1.6
		23-Feb-09			55	20	4	20	99	19	65	ND (1)	ND (0.5)	1 J	ND (0.5)	ND (0.0097)	ND (0.15)	5.4	3.7	ND (0.095)	0.69	0.062	0.072	0.076	ND (0.15)	1.2
		29-Jun-09			34	31	7	31	-	25	99	ND (1)	ND (0.5)	2 J	ND (0.5)	ND (0.017)	-	-	-	-	-	-	-	-	-	1.4
		9-Sep-09			24	22	5	26	77	19	87	ND (2)	ND (1)	2 J	ND (1)	ND (0.0099)	ND (1)	3 J	4 J	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	1.5
		20-Nov-09			22	25	6 J	26	79	21	90	ND (10)	ND (5)	ND (5)	ND (5)	ND (0.0097)	ND (0.057)	5.0	3.3	0.18 J	0.69	0.030 J	0.024 J	0.017 J	ND (0.057)	1.5
		9-Mar-10			22	16	4	18	60	8	60	ND (1)	ND (0.5)	1 J	ND (0.5)	ND (0.0097)	ND (0.57)	4.7	3.8	ND (0.95)	ND (0.72)	0.15 J	0.14 J	0.22 J	ND (0.57)	1.2
		6-May-10			30	23	5 J	27	85	8 J	82	ND (10)	ND (5)	ND (5)	ND (5)	ND (0.018)	ND (5)	4.4	3.8	0.41	0.72	0.054	0.042	0.033 J	ND (0.057)	1.4
		21-Jul-10			17	22	5	33	77	10	89	ND (1)	0.7 J	2 J	ND (0.5)	ND (0.0098)	0.17 J	4.6	4.1	0.50	0.87	0.097	0.066	0.089	ND (0.057)	1.4
		10-Jul-12			5	22	5	28	60	5	77	1	1 J	2 J	ND (0.5)	ND (0.0097)	0.3 J	3	4	0.9	0.9	0.2 J	0.1 J	0.2 J	ND (0.1)	1.9
		3-Jun-14			1.9	21.8	4.9	31.5	-	3.2	77.2	ND (0.10)	0.83 J	1.5 J	ND (1.0)	ND (0.020)	ND (0.10)	1.78	1.48	0.281	0.378	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.9 J
		9-Dec-14			4.0	28.0	4.9	28.4	-	2.6	77.6	ND (0.10)	0.72 J	1.2 J	ND (2.0)	ND (0.020)	0.155	1.89	1.75 B	0.370 B	0.352	0.136 B	ND (0.10)	0.136	ND (0.10)	2.1 J
	S-101	12-Oct-04			1100	7.5	16	68	1191.5	ND (5.0)	13	74	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		6-Nov-08			85	16	6	23	130	0.5 J	38	2 J	3	2 J	ND (0.5)	ND (0.010)	ND (10)	-	37 J	15 J	11 J	ND (10)	ND (10)	ND (10)	ND (10)	0.86 J
		23-Feb-09			260	10	23	16	309	ND (5)	29	12 J	4 J	5 J	ND (3)	ND (0.0096)	ND (1.5)	13	11	4.2	2.4	0.90	ND (0.60)	0.57	ND (0.60)	0.38 J
		29-Jun-09			330	4	3	3	-	ND (0.5)	24	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	-	-	-	-	-	-	-	-	-	0.35 J
		9-Sep-09			420	6	5	5	436	0.6 J	33	3 J	1 J	1 J	ND (0.5)	ND (0.0098)	1 J	7	5	5 J	3 J	1 J	ND (1)	ND (1)	ND (1)	0.70 J
		20-Nov-09			490	7	ND (3)	3 J	500	ND (3)	23	ND (5)	ND (3)	ND (3)	ND (3)	ND (0.0098)	ND (0.057)	1.4	0.51	0.31 J	0.17	0.025 J	0.019 J	0.020 J	ND (0.057)	0.45 J
		9-Mar-10			270	7	2	5	284	ND (0.5)	26	1 J	0.9 J	0.8 J	ND (0.5)	ND (0.0097)	0.065 J	1.6	0.57	0.28 J	0.16	0.035 J	0.024 J	0.030	0.083 J	0.43 J
		6-May-10			260	6	ND (3)	4 J	270	ND (3)	21	ND (5)	ND (3)	ND (3)	ND (3)	ND (0.018)	ND (0.057)	1.4	0.61	0.23 J	0.13	0.028 J	0.028 J	0.026 J	0.069 J	0.45 J
		21-Jul-10			350	8	4	9	371	ND (0.5)	37	3 J	2	2 J	ND (0.5)	ND (0.0099)	0.13 J	4.7	2.3	0.88	0.65	0.10	0.046	0.054	ND (0.060)	0.37 J
		10-Jul-12			24	3	0.9 J	5	32.9	ND (0.5)	25	0.5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	0.2 J	6	1	0.9	0.9	0.1 J	ND (0.1)	0.1 J	ND (0.1)	0.23 J
		4-Jun-14			27.8	14.0	1.5	16.3	-	ND (1.0)	39.7	ND (0.10)	0.44 J	0.89 J	ND (1.0)	ND (0.020)	ND (0.10)	4.60	2.19	0.325	0.578	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		11-Dec-14			20.2	6.4	1.6	12.0	-	ND (1.0)	30.0	ND (0.10)	0.70 J	0.79 J	ND (1.0)	ND (0.037)	0.131	4.84	2.00	0.507	0.594	0.136	ND (0.10)	0.106	ND (0.10)	ND (3.0)
	S-193	17-Mar-04			170	ND (5)	51	68	289	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		7-Nov-05			404	ND (10)	13	28	445	ND (10)	28	ND (10)	-	-	10	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	-	-	-	-	-	ND (100)
		5-Dec-06			140	2.0 J	19.0	31.0	192	ND (0.5)	7.0	3.0 J	-	-	ND (1.0)	ND (0.0098)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.19 J
		19-Dec-07			270	4.0	7.0	13	294	-	16	2.0 J	-	-	ND (0.5)	ND (0.0095)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.38 J
		6-Nov-08			930	13	22	64	1029	5	19	ND (5)	40	ND (3)	ND (3)	ND (0.0097)	ND (1)	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	0.97 J
		23-Feb-09			760	10	15	71	856	4 J	20	ND (5)	21	3 J	ND (3)	ND (0.0095)	ND (0.040)	0.96	0.050 J	ND (0.95)	ND (0.060)	ND (0.0095)	ND (0.0095)	ND (0.0095)	ND (0.0076)	ND (0.057)	1.3
		29-Jun-09			210	3	4	21	238	9	16	ND (1)	6	1 J	ND (0.5)	ND (0.0099)	-	-	-	-	-	-	-	-	-	0.33 J
		9-Sep-09			760	9	37	120	926	30	17	8	44	15	ND (1)	ND (0.0097)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	0.37 J
		20-Nov-09			930	11	19	81	1041	9	16	ND (5)	25	11	ND (3)	ND (0.0098)	0.066 J	0.39	ND (0.12)	ND (0.095)	ND (0.065)	0.021 J	0.015 J	0.012 J	ND (0.057)	0.51 J
		9-Mar-10			500	6	52	130	688	110	16	4 J	17	7	ND (0.5)	ND (0.0096)	ND (0.057)	0.12 J	ND (0.15)	ND (0.095)	ND (0.025)	ND (0.0095)	ND (0.0095)	ND (0.0076)	ND (0.057)	0.12 J
		6-May-10			270	3 J	18	63	354	45	9 J	6 J	12	6 J	ND (3)	ND (0.018)	ND (0.058)	ND (0.35)	ND (0.038)	ND (0.096)	ND (0.025)	ND (0.0096)	ND (0.0096)	ND (0.0077)	ND (0.058)	0.17 J
		21-Jul-10			350	3	28	120	501	34	7	8	50	16	ND (0.5)	ND (0.0097)	ND (0.057)	0.28 J	0.13 J	ND (0.095)	0.060 J	ND (0.0095)	ND (0.0095)	0.011 J	ND (0.057)	0.097 J
		10-Nov-10			1000	12	20	110	1142	37	20	7	28	14 J	ND (5)	ND (0.0098)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	0.53 J
		22-Nov-11			1200	11	100	180	1491	16	11	11	40	18	ND (1)	ND (0.0098)	0.30	0.53	0.28	ND (0.096)	-	-	-	-	-	0.12 J
		10-Jul-12			330	5 J	4 J	38	377	15	16	1	5 J	5 J	ND (3)	ND (0.0098)	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.19 J
		4-Apr-13			640	8.3	12.9	71.0	732.2	16.0	16.6	0.311	30.1	13.4	15.7	ND (0.020)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	1.1
		3-Jun-14			707	6.3	49.6	89.1	-	12.6	7.4	3.59	35.2	13.6	ND (2.5)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		15-Dec-14			1350	10.2	46.9	138	-	35.5	13.5	4.42 J-	50.6	22.1	ND (5.0)	ND (0.020)	R	0.302 J-	0.262 J-	R	ND (0.10)	R	R	R	R	2.0 J
		19-May-15			1000	8	34	140	1182	15	10	6	46	20	ND (3)	ND (0.0097)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.090 J
		18-May-16			240	5	9	38	292	10	16	1	19	11	ND (0.5)	0.029	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.82 J
	S-195	17-Mar-04			ND (5)	ND (5)	ND (5)	ND (5)	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		7-Nov-05			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (1)	ND (1)	-	-	ND (1)	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	-	-	-	-	-	ND (10)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date	Sample Type	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES, TOTAL (DIMETHYLBENZENE) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 1	S-196	18-Mar-04		ND (5)	ND (5)	ND (5)	ND (5)	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		7-Nov-05		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	4	ND (1)	-	-	ND (1)	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	-	-	-	-	-	-	ND (10)
		19-Dec-06		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.21 J
		19-Dec-07		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.066 J
		6-Nov-08		ND (3)	ND (3)	ND (3)	ND (3)	ND	ND (3)	ND (3)	ND (5)	ND (3)	ND (3)	ND (3)	ND (0.0096)	ND (10)	-	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	ND (10)	0.18 J
		23-Feb-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.039)	ND (0.097)	0.059 J	ND (0.097)	ND (0.040)	ND (0.0097)	ND (0.0097)	ND (0.0078)	ND (0.058)	0.12 J
		29-Jun-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	-	-	-	-	-	-	-	-	-	-	0.12 J
		9-Sep-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	1	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	0.10 J
		20-Nov-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.063 J	ND (0.10)	ND (0.040)	ND (0.10)	ND (0.020)	0.015 J	0.029 J	0.023 J	ND (0.060)	ND (0.050)
		9-Mar-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.058)	ND (0.096)	ND (0.038)	ND (0.096)	ND (0.019)	ND (0.0096)	ND (0.0096)	ND (0.0077)	ND (0.058)	ND (0.050)
		6-May-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.018)	ND (0.12)	ND (0.20)	ND (0.080)	ND (0.20)	ND (0.040)	ND (0.020)	ND (0.020)	ND (0.016)	ND (0.12)	ND (0.050)
		21-Jul-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.058)	ND (0.097)	0.047 J	ND (0.097)	0.025 J	ND (0.0097)	ND (0.0097)	ND (0.0077)	ND (0.058)	0.078 J
		10-Nov-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.9)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	-	-	-	-	-	-	0.061 J
		22-Nov-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.99)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.19 J	ND (0.099)	ND (0.079)	0.16 J	-	-	-	-	-	-	ND (0.080)
		10-Jul-12		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.034)
		4-Apr-13		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.11)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	0.035 J
		4-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	0.180	0.323	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	4.1
		9-Dec-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		19-May-15		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		16-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	0.013 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-197	18-Mar-04		ND (5)	ND (5)	ND (5)	ND (5)	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		7-Nov-05		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (1)	ND (1)	-	-	ND (1)	ND (0.02)	ND (0.2)	ND (0.2)	ND (0.2)	ND (0.2)	-	-	-	-	-	-	ND (10)
	S-231	11-Nov-10		9500	460	86	280	10326	16	14 J	54	110	75	ND (5)	ND (0.0096)	ND (10)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	-	0.61 J
		23-Nov-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0094)	0.28	ND (0.096)	0.32	0.39	-	-	-	-	-	-	ND (0.080)
		2-Apr-13		1570	33.7	105	1560	3268.7	ND (5.0)	21.7	30.4	479	200	ND (5.0)	ND (0.020)	ND (0.11)	0.780	0.834	0.321	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (1)
		21-May-14		24.3	5.8	26.5	24.0	-	ND (1.0)	18.7	6.02	41.5	27.4	ND (1.0)	ND (0.020)	ND (0.10)	0.324	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.7 J
		12-Dec-14		232	7.4	22.5	22.3	-	1.1	14.9	9.51	36.4	27.2	ND (1.0)	ND (0.020)	ND (0.10)	0.230	0.132	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.9 J
		18-May-15		25	8	15	10	58	2	22	3	15	10	ND (0.5)	ND (0.0097)	0.4 J	0.3 J	0.6	0.5	ND (0.1)	0.3 J	0.2 J	0.3 J	0.2 J	0.11 J
		10-May-16		29	15	11	18	73	4	29	4	10	16	ND (1)	ND (0.029)	ND (0.5)	0.6	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 (1.0)
	S-232	19-Nov-09		6800	39	130	410	7379	26	21	42	140	82	ND (5)	ND (0.0097)	0.2	-	0.6	0.39 J	-	-	-	-	-	-	0.13 J
		11-Nov-10		39	6	2	3	50	4	0.7 J	ND (1)	1 J	1 J	ND (0.5)	ND (0.0098)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	-	0.10 J
		21-Nov-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (11)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	1.4 J	ND (1.1)	1.5 J	1.9 J	-	-	-	-	-	-	ND (0.080)
		24-Jul-12		4	0.7 J	0.7 J	ND (0.5)	5.4	ND (0.5)	1 J	1	0.6 J	0.6 J	ND (0.5)	ND (0.0099)	0.1 J	0.2 J	0.3 J	0.2 J	ND (0.09)	0.1 J	0.2 J	0.2 J	0.1 J	1.6
		2-Apr-13		30.1	3.5	5.8	3.8	43.2	0.76 J	3.0	0.929	0.83 J	2.0	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		20-May-14		4.7	0.67 J	1.1	0.91 J	-	ND (1.0)	1.5	0.486	0.23 J	0.40 J	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		9-Dec-14		0.66	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	0.30 J	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	0.122 B	0.120 B	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.7 J
		18-May-15		2	ND (0.5)	ND (0.5)	ND (0.5)	2	ND (0.5)	ND (0.5)	0.1 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.1 J	ND (0.1)	0.1 J	0.2 J	ND (0.1)	ND (0.1)	0.1 J	0.2 J	ND (0.1)	ND (0.1)	0.17 J
		10-May-16		2	ND (1)	ND (1)	ND (1)	2	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-268	19-Dec-07		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.93 J
		6-Nov-08		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (1)	-	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	ND (1)	0.19 J
		23-Feb-09		4	0.6 J	2	18	24.6	ND (0.5)	ND (0.5)	3 J	12	4	ND (0.5)	ND (0.0095)	ND (0.15)	0.28 J	0.67	ND (0.095)	0.18	ND (0.040)	0.012 J	0.015 J	ND (0.070)	0.31 J
		29-Jun-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	-	-	-	-	-	-	-	-	-	-	0.19 J
		9-Sep-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	0.13 J
		20-Nov-09		1	ND (0.5)	ND (0.5)	ND (0.5)	1	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.057)	ND (0.095)	0.065 J	0.22 J	0.046 J	0.014 J	ND (0.0095)	ND (0.0076)	ND (0.057)	0.16 J
		9-Mar-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.074 J	ND (0.095)	ND (0.060)	0.20 J	0.032 J	0.050	0.066	0.062 J	0.062 J	0.27 J
		6-May-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.018)	0.069 J	ND (0.095)	ND (0.10)	0.18 J	0.043 J	ND (0.0095)	ND (0.0095)	0.0080 J	ND (0.057)	0.30 J
		21-Jul-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.069 J	ND (0.096)	0.054 J	0.14 J	0.031 J	ND (0.0096)	ND (0.0096)	ND (0.0077)	ND (0.057)	0.30 J
		10-Nov-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	-	0.064 J
		22-Nov-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.99)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.079)	ND (0.099)	ND (0.079)	ND (0.099)	-	-	-	-	-	-	ND (0.080)
		11-Jul-12		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.051 J
		4-Apr-13		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.11)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	0.10 J
		4-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.3 J
		9-Dec-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		19-May-15		2	ND (0.5)	ND (0.5)	ND (0.5)	2	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		18-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
AOI 2	PGW-MW-8S	8-Apr-13		-	-	-	-	13.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		8-Apr-13		2.4	1.9	0.78 J	8.4	-	2.1	35.8	ND (0.1)	0.94 J	1.5 J	ND (1)	ND (0.02)	6.45	7.17	14.1	16.8	3.57	4.75	3.33	2.89	1.52	ND (3)
		29-May-14		1.3	0.36 J	0.53 J	1.5	-	ND (1.0)	7.1	ND (0.10)	1.3 J	0.61 J	ND (1.0)	ND (0.020)	2.62	1.90	0.351	8.01	0.997	2.78	1.45	2.15	0.710	9.1
	RW-108	10-Dec-09		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-	-	-	-	ND (1)
		11-May-16		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.030)	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 (1.0)
	RW-109	5-Dec-06		ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0099)	ND (1.0)	1.0 J	2.0 J	ND (1.0)	-	-	-	-	-	-	0.15 J
		18-Dec-07		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	3.0 J	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	1.0 J	ND (1.0)	-	-	-	-	-	-	0.094 J
		7-Nov-08		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (1)	-	1 J	ND (1)	-	-	-	-	-	-	ND (0.050)
		8-Nov-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.9)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.9)	1 J	ND (0.9)	ND (0.9)	-	-	-	-	-	-	ND (0.052)
		28-Nov-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.97)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.078)	0.26 J	0.12 J	ND (0.097)	-	-	-	-	-	-	ND (0.080)
		4-Apr-13		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	0.532	0.585	0.174	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.051 J
		29-May-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	0.591	0.632	0.301	0.12 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		19-May-15		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.2 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	0.7	0.8	0.2 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
	RW-600	5-Dec-06		ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	7.0	2.0 J	ND (1.0)	-	-	ND (1.0)	ND (0.0098)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND	ND	ND	-	-	0.071 J
		7-Nov-08		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	9	2	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	-	ND (0.050)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 2	S-72	1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-
		1-Jan-94	DM		ND (250)	ND (250)	ND (250)	ND (500)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-95	DM		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	32	110	180	322	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			5	22	22	97	146	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			69	14	ND (10)	12	95	-	-	-	-	-	-	-	ND (1)	-	-	-	-	2	3	ND (3)	-	-
		2-Dec-99			ND (20)	ND (20)	ND (20)	ND (40)	ND	-	-	-	-	-	-	-	1	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		16-Nov-00			ND (100)	ND (100)	ND (100)	ND (200)	ND	ND (100)	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
		14-Nov-01			ND (1)	24	35	48	107	ND (1)	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
		7-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	ND (0.050)
		8-Nov-10			21	4	0.6 J	12	37.6	0.9 J	68	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	3 J	4 J	5 J	6	-	-	-	-	-	0.091 J
		28-Nov-11			8	1	ND (0.5)	1	10	ND (0.5)	32	ND (10)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	1.5	7.0	3.9	ND (1.0)	-	-	-	-	-	3.8
		29-May-14			10.8	0.66 J	ND (1.0)	ND (1.0)	-	0.50 J	7.0	47.7	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	4.43	19.8	24.9	8.38	ND (0.50)	2.31	2.05	3.46	1.35	ND (3.0)
		11-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	9	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	3	3	4	3	1	1	2	3	1	ND (1.0)
	S-72D	5-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	1.0 J	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	52	36	44	-	0.16 J
	S-73	1-Jan-93	DM		520	9	27	18	574	-	-	-	-	-	-	-	55	-	-	-	-	110	59 J	68 J	-	-
		1-Jan-94	DM		900	ND (250)	ND (250)	ND (500)	900	-	-	-	-	-	-	-	4 J	-	-	-	-	55	34	37	-	-
		28-Dec-95			430	34	ND	15 J	479	-	-	-	-	-	-	-	100	-	-	-	-	29	15	21	-	-
		1-Jan-96	DM		5.6	ND (0.3)	ND (0.4)	ND (0.6)	5.6	-	-	-	-	-	-	-	77	-	-	-	-	2	1	ND (1)	-	-
		19-Nov-97			840	49 J	61 J	55 J	1005	-	-	-	-	-	-	-	39	-	-	-	-	13	7	7	-	-
		12-Nov-98			320	ND (10)	36	20	376	-	-	-	-	-	-	-	2	-	-	-	-	7	6	5	-	-
		2-Dec-99			400	ND (20)	110	31	541	-	-	-	-	-	-	-	14	-	-	-	-	23	15	13	-	-
		16-Nov-00			340	ND (10)	20	11	371	ND (10)	-	-	-	-	-	-	9	-	-	-	-	6	4	4	-	-
		14-Nov-01			220	ND (10)	10	10	240	ND (10)	-	-	-	-	-	-	31	-	-	-	-	4.7	2.9	3.7	-	-
		13-Nov-02			98	2	2	7	109	ND (1)	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-
		12-Nov-03			135	3.9	10.1	12.3	161.3	1.6	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-
		21-Oct-04			100	ND (5.0)	11	14	125	ND (5.0)	99	ND (5.0)	-	-	ND (5.0)	ND (0.020)	3.7 J	56	80	12	-	-	-	-	-	ND (5.0)
	S-154	18-Dec-07			29	12	2.0	39	82	-	5.0	3.0 J	-	-	ND (0.5)	ND (0.0095)	ND (0.9)	1.0 J	1.0 J	ND (0.9)	-	-	-	-	-	0.17 J
		18-Nov-09			35	22	8	73	138	47	14	3 J	12	5	ND (0.5)	ND (0.0097)	ND (49)	-	2.9	ND (0.11)	-	-	-	-	-	0.084 J
		18-Nov-10			44	53	24	220	341	50	12	5.8	29	9	ND (0.5)	ND (0.0096)	ND (3.3)	2.2	1.3	ND (0.10)	-	-	-	-	-	ND (0.052)
		28-Nov-11			2	0.8 J	ND (0.5)	6	8.8	26	3	ND (0.97)	0.9 J	0.8 J	ND (0.5)	ND (0.0098)	ND (0.078)	1.5	0.46	ND (0.097)	-	-	-	-	-	ND (0.080)
		5-Apr-13			30.9	27.0	12.9	138	208.8	33.2	10.8	1.66	19.8	6.9	ND (1.0)	ND (0.020)	ND (0.10)	0.707	0.428	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.16 J
		29-May-14			9.6	15.5	7.8	80.4	-	42.2	7.4	0.830	10.2	3.4	ND (1.0)	ND (0.023)	ND (0.10)	0.442	0.309	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		19-May-15			4	4	2	20	30	120	6	1	3	1 J	ND (0.5)	ND (0.0096)	ND (0.1)	1	0.9	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.098 J
		11-May-16			2	1	ND (1)	7	10	34	5	0.6	ND (2)	ND (2)	ND (1)	ND (0.029)	ND (0.5)	0.9	0.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (1.0)
	S-249	18-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	1	ND (0.5)	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.061 J	ND (0.096)	0.040 J	ND (0.096)	-	-	-	-	-	ND (0.052)
		28-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.080)	ND (0.10)	ND (0.080)	ND (0.10)	-	-	-	-	-	ND (0.080)
		4-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	0.37 J	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.19 J
		29-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.025)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	4.3
		19-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.1 J	ND (0.1)	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	0.1 J	0.2 J	0.2 J	0.098 J
		11-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-351	4-Jun-13			4.1	0.73 J	7.4	6.4	-	1.5	27	42.5	8.8	2.1	ND (1)	ND (0.02)	0.158	4	3.35	0.787	1.43	0.142	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		19-May-15			2	ND (0.5)	0.6 J	0.6 J	3.2	ND (0.5)	8	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.3 J	2	3	1	1	0.3 J	0.1 J	0.1 J	ND (0.1)	0.31 J
		12-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.030)	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 (1.0)
	BF-103R	12-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	1.0	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND	ND	ND	-	-	0.065 J
AOI 3	S-1	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		ND (50)	ND (50)	ND (50)	ND (100)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		28-Dec-95			2.7	ND	ND	0.8 J	3.5	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			ND (1)	ND (1)	ND (1)	2	2	-	-	-	-	-	-	-	ND (10)	-	-	-	-	1	1	ND (1)	-	-
		12-Nov-98			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	1.2	ND (2)	ND (3)	-	-
		2-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	1	-	-	-	-	ND (10)	ND (20)	ND (30)	-	-
		16-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	10	-	-	-	-	-	-	1.4	-	-	-	-	-	-	-	-	-
		14-Nov-01			ND (1)	ND (1)	ND (1)	3	3	38	-	-	-	-	-	-	12	-	-	-	-	1.0 J	1.0 J	0.88 J	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)			-	-			1.1 J				-	-	-	-	-	-
		21-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.8)	ND (9.8)	ND (9.8)	-	-	-	-	-	ND (5.0)
		30-Nov-06			ND (0.5)	0.8 J	ND (0.8)	ND (0.8)	0.8 J	ND (0.5)	ND (1.0)	2.0 J	-	-	ND (1.0)	ND (0.0097)	1.0 J	ND (1.0)	ND (1.0)	2.0 J	-	ND	ND	ND	-	0.44 J
		11-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND	ND	ND	-	0.63 J
		4-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	0.067 J
		12-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	1.4	-	0.78	3.2	-	-	-	-	-	1.9
		15-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.7	0.94	0.33	2.1	-	-	-	-	-	0.10 J
		18-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (9.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	6.9	1.6 J	ND (0.76)	6.1	-	-	-	-	-	0.24 J
		4-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.242	0.502	ND (0.10)	0.678	0.282	0.233	0.258	0.227	0.260	0.52 J
		30-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.118	0.235	ND (0.10)	0.251	ND (0.10)	0.110	0.150	0.204	ND (0.10)	11.6
		12-May-16			ND (1)	1	ND (1)	ND (1)	1	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 3	S-3	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		2 J	ND (5)	ND (5)	ND (10)	2	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		28-Dec-95			1.3	ND	ND	ND	1.3	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		2-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	2	2	ND (3)	-	-
		16-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	94	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		14-Nov-01			52	ND (2)	ND (2)	ND (4)	52	ND (2)	-	-	-	-	-	-	3	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		13-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	4	-	-	-	-	-	-	ND (2)	-	-	-	-	-	-	-	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	4.3	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-	-	-	-	-
		21-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	19	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.8)	ND (9.8)	ND (9.8)	-	-	-	-	-	ND (5.0)
		30-Nov-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	0.7 J	ND (1.0)	4.0 J	-	-	ND (1.0)	ND (0.0096)	ND (1.0)	ND (1.0)	1.0 J	2.0 J	-	ND	ND	ND	-	0.43 J
		11-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	6.0	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND	ND	ND	-	0.27 J
		6-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	7	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	ND (0.050)
		19-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.5 J	ND (0.5)	ND (1)	0.6 J	ND (0.5)	ND (0.5)	ND (0.0097)	0.16 J	-	0.13 J	0.35 J	-	-	-	-	-	0.29 J
		17-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	1	3	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.11 J	ND (0.10)	0.092 J	0.13 J	-	-	-	-	-	10.5
		21-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	2	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.081)	ND (0.10)	ND (0.081)	ND (0.10)	-	-	-	-	-	0.28 J
		3-Apr-13			3.1	0.46 J	0.65 J	3.0	7.21	2.9	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.72 J
		30-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.53 J	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.025)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.3 J
		12-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-25	1-Jan-85	DM		ND	ND	ND	5	5	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-94	DM		ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (10)	ND (2)	ND (3)	-	-
		2-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		16-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	140	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		14-Nov-01			ND (10)	ND (10)	ND (10)	ND (20)	ND	110	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		13-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	2	-	-	-	-	-	-	ND (2)	-	-	-	-	-	-	-	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	61.7	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-	-	-	-	-
		21-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	37	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.8)	ND (9.8)	ND (9.8)	-	-	-	-	-	ND (5.0)
		30-Nov-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	0.8 J	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	1.0 J	ND (1.0)	4.0 J	3.0 J	-	ND	ND	ND	-	0.13 J
		13-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	5.0	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND	ND	ND	-	0.13 J
		4-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	11	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.9)	-	ND (0.9)	ND (0.9)	-	-	-	-	-	ND (0.050)
		12-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	2	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (0.060)	-	ND (0.040)	ND (0.10)	-	-	-	-	-	ND (0.050)
		15-Nov-10			3	ND (0.5)	0.7 J	3	6.7 J	12	ND (0.5)	ND (1)	1 J	ND (0.5)	ND (0.5)	ND (0.0097)	0.11 J	ND (0.096)	ND (0.038)	ND (0.096)	-	-	-	-	-	0.070 J
		18-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	3	ND (0.5)	ND (0.98)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.078)	ND (0.098)	ND (0.078)	ND (0.098)	-	-	-	-	-	ND (0.080)
		3-Apr-13			1.7	0.32 J	0.49 J	2.4	4.91	1.2	ND (2.0)	ND (0.10)	0.54 J	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.13 J
		30-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.49 J	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	6.2
		12-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-66	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-94	DM		ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		2-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		16-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	10	-	-	-	-	-	-	ND (4)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		14-Nov-01			ND (1)	ND (1)	ND (1)	ND (2)	ND	1	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		13-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	-	-	-	-	-
		12-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND	ND	ND	-	-
		19-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.8)	ND (9.8)	ND (9.8)	-	ND	ND	ND	-	ND (5.0)
		15-Nov-10			DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR
		18-Nov-11			DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR
		2-Apr-13			DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR	DR
		29-May-14			ND (0.50)	0.88 J	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	-	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	-	-	-	-	-	-	-	-	-	-
		30-May-14			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (3.0)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 3	S-69	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	DM		ND	ND	ND	1	1	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		21	ND (5)	ND (5)	ND (10)	21	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		28-Dec-95			ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			ND (1)	16	7	27	50	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		2-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		16-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	6.8	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		14-Nov-01			ND (1)	ND (1)	ND (1)	ND (2)	ND	3	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		13-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	-	-	-	-	-
		12-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	1.9	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-	-	-	-	-
		19-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.9)	ND (9.9)	ND (9.9)	-	-	-	-	-	ND (5.0)
	S-69D	30-Nov-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	4.0 J	ND (1.0)	1.0 J	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	1.0 J	-	-	-	-	-	0.25 J
		7-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	0.064 J
	S-112	1-Dec-06			1.0 J	ND (0.7)	ND (0.8)	ND (0.8)	1.0 J	46	28	ND (1.0)	-	-	ND (1.0)	ND (0.0099)	ND (1.0)	12	18	2.0 J	-	-	-	-	-	0.13 J
		11-Dec-07			0.8 J	ND (0.5)	ND (0.5)	ND (0.5)	0.8 J	-	21	1.0 J	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	10	16	1.0 J	-	-	-	-	-	0.11 J
	S-280	7-Jul-10			41000	6900	ND (50)	ND (50)	47900	ND (50)	ND (100)	6	ND (100)	ND (100)	ND (50)	ND (0.028)	ND (5)	7	12	ND (5)	-	-	-	-	-	ND (1.0)
		8-Jun-15			6570	ND (50.0)	ND (50.0)	ND (150)	6570	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)	ND (50.0)	ND (0.040)	-	-	-	-	-	-	-	-	-	ND (5.0)
		16-Dec-15			28500	35.1 J	ND (100)	ND (100)	28535.1	ND (100)	ND (100)	ND (0.10)	ND (200)	ND (200)	ND (100)	ND (0.019)	ND (0.10)	ND (0.10)	0.176	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		20-May-16			16000	26 J	ND (25)	ND (25)	16026	ND (25)	ND (25)	ND (0.1)	ND (25)	ND (25)	ND (25)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-38	1-Jan-85	DM		1200	ND	ND	ND	1200	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		1300	160	ND	210	1670	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		930	260	240	280	1710	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	DM		310	120	60	94	584	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		1 J	ND (5)	ND (5)	ND (10)	1	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		28-Dec-95			300	42	80	100	522	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		9.3	5.5	3.9	4.4	23.1	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			1300	720	220	500	2740	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			700	410	220	430	1760	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		2-Dec-99			89	3	3	5	100	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		16-Nov-00			8.5	5.1	2.5	2.5	18.6	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		14-Nov-01			1100	180	260	150	1690	ND (100)	-	-	-	-	-	-	1	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		12-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	-	-	-	-	-
		13-Nov-03			66.6	5.2	23.7	14.2	109.7	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-	-	-	-	-
		21-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		29-Nov-06			7.0	3.0 J	17	6.0	33	ND (0.5)	6.0	4.0 J	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.18 J
		6-Dec-07			26	7.0	19	29	81	-	6.0	4.0	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	ND (0.047)
		5-Nov-08			140	21	72	41	274	ND (0.5)	27	14	10	9	ND (0.5)	ND (0.0097)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	ND (0.050)
		13-Nov-09			3	ND (0.5)	2	1 J	6	ND (0.5)	2 J	ND (1)	1 J	0.6 J	ND (0.5)	ND (0.0097)	0.080 J	-	0.069 J	0.10 J	-	-	-	-	-	0.11 J
		12-Nov-10			12	3	16	32	63	ND (0.5)	15	4 J	71	32	ND (0.5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	0.14 J
		18-Nov-11			ND (5.0)	ND (5.0)	4	10	14	ND (5.0)	5	6.4	31	14	ND (0.5)	ND (0.0097)	0.14 J	ND (0.63)	0.31	ND (0.096)	-	-	-	-	-	0.13 J
		3-Apr-13			1.9	2.2	10.6	23.9	38.6	ND (1.0)	7.5	1.66	41.3	16.7	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.4
		30-May-14			0.55	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	0.180	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	8.1
		18-May-15			160	64	79	88	391	ND (0.5)	16	20	33	11	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.095 J
		18-May-16			180	96	79	83	438	ND (0.5)	13	26	17	7	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-39	1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		1 J	ND (5)	ND (5)	ND (10)	1	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		28-Dec-95			ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		2-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		16-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		14-Nov-01			ND (1)	ND (1)	ND (1)	ND (2)	ND	1	-	-	-	-	-	-	ND (1)	-	-	-	-	-	-	-	-	-
		12-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	-	-	-	-	-
		20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		29-Nov-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (2.0)	ND (2.0)	ND (2.0)	-	0.16 J
		6-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND	ND	ND	-	ND (0.047)
		7-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	ND (0.050)
		13-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (0.059)	-	ND (0.039)	ND (0.098)	-	-	-	-	-	ND (0.050)
		11-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	ND (0.052)
		18-Nov-11			2	ND (0.5)	0.7 J	2	4.7	ND (0.5)	ND (0.5)	ND (0.98)	0.8 J	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.078)	ND (0.098)	ND (0.078)	ND (0.098)	-	-	-	-	-	0.080 J
		2-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		19-May-14			ND (0.50)	ND (1.0)	ND (0.50)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.8 J
		18-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		12-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
AOI 4	S-38																									

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 4	S-40	1-Jan-85	DM		2800	ND	1200	6100	10100	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		600	ND	210	1520	2330	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		2000	ND	2900	4100	9000	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	DM		78	6	12	16	112	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		280	55 J	140 J	75 J	550	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		28-Dec-95			150	23	29	51.2	253.2	-	-	-	-	-	-	-	ND	-	-	-	-	1	ND (1)	1	-	-
		1-Jan-96	DM		12	1.8	3.4	1.9	19.1	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			350	ND (100)	ND (100)	56 J	406	-	-	-	-	-	-	-	1	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			630	ND (100)	ND (100)	ND (100)	630	-	-	-	-	-	-	-	ND (1)	-	-	-	-	2	ND (2)	ND (3)	-	-
		2-Dec-99			1000	ND (100)	ND (100)	ND (200)	1000	-	-	-	-	-	-	-	ND (1)	-	-	-	-	2	ND (2)	ND (3)	-	-
		16-Nov-00			600	ND (100)	ND (100)	ND (200)	600	ND (100)	-	-	-	-	-	-	3	-	-	-	-	ND (13)	ND (10)	ND (14)	-	-
		14-Nov-01			1200	76	68	ND (100)	1344	1200	-	-	-	-	-	-	4	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		12-Nov-02			240	9	7	8	264	ND (5)	-	-	-	-	-	-	ND (15)	-	-	-	-	-	-	-	-	-
		13-Nov-03			987	36.9	19.5	20.9	1064.3	ND (5.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-	-	-	-	-
		6-Dec-06			220	9.0	8.0	5.0 J	242 J	ND (0.5)	17.0	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	3.0 J	5.0 J	ND (1.0)	-	-	-	-	-	0.18 J
		18-Dec-07			3.0	ND (0.5)	ND (0.5)	ND (0.5)	3.0	-	1.0 J	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	ND (0.9)	1.0 J	2.0 J	ND (0.9)	-	-	-	-	-	0.12 J
		7-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	0.34 J
		13-Nov-09			5	0.5 J	0.7 J	ND (0.5)	6.2	ND (0.5)	4	ND (1)	ND (0.5)	0.5 J	ND (0.5)	ND (0.0099)	0.37	-	1.6	ND (0.10)	-	-	-	-	-	0.25 J
		11-Nov-10			72	3	2	1	78	ND (0.5)	12	ND (1)	ND (0.5)	0.7 J	ND (0.5)	ND (0.0095)	1 J	6	12	2 J	-	-	-	-	-	0.074 J
		28-Nov-11			ND (0.5)	2	ND (0.5)	ND (0.5)	2	ND (0.5)	0.6 J	ND (9.6)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	6.0	6.7	9.2	ND (0.096)	-	-	-	-	-	ND (0.080)
		8-Apr-13			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.1)	0.135	0.255	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		18-May-15			10	2	ND (0.5)	ND (0.5)	12	ND (0.5)	6	0.6	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	0.4 J	0.6	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.19 J
		19-May-16			18	4	1	1	24	ND (0.5)	16	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.2 J	1	2	0.4 J	0.5 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-120	20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	-	ND (5.0)
		29-Nov-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.16 J
		14-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	-	-	-	-	-	-	0.10 J
		5-Nov-08			0.5 J	ND (0.5)	ND (0.5)	ND (0.5)	0.5 J	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	-	ND (0.050)
		13-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.057)	-	ND (0.038)	ND (0.095)	-	-	-	-	-	-	ND (0.050)
		11-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	-	ND (0.052)
		18-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.95)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.076)	ND (0.095)	ND (0.076)	ND (0.095)	-	-	-	-	-	-	ND (0.080)
		2-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	1.39	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		21-May-14			7.8	1.1	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		18-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		18-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-122	20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	-	ND (5.0)
		29-Nov-06			ND (0.5)	ND (0.7)	1.0 J	2.0 J	3.0 J	ND (0.5)	4.0 J	2.0 J	-	-	ND (1.0)	ND (0.0098)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.13 J
		6-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.14 J
		5-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	-	ND (0.050)
		13-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.059)	-	ND (0.039)	ND (0.098)	-	-	-	-	-	-	ND (0.050)
		12-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	1 J	ND (1)	2	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	-	ND (0.052)
		18-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.95)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.076)	0.10 J	ND (0.076)	ND (0.095)	-	-	-	-	-	-	ND (0.080)
		2-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		12-May-16			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.5)	ND (2)	ND (2)	ND (1)	ND (0.029)	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 (1.0)
	S-222	30-Nov-06			0.8 J	ND (0.7)	ND (0.8)	ND (0.8)	0.8 J	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0098)	ND (1.0)	ND (1.0)	3.0 J	3.0 J	-	-	-	-	-	-	0.16 J
		6-Dec-07			3.0	1.0	ND (0.5)	0.5 J	4.5 J	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0098)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.11 J
		5-Nov-08			3	ND (0.5)	ND (0.5)	ND (0.5)	3.0	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	-	0.050 J
		12-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (0.058)	-	ND (0.080)	ND (0.096)	-	-	-	-	-	-	ND (0.050)
		15-Nov-10			15	2	4	16	37.0	ND (0.5)	ND (0.5)	ND (0.96)	4	1 J	ND (0.5)	ND (0.0097)	ND (0.058)	ND (0.096)	0.044 J	ND (0.096)	-	-	-	-	-	-	ND (0.052)
		18-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.95)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.076)	ND (0.095)	ND (0.076)	ND (0.095)	-	-	-	-	-	-	0.87 J
		3-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.3
		21-May-14			29.7	6.8	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		18-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		18-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-223	29-Nov-06			4300	2800	930	4400	12430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		14-Dec-07			4700	2000	900	4500	12100	-	33	380	-	-	ND (5.0)	ND (0.0094)	ND (1.0)	2.0 J	2.0 J	ND (1.0)	-	-	-	-	-	-	0.060 J
		5-Nov-08			8100	1700	1100	5100	16000	ND (5)	38	380	1000	330	ND (5)	ND (0.010)	ND (1)	-	1 J	ND (1)	-	-	-	-	-	-	0.10 J
		12-Nov-09			3900	460	850	3700	8910	ND (3)	36	330	1000	360	ND (3)	ND (0.0099)	0.47	-	2.3	ND (0.095)	-	-	-	-	-	-	0.098 J
		15-Nov-10			3300	410	890	3800	8400	ND (3)	32	170	920	360	ND (3)	ND (0.0097)	0.14 J	3.4	0.86	1.1	-	-	-	-	-	-	0.095 J
		18-Nov-11			1100	110	440	1900	3550	ND (5)	25	170	780	350	ND (5)	ND (0.0096)	ND (0.077)	3.7	1.4	ND (0.096)	-	-	-	-	-	-	ND (0.080)
		3-Apr-13			5530	337	866	4040	10773	ND (40)	29.3 J	130	1070	351	ND (40)	ND (0.020)	ND (0.10)	0.625	0.601	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.26 J
		15-Jan-14			6280	2030	960	3860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4-Apr-14			2320	1020	259	1370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		30-May-14			1470	108	396	1300	-	ND (10)	23.0	38.6	812	314	ND (10)	ND (0.020)	ND (0.10)	0.940	0.770	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	6.8
		12-Aug-14			4240	294	713	2820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		6-Jan-15			11400	5410	871	3980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-Apr-15			1100	190	330	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		19-May-16			2200	330	440	1500	4470	ND (10)	16 J	87	490	170	ND (10)	ND (0.0097)	ND (0.1)	0.8	0.2 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	S-224	29-Nov-06			1200	1400	500	2200	5300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-Jan-14			405	127	289	697	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4-Apr-14			110	45.0	182	363	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12-Aug-14			114	35.0	81.9	197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		6-Jan-15			255	150	213	457	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-Apr-15			480	84	300	370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 4	S-239	29-Nov-06			12	260	310	1100	1682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-Jan-14			ND (1.0)	ND (1.0)	ND (1.0)	0.74 J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4-Apr-14			0.49 J	ND (1.0)	0.79	3.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		29-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	0.95 J	0.35 J	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	3.7
		12-Aug-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		6-Jan-15			ND (0.50)	0.26 J	0.51 J	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-Apr-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	A-17	1-Jan-95	DM		WI	WI	WI	WI	WI	WI	WI	WI	-	-	WI	WI	WI	WI	WI	WI	-	-	-	-	-	WI
		1-Jan-96	DM		ND (1)	ND (1)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-00	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	4	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	2	-	-	-	-	2	-	ND (3)	-	-
		1-Jan-02	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND [2]	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		27-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		6-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1)	ND (1)	-	-	ND (1)	ND (0.0099)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	0.14 J
		6-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.19 J
		3-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.7 J	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	ND (0.050)
		17-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.49	0.73	0.5	1.2	-	-	-	-	-	3.1
		16-Nov-11			WELL DESTROYED																					
	A-133	17-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	3	ND (20)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	71	48	49	ND (170)	-	-	-	-	-	ND (0.052)
		16-Nov-11			ND (0.5)	0.5 J	ND (0.5)	ND (0.5)	ND	ND (0.5)	2	ND (400)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	2200	760	1000	ND (4000)	-	-	-	-	-	4.2
		8-Apr-13			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	0.574	ND (0.1)	ND (0.1)	0.959	ND (0.1)	0.173	0.269	ND (0.1)	ND (0.1)	ND (3)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	0.39 J	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	23.6	8.11	9.18	24.1	2.58	7.36	11.1	4.40	6.58	3.4
		24-Jul-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	0.60 J	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.644	0.351	ND (0.10)	1.09	ND (0.10)	0.210	0.192	0.111	ND (0.10)	ND (3.0)
		21-Oct-14			0.38 J	0.86 J	ND (1.0)	ND (1.0)	-	ND (1.0)	0.49 J	0.125	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	1.19	0.321	0.195	2.09	0.621	1.35	1.18	1.43	0.877	ND (3.0)
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.1 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	3	2	0.6	3	0.5	0.8	1	0.5 J	0.7	0.10 J
		19-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.9	ND (0.1)	ND (0.1)	1	ND (0.1)	0.2 J	0.4 J	0.2 J	0.2 J	ND (0.13)
		19-May-16		Field Duplicate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	1	ND (0.1)	ND (0.1)	1	ND (0.1)	0.2 J	0.3 J	0.2 J	0.2 J	ND (0.13)
	A-136	1-Jan-95	DM		ND	ND	ND	0.8 J	0.8 J	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	2	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	DM		2	ND (1)	ND (1)	ND (1)	2	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	DM		ND [20]	ND [20]	ND [20]	ND [20]	ND	-	-	-	-	-	-	-	9	-	-	-	-	7	5	6	-	-
		3-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	0.6 J	0.6 J	ND (0.5)	7	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	6	-	7	15	-	-	-	-	-	0.41 J
		1-Aug-14			ND (0.50) SL	ND (1.0) SL	ND (1.0) SL	1.1 SL	-	ND (1.0) SL	19.5 SL	ND (0.11) SL	0.48 J SL	ND (2.0) SL	ND (1.0) SL	ND (0.020) SL	1.53 SL	2.79 SL	1.24 SL	7.00 SL	1.28 SL	1.39 SL	1.07 SL	1.52 SL	0.900 SL	1.4 J SL
		17-Oct-14			ND (0.50)	ND (1.0)	ND (1.0)	0.76 J	-	ND (1.0)	8.4	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	2.01	3.22	2.23	4.22	1.41	1.65	0.651	1.23	0.459	3.4
AOI 5		1-Jan-95	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
	A-137	1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	2	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	2	-	-	-	-	1	ND (1)	2	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	2	-	-	-	-	2	2	2	-	-
		1-Jan-00	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	250	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	5	-	-	-	-	-	-	2	-	-	-	-	2	ND (2)	ND (3)	-	-
		1-Jan-02	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	6	-	-	-	-	-	-	2	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		22-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	0.45 J	ND (9.9)	ND (9.9)	ND (9.9)	-	-	-	-	-	ND (5.0)
		4-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	1.0 J	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0096)	1.0 J	ND (1.0)	2.0 J	3.0 J	-	-	-	-	-	0.25 J
		6-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	-	-	-	-	-	0.25 J
		3-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	2	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	0.17 J
		17-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	3	ND (0.5)	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.085 J	0.16 J	0.41	0.25 J	-	-	-	-	-	0.50 J
		16-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	2	ND (0.5)	ND (0.97)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.078)	0.17 J	0.46	0.22 J	-	-	-	-	-	3.8
		8-Apr-13			ND (1)	ND (1)	ND (1)	ND (1)	ND	0.84 J	ND (2)	ND (0.11)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (3)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.43 J	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	0.245	0.138	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.9 J
		17-Jul-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.80 J	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	0.310	0.153	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		15-Oct-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.89 J	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	0.215	0.137	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.7 J	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	0.1 J	0.3 J	0.3 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.30 J
		19-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	1	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	0.3 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	A-138	17-Nov-10			6	ND (0.5)	10	27	43	1 J	7900	1.1 J	3	3	ND (0.5)	ND (0.0097)	0.16 J	1.5	1.5	ND (0.70)	-	-	-	-	-	0.17 J
		21-Nov-11			4 J	ND (0.5)	3 J	12	19	ND (0.5)	1700	ND [9.6]	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	2.9	ND (0.96)	2.6	2.2 J	-	-	-	-	-	0.21 J
		8-Apr-13			0.76 J	ND (1)	ND (1)	0.33 J	1.09	1.1	104	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	0.152	ND (0.1)	0.235	0.174	ND (0.1)	0.151	ND (0.1)	0.166	ND (0.1)	ND (3)
	A-139	2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.6 J
		21-Oct-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	25.7
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	94.6
	A-140	17-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.6 J	ND (0.5)	ND (0.97)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.058)	ND (0.097)	ND (0.039)	ND (0.097)	-	-	-	-	-	0.093 J
		16-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.98)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.078)	ND (0.098)	ND (0.078)	ND (0.098)	-	-	-	-	-	ND (0.080)
		8-Apr-13			ND (1)	ND (1)	ND (1)	0.73 J	0.73	0.24 J	ND (2)	ND (0.11)	0.39 J	ND (2)	ND (1)	ND (0.02)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (3)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		21-Oct-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.11)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (3.0)
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 5	WP-14	17-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (100)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	40	16 J	53	100	-	-	-	-	-	0.45 J
		28-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (9.8)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	ND (4.5)	1.7 J	2.3	7.4	-	-	-	-	-	0.34 J
		8-Apr-13			ND (1)	ND (1)	ND (1)	ND (1)	ND	0.26 J	ND (2)	0.228	ND (2)	ND (2)	ND (1)	ND (0.02)	0.576	0.228	0.54	1.17	0.249	0.586	0.463	0.432	0.27	ND (3)
		2-Jun-14			ND (5.0)	ND (10)	ND (10)	ND (10)	-	ND (10)	ND (10)	ND (0.10)	ND (20)	ND (20)	ND (10)	ND (0.020)	ND (0.10)	4.94	1.65	1.34	0.631	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.0 J
		25-Jul-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	1.03	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	2.78	1.16	1.84	6.16	1.12	3.47	2.18	2.96	1.20	6.2
		9-Oct-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.32 J	ND (1.0)	0.154	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.269	0.297	0.345	1.15	0.264	0.398	0.167	0.210	ND (0.10)	ND (3.0)
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.2 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.7	0.1 J	0.5 J	0.8	0.2 J	0.6	0.7	0.7	0.5	0.97 J
		20-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.4 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.7	0.5	0.6	1	0.3 J	0.6	0.7	0.7	0.6	0.31 J
	WP-A	4-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	1.0 J	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	1.0 J	4.0 J	ND (1.0)	7.0	-	-	-	-	-	0.20 J
		31-Jul-14			ND (0.50) SL	ND (1.0) SL	ND (1.0) SL	ND (1.0) SL	-	ND (1.0) SL	ND (1.0) SL	ND (0.50) SL	ND (2.0) SL	ND (2.0) SL	ND (1.0) SL	ND (0.020) SL	23.4 SL	2.34 SL	1.83 SL	65.2 SL	6.75 SL	9.79 SL	18.5 SL	18.2 SL	23.8 SL	3.9 SL
	WP-C	6-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	2.0	2.0	-	4.0	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	3.0 J	4.0 J	ND (1.0)	4.0 J	-	-	-	-	-	2
AOI 6	B-43	23-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	4	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	3	0.9	ND (0.1)	7	0.7	2	2	2	1	ND (0.13)
	B-45	18-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND	ND	ND	-	ND (0.047)
		4-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	ND (0.050)
	B-95	8-Jun-11			ND (0.5)	ND (0.5)	ND (0.5)	0.5 J	0.5	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	0.18 J	-	0.18 J	1.2	-	-	-	-	-	ND (0.052)
		23-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.4 J	ND (0.1)	ND (0.1)	0.7	ND (0.1)	0.2 J	0.3 J	0.2 J	0.2 J	ND (0.13)
	B-131	1-Jan-95	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	-	-	-	-	-
		1-Jan-97	DM		12	1	2	11	26	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	1	1	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	DM		19	ND (1)	ND (1)	1	20	-	-	-	-	-	-	-	1	-	-	-	-	1	ND (1)	ND (1)	-	-
		1-Jan-00	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	1.1	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	2	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-02	DM		5	1	ND (1)	2	8	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		13-Nov-03			4.2	ND (1.0)	ND (1.0)	0.93 J	5.13	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	0.60 J	ND (2.0)	ND (2.0)	-	-
		21-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	10	ND (5.0)	-	-	ND (5.0)	ND (0.020)	0.35 J	ND (9.8)	ND (9.8)	ND (9.8)	-	-	-	-	-	ND (5.0)
		4-Dec-06			4.0 J	ND (0.7)	ND (0.8)	ND (0.8)	4	ND (0.5)	11	ND (1.0)	-	-	ND (1.0)	ND (0.0098)	2.0 J	2.0 J	1.0 J	8.0	-	-	-	-	-	0.14 J
		18-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	9.0	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	2.0 J	ND (1.0)	4.0 J	-	-	-	-	-	0.091 J
		4-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	6	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	-	ND (1)	5	-	-	-	-	-	ND (0.050)
		9-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	0.5 J	0.5	ND (0.5)	10	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	3 J	ND (1)	5	-	-	-	-	-	ND (0.052)
		16-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	5	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	5.4	4.0	0.65	19	-	-	-	-	-	ND (0.080)
		8-Apr-13			1.1	0.61 J	0.32 J	0.62 J	2.65	ND (1)	13	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	0.132	1.08	0.43	1.13	0.477	0.169	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		2-Jun-14			0.29 J	0.30 J	ND (1.0)	0.56 J	-	ND (1.0)	12.1	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.206	1.74	0.333	2.51	0.747	0.258	ND (0.10)	ND (0.10)	ND (0.10)	1.6 J
		20-May-15			2	0.9 J	ND (0.5)	0.6 J	3.5	ND (0.5)	11	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.4 J	2	0.4 J	3	0.7	0.4 J	0.2 J	0.2 J	ND (0.1)	0.13 J
	B-153	9-Jun-06			ND (5)	ND (5)	ND (5)	ND (5)	-	ND (5)	9	ND (5)	-	-	ND (5)	ND (0.029)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-	-	-	-
		4-Jan-13			ND (1.0)	ND (1.0)	ND (1.0)	1.4	-	ND (1.0)	ND (2.0)	0.466	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	0.192	ND (0.10)	0.213	0.190	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
	B-158	9-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (1.0)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	1 J	-	-	-	-	-	0.072 J
		16-Nov-11			180	250	13	130	573	ND (1)	2 J	ND (0.96)	4 J	3 J	ND (1)	ND (0.0096)	0.35	0.23 J	0.19 J	0.80	-	-	-	-	-	0.10 J
		8-Apr-13			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	0.126	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.7 J
		20-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	ND (0.1)	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.14 J
	B-165	3-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.34 J	3.4	ND (0.10)	0.23 J	ND (2.0)	ND (1.0)	ND (0.020)	0.134	1.67	0.223	1.14	0.416	0.196	ND (0.10)	0.124	ND (0.10)	1.4 J
		20-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.6 J	6	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.2 J	2	0.1 J	2	0.6	0.2 J	ND (0.1)	0.1 J	ND (0.1)	0.11 J
	C-51	5-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	4.0 J	1.0 J	2.0 J	8.0	-	-	-	-	-	0.16 J
		17-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	2.0 J	ND (1.0)	2.0 J	-	-	-	-	-	0.11 J
		5-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	-	ND (1)	2 J	-	-	-	-	-	0.059 J
		11-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.6	-	0.65	3.0	-	-	-	-	-	ND (0.050)
AOI 7	C-104	1-Jan-95	DM		ND	ND	ND	1.3 J	1.3	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	3.8	ND (0.6)	3.8	-	-	-	-	-	-	-	4	-	-	-	-	2	ND (1)	ND (1)	-	-
		1-Jan-97	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	6	-	-	-	-	4	2	3	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	DM		ND (1)	ND (1)	ND (1)	1	1	-	-	-	-	-	-	-	2	-	-	-	-	1	ND (1)	ND (1)	-	-
		1-Jan-00	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	20	-	-	-	-	17	12	9	-	-
		1-Jan-02	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		21-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	2.8 J	ND (9.9)	ND (9.9)	ND (9.9)	-	-	-	-	-	ND (5.0)
		5-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0096)	7.0 J	9.0 J	ND (5.0)	15.0 J	-	-	-	-	-	0.13 J
		12-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	0.7 J	ND (1.0)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	13	12	5.0	34	-	-	-	-	-	0.12 J
		5-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	0.6 J	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	15 J	-	ND (10)	39 J	-	-	-	-	-	0.51 J
		11-Nov-09			ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND	ND (3.0)	ND (3.0)	ND (5.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (0.0096)	0.20 J	-	0.14 J	1.7	-	-	-	-	-	0.076 J
		9-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	0.5 J	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	8	ND (1)	2 J	-	-	-	-	-	0.078 J
		16-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.97)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.17 J	0.24 J	ND (0.078)	1.7	-	-	-	-	-	3.8
		8-Apr-13			ND (1)	ND (1)	ND (1)	0.62 J	0.62	ND (1)	ND (2)	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.1)	2.35	0.633	0.641	0.364	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		3-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.202	ND (0.10)	0.161	0.429	ND (0.10)	0.260	0.201	0.240	0.122	2.3 J
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.2 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	1	7	3	3	1	0.8	0.6	0.5 J	0.3 J	ND (0.082)
		24-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.1 J	6	0.3 J	2	0.5 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 7	C-127	1-Jan-95	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		ND (1)	1	ND (1)	ND (1)	1	-	-	-	-	-	-	-	1.1	-	-	-	-	6	3	4	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	DM		ND (1)	ND (1)	ND (1)	1	1	-	-	-	-	-	-	-	4	-	-	-	-	3	2	2	-	-
		1-Jan-00	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	10	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	DM		ND (1)	1	2	2	5	8	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		13-Nov-03			ND (1)	ND (1)	ND (1)	ND (1)	ND	16	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		21-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	23	7.1	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.8)	ND (9.8)	ND (9.8)	-	-	-	-	-	ND (5.0)
		5-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	27.0	5.0	ND (1.0)	-	-	ND (1.0)	ND (0.0096)	3.0 J	8.0	2.0 J	9.0	-	-	-	-	-	0.13 J
		12-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	22	3.0	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	1.0 J	5.0	ND (0.9)	4.0 J	-	-	-	-	-	0.18 J
		5-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	19	3	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	3 J	-	ND (1)	9	-	-	-	-	-	0.51 J
		11-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	10	6.0	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.46	-	0.93	3.3	-	-	-	-	-	ND (0.050)
		9-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	12	10	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	6	ND (1)	2 J	-	-	-	-	-	0.073 J
		16-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	10	9	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.90)	7.9	ND (0.75)	2.5	-	-	-	-	-	ND (0.080)
		8-Apr-13			ND (1)	ND (1)	ND (1)	0.57 J	0.57	7.5	2.2	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.1)	1.64	ND (0.1)	0.59	0.285	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		3-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	0.22 J	-	4.4	3.6	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	2.15	0.225	0.440	0.281	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	6	2	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.2 J	4	0.1 J	1	0.5 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		24-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	5	4	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	3	0.3 J	0.7	0.4 J	0.1 J	0.1 J	ND (0.1)	0.6	ND (0.13)
	C-129	9-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	0.082 J
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.97)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.73	ND (0.097)	0.24	0.34 J	-	-	-	-	-	1.0
		8-Apr-13			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		3-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.2 J
		21-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.13 J
		24-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
AOI 8	N-1	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (2)	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	DM		ND	ND	0.5 J	ND	0.5	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96			ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	2	-	-	-	-	2	2	2	-	-
		1-Jan-97	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		15-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		15-Nov-01			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		12-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		19-Dec-06			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.15 J
		4-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0098)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.089 J
		4-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	0.5 J	0.5 J	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.9)	-	ND (0.9)	ND (0.9)	-	-	-	-	-	ND (0.050)
		16-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.068 J	-	0.050 J	ND (0.10)	-	-	-	-	-	ND (0.050)
		8-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	ND (0.052)
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.10 J	ND (0.096)	0.13 J	0.27 J	-	-	-	-	-	1.5
		4-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.13 J
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.4 J
		19-May-15			0.9 J	ND (0.5)	0.7 J	2	3.6	ND (0.5)	ND (0.5)	0.2 J	0.5 J	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		23-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-2	4-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	12.3	-	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	-	-	-	-	-	-	-	-	-	0.39 J
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	1.8	0.117	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.766	0.268	0.394	1.27	0.498	0.807	0.959	1.34	1.43	4.1
		19-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.7	0.2 J	0.2 J	1	0.3 J	0.6	0.8	0.8	0.9	ND (0.082)
		23-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.4 J	0.6	0.1 J	1	0.2 J	0.4 J	0.5 J	0.5 J	0.4 J	ND (0.13)
	N-3	20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		17-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.86	-	0.65	2.1	-	-	-	-	-	0.15 J
		8-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	10	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	10	3 J	11	33	-	-	-	-	-	0.24 J
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (4.8)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1.9)	0.90 J	2.1	1.8 J	-	-	-	-	-	0.13 J
		4-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	-	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	-	-	-	-	-	-	-	-	-	30.5
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	2.23	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	2.69	0.297	0.662	6.08	1.59	2.43	1.53	2.26	0.971	2.4 J
		19-May-15			3	3	0.9 J	4	10.9	ND (0.5)	0.6 J	5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	10	1	2	13	5	7	6	6	2	2.4
		27-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.9	0.3 J	0.7	1	0.5	0.7	0.9	0.8	0.6	1.6
	N-7	1-Jan-93	DM		ND	ND	ND	8	8	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		ND (250)	ND (250)	480	ND (500)	480	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96			ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		1	3	4	3	11	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	DM		ND (10)	ND (10)	ND (10)	ND (10)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		15-Nov-00			ND (1)	1.7	ND (1)	ND (2)	1.7	1.2	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		15-Nov-01			28	4	2	6	40	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		12-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 8	N-8	20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		6-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (10.0)	ND (10.0)	ND (10.0)	ND (10.0)	-	-	-	-	-	0.14 J
		4-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0098)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	1.7
		4-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	-	ND (1)	ND (1)	-	-	-	-	-	0.053 J
		16-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.059)	-	ND (0.039)	ND (0.098)	-	-	-	-	-	ND (0.050)
		8-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	0.074 J
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.97)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.077)	ND (0.097)	ND (0.077)	ND (0.097)	-	-	-	-	-	ND (0.080)
		5-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (2.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1.0)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.3 J
		20-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		24-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-28	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	11	15	-	-
		1-Jan-94	DM		ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96			ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		15-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		15-Nov-01			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	3	-	-	-	-	3	4	3	-	-
		12-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		13-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		20-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		19-Dec-06			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	1.0 J	-	-	-	-	-	0.53 J
		4-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.29 J
		3-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	ND (0.9)	-	ND (0.9)	ND (0.9)	-	-	-	-	-	1.2
		16-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.17 J	-	0.15 J	0.38 J	-	-	-	-	-	0.28 J
		8-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	3 J	ND (1)	3 J	4 J	-	-	-	-	-	0.47 J
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.95)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.087 J	ND (0.095)	ND (0.076)	ND (0.095)	-	-	-	-	-	0.40 J
		5-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	15.6
	N-37	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	62	-	-	-	-	55	49	32	-	-
		1-Jan-86	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	21	-	-	-	-	28	ND	ND	-	-
		1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		ND (50)	ND (50)	ND (50)	ND (100)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	2 J	1 J	ND (10)	-	-
		1-Jan-95	DM		ND	ND	ND	0.9 J	0.9	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96			ND (0.3)	ND (0.3)	7.8	ND (0.6)	7.8	-	-	-	-	-	-	-	7	-	-	-	-	8	6	4	-	-
		1-Jan-97	DM		ND (1)	1	ND	2	3	-	-	-	-	-	-	-	5	-	-	-	-	8	4	2	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	3	-	-	-	-	4	4	2	-	-
		1-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	2	-	-	-	-	2	2	1	-	-
		15-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		15-Nov-01			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	4	-	-	-	-	7	5	ND (3)	-	-
		12-Nov-02			2	ND (1)	ND (1)	ND (1)	2	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	3	3	ND (1)	-	-
		14-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		19-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.9)	ND (9.9)	ND (9.9)	-	-	-	-	-	ND (5.0)
		1-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.12 J
		5-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0095)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.13 J
		3-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.9)	-	ND (0.9)	ND (0.9)	-	-	-	-	-	0.19 J
		11-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.55	-	ND (0.40)	0.8	-	-	-	-	-	0.075 J
		8-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	ND (0.052)
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.95)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.076)	0.21 J	ND (0.076)	ND (0.13)	-	-	-	-	-	2.6
		4-Apr-13			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	0.25 J	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.048 J
		4-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.1 J
		20-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		26-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 8	N-57	1-Jan-85	DM		330	ND	2100	17100	19530	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		300	ND	1300	10900	12500	-	-	-	-	-	-	-	21	-	-	-	-	14	16	16	-	-
		1-Jan-88	DM		ND	ND	ND	1600	1600	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	DM		20	2	4	567	593	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		110 J	ND (250)	720	4140	4970	-	-	-	-	-	-	-	5 J	-	-	-	-	ND (10)	2 J	ND (10)	-	-
		1-Jan-95	DM		89	ND	ND	3040	3129	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96			190	2.8	13	2000	2205.8	-	-	-	-	-	-	-	1	-	-	-	-	1	2	ND (1)	-	-
		1-Jan-97	DM		180	ND (100)	ND (100)	1900	2080	-	-	-	-	-	-	-	2	-	-	-	-	2	2	1	-	-
		1-Jan-98	DM		82 J	ND (100)	ND (100)	1600	1682	-	-	-	-	-	-	-	8	-	-	-	-	8	12	3	-	-
		1-Dec-99			120	ND (100)	ND (100)	660	780	-	-	-	-	-	-	-	13	-	-	-	-	10	15	9	-	-
		15-Nov-00			110	ND (100)	ND (100)	440	550	260	-	-	-	-	-	-	12	-	-	-	-	9	14	7	-	-
		15-Nov-01			75	ND (10)	ND (10)	240	315	ND (10)	-	-	-	-	-	-	3	-	-	-	-	2	ND (2)	ND (3)	-	-
		12-Nov-02			6	ND (1)	2	203	211	ND (1)	-	-	-	-	-	-	2	-	-	-	-	1	3	ND (1)	-	-
		14-Nov-03			24.1	1.1	1.1	32.3	58.6	ND (1.0)	-	-	-	-	-	-	0.63 J	-	-	-	-	ND (2.0)	0.70 J	0.58 J	-	-
		19-Oct-04			38	ND (5.0)	ND (5.0)	140	178	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.8)	ND (9.8)	ND (9.8)	-	-	-	-	-	-	ND (5.0)
		1-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	24	24	ND (0.5)	2.0 J	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	1.0 J	ND (1.0)	ND (1.0)	1.0 J	-	-	-	-	-	-	0.14 J
		5-Dec-07			ND (0.5)	ND (0.5)	0.5 J	19	19.5 J	-	1.0 J	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.21 J
		4-Nov-08			ND (0.5)	0.6 J	0.6 J	93	94.2 J	ND (0.5)	3	ND (1)	3	0.5 J	ND (0.5)	ND (0.0097)	1 J	-	ND (0.9)	ND (0.9)	-	-	-	-	-	-	0.11 J
		11-Nov-09			ND (0.5)	0.7 J	ND (0.5)	230	230.7	ND (0.5)	2	ND (1)	8.0	1 J	ND (0.5)	ND (0.0098)	ND (0.20)	-	ND (0.20)	ND (0.50)	-	-	-	-	-	-	0.090 J
		8-Nov-10			0.5 J	1	0.7 J	600	602.2 J	ND (0.5)	4	2 J	13	4	ND (0.5)	ND (0.0099)	ND (1)	1 J	ND (1)	ND (1)	-	-	-	-	-	-	0.070 J
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	280	280	ND (0.5)	1 J	ND (4.8)	3	1 J	ND (0.5)	ND (0.0096)	ND (0.38)	ND (0.48)	ND (0.38)	ND (0.48)	-	-	-	-	-	-	ND (0.080)
		6-Apr-13			ND (5.0)	ND (5.0)	ND (5.0)	384	384	ND (5.0)	ND (0.10)	ND (0.10)	5.6 J	ND (10)	ND (5.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.064 J
		2-Jun-14			ND (0.50)	0.54 J	ND (1.0)	267	-	ND (1.0)	1.2	ND (0.10)	5.8	2.0	ND (1.0)	ND (0.020)	0.313	ND (0.10)	ND (0.10)	0.357	ND (0.10)	0.180	0.739	0.283	1.34	ND (3.0)
		20-May-15			ND (5)	ND (5)	ND (5)	250	250	ND (5)	ND (5)	0.2 J	ND (5)	ND (5)	ND (5)	ND (0.0096)	1	0.4 J	0.3 J	0.9	0.2 J	0.6	2	1	2	0.30 J
		26-May-16			ND (0.5)	ND (0.5)	ND (0.5)	.56	ND	ND (0.5)	0.7 J	ND (0.1)	1 J	ND (0.5)	ND (0.5)	ND (0.0097)	0.3 J	ND (0.1)	0.1 J	0.3 J	ND (0.1)	0.2 J	0.4 J	0.3 J	0.5 J	0.23 J
	N-60	1-Jan-85	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		6	ND	ND	ND	6	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		96	ND	ND	ND	96	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	DM		13	ND	ND	ND	13	-	-	-	-	-	-	-	13	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		ND (250)	ND (250)	ND (250)	ND (500)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	2 J	-	-	-	-	2 J	ND	ND	-	-
		11-Jan-96			16	ND (0.3)	ND (0.4)	ND (0.6)	16	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		7	5	ND (1)	ND (1)	12	-	-	-	-	-	-	-	6	-	-	-	-	3	2	2	-	-
		1-Jan-98	DM		9	3	ND (1)	6	18	-	-	-	-	-	-	-	10	-	-	-	-	8	7	5	-	-
		1-Dec-99			ND (100)	ND (100)	ND (100)	ND (200)	ND	-	-	-	-	-	-	-	3	-	-	-	-	3	2	1	-	-
		15-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	960	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		15-Nov-01			4	1	ND (1)	ND (2)	5	ND (1)	-	-	-	-	-	-	9	-	-	-	-	8	4	3	-	-
		12-Nov-02			3	ND (1)	ND (1)	ND (1)	3	ND (1)	-	-	-	-	-	-	2	-	-	-	-	2	2	ND (1)	-	-
		14-Nov-03			0.99 J	ND (1.0)	ND (1.0)	ND (1.0)	0.99	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		19-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	1.9 J	ND (9.9)	ND (9.9)	ND (9.9)	-	-	-	-	-	-	ND (5.0)
		1-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0096)	9.0	2.0 J	ND (1.0)	8.0	-	-	-	-	-	-	0.18 J
		5-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	0.42 J
		4-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	5	-	ND (1)	4 J	-	-	-	-	-	-	0.24 J
		11-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	4.0	-	0.56	3.8	-	-	-	-	-	-	0.095 J
		8-Nov-10			0.6 J	ND (0.5)	ND (0.5)	ND (0.5)	0.6 J	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	4 J	1 J	ND (1)	3 J	-	-	-	-	-	-	0.57 J
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (4.8)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	6.0	0.81 J	0.50 J	2.2	-	-	-	-	-	-	3.9
		4-Apr-13			ND (2.0)	0.66 J	ND (2.0)	ND (2.0)	0.66	2.9	ND (4.0)	ND (0.10)	ND (4.0)	ND (4.0)	ND (2.0)	ND (0.020)	ND (0.10)	0.263	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.072 J
	N-64	1-Jan-93	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		ND (250)	ND (250)	90 J	ND (500)	90	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	DM		ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		11-Jan-96			ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	DM		ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	1	-	-	-	-	1	ND (1)	ND (1)	-	-
		1-Dec-99			ND (1)	ND (1)	ND (1)	ND (2)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		15-Nov-00			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		15-Nov-01			ND (1)	ND (1)	ND (1)	ND (2)	ND	ND (1)	-	-	-	-	-	-	4	-	-	-	-	3	3	ND (3)	-	-
		12-Nov-02			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		14-Nov-03			ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	ND (2.0)	ND (2.0)	ND (2.0)	-	-
		19-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	-	-	-	-	-	-	-	-	-	-	ND (5.0)
		1-Dec-06			ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	ND (0.5)	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	6.0	2.0 J	2.0 J	-	-	-	-	-	-	0.18 J
		5-Dec-07			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	2.9
		3-Nov-08			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.9)	-	ND (0.9)	ND (0.9)	-	-	-	-	-	-	18.1
		16-Nov-09			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.14 J	-	0.85	0.96	-	-	-	-	-	-	0.36 J
		8-Nov-10			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.9)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.9)	2 J	ND (0.9)	ND (0.9)	-	-	-	-	-	-	12.8
		17-Nov-11			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.98)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.12 J	7.6	1.7	0.74	-	-	-	-	-	-	0.37 J
		5-Apr-13			ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.1)	0.22 J	ND (2)	ND (1)	ND (0.02)	ND (0.1)	3.16	0.873	0.177	0.738	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	0.43 J	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.113	4.92	1.02	0.493	1.08	0.112	ND (0.10)	0.127	ND (0.10)	11.8
		20-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	3	0.8	0.3 J	0.8	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		26-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0094)	0.3 J	4	2	0.6	1	0.3 J	0.2 J	0.2 J	0.1 J	0.14 J
	N-74	7-Feb-08			25	ND (1)	ND (1)	ND (1)	-	ND (1)	ND (2)	ND (5)	-	-	ND (1)	ND (0.029)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-	-	-	-	ND (1)
		25-Jul-08			4	ND (1)	ND (1)	ND (1)	-	ND (1)	ND (2)	ND (5)	-	-	ND (1)	ND (0.029)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-	-	-	-	ND (1)
		22-May-15			10	ND (0.5)	ND (0.5)	ND (0.5)	10	ND (0.5)	0.5 J	2	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	2	1	0.4 J	0.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.085 J
		27-May-16			26	ND (0.5)	ND (0.5)	ND (0.5)	26	ND (0.5)	0.6 J	1	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	3	0.5 J	0.5 J	0.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-85	19-Oct-04			ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	26	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	-	ND (5.0)
		5-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	0.34 J	0.30 J	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.5 J
		20-May-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	0.4 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.13 J
		26-May-16			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0093)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date	Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 8	N-98	5-Apr-13		ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	ND (2)	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		4-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		20-May-15		ND (0.5)	ND (0.5)	ND (0.5)	0.7 J	0.7	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.32 J
		24-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-99	17-Nov-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.058)	-	ND (0.038)	ND (0.096)	-	-	-	-	-	ND (0.050)
		10-Nov-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	ND (0.052)
		17-Nov-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.96)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.076)	ND (0.096)	ND (0.076)	ND (0.096)	-	-	-	-	-	ND (0.080)
		5-Apr-13		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.036 J
		4-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.7 J
		20-May-15		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0093)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-100	4-Apr-13		ND (1.0)	0.79 J	ND (1.0)	ND (1.0)	0.79	ND (1.0)	ND (2.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.091 J
		2-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		19-May-15		5	ND (0.5)	4	1	20	ND (0.5)	ND (0.5)	0.7	4	1	ND (0.5)	ND (0.0097)	ND (0.1)	0.2 J	0.3 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.46 J
		23-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	N-111	11-Nov-09		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	2	4	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	5.5	-	8.6	ND (19)	-	-	-	-	-	ND (0.050)
		10-Nov-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	4	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	1 J	5	2 J	3 J	-	-	-	-	-	0.52 J
		17-Nov-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.8 J	4	ND (0.95)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.21	4.4	ND (0.55)	ND (2.1)	-	-	-	-	-	ND (0.080)
		4-Apr-13		ND (1.0)	ND (1.0)	ND (1.0)	0.98 J	0.98	0.58 J	6.9	ND (0.10)	0.87 J	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	1.89	0.399	0.177	0.240	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.083 J
		2-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	0.73 J	-	0.48 J	3.2	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	0.546	2.17	ND (0.10)	0.973	0.452	0.332	0.351	0.258	0.332	1.6 J
		20-May-15		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	4	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.1 J	4	0.2 J	0.4 J	0.4 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.082)
		26-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	1 J	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.5 J	3	ND (0.1)	0.9	0.5 J	0.3 J	0.3 J	0.2 J	0.2 J	ND (0.13)
		26-May-16	Field Duplicate	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	2 J	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.3 J	3	ND (0.1)	0.8	0.4 J	0.2 J	0.3 J	0.2 J	0.2 J	ND (0.13)
	N-133	4-Jun-14		7100	ND (25)	11.5 J	23.6 J	-	ND (25)	ND (25)	15.8	9.8 J	ND (50)	ND (25)	ND (0.020)	ND (0.10)	0.609	1.27	0.273	0.113	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	5.4
BELMONT	MW-30	15-Oct-04		490	3.0	24	18	535	ND (1.8)	6.0	64	-	-	7.3	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	ND (10)	ND (10)	ND (10)	-	ND (5.0)
		18-Nov-09		300	5 J	24	15	344	ND (3)	9 J	180	8 J	3 J	ND (3)	ND (0.010)	48	-	93	110	-	-	-	-	-	0.17 J
		10-Nov-10		22	ND (3)	3 J	ND (3)	25	ND (3)	ND (3)	110	ND (3)	ND (3)	ND (3)	ND (0.0096)	70	13 J	52	90	-	-	-	-	-	0.30 J
		29-Nov-11		110	0.9 J	3	5	118.9	ND (0.5)	3	89	2	0.7 J	ND (0.5)	ND (0.0098)	ND (70)	11	43	66	-	-	-	3	-	0.61 J
		12-Jul-12		41	1	2	5	49	ND (0.5)	3	55	2	0.6 J	ND (0.5)	ND (0.0096)	10	19	29	21	7	6	6	10	5	0.32 J
		3-Apr-13		36.3	1.3	0.40 J	2.9	40.9	ND (1.0)	3.2	21.9	1.8 J	ND (2.0)	ND (1.0)	ND (0.020)	5.41	3.48	8.55	8.61	ND (1.0)	2.36	3.76	7.02	4.11	ND (1)
		28-May-14		21.5	3.6	ND (1.0)	3.0	-	ND (1.0)	2.7	6.32	1.5 J	0.41 J	ND (1.0)	ND (0.020)	12.2	1.15	10.4	20.7	0.794	5.38	8.87	16.2	8.02	ND (3.0)
		10-Dec-14		16.9	3.0	ND (1.0)	3.0	-	ND (1.0)	2.4	6.55	1.5 J	0.46 J	ND (1.0)	ND (0.020)	13.7	2.34	13.5	24.0	1.29	6.12	9.84	14.3	9.63	2.3 J
		19-May-15		27	2	ND (1)	5	34	ND (1)	3 J	11	2 J	ND (1)	ND (1)	ND (0.0096)	30	2	17	32	0.9	10	17	31	16	0.095 J
		16-May-16		6.1	2	ND (0.5)	2	65	ND (0.5)	1 J	14	1 J	ND (0.5)	ND (0.5)	0.022 J	48	6	34	57	2	21	30	56	28	ND (0.13)
	MW-32	28-May-14		7.6	0.79 J	34.2	89.1	-	7.5	6.4	12.6	91.0	36.6	ND (1.0)	ND (0.020)	2.89	0.984	3.00	3.84	0.373	1.22	1.71	4.00	1.93	ND (3.0)
		10-Dec-14		7.5	0.64 J	52.6	138	-	5.8	11.3	27.8	178	72.7	ND (1.0)	ND (0.020)	7.18	4.31	8.68	10.3	1.77	5.01	5.49	8.72	7.71	2.6 J
	MW-33	6-Nov-08		19	ND (0.5)	ND (0.5)	0.8 J	19.8	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	63	-	49	79	-	-	-	-	-	0.097 J
		12-Jul-12		1800	9	22	4 J	1835	ND (3)	ND (3)	ND (1)	ND (3)	ND (3)	ND (3)	ND (0.0096)	6	2 J	5	12	2 J	3 J	5	9	5 J	1.1
		30-May-14		24.5	0.32 J	ND (1.0)	0.35 J	-	ND (1.0)	0.33 J	1.70	0.49 J	ND (2.0)	ND (1.0)	ND (0.020)	0.400	0.684	0.262	0.521	ND (0.10)	0.148	0.321	0.583	0.373	3.2
		10-Dec-14		3.9	ND (1.0)	ND (1.0)	ND (1.0)	-	ND (1.0)	ND (1.0)	0.111	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	5.28	0.243	3.03	6.33	0.424	2.47	4.41	5.58	4.51	ND (3.0)
	MW-37	18-Dec-07		15000	300	37	130	15467	-	97	63 J	-	-	ND (10)	ND (0.0094)	ND (1.0)	2.0 J	3.0 J	2.0 J	-	-	-	-	-	0.051 J
		7-Nov-08		130000	640	ND (250)	ND (250)	130640	ND (250)	ND (250)	ND (500)	ND (250)	ND (250)	ND (250)	ND (0.0098)	ND (1)	-	2 J	1 J	-	-	-	-	-	ND (0.050)
		18-Nov-09		79000	800	44 J	150	79994	ND (25)	120	ND (50)	ND (25)	ND (25)	ND (25)	ND (0.0098)	ND (0.25)	-	1.6	0.60 J	-	-	-	-	-	0.052 J
		10-Nov-10		29000	390	ND (25)	31 J	29421	ND (25)	67 J	3 J	ND (25)	ND (25)	ND (25)	ND (0.0095)	ND (1)	1 J	ND (1)	1 J	-	-	-	-	-	ND (0.052)
		29-Nov-11		130000	1400	32 J	120	131552	ND (25)	62 J	11	ND (25)	ND (25)	ND (25)	ND (0.0099)	ND (0.079)	ND (0.50)	0.55	ND (0.098)	-	-	-	-	-	ND (0.080)
		17-Jul-12		200000	1200	ND (250)	ND (250)	201200	ND (250)	ND (250)	10	ND (250)	ND (250)	ND (250)	ND (0.0099)	4	0.7	8	7	0.7	3	3	4	2	0.067 J
		3-Apr-13		96600	1250	ND (250)	70.7 J	97920.7	ND (250)	ND (500)	2.91	ND (500)	ND (500)	ND (250)	ND (0.020)	ND (0.10)	0.409	0.248	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		30-May-14		236000	3040	ND (100)	197	-	ND (100)	58.9 J	4.52	ND (200)	ND (200)	ND (100)	ND (0.020)	0.173	0.615	0.767	0.485	0.244	0.126	0.140	0.227	0.138	17.5
		17-Dec-14		197000	2220	ND (1000)	ND (1000)	-	ND (1000)	ND (1000)	3.60	ND (2000)	ND (2000)	ND (1000)	ND (0.020)	ND (0.10)	0.342	0.351	0.171	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.3 J
		19-May-15		90000	1400	ND (50)	91 J	91491	ND (50)	ND (50)	6	ND (50)	ND (50)	ND (50)	ND (0.0096)	0.3 J	0.4 J	0.6	0.6	0.1 J	0.2 J	0.2 J	0.3 J	0.2 J	ND (0.082)
		16-May-16		130000	1100	ND (100)	ND (100)	131100	ND (100)	ND (100)	10	ND (100)	ND (100)	ND (100)	0.024 J	ND (0.1)	0.7	0.8	0.2 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)
	MW-43	5-Dec-06		2300	63	1300	740	4403	13 J	140	7500	-	-	ND (5.0)	ND (0.0097)	88.0	170	320	190	-	-	-	-	-	0.16 J
		19-Dec-07		2600	88	2400	1300	6388	-	150	9700	-	-	ND (25)	ND (0.0096)	8.0	65	79	24	-	-	-	-	-	ND (0.047)
		19-Jul-12		970	47	1500	900	3417	6	130	5100	390	100	ND (3)	ND (0.0097)	0.8	51	54	4	10	0.6	0.4 J	0.6	0.3 J	ND (0.034)
		30-May-14		1110	75.9	3200	1710	-	5.3 J	185	7070	802	200	ND (20)	ND (0.020)	0.895	50.1	56.0	3.51	10.2	0.622	0.597	0.992	0.660	ND (3.0)
		18-Dec-14		681	22.5	63.2	73.7	-	5.2	100	124	14.4	6.7	ND (1.0)	ND (0.020)	0.964	15.9	15.9	1.91	2.20	0.701	0.555	0.960	0.482	ND (3.0)
	S-74	15-Oct-04		ND (1.0)	ND (5.0)	ND (5.0)	ND (10)	ND	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (10)	ND (10)	ND (10)	-	-	-	-	-	ND (5.0)
		18-Dec-07		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	ND (0.5)	ND (1.0)	-	-	ND (0.5)	ND (0.0094)	ND (1.0)	ND (1.0)	ND (1.0)	3.0 J	-	-	-	-	-	0.064 J
		7-Nov-08		0.8 J	ND (0.5)	3	0.6 J	4.4	0.7 J	1 J	48	9	0.9 J	ND (0.5)	ND (0.0097)	ND (1)	-	1 J	2 J	-	-	-	-	-	ND (0.050)
		18-Nov-09		94	2	ND (0.5)	ND (0.5)	96	ND (0.5)	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.057)	-	0.066 J	0.46	-	-	-	-	-	ND (0.050)
		10-Nov-10		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.5 J	ND (0.5)	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	ND (0.052)
		29-Nov-11		0.6 J	ND (0.5)	ND (0.5)	ND (0.5)	0.6	ND (0.5)	ND (0.5)	ND (0.99)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	0.75	ND (0.099)	0.64	1.3	-	-	-	-	-	ND (0.080)
		12-Jul-12		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.6 J	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	0.1 J	ND (0.1)	0.2 J	1	ND (0.1)	0.2 J	0.2 J	0.3 J	0.1 J	0.13 J
		3-Apr-13		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (2.0)	1.20	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (1)
		27-May-14		3.0	1.2	ND (1.0)	2.4	-	0.69 J	ND (1.0)	0.580	0.67 J	ND (2.0)	ND (1.0)	ND (0.020)	0.191	0.183	0.614	0.462	0.110	0.130	ND (0.10)	0.165	ND (0.10)	ND (3.0)
		8-Dec-14		ND (0.50)	ND (1.0)	ND (1.0)	0.72 J	-	0.37 J	ND (1.0)	0.138	0.54 J	0.34 J	ND (1.0)	ND (0.020)	0.244	ND (0.10)	0.250	0.412	ND (0.10)	0.141	0.167	0.317	0.164	1.8 J
		19-May-15		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	2	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.5	ND (0.1)	0.3 J	1	ND (0.1)	0.2 J	0.8	0.8	0.5	ND (0.082)
		16-May-16		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.13)

See notes on last page.

Table 4
Historical Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date		Sample Type	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES, TOTAL (DIMETHYLBENZENE)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
					µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
BELMONT	TW-8	**15-Oct-04**			1500	ND (80)	2100	1800	5400	290	210	14000	-	-	ND (74)	ND (0.020)	270	800	1800	740	-	-	-	-	-	ND (5.0)
		5-Dec-06			150	5.0	2100	1700	3955	17	290	13000	-	-	ND (1.0)	ND (0.0099)	580	2100	4300	1700	-	-	-	-	-	0.15 J
		18-Dec-07			660	12 J	1400	870	2942 J	-	190	12000	-	-	ND (10)	ND (0.0094)	240	700	1500	570	-	-	-	-	-	0.15 J
		7-Nov-08			240	ND (5)	1600	790	2630	31	170	13000	1100	140	ND (5)	ND (0.0097)	12	-	96	24	-	-	-	-	-	ND (0.050)
		18-Nov-09			240	ND (10)	1000	510	1750	ND (10)	230	9100	1200	130	ND (10)	ND (0.0097)	16	-	180	63	-	-	-	-	-	ND (0.050)
		10-Nov-10			84	2	1300	430	1816	8	180	9200	1200	91	ND (1)	ND (0.0097)	14 J	75	120	35 J	-	-	-	-	-	0.20 J
		29-Nov-11			37	ND (3)	1100	280	1417	8	200	11000	960	78	ND (3)	ND (0.0097)	ND (29)	120	180	68	-	-	-	-	-	0.84 J
		18-Jul-12			80	ND (5)	1900	330	2310	6 J	270	16000	1800	120	ND (5)	ND (0.0098)	26	110	180	59	44	25	18	22	8	0.74 J
		3-Apr-13			224	ND (20)	874	192	1290	ND (20)	216	2400	902	52.8	ND (20)	ND (0.020)	1.92	37.8	43.2	8.63	8.65	2.08	1.39	1.52	0.592	ND (1)
		27-May-14			39.3	0.60 J	1100	136	-	5.3	346	5970	1620	68.4	ND (1.0)	ND (0.020)	0.946	21.3	16.9	3.01	4.80	0.849	0.552	0.641	0.256	ND (3.0)
		11-Dec-14			8.4	ND (10)	184	18.8	-	ND (10)	61.8	3150	269	15.4 J	ND (10)	ND (0.020)	4.43	40.9	62.1	17.0	13.7	6.39	3.62	5.02	1.55	ND (3.0)
		19-May-15			63	ND (3)	670	68	801	4 J	180	7300	880	48	5	ND (0.0096)	5	56	57	11	12	4	3	3	1	0.089 J
		16-May-16			500	0.9 J	560	89	1149.9	4	150	6000	530	52	2	ND (0.0097)	9	56	67	18	15	7	5	6	3	ND (0.13)

Notes:

15.2	Concentration was detected.
ND (0.5)	Indicates concentration not detected above the method detection limit or laboratory reporting limit (in parentheses, if applicable).
B	Indicates the analyte is detected in the associated blank as well as in the sample.
D	Indicates an identified compound in an analysis that has been diluted. This flag alerts the data user to any differences between the concentrations reported in the two analyses.
DM	Date missing from original field records. Date of completion estimated. If only month and year are available, the default will be the first day of the month.
J	Indicates an estimated value aboive the method detection limit but below the laboratory reporting limit or limit of quantitation.
J-	Indicates an estimated value that is biased low.
SL	Sample was collected below LNAPL
µg/L	Micrograms per liter
-	Not analyzed

APPENDIX 1
Remediation System Recovery Data

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Groundwater and LNAPL Recovery Systems Operational Data
AOI 1: Belmont Terminal
First and Second Quarters 2016

Date	Total Flow (gallons)	Period Total Flow (gallons)	Average Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
8-Jan-16	86,634,554	5,087	0.32	0	251,017
13-Jan-16	86,716,844	82,290	11.43	0	251,017
21-Jan-16	86,861,699	144,855	12.57	0	251,017
25-Jan-16	86,937,265	75,566	13.12	0	251,017
4-Feb-16	87,117,422	180,157	12.51	0	251,017
9-Feb-16	87,204,767	87,345	12.13	0	251,017
18-Feb-16	87,353,450	148,683	11.47	0	251,017
24-Feb-16	87,450,897	97,447	11.28	0	251,017
29-Feb-16	87,537,489	86,592	12.03	68.1	251,086
10-Mar-16	87,694,865	157,376	10.93	39.9	251,125
17-Mar-16	87,805,297	110,432	10.96	0	251,125
25-Mar-16	87,936,254	130,957	11.37	0	251,125
30-Mar-16	88,022,588	86,334	11.99	27.4	251,153
5-Apr-16	88,128,186	105,598	12.22	0	251,153
13-Apr-16	88,315,127	186,941	16.23	0	251,153
20-Apr-16	88,408,324	93,197	9.25	16.5	251,169
27-Apr-16	88,499,302	90,978	9.03	28.6	251,198
4-May-16	88,578,074	78,772	7.81	0	251,198
9-May-16	88,646,251	68,177	9.47	0	251,198
19-May-16	88,775,224	128,973	8.96	0	251,198
25-May-16	88,858,517	83,293	9.64	47.0	251,245
3-Jun-16	89,047,271	188,754	14.56	7.9	251,253
9-Jun-16	89,176,016	128,745	14.90	5.2	251,258
16-Jun-16	89,302,981	126,965	12.60	34.1	251,292
22-Jun-16	89,408,643	105,662	12.23	0	251,292
1-Jul-16	89,568,046	159,403	12.30	32.1	251,324

NOTES:

LNAPL: Light Non-Aqueous Phase Liquid

The Belmont Terminal systems consist of the Loading Rack system (RW-4 and RW-21 through RW-25) and the Frontage Road system (RW-15 and RW-26 through RW-32). Both systems have a dedicated totalizer.

On August 30, 2012, the Frontage Road system was turned off and remained off for the reporting period. The system will remain offline unless there is a significant increase of LNAPL in the recovery wells. The recovery wells were routinely gauged, and no product was detected during the second half of 2015 and the first half of 2016.

The Loading Rack system was operational for the reporting period with the exception of the following: The RW-22 water pump was tripped on December 28; the water pump was left off. On January 8, the flow meter was clogged, and the RW-24 product float was inoperable. RW-24 was inoperable again January 13 due to a broken probe wire at the product float. The product float was removed and repalced on January 15, and the RW-24 product pump was restarted. The RW-23 and RW-24 product pumps were shut off on April 27. Thw RW-23 propduct pump was restarted on May 4. The RW-4 product pump was removed for repairs on May 19 due to missing magnets (on the low float). On May 25, the product pumps were removed from RW-23 and RW-24 for maintenance. The RW-23 and RW-24 product pumps were installed and restarted on June 3. The RW-24 product pump was shut off from June 16 to June 22.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
AOI 1: Shunk Street Sewer Ventilation System and Biofilter
Organic Vapor Concentrations
First and Second Quarters 2016

Date	Flow Rate (CFM)	Sewer Air PID (ppm)	Total Flow PID (ppm)	Treatment Cell Effluent PID (ppm)			Treatment Cell Media Temperature (°F)		
				Cell #1	Cell #2	Cell #3	Cell #1	Cell #2	Cell #3
8-Jan-16	4,400	0	0	0	0	0	60	60	60
13-Jan-16	4,100	1	1	0	0	0	58	58	58
21-Jan-16	4,100	1	1	0	0	0	60	60	60
25-Jan-16	4,100	1	1	0	0	0	60	60	60
4-Feb-16	NM	NM	NM	NM	NM	NM	NM	NM	NM
9-Feb-16	4,100	0	0	0	0	0	60	60	60
18-Feb-16	4,160	1	1	0	0	0	56	56	56
24-Feb-16	4,160	0	0	0	0	0	56	56	56
29-Feb-16	4,160	1	1	0	0	0	56	56	56
10-Mar-16	4,160	2	2	0	0	0	68	68	68
17-Mar-16	4,160	1	1	0	0	0	60	60	60
25-Mar-16	4,160	0	0	0	0	0	68	68	68
30-Mar-16	4,200	1	1	0	0	0	68	68	68
5-Apr-16	4,200	1	1	0	0	0	60	60	60
13-Apr-16	4,200	1	1	0	0	0	64	64	64
20-Apr-16	4,200	1	1	0	0	0	65	65	65
27-Apr-16	4,200	1	1	0	0	0	62	62	62
4-May-16	4,200	1	1	0	0	0	64	64	64
9-May-16	4,200	1	1	0	0	0	78	78	78
19-May-16	4,200	0	0	0	0	0	74	74	74
25-May-16	4,200	1	1	0	0	0	70	71	70
3-Jun-16	4,200	1	1	0	0	0	70	70	70
9-Jun-16	4,200	1	1	0	0	0	78	78	78
16-Jun-16	4,200	1	1	0	0	0	70	70	70
22-Jun-16	4,200	1	1	0	0	0	80	80	80
1-Jul-16	4,200	1	1	0	0	0	84	84	84

NOTES:

CFM: cubic feet per minute

ppm: parts per million

°F: Degrees Fahrenheit

NM = not measured

Vapor concentrations are collected using a MultiRAE Lite Photoionization Detector (PID).

The Sewer Air reading is collected from the Shunk Street sewer air stream only.

The air stripper was taken offline on June 17, 2004; therefore, the Total Flow is equal to the Sewer Air reading.

The system was operational for the reporting period with the following exception: On January 8, the belts were replaced on the blower.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
AOI 1: Shunk Street Sewer Biofilter System
pH Data

First and Second Quarters 2016

Date	Leachate pH	Biofilter Treatment Cell - Soil pH		
		Cell 1	Cell 2	Cell 3
25-Jan-16	5.48	---	---	---
29-Feb-16	NA	---	---	---
30-Mar-16	NA	5.91	5.88	5.62
27-Apr-16	NA	---	---	---
25-May-16	NA	---	---	---
3-Jun-16	NA	---	---	---
9-Jun-16	NA	---	---	---
16-Jun-16	NA	---	---	---
22-Jun-16	NA	---	---	---
1-Jul-16	NA	6.00	5.97	5.83

NOTES:

Leachate pH readings are collected on a monthly basis.

Media pH readings are collected on a quarterly basis.

NA = No leachate available to record pH.

The system was operational for the reporting period with the following exception: On January 8, the belts were replaced on the blower.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Total Fluids Recovery System Operational Data
AOI 1: 26th Street Sewer Area
First and Second Quarters 2016

Date	Total Flow (gallons)	Period Total Flow (gallons)	Calculated System Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
5-Jan-16	57,599,892	0	0.00	NA	9,148.60
12-Jan-16	57,826,087	226,195	22.44	NA	9,148.60
19-Jan-16	58,052,282	226,195	22.44	NA	9,148.60
26-Jan-16	58,278,478	226,195	22.44	NA	9,148.60
2-Feb-16	58,542,070	263,592	26.15	NA	9,148.60
9-Feb-16	58,774,313	232,243	23.04	NA	9,148.60
16-Feb-16	59,149,289	374,976	37.20	NA	9,148.60
23-Feb-16	59,355,727	206,438	20.48	NA	9,148.60
3-Mar-16	59,698,001	342,274	26.41	NA	9,148.60
9-Mar-16	59,922,814	224,813	26.02	NA	9,148.60
16-Mar-16	60,139,130	216,317	21.46	NA	9,148.60
25-Mar-16	60,474,276	335,146	25.86	NA	9,148.60
29-Mar-16	60,511,270	36,994	6.42	NA	9,148.60
8-Apr-16	60,808,342	297,072	20.63	NA	9,148.60
12-Apr-16	60,949,346	141,005	24.48	NA	9,148.60
19-Apr-16	61,169,695	220,349	21.86	NA	9,148.60
26-Apr-16	61,404,761	235,066	23.32	NA	9,148.60
3-May-16	61,695,266	290,506	28.82	NA	9,148.60
9-May-16	61,882,582	187,315	21.68	NA	9,148.60
20-May-16	62,249,436	366,854	23.16	NA	9,148.60
23-May-16	62,351,863	102,427	23.71	NA	9,148.60
1-Jun-16	62,650,591	298,728	23.05	NA	9,148.60
8-Jun-16	62,870,134	219,542	21.78	NA	9,148.60
15-Jun-16	63,089,676	219,542	21.78	NA	9,148.60
22-Jun-16	63,353,167	263,491	26.14	NA	9,148.60
28-Jun-16	63,596,470	243,302	28.16	NA	9,148.60

NOTES:

LNAPL: Light Non-Aqueous Phase Liquid

The Total Flow and Total LNAPL Recovered includes historical totals from former recovery wells RW-400 through RW-406.

The 26th Street Sewer Area (26th Street North) system consists of 20 total fluids recovery wells [15 wells on-site along 26th Street (S-180, S-181, S-182, S-183, S-184, S-185, S-186, S-187, S-188, S-189, S-190, S-191, S-192, RW-400 & RW-402) and five wells offsite on CSX property (S-193, S-194, S-265, S-267, & S-268)] which discharge directly to a process sewer; therefore, the volume of recoverable LNAPL cannot be quantified.

The 26th Street Sewer Area system was restarted on October 12, 2015. The system was restarted on December 30 and shut off December 31. On January 5, the system was restarted, and S-184 and S-192 were hung up. S-184 was hung up on January 19, and the valves on the (flow meter) bypass line were frozen. On February 2, S-184, S-186, and S-189 were hung up. S-186 was inoperable on February 16. The pump was removed for maintenance. On February 23, S-184 was inoperable; left pump off. All pumps were removed for semi-annual maintenance on March 2. The system was shut off from March 25 to March 28 due to a pump fire near 129 tank. S-186 and S-189 were hung up on May 3. On May 20, S-186 and S-192 were hung up. S-191 was inoperable on May 23 and removed for service. S-186 was hung up on June 8, and S-191 was cleaned, reinstalled and restarted. On June 13, the system was shut down for repairs on S-185. The repairs were completed and the system was restarted. S-187 was hung up on June 15 and June 21. The compressor was inoperable on June 22. The belts were replaced, and the system was restarted.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
AOI 1: 26th Street & Packer Avenue Sewers Biofilter System
pH Data

First and Second Quarters 2016

Date	Leachate pH	Biofilter Bed - Soil pH			
		Cell 1	Cell 2	Cell 3	Cell 4
27-Jan-16	6.22	---	---	---	---
29-Feb-16	6.94	---	---	---	---
29-Mar-16	6.88	7.05	7.11	5.96	6.02
26-Apr-16	6.79	---	---	---	---
24-May-16	6.97	---	---	---	---
2-Jun-16	---	---	---	---	---
7-Jun-16	---	---	---	---	---
15-Jun-16	---	---	---	---	---
21-Jun-16	---	---	---	---	---
28-Jun-16	7.04	6.97	7.03	6.01	6.12

NOTES:

Media pH readings are collected on a quarterly basis.

NM: Field reading not measured due to system upgrades

Cells 3 and 4 were shut off on June 18, 2010 and remained off for the reporting period as they are not currently needed for vapor treatment.

The system was operational for the reporting period with the exception of the following: The system was shut off on September 30, 2015 for upgrades and remained off the reporting period.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
AOI 1: 26th Street & Packer Avenue Sewers Biofilter System
Organic Vapor Concentrations
First and Second Quarters 2016

Date	Biofilter Influent			Biofilter Effluent							
	Packer Ave. (ppm)	26th Street (ppm)	ST-1 (Combined Influent) (ppm)	Cell-1N	Cell-1S	Cell-2N	Cell-2S	Cell-3N	Cell-3S	Cell-4N	Cell-4S
08-Jan-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
12-Jan-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
21-Jan-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
27-Jan-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
03-Feb-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
10-Feb-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
18-Feb-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
26-Feb-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
29-Feb-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
09-Mar-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
16-Mar-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
22-Mar-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
29-Mar-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
08-Apr-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
12-Apr-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
19-Apr-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
26-Apr-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
03-May-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
13-May-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
20-May-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
24-May-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
02-Jun-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
07-Jun-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
15-Jun-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
21-Jun-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA
28-Jun-16	NM	NM	NM	NM	NM	NM	NM	NA	NA	NA	NA

NOTES:

ppm: parts per million

NA: Not applicable

NM: Field reading not measured due to system upgrades

Vapor concentrations are collected using a MultiRAE Lite Photoionization Detector (PID).

Cells 3 and 4 were shut off on June 18, 2010 and remained off for the reporting period as they are not currently needed for vapor treatment.

The system was operational for the reporting period with the exception of the following: The system was shut off on September 30, 2015 for upgrades and remained off the rest of the reporting period.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Groundwater and LNAPL Recovery System Operational Data
AOI 2: Pollock Street West End System

First and Second Quarters 2016

Date	Period Total Flow (gallons)	Total Flow (gallons)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
4-Jan-16	65,600	27,729,605	451.1	60,341
11-Jan-16	44,200	27,773,805	31.0	60,372
19-Jan-16	33,000	27,806,805	4.8	60,377
25-Jan-16	20,700	27,827,505	15.5	60,392
1-Feb-16	11,000	27,838,505	23.8	60,416
10-Feb-16	39,000	27,877,505	23.6	60,440
16-Feb-16	9,400	27,886,905	3.3	60,443
22-Feb-16	19,400	27,906,305	5.0	60,448
29-Feb-16	46,500	27,952,805	1.6	60,449
7-Mar-16	29,500	27,982,305	11.1	60,461
14-Mar-16	39,000	28,021,305	19.7	60,480
21-Mar-16	31,800	28,053,105	8.7	60,489
28-Mar-16	28,500	28,081,605	9.8	60,499
4-Apr-16	36,100	28,117,705	0.0	60,499
11-Apr-16	41,400	28,159,105	3.8	60,503
18-Apr-16	73,000	28,232,105	0.0	60,503
25-Apr-16	129,000	28,361,105	0.0	60,503
2-May-16	119,600	28,480,705	25.2	60,528
10-May-16	128,600	28,609,305	29.9	60,558
16-May-16	97,500	28,706,805	18.6	60,576
23-May-16	106,300	28,813,105	27.9	60,604
31-May-16	3,500	28,816,605	26.9	60,631
6-Jun-16	113,000	28,929,605	0.0	60,631
13-Jun-16	142,000	29,071,605	0.0	60,631
20-Jun-16	128,800	29,200,405	0.0	60,631
27-Jun-16	100,800	29,301,205	0.0	60,631

NOTES:

LNAPL: Light Non-Aqueous Phase Liquid

The Pollock Street West End system was started on February 23, 2012. The groundwater and LNAPL recovery totals do not include historical totals from the former Pollock Street Vertical system recovery wells.

On January 4 the system down on holding tank full alarm; vac'd out the tanks and restarted the pumps in RW-105, RW-122, and RW-124 only. On February 16, RW-122 was hung up, and S-315 was restarted. RW-122 was hung up on February 22, and RW-128 was restarted. On February 29, RW-122 and S-315 were turned off. On March 7, RW-122 and S-315 were restarted. RW-128 was shut off on March 14. On March 21, RW-124 was inoperable; removed, cleaned and replaced the clogged discharge hose. RW-124 was restarted on March 22; however, the underground discharge line is clogged. The RW-105, RW-124, and RW-124 discharge lines were cleaned on March 31, and RW-124 was restarted. On April 11, RW-127 was restarted. The system was down on high OWS alarm on April 18; cleaned the floats and restarted system. On May 16, RW-122 was hung up. RW-128 and RW129 were restarted on May 23, and the totalizer and RW-122 were inoperable; the effluent line was cleared, the totalized was removed and cleaned, and RW-122 was removed for cleaning. The system was shut down on May 31 to repair the transfer pumps. The system was restarted on June 1. RW-122 was cleaned, reinstalled, and restarted on June 10.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Groundwater and LNAPL Recovery System Operational Data
AOI 4: Penrose Avenue Remediation System

First and Second Quarter 2016

Date	Period Total Flow (gallons)	Total Flow (gallons)	Average Daily Flow (gpd)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
07-Jan-16	142,350	12,776,260	14,235	18.5	633.7
12-Jan-16	82,370	12,858,630	16,474	0	633.7
21-Jan-16	58,210	12,916,840	6,468	0	633.7
27-Jan-16	91,500	13,008,340	15,250	16	649.7
03-Feb-16	58,380	13,066,720	8,340	11.3	661.0
08-Feb-16	45,270	13,111,990	9,054	1.9	662.9
17-Feb-16	0	13,111,990	0	11.4	674.3
26-Feb-16	165,490	13,277,480	18,388	5.8	680.1
03-Mar-16	48,210	13,325,690	8,035	3.8	683.9
08-Mar-16	94,370	13,420,060	18,874	1.9	685.8
16-Mar-16	146,970	13,567,030	18,371	0	685.8
22-Mar-16	37,910	13,604,940	6,318	0	685.8
29-Mar-16	121,270	13,726,210	17,324	0	685.8
07-Apr-16	70,720	13,796,930	7,858	3.9	689.7
12-Apr-16	85,970	13,882,900	17,194	0	689.7
19-Apr-16	11,900	13,894,800	1,700	3.8	693.5
26-Apr-16	10,240	13,905,040	1,463	5.8	699.3
03-May-16	50,360	13,955,400	7,194	5.7	705.0
13-May-16	101,780	14,057,180	10,178	1.9	706.9
18-May-16	82,300	14,139,480	16,460	2.0	708.9
24-May-16	113,710	14,253,190	18,952	0	708.9
02-Jun-16	176,500	14,429,690	19,611	7.5	716.4
09-Jun-16	136,860	14,566,550	19,551	4	720.4
15-Jun-16	111,090	14,677,640	18,515	2.7	723.1
21-Jun-16	106,540	14,784,180	17,757	6.8	729.9
28-Jun-16	30,080	14,814,260	4,297	1	730.9

NOTES:
gpd: gallons per day
LNAPL: Light Non-Aqueous Phase Liquid

The Penrose Avenue Remediation System consisting of 18 recovery wells (RW-700 through RW-717) was started on March 20, 2013. Groundwater and LNAPL are extracted using pneumatic pumps, and total fluids pass through an oil/water separator (OWS). The groundwater is discharged to the Philadelphia Water Department (PWD) sanitary sewer system along Penrose Avenue, and LNAPL is recovered in a 550-gallon storage tank.

The system was operational for the reporting period with the following exceptions: The flow meter was inoperable on January 21; removed, cleaned, and reinstalled. RW-700 through RW-704 were removed for semi-annual maintenance on January 29. The flow meter was inoperable on February 3, February 8, February 17, March 22, and April 19. The flow meter was inoperable on April 26, and RW-705 was inoperable due to debris under the float assembly. On May 3, the flow meter was inoperable. The system was shut off on May 18 to clean the separator, tranfer pump and influent/effluent lines. On June 28, RW-706 was removed for cleaning.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Biofiltration Operational Data
AOI 4: Penrose Avenue Remediation System

First and Second Quarters 2016

Date	Biofilter								GAC	
	Flow Rate		Temperature		Humidity (%)	Dewpoint (°F)	Vapor Concentration		Vapor Concentration	
	Influent (CFM)	Effluent (CFM)	Influent (°F)	Effluent (°F)			Influent (ppm)	Effluent (ppm)	GAC-1 Effluent (ppm)	GAC-2 Effluent (ppm)
7-Jan-16	29.3	0.0436	70	52	89.0	57.7	450	0	0	0
12-Jan-16	29.1	0.0436	66	60	88.0	61.8	375	0	0	0
21-Jan-16	27.8	0.565	60	48	75.3	45.7	469	0	0	0
27-Jan-16	29.0	0.175	72	56	94.8	64.3	420	0	0	0
3-Feb-16	29.1	0.250	72	56	88.0	73.4	326	14	0	0
8-Feb-16	29.4	0.250	70	64	88.6	63.7	405	32	0	0
17-Feb-16	29.1	0.0655	72	54	95.0	58.7	212	44	0	0
26-Feb-16	28.9	0.07	74	62	96.1	59.0	318	50	0	0
3-Mar-16	28.9	0.436	60	62	96.0	55.8	261	9	0	0
8-Mar-16	29.0	0.075	96	66	57.1	63.9	292	0	0	0
16-Mar-16	29.0	0.075	52	50	81.8	48.2	357	53	0	0
22-Mar-16	29.3	0.07	70	62	82.4	63.3	219	130	0	0
29-Mar-16	0	0	84	70	91.0	74.2	27	0	0	0
7-Apr-16	0	0	82	62	91.0	72.9	308	22	0	0
12-Apr-16	0	0	84	66	92.5	78.7	260	51	0	0
19-Apr-16	26.9	29.2	90	76	51.0	59.9	253	112	60	25
26-Apr-16	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3-May-16	15.6	44.6	60	60	98.3	58.2	150	65	0	0
13-May-16	17.6	43.7	72	68	85.7	64.3	120	26	0	0
18-May-16	9.7	49	72	56	74.7	54.3	51	26	0	0
24-May-16	13.3	43.9	74	62	83.2	61.8	46	19	19	5
2-Jun-16	18.2	42	76	70	80.8	65.7	77	29	29	0
9-Jun-16	16.3	42.4	70	60	73.4	55.1	77	33	33	0
15-Jun-16	17.5	47.3	70	60	70.9	63.3	195	49	49	5
21-Jun-16	14.1	35.7	86	76	73.5	71.2	170	54	54	0
28-Jun-16	13.6	32.8	84	76	84.3	75.7	528	48	0	0

NOTES:

GAC = Granular activated carbon

CFM = Cubic feet per minute

°F = Degrees Fahrenheit

ppm = Parts per million

NM = Field reading not measured

Vapor concentrations are collected using a MultiRAE Lite Photoionization Detector (PID)

The system was operational for the reporting period with the exception of the following: On January 21, the biofilter lines were frozen; therefore, the biofilter could not be humidified. On March 29, the blower was shut off for piping upgrades. The carbon canisters were replaced on April 19; shut off influent blower. The biofilter remained off until May 3 (approximate) for rebedding. On June 28, the system was down due to a OWS alarm.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Recovery System Operational Data
AOI 7: 3 Separator System
First and Second Quarters 2016

Date	Total Flow (gallons)	Period Total Flow (gallons)	Calculated System Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
7-Jan-16	14,534,385	96,400	133.89	0.1	107,966.0
12-Jan-16	14,572,885	38,500	53.47	43.3	108,009.3
21-Jan-16	14,645,685	72,800	101.11	267.9	108,277.2
26-Jan-16	14,676,885	31,200	43.33	131.7	108,408.9
2-Feb-16	14,724,585	47,700	66.25	226.7	108,635.5
8-Feb-16	14,771,585	47,000	65.28	75.7	108,711.3
17-Feb-16	14,843,985	72,400	100.56	0.0	108,711.3
23-Feb-16	14,896,085	52,100	72.36	161.4	108,872.6
3-Mar-16	14,992,185	96,100	133.47	66.2	108,938.8
8-Mar-16	15,047,885	55,700	77.36	84.6	109,023.4
14-Mar-16	15,107,985	60,100	83.47	58.2	109,081.6
22-Mar-16	15,185,185	77,200	107.22	40.4	109,122.0
28-Mar-16	15,232,585	47,400	65.83	43.2	109,165.2
5-Apr-16	15,297,485	64,900	90.14	53.3	109,218.5
11-Apr-16	15,340,685	43,200	60.00	37.0	109,255.6
18-Apr-16	15,399,185	58,500	81.25	130.5	109,386.1
25-Apr-16	15,452,085	52,900	73.47	80.5	109,466.5
2-May-16	15,498,785	46,700	64.86	40.5	109,507.1
5-May-16	15,513,385	14,600	20.28	46.3	109,553.3
12-May-16	15,587,385	74,000	102.78	55.4	109,608.7
17-May-16	15,634,785	47,400	65.83	18.5	109,627.2
23-May-16	15,683,885	49,100	68.19	27.8	109,655.0
1-Jun-16	15,771,485	87,600	121.67	28.3	109,683.3
7-Jun-16	15,840,185	68,700	95.42	12.8	109,696.1
13-Jun-16	15,901,885	61,700	85.69	8.7	109,704.8
20-Jun-16	15,950,785	48,900	67.92	27.1	109,731.9
28-Jun-16	15,994,585	43,800	60.83	88.2	109,820.1

gpm: gallons per minute
LNAPL: Light Non-Aqueous Phase Liquid
The 3 Separator System is a hydraulic control system constructed of ten recovery wells (RW-801 through RW-810) which was started on August 23, 2012. Groundwater and LNAPL are extracted using pneumatic submersible pumps, and total fluids pass through an oil/water separator (OWS). Water is discharged to an on-site process sewer, and LNAPL is recovered in a tank and recycled by the refinery. Groundwater and LNAPL recovery totals include system startup through the end of the first half of 2016.

The system was operational for the reporting period with the exception of the following: On January 14, all pumps were removed for semi-annual maintenance. The system was down on high OWS on May 2, and a leak was observed on the influent side of the OWS - temporarily shut off RW-810 until May 5.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
AOI 8: Jackson Street Sewer Water Curtain
First and Second Quarters 2016

Date	PID readings (ppm)			Comments
	Blower	Water Curtain	Interceptor Chamber	
05-Jan-16	NA	0.0	0.0	
13-Jan-16	NA	0.0	0.0	
21-Jan-16	NA	0.0	0.0	
27-Jan-16	NA	0.0	0.0	
03-Feb-16	NA	0.0	0.0	
11-Feb-16	NA	0.0	0.0	
17-Feb-16	NA	0.0	0.0	
24-Feb-16	NA	0.0	0.0	
03-Mar-16	NA	0.0	0.0	
08-Mar-16	NA	0.0	0.0	
14-Mar-16	NA	0.0	0.0	
25-Mar-16	NA	0.0	0.0	
29-Mar-16	NA	0.0	0.0	
04-Apr-16	NA	0.0	0.0	
12-Apr-16	NA	0.0	0.0	
20-Apr-16	NA	0.0	0.0	
29-Apr-16	NA	0.0	0.0	
06-May-16	NA	0.0	0.0	
11-May-16	NA	0.0	0.0	
20-May-16	NA	0.0	0.0	
24-May-16	NA	0.0	0.0	
02-Jun-16	NA	0.0	0.0	
07-Jun-16	NA	0.0	0.0	
17-Jun-16	NA	0.0	0.0	
23-Jun-16	NA	0.0	0.0	
01-Jul-16	NA	0.0	0.0	

NOTES:
PID: Photoionization detector
ppm: parts per million
NA: Not Available (PID readings are not collected at the blower.)
Vapor concentrations are collected using a MultiRAE Lite PID.
The totalizer was removed on December 11, 2009.
The system was operational for the reporting period.

APPENDIX 2
Laboratory Analytical Data Reports
(electronic copy only; provided on CD included with report)

eurofins | Lancaster Laboratories Environmental

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Report Date: June 09, 2016

Project: PHRO Annual Perimeter GWS

Submittal Date: 05/27/2016
Group Number: 1666456
PO Number: PHRO ANNUAL PERIMETER
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
S-280-20160520 Grab Groundwater	8402589
B-43-20160523 Grab Groundwater	8402590
B-95-20160523 Grab Groundwater	8402591
N-2-20160523 Grab Groundwater	8402592
N-1-20160523 Grab Groundwater	8402593
N-100-20160523 Grab Groundwater	8402594
C-104-20160524 Grab Groundwater	8402595
C-127-20160524 Grab Groundwater	8402596
C-129-20160524 Grab Groundwater	8402597
N-8-20160524 Grab Groundwater	8402598
N-98-20160524 Grab Groundwater	8402599
Trip Blank Water	8402600
N-37-20160526 Grab Groundwater	8402601
N-111-20160526 Grab Groundwater	8402602
N-111-20160526-DUP Grab Groundwater	8402603
N-57-20160526 Grab Groundwater	8402604
N-64-20160526 Grab Groundwater	8402605
N-85-20160526 Grab Groundwater	8402606
N-99-20160526 Grab Groundwater	8402607
N-3-20160527 Grab Groundwater	8402608
N-74-20160527 Grab Groundwater	8402609
EB-20160527 Grab Water	8402610

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To Sunoco c/o Stantec Attn: Jennifer Menges

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: S-280-20160520 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402589
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/20/2016 11:05 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO01

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	16,000		250	500
10945	1,2-Dichloroethane	107-06-2	N.D.		25	50
10945	Ethylbenzene	100-41-4	N.D.		25	50
10945	Isopropylbenzene	98-82-8	N.D.		25	50
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		25	50
10945	Toluene	108-88-3	26	J	25	50
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		25	50
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		25	50
10945	Xylene (Total)	1330-20-7	N.D.		25	50
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1

The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.

The holding time was not met. The sample was submitted to the laboratory with insufficient time remaining in the holding time.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161541AA	06/03/2016 04:13	Hu Yang	50

Sample Description: S-280-20160520 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402589
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/20/2016 11:05 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161541AA	06/03/2016 04:35	Hu Yang	500
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161541AA	06/03/2016 04:13	Hu Yang	50
01163	GC/MS VOA Water Prep	SW-846 5030B	2	F161541AA	06/03/2016 04:35	Hu Yang	500
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/01/2016 19:34	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 05:24	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:28	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: B-43-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402590
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 10:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO02

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	4	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	0.7	0.1	1
07805	Benzo(a)anthracene	56-55-3	2	0.1	1
07805	Benzo(a)pyrene	50-32-8	2	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	2	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	1	0.1	1
07805	Chrysene	218-01-9	3	0.1	1
07805	Fluorene	86-73-7	0.9	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	7	0.1	1
	The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.				
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/02/2016 21:50	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 21:50	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 10:10	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1

Sample Description: B-43-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402590
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 10:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 06:10	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:30	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: B-95-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402591
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 12:20 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO03

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.3	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	1
07805	Chrysene	218-01-9	0.4	J	0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	0.7		0.1	1

The recovery for the LCS/LCSD and sample surrogate(s) are outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials with the exception of:
Fluorene was detected in the re-extracted sample.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor

Sample Description: B-95-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402591
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 12:20 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/02/2016 22:12	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 22:12	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 10:38	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 06:26	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:35	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-2-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402592
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 14:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO04

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.4	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.5	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.4	J	0.1	1
07805	Chrysene	218-01-9	0.4	J	0.1	1
07805	Fluorene	86-73-7	0.6		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.1	J	0.1	1
07805	Pyrene	129-00-0	1		0.1	1

The recovery for the LCS/LCSD and sample surrogate(s) are outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/02/2016 22:34	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 22:34	Hu Yang	1

Sample Description: N-2-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402592
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 14:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 11:06	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 06:42	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:37	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-1-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402593
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 15:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
	The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.				
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/02/2016 22:56	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 22:56	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 11:34	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1

Sample Description: N-1-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402593
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 15:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 06:57	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:38	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-100-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402594
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 16:20 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO06

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
	The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.				
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/02/2016 20:45	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 20:45	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 12:02	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1

Sample Description: N-100-20160523 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402594
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/23/2016 16:20 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 07:13	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:40	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: C-104-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402595
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 10:00 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO07

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.5	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.1	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.1	J	0.1	1
07805	Fluorene	86-73-7	6		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.3	J	0.1	1
07805	Pyrene	129-00-0	2		0.1	1

The recovery for the LCS/LCSD and sample surrogate(s) are outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/02/2016 23:18	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 23:18	Hu Yang	1

Sample Description: C-104-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402595
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 10:00 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 12:31	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 07:28	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:42	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: C-127-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402596
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 10:50 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO08

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	4		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	5		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.4	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.1	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.1	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.6		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	3		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.3	J	0.1	1
07805	Pyrene	129-00-0	0.7		0.1	1
	The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.					
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/02/2016 23:40	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 23:40	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 12:59	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1

Sample Description: C-127-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402596
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 10:50 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 07:44	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:43	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: C-129-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402597
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 11:55 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO09

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
	The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.				
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 00:01	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 00:01	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 13:27	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1

Sample Description: C-129-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402597
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 11:55 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 07:59	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:45	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-8-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402598
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 14:15 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
	The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.				
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 00:23	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 00:23	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 13:55	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1

Sample Description: N-8-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402598
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 14:15 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 08:15	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:47	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-98-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402599
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 15:30 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO11

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
	The LCS/LCSD surrogate(s) recovery is outside the QC acceptance limits as noted on the QC Summary. The client was contacted and the data reported.				
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 00:45	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 00:45	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16149WAC026	06/02/2016 14:23	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16149WAC026	05/29/2016 10:00	Nicholas W Shroyer	1

Sample Description: N-98-20160524 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402599
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/24/2016 15:30 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 08:31	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:18	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: Trip Blank Water
PHRO Annual Perimeter GWS

LL Sample # WW 8402600
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/09/2016

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO12

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dibromoethane	106-93-4	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/EDB/ TMBs	SW-846 8260B	1	F161542AA	06/02/2016 20:23	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/02/2016 20:23	Hu Yang	1

Sample Description: N-37-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402601
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 09:35 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO13

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161572AA	06/06/2016 00:39	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161572AA	06/06/2016 00:39	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 14:51	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 09:17	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:49	Choon Y Tian	1

Sample Description: N-37-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402601
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 09:35 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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West Chester PA 19380

PRO13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-111-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402602
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 10:45 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO14

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	1	J	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.5	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.3	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	1
07805	Chrysene	218-01-9	0.5	J	0.1	1
07805	Fluorene	86-73-7	3		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	0.9		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 01:29	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 01:29	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 15:19	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 09:33	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:50	Choon Y Tian	1

Sample Description: N-111-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402602
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 10:45 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-111-20160526-DUP Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402603
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 10:45 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO15

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	2	J	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.4	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.3	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.3	J	0.1	1
07805	Chrysene	218-01-9	0.3	J	0.1	1
07805	Fluorene	86-73-7	3		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	0.8		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 01:51	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 01:51	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 15:47	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 09:49	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:56	Choon Y Tian	1

Sample Description: N-111-20160526-DUP Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402603
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 10:45 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-57-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402604
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 11:45 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO16

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	0.7	J	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	1	J	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	56		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.4	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.3	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5	J	0.1	1
07805	Chrysene	218-01-9	0.3	J	0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.1	J	0.1	1
07805	Pyrene	129-00-0	0.3	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.23	J	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 02:13	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 02:13	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 16:15	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161530009A	06/03/2016 10:04	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161530009A	06/01/2016 18:00	Benjamin J Rosenberger	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:57	Choon Y Tian	1

Sample Description: N-57-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402604
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 11:45 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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Suite 140
West Chester PA 19380

PRO16

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-64-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402605
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 13:15 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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West Chester PA 19380

PRO17

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	1		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.1	J	0.1	1
07805	Chrysene	218-01-9	0.3	J	0.1	1
07805	Fluorene	86-73-7	4		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	2		0.1	1
07805	Pyrene	129-00-0	0.6		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0094	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.14	J	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 02:34	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 02:34	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 16:44	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161540028A	06/06/2016 20:26	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161540028A	06/03/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 07:59	Choon Y Tian	1

Sample Description: N-64-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402605
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 13:15 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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West Chester PA 19380

PRO17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-85-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402606
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 14:30 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO18

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D.	0.0093	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 02:56	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 02:56	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 17:12	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161540028A	06/06/2016 20:42	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161540028A	06/03/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 08:01	Choon Y Tian	1

Sample Description: N-85-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402606
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 14:30 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO18

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-99-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402607
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 15:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO19

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D.	0.0093	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161542AA	06/03/2016 03:18	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161542AA	06/03/2016 03:18	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 17:40	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161540028A	06/06/2016 21:29	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161540028A	06/03/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 08:03	Choon Y Tian	1

Sample Description: N-99-20160526 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402607
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/26/2016 15:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO19

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-3-20160527 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402608
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/27/2016 11:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO20

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.5		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.7		0.1	1
07805	Benzo(a)pyrene	50-32-8	0.9		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.8		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.6		0.1	1
07805	Chrysene	218-01-9	0.9		0.1	1
07805	Fluorene	86-73-7	0.3	J	0.1	1
07805	Naphthalene	91-20-3	1		0.1	1
07805	Phenanthrene	85-01-8	0.7		0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	1.6		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161572AA	06/06/2016 01:00	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161572AA	06/06/2016 01:00	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 18:08	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161540028A	06/06/2016 21:44	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161540028A	06/03/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 08:04	Choon Y Tian	1

Sample Description: N-3-20160527 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402608
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/27/2016 11:25 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO20

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: N-74-20160527 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402609
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/27/2016 12:35 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO21

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	26		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	0.6	J	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.6		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	3		0.1	1
07805	Naphthalene	91-20-3	1		0.1	1
07805	Phenanthrene	85-01-8	0.5	J	0.1	1
07805	Pyrene	129-00-0	0.5	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals..

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161572AA	06/06/2016 01:22	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161572AA	06/06/2016 01:22	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16153WAA026	06/02/2016 18:36	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	16153WAA026	06/01/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161540028A	06/06/2016 22:00	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161540028A	06/03/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161606050002A	06/09/2016 08:06	Choon Y Tian	1

Sample Description: N-74-20160527 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8402609
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/27/2016 12:35 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO21

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161606050002	06/08/2016 17:35	Barbara A Kane	1

Sample Description: EB-20160527 Grab Water
PHRO Annual Perimeter GWS

LL Sample # WW 8402610
LL Group # 1666456
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/27/2016 13:30 by DD

Submitted: 05/27/2016 19:00
Reported: 06/09/2016 10:29

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PRO22

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161572AA	06/05/2016 19:37	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161572AA	06/05/2016 19:37	Hu Yang	1

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	ug/l	ug/l
Batch number: F161541AA	Sample number(s): 8402589	
Benzene	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
Isopropylbenzene	N.D.	0.5
Methyl Tertiary Butyl Ether	N.D.	0.5
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	0.5
1,3,5-Trimethylbenzene	N.D.	0.5
Xylene (Total)	N.D.	0.5
Batch number: F161542AA	Sample number(s): 8402590-8402600,8402602-8402607	
Benzene	N.D.	0.5
1,2-Dibromoethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
Isopropylbenzene	N.D.	0.5
Methyl Tertiary Butyl Ether	N.D.	0.5
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	0.5
1,3,5-Trimethylbenzene	N.D.	0.5
Xylene (Total)	N.D.	0.5
Batch number: F161572AA	Sample number(s): 8402601,8402608-8402610	
Benzene	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
Isopropylbenzene	N.D.	0.5
Methyl Tertiary Butyl Ether	N.D.	0.5
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	0.5
1,3,5-Trimethylbenzene	N.D.	0.5
Xylene (Total)	N.D.	0.5
Batch number: 16149WAC026	Sample number(s): 8402589-8402599	
Anthracene	N.D.	0.1
Benzo(a)anthracene	N.D.	0.1
Benzo(a)pyrene	N.D.	0.1
Benzo(b)fluoranthene	N.D.	0.1
Benzo(g,h,i)perylene	N.D.	0.1
Chrysene	N.D.	0.1
Fluorene	N.D.	0.1
Naphthalene	N.D.	0.1
Phenanthrene	N.D.	0.1
Pyrene	N.D.	0.1

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
Batch number: 16153WAA026	Sample number(s): 8402601-8402609	
Anthracene	N.D.	0.1
Benzo(a)anthracene	N.D.	0.1
Benzo(a)pyrene	N.D.	0.1
Benzo(b)fluoranthene	N.D.	0.1
Benzo(g,h,i)perylene	N.D.	0.1
Chrysene	N.D.	0.1
Fluorene	N.D.	0.1
Naphthalene	N.D.	0.1
Phenanthrene	N.D.	0.1
Pyrene	N.D.	0.1
Batch number: 161530009A	Sample number(s): 8402589-8402599,8402601-8402604	
Ethylene dibromide	N.D.	0.010
Batch number: 161540028A	Sample number(s): 8402605-8402609	
Ethylene dibromide	N.D.	0.010
Batch number: 161606050002A	Sample number(s): 8402589-8402599,8402601-8402609	
Lead	N.D.	0.13

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: F161541AA	Sample number(s): 8402589								
Benzene	20	19.01			95		78-120		
1,2-Dichloroethane	20	18.08			90		72-127		
Ethylbenzene	20	18.17			91		78-120		
Isopropylbenzene	20	19.02			95		80-120		
Methyl Tertiary Butyl Ether	20	17.74			89		75-120		
Toluene	20	18.54			93		80-120		
1,2,4-Trimethylbenzene	20	17.88			89		75-120		
1,3,5-Trimethylbenzene	20	17.52			88		75-120		
Xylene (Total)	60	55.78			93		80-120		
Batch number: F161542AA	Sample number(s): 8402590-8402600,8402602-8402607								
Benzene	20	19.26			96		78-120		
1,2-Dibromoethane	20	18.66			93		80-120		
1,2-Dichloroethane	20	17.91			90		72-127		
Ethylbenzene	20	18.23			91		78-120		
Isopropylbenzene	20	18.43			92		80-120		
Methyl Tertiary Butyl Ether	20	16.94			85		75-120		
Toluene	20	17.95			90		80-120		
1,2,4-Trimethylbenzene	20	17.11			86		75-120		
1,3,5-Trimethylbenzene	20	17.32			87		75-120		
Xylene (Total)	60	54.74			91		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

LCS/LCSD (continued)

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: F161572AA	Sample number(s): 8402601,8402608-8402610								
Benzene	20	18.25			91		78-120		
1,2-Dichloroethane	20	17.06			85		72-127		
Ethylbenzene	20	17.32			87		78-120		
Isopropylbenzene	20	17.73			89		80-120		
Methyl Tertiary Butyl Ether	20	15.64			78		75-120		
Toluene	20	17.57			88		80-120		
1,2,4-Trimethylbenzene	20	16.76			84		75-120		
1,3,5-Trimethylbenzene	20	16.84			84		75-120		
Xylene (Total)	60	53.2			89		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16149WAC026	Sample number(s): 8402589-8402599								
Anthracene	50	44.47			89		68-126		
Benzo(a)anthracene	50	48.09			96		69-133		
Benzo(a)pyrene	50	45.81			92		68-126		
Benzo(b)fluoranthene	50	46.67			93		71-131		
Benzo(g,h,i)perylene	50	46.24			92		62-132		
Chrysene	50	48.04			96		71-136		
Fluorene	50	47.03			94		71-127		
Naphthalene	50	42.69			85		62-121		
Phenanthrene	50	42.58			85		65-120		
Pyrene	50	42.24			84		68-118		
Batch number: 16153WAA026	Sample number(s): 8402601-8402609								
Anthracene	50	43.3	50	45.87	87	92	68-126	6	30
Benzo(a)anthracene	50	49.48	50	51.63	99	103	69-133	4	30
Benzo(a)pyrene	50	47.36	50	49.12	95	98	68-126	4	30
Benzo(b)fluoranthene	50	47.3	50	48.79	95	98	71-131	3	30
Benzo(g,h,i)perylene	50	49.28	50	52.19	99	104	62-132	6	30
Chrysene	50	50.14	50	51.02	100	102	71-136	2	30
Fluorene	50	45.2	50	47.9	90	96	71-127	6	30
Naphthalene	50	39.82	50	42.29	80	85	62-121	6	30
Phenanthrene	50	41.93	50	44.35	84	89	65-120	6	30
Pyrene	50	41.91	50	43.63	84	87	68-118	4	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161530009A	Sample number(s): 8402589-8402599,8402601-8402604								
Ethylene dibromide	0.128	0.123	0.128	0.130	96	102	60-140	6	20
Batch number: 161540028A	Sample number(s): 8402605-8402609								
Ethylene dibromide	0.128	0.125	0.128	0.119	97	93	60-140	5	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161606050002A	Sample number(s): 8402589-8402599,8402601-8402609								
Lead	15	15.37			102		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: F161541AA	Sample number(s): 8402589 UNSPK: P401665									
Benzene	N.D.	20	20.29	20	20.02	101	100	78-120	1	30
1,2-Dichloroethane	N.D.	20	18.48	20	18.54	92	93	72-127	0	30
Ethylbenzene	N.D.	20	19.67	20	19.63	98	98	78-120	0	30
Isopropylbenzene	N.D.	20	20.32	20	20.16	102	101	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	17.57	20	18.16	88	91	75-120	3	30
Toluene	N.D.	20	20.01	20	19.43	100	97	80-120	3	30
1,2,4-Trimethylbenzene	N.D.	20	18.57	20	19.04	93	95	75-120	3	30
1,3,5-Trimethylbenzene	N.D.	20	18.46	20	18.92	92	95	75-120	2	30
Xylene (Total)	N.D.	60	59.92	60	58.98	100	98	80-120	2	30
Batch number: F161542AA	Sample number(s): 8402590-8402600,8402602-8402607 UNSPK: 8402594, P402594									
Benzene	N.D.	20	20.38	20	19.98	102	100	78-120	2	30
1,2-Dibromoethane	N.D.	20	18.56	20	18.85	93	94	80-120	2	30
1,2-Dichloroethane	N.D.	20	18.14	20	18.71	91	94	72-127	3	30
Ethylbenzene	N.D.	20	19.39	20	19.26	97	96	78-120	1	30
Isopropylbenzene	N.D.	20	19.77	20	19.59	99	98	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	17.16	20	17.35	86	87	75-120	1	30
Toluene	N.D.	20	19.55	20	19.26	98	96	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	20	18.23	20	17.63	91	88	75-120	3	30
1,3,5-Trimethylbenzene	N.D.	20	18.5	20	17.96	93	90	75-120	3	30
Xylene (Total)	N.D.	60	58.09	60	57.77	97	96	80-120	1	30
Batch number: F161572AA	Sample number(s): 8402601,8402608-8402610 UNSPK: P404784									
Benzene	2.97	20	23.93	20	22.75	105	99	78-120	5	30
1,2-Dichloroethane	0.609	20	19.03	20	18.86	92	91	72-127	1	30
Ethylbenzene	N.D.	20	19.26	20	19.06	96	95	78-120	1	30
Isopropylbenzene	1.08	20	21.32	20	20.58	101	97	80-120	4	30
Methyl Tertiary Butyl Ether	N.D.	20	17.04	20	17.17	85	86	75-120	1	30
Toluene	N.D.	20	19.31	20	19.2	97	96	80-120	1	30
1,2,4-Trimethylbenzene	N.D.	20	18.24	20	18.49	91	92	75-120	1	30
1,3,5-Trimethylbenzene	N.D.	20	18.52	20	18.66	93	93	75-120	1	30
Xylene (Total)	N.D.	60	58.14	60	57.49	97	96	80-120	1	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16149WAC026	Sample number(s): 8402589-8402599 UNSPK: P399721									
Anthracene	0.141	50.61	40.3	50.81	43.77	79	86	68-126	8	30
Benzo(a)anthracene	0.199	50.61	45.34	50.81	48.97	89	96	69-133	8	30
Benzo(a)pyrene	0.329	50.61	43.04	50.81	46.55	84	91	68-126	8	30
Benzo(b)fluoranthene	0.188	50.61	42.11	50.81	46.58	83	91	71-131	10	30
Benzo(g,h,i)perylene	0.226	50.61	43.3	50.81	46.65	85	91	62-132	7	30
Chrysene	0.260	50.61	44.15	50.81	47.69	87	93	71-136	8	30
Fluorene	N.D.	50.61	42.74	50.81	45.26	84	89	71-127	6	30
Naphthalene	N.D.	50.61	38.33	50.81	41.45	76	82	62-121	8	30
Phenanthrene	N.D.	50.61	39.18	50.81	42.52	77	84	65-120	8	30
Pyrene	0.448	50.61	39.19	50.81	41.43	77	81	68-118	6	30
	ug/l	ug/l	ug/l	ug/l	ug/l					

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 161540028A	Sample number(s): 8402605-8402609 UNSPK: P402425									
Ethylene dibromide	N.D.	0.122	0.111	0.123	0.107	91	87	60-140	3	20
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 161606050002A	Sample number(s): 8402589-8402599,8402601-8402609 UNSPK: 8402599									
Lead	N.D.	15	15.41	15	15.28	103	102	75-125	1	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 161606050002A	Sample number(s): 8402589-8402599,8402601-8402609 BKG: 8402599			
Lead	N.D.	N.D.	0 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: F161541AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8402589	96	93	99	89
Blank	99	96	97	90
LCS	98	99	98	95
MS	98	96	98	93
MSD	97	99	97	93
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: F161542AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8402590	97	97	94	92
8402591	97	94	97	91
8402592	96	98	95	90
8402593	97	98	96	89
8402594	98	95	97	92
8402595	97	97	95	92
8402596	98	94	95	91

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8402597	97	97	96	89
8402598	97	96	96	91
8402599	99	98	96	89
8402600	99	96	95	89
8402602	97	97	96	92
8402603	96	97	96	91
8402604	97	96	96	93
8402605	97	97	96	91
8402606	97	98	95	89
8402607	98	96	97	90
Blank	98	97	97	86
LCS	96	97	97	96
MS	97	95	98	94
MSD	97	98	96	94
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: F161572AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8402601	97	97	96	89
8402608	97	95	95	89
8402609	98	98	95	91
8402610	101	99	94	88
Blank	100	94	96	89
LCS	97	94	96	94
MS	99	97	95	97
MSD	98	95	96	95
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270
Batch number: 16149WAC026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8402589	54	45*	21*
8402590	86	83	42
8402591	84	82	35*
8402592	83	81	39*
8402593	88	85	48
8402594	81	80	48
8402595	87	82	39*
8402596	86	80	48
8402597	90	87	73
8402598	87	84	47
8402599	89	91	56
Blank	93	91	65
LCS	88	90	39*
MS	81	79	30*
MSD	88	86	49

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Limits: 46-128 61-112 41-125

Analysis Name: PAHs by 8270
Batch number: 16153WAA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8402601	92	89	93
8402602	90	87	85
8402603	91	85	91
8402604	92	86	81
8402605	91	87	84
8402606	87	83	91
8402607	91	88	91
8402608	91	87	85
8402609	93	86	82
Blank	93	89	96
LCS	89	86	94
LCSD	93	89	99
Limits:	46-128	61-112	41-125

Analysis Name: EDB in Wastewater
Batch number: 161530009A

	1,1,2,2-Tetrachloroethane
8402589	100
8402590	105
8402591	106
8402592	105
8402593	97
8402594	100
8402595	104
8402596	104
8402597	101
8402598	101
8402599	94
8402601	94
8402602	94
8402603	92
8402604	95
Blank	112
LCS	97
LCSD	104
Limits:	46-136

Analysis Name: EDB in Wastewater
Batch number: 161540028A

	1,1,2,2-Tetrachloroethane
8402605	74
8402606	70
8402607	74

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/09/2016 10:29

Group Number: 1666456

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

	1,1,2,2-Tetrachloroethane
8402608	73
8402609	86
Blank	87
LCS	88
LCSD	84
MS	80
MSD	74
Limits:	46-136

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 116657 Group # 1666456 Sample # 8402589-610

COC # 496843

Client Information

Client: Stantec

Acct. #: Evergreen

Project Name/#: Evergreen PIRO Annual Perimeter GWS

PWSID #:

Project Manager: Jennifer Menges

P.O. #:

Sampler: Dan Downing

Quote #:

State where samples were collected: PA

For Compliance: Yes ☐ No ☐

Matrix

Sediment ☐ Soil ☐ | Ground ☒ Potable ☐ Water | Surface ☐ NPDES ☐ | Other: ☐

Analysis Requested

Preservation Codes: H | | H | | | | | | | |

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs by 8260 (see specifics)*	SVOCs by 8270 (see specifics)**	EDB by 8011	Lead by 6010/6020 (lab filter)
S-280-20160520	5/20/16	1105	X		8	X	X	X	X
B-43-20160523	5/23/16	1025	X		8	X	X	X	X
B-95-20160523	5/23/16	1220	X		8	X	X	X	X
N-2-20160523	5/23/16	1425	X		8	X	X	X	X
N-1-20160523	5/23/16	1525	X		8	X	X	X	X
N-100-20160523	5/23/16	1620	X		8	X	X	X	X
C-104-20160524	5/24/16	1000	X		8	X	X	X	X
C-128-20160524	5/24/16	1050	X		8	X	X	X	X
C-129-20160524	5/24/16	1155	X		8	X	X	X	X
N-8-20160524	5/24/16	1415	X		8	X	X	X	X

For Lab Use Only

FSC:

SCR#:

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

*For specific VOCs analyses, see attached Evergreen shortlist

**For specific SVOC analyses, see attached Evergreen shortlist

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: Jennifer.Menges@Stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Dan Downing	5/27/16	1500		5/27/16	1500
	5/27/16	1900			

EDD Required? (Yes) No

If yes, format: EQUIS-EFW-Stantec-4

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS FedEx Other

Temperature upon receipt 0.1-2.9 °C

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 16657 Group # 1666456 Sample # 8402589-610

COC # 500197

Client Information

Client: Stantec

Acct. #: Evergreen

Project Name/#: Evergreen PHRO Annual Perimeter GWS

PWSID #:

Project Manager: Jennifer Menges

P.O. #:

Sampler: Dan Downing

Quote #:

State where samples were collected: PA

For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐

Water ☒ Potable ☐ Ground ☐ NPDES ☐ Surface ☐

Other: ____

Total # of Containers

Analysis Requested

Preservation Codes

H

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs by 8260C* (see specifics)	SVOCs by 8270C** (see specifics)	EDB by 8011	Lead by 6010/6020 (sub-letter)
N-98-20160524	5/04/16	1530	X		8	X	X	X	X
Trip Blank	5/4/16	—	X		3	X			

For Lab Use Only

FSC: ____

SCR#: ____

Preservation Codes

H=HCl T=Thiosulfate

N=HNO_3 B=NaOH

S=H_2SO_4 O=Other

Remarks

* For specific VOC analyses, see attached Evergreen shortlist

** For specific SVOC analyses, see attached Evergreen shortlist

Turnaround Time (TAT) Requested (please circle)

~~Standard~~ Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: Jennifer.Menges@Stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Dan Downing	5/27/16	1500	[signature]	5/27/16	1500
[signature]	5/27/16	1900			
			[signature]	5/27/16	1900

EDD Required? (Yes) No

If yes, format: EQUIS-EFW-Stantec-4

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS ____ FedEx ____ Other ____

Temperature upon receipt 0.1-2.9 °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 16657 Group # 1666456 Sample # 8402589-610

COC # 500198

Client Information

Client: Stantec

Acct. #: Evergreen

Project Name/#: Evergreen PHRO Annual Perimeter GWS

PWSID #:

Project Manager: Jennifer Menges

P.O. #:

Sampler: Dan Downing

Quote #:

State where samples were collected: PA

For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water ☒ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Other: ____

Analysis Requested

Preservation Codes: H | | H | | | | | | | |

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs by 8260* (see specifics)	SVOCs by 8270** (see specifics)	EDB by 8011	Lead by 6010/6020 (Lab Filter)
N-37-20160526	5/26/16	0935	X		8	X	X	X	X
N-111-20160526	5/26/16	1045	X		8	X	X	X	X
N-111-20160526-DUP	5/26/16	1045	X		8	X	X	X	X
N-57-20160526	5/26/16	1045	X		8	X	X	X	X
N-64-20160526	5/26/16	1315	X		8	X	X	X	X
N-85-20160526	5/26/16	1430	X		8	X	X	X	X
N-99-20160526	5/26/16	1525	X		8	X	X	X	X
N-3-20160527	5/27/16	1125	X		8	X	X	X	X
N-74-20160527	5/27/16	1235	X		8	X	X	X	X
EB-20160527	5/27/16	1330	X		3	X			

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

*For specific VOC analyses, see attached Evergreen shortlist

**For specific SVOC analyses, see attached Evergreen shortlist

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: Jennifer.Menges@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Dan Downing	5/27/16	1500	[signature]	5/27/16	1500
[signature]	5/27/16	1900			
			[signature]	5/27/16	1900

EDD Required? (Yes) No

If yes, format: EQUIS-EFW-Stantec-4

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.1-2.9 °C

G:1666456

enter "EQuIS-EFW-Stantec_4" on the COC. Also, under the Client Information section on the COC, enter Stantec for Client and for Acct #, enter "Evergreen".

Sampling pumps and interface probes **must be** decontaminated with an Alconox® or Liquinox® wash and distilled or DI water rinse before the start of sampling and between wells. Dedicated buckets designated for decon for these wells can be found in the Stantec storage trailer. At the end of each day, the excess decontamination water should be filtered through a GAC unit and discharged to the ground surface in an area near the trailers that will not create a puddle in the general walking/working area of the ground.

At the completion of the sampling event, email the EDD file(s) to Andrew Klingbeil for review.

Philadelphia Refinery Complex Groundwater COC List (PHL GW COC List)
Evergreen Petroleum Short List (April 2016)

VOCs by EPA Method 8260	**CAS No.**
Benzene	71-43-2
Cumene	98-82-8
Dichloroethane, 1,2-	107-06-2
Ethylbenzene	100-41-4
Ethylene Dibromide*	106-93-4
Methyl tert butyl ether	1634-04-4
Toluene	108-88-3
Trimethylbenzene, 1,2,4-	95-63-6
Trimethylbenzene, 1,3,5-	108-67-8
Xylenes	1330-20-7
SVOCs by EPA Method 8270	**CAS No.**
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(a)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Chrysene	218-01-9
Fluorene	86-73-7
Naphthalene**	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0
Metals by Method 6010/6020	**CAS No.**
Lead***	7439-92-1

*Ethylene Dibromide should be analyzed by EPA Method 8011 instead of 8260 in soil for tank investigations, soil reuse sampling, and in **all groundwater samples.**
**Naphthalene should be analyzed by EPA Method 8260 instead of 8270 for tank investigations.
***Metals analysis should be total in soil and dissolved in groundwater.

This list is comprised of the combined PADEP Short List of Petroleum Products (leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 Fuel Oils).

G-1666456

enter "EQuIS-EFW-Stantec_4" on the COC. Also, under the Client Information section on the COC, enter Stantec for Client and for Acct #, enter "Evergreen".

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Ethylene Dibromide*	106-93-4
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Trimethylbenzene, 1,3,5-	108-67-8
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Benzo(a)pyrene	50-32-8
Benzo(a)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
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Phenanthrene	85-01-8
Pyrene	129-00-0
Metals by Method 6010/6020	**CAS No.**
Lead***	7439-92-1

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This list is comprised of the combined PADEP Short List of Petroleum Products (leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 Fuel Oils).

G:1666456

enter "EQuIS-EFW-Stantec_4" on the COC. Also, under the Client Information section on the COC, enter Stantec for Client and for Acct #, enter "Evergreen".

Sampling pumps and interface probes **must be** decontaminated with an Alconox® or Liquinox® wash and distilled or DI water rinse before the start of sampling and between wells. Dedicated buckets designated for decon for these wells can be found in the Stantec storage trailer. At the end of each day, the excess decontamination water should be filtered through a GAC unit and discharged to the ground surface in an area near the trailers that will not create a puddle in the general walking/working area of the ground.

At the completion of the sampling event, email the EDD file(s) to Andrew Klingbeil for review.

Philadelphia Refinery Complex Groundwater COC List (PHL GW COC List)
Evergreen Petroleum Short List (April 2016)

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Benzo(a)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Chrysene	218-01-9
Fluorene	86-73-7
Naphthalene**	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0
Metals by Method 6010/6020	**CAS No.**
Lead***	7439-92-1

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This list is comprised of the combined PADEP Short List of Petroleum Products (leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 Fuel Oils).

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Sample Administration Receipt Documentation Log

Doc Log ID: 148367

Group Number(s): 1666456

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	05/27/2016 19:00
Number of Packages:	4	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	3
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Patrick Engle (3472) at 21:04 on 05/27/2016

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle)* *IR = Infrared (Surface Temp)* *All Temperatures in °C.*

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.6	DT	Wet	Y	Loose/Bag	N
2	DT121	0.1	DT	Wet	Y	Loose/Bag	N
3	DT121	2.9	DT	Wet	Y	Loose/Bag	N
4	DT121	0.4	DT	Wet	Y	Loose	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Report Date: June 02, 2016

Project: PHRO Annual Perimeter GWS

Submittal Date: 05/20/2016
Group Number: 1664163
PO Number: PHRO ANNUAL PERIMETER
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
S-74-20160516 Grab Groundwater	8392561
TW-8-20160516 Grab Groundwater	8392562
MW-37-20160516 Grab Groundwater	8392563
MW-30-20160516 Grab Groundwater	8392564
S-196-20160516 Grab Groundwater	8392565
S-193-20160518 Grab Groundwater	8392566
S-268-20160518 Grab Groundwater	8392567
S-120-20160518 Grab Groundwater	8392568
S-222-20160518 Grab Groundwater	8392569
S-38-20160518 Grab Groundwater	8392570
S-40-20160519 Grab Groundwater	8392571
S-223-20160519 Grab Groundwater	8392572
A-133-20160519 Grab Groundwater	8392573
A-133-20160519-DUP Grab Groundwater	8392574
A-137-20160519 Grab Groundwater	8392575
WP-14-20160520 Grab Groundwater	8392576
EB-20160520 Water	8392577
Trip Blank Water	8392578

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To Sunoco c/o Stantec Attn: Jennifer Menges

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: S-74-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392561
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 11:00 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR01

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161442AA	05/23/2016 15:11	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161442AA	05/23/2016 15:11	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 12:25	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420021A	05/25/2016 01:32	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420021A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:38	Choon Y Tian	1

Sample Description: S-74-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392561
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 11:00 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: TW-8-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392562
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 11:25 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR02

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	500		5	10
10945	1,2-Dichloroethane	107-06-2	2		0.5	1
10945	Ethylbenzene	100-41-4	560		5	10
10945	Isopropylbenzene	98-82-8	150		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	4		0.5	1
10945	Toluene	108-88-3	0.9	J	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	530		5	10
10945	1,3,5-Trimethylbenzene	108-67-8	52		0.5	1
10945	Xylene (Total)	1330-20-7	89		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	15		0.1	1
07805	Benzo(a)anthracene	56-55-3	7		0.1	1
07805	Benzo(a)pyrene	50-32-8	5		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	6		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	3		0.1	1
07805	Chrysene	218-01-9	9		0.1	1
07805	Fluorene	86-73-7	56		0.1	1
07805	Naphthalene	91-20-3	6,000		10	100
07805	Phenanthrene	85-01-8	67		0.1	1
07805	Pyrene	129-00-0	18		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161442AA	05/23/2016 15:35	Brett W Kenyon	1
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 13:55	Brett W Kenyon	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161442AA	05/23/2016 15:35	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z161451AA	05/24/2016 13:55	Brett W Kenyon	10
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 12:54	Brandon H Smith	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/26/2016 03:57	William H Saadeh	100
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1

Sample Description: TW-8-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392562
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 11:25 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	161420021A	05/25/2016 02:04	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420021A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:40	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: MW-37-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392563
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 12:30 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR03

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	130,000		1,000	2000
10945	1,2-Dichloroethane	107-06-2	N.D.		100	200
10945	Ethylbenzene	100-41-4	N.D.		100	200
10945	Isopropylbenzene	98-82-8	N.D.		100	200
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		100	200
10945	Toluene	108-88-3	1,100		100	200
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		100	200
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		100	200
10945	Xylene (Total)	1330-20-7	N.D.		100	200
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.7		0.1	1
07805	Naphthalene	91-20-3	10		0.1	1
07805	Phenanthrene	85-01-8	0.8		0.1	1
07805	Pyrene	129-00-0	0.2	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	0.024	J	0.0098	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 13:07	Brett W Kenyon	200
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 13:31	Brett W Kenyon	2000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161451AA	05/24/2016 13:07	Brett W Kenyon	200
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z161451AA	05/24/2016 13:31	Brett W Kenyon	2000
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 13:24	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420021A	05/25/2016 02:21	Heather M Miller	1

Sample Description: MW-37-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392563
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 12:30 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07786	EDB Extraction (8011)	SW-846 8011	1	161420021A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:45	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: MW-30-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392564
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 13:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR04

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	61		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	1	J	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	2		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	1	J	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	2		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	2		0.1	1
07805	Benzo(a)anthracene	56-55-3	21		0.1	1
07805	Benzo(a)pyrene	50-32-8	30		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	56		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	28		0.1	1
07805	Chrysene	218-01-9	48		0.1	1
07805	Fluorene	86-73-7	6		0.1	1
07805	Naphthalene	91-20-3	14		0.1	1
07805	Phenanthrene	85-01-8	34		0.1	1
07805	Pyrene	129-00-0	57		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	0.022	J	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 14:43	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161451AA	05/24/2016 14:43	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 13:53	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420021A	05/25/2016 02:53	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420021A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:47	Choon Y Tian	1

Sample Description: MW-30-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392564
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 13:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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Suite 140
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PHR04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-196-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392565
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 15:20 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	0.013 J	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 15:07	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161451AA	05/24/2016 15:07	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 14:23	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420021A	05/25/2016 03:09	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420021A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:49	Choon Y Tian	1

Sample Description: S-196-20160516 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392565
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/16/2016 15:20 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-193-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392566
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 09:00 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR06

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	240		5	10
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	9		0.5	1
10945	Isopropylbenzene	98-82-8	16		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	10		0.5	1
10945	Toluene	108-88-3	5		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	19		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	11		0.5	1
10945	Xylene (Total)	1330-20-7	38		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.1	J	0.1	1
07805	Naphthalene	91-20-3	1		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	0.029		0.0098	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.82	J	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161442AA	05/23/2016 17:11	Brett W Kenyon	1
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 14:19	Brett W Kenyon	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161442AA	05/23/2016 17:11	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z161451AA	05/24/2016 14:19	Brett W Kenyon	10
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 14:53	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420021A	05/25/2016 03:25	Heather M Miller	1

Sample Description: S-193-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392566
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 09:00 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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1060 Andrew Drive
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West Chester PA 19380

PHR06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07786	EDB Extraction (8011)	SW-846 8011	1	161420021A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:50	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-268-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392567
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 10:25 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR07

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	0.1	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 15:31	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161451AA	05/24/2016 15:31	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 15:23	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 09:22	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:52	Choon Y Tian	1

Sample Description: S-268-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392567
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 10:25 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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1060 Andrew Drive
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West Chester PA 19380

PHR07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-120-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392568
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 13:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR08

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0098	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 15:55	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161451AA	05/24/2016 15:55	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 15:52	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 09:37	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:54	Choon Y Tian	1

Sample Description: S-120-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392568
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 13:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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1060 Andrew Drive
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PHR08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-222-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392569
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 14:45 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR09

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161451AA	05/24/2016 16:19	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161451AA	05/24/2016 16:19	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 16:22	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 09:54	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:56	Choon Y Tian	1

Sample Description: S-222-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392569
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 14:45 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-38-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392570
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 15:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	180	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	79	0.5	1
10945	Isopropylbenzene	98-82-8	13	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	96	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	17	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	7	0.5	1
10945	Xylene (Total)	1330-20-7	83	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	26	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161442AA	05/23/2016 18:48	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161442AA	05/23/2016 18:48	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 16:52	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 10:11	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:58	Choon Y Tian	1

Sample Description: S-38-20160518 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392570
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/18/2016 15:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-40-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392571
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 09:20 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR11

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	18		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	1		0.5	1
10945	Isopropylbenzene	98-82-8	16		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	4		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	1		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.5	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.2	J	0.1	1
07805	Fluorene	86-73-7	1		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	2		0.1	1
07805	Pyrene	129-00-0	0.4	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161481AA	05/27/2016 11:08	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161481AA	05/27/2016 11:08	Anita M Dale	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/25/2016 17:21	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 10:27	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 10:59	Choon Y Tian	1

Sample Description: S-40-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392571
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 09:20 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: S-223-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392572
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 11:10 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR12

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	2,200		10	20
10945	1,2-Dichloroethane	107-06-2	N.D.		10	20
10945	Ethylbenzene	100-41-4	440		10	20
10945	Isopropylbenzene	98-82-8	16	J	10	20
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		10	20
10945	Toluene	108-88-3	330		10	20
10945	1,2,4-Trimethylbenzene	95-63-6	490		10	20
10945	1,3,5-Trimethylbenzene	108-67-8	170		10	20
10945	Xylene (Total)	1330-20-7	1,500		10	20
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.1	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.8		0.1	1
07805	Naphthalene	91-20-3	87		0.1	1
07805	Phenanthrene	85-01-8	0.2	J	0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161481AA	05/27/2016 11:30	Anita M Dale	20
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161481AA	05/27/2016 11:30	Anita M Dale	20
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/26/2016 04:27	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 11:15	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 11:01	Choon Y Tian	1

Sample Description: S-223-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392572
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 11:10 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: A-133-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392573
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 13:30 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR13

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.4	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	1
07805	Chrysene	218-01-9	0.9		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161481AA	05/27/2016 11:52	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161481AA	05/27/2016 11:52	Anita M Dale	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/26/2016 04:56	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 11:32	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 11:07	Choon Y Tian	1

Sample Description: A-133-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392573
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 13:30 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: A-133-20160519-DUP Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392574
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 13:30 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

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PHR14

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.3	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	1
07805	Chrysene	218-01-9	1		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161481AA	05/27/2016 08:44	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161481AA	05/27/2016 08:44	Anita M Dale	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/26/2016 05:26	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161420022A	05/25/2016 11:48	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161420022A	05/23/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 11:09	Choon Y Tian	1

Sample Description: A-133-20160519-DUP Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392574
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 13:30 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: A-137-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392575
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 14:50 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR15

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	1		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.3	J	0.1	1
07805	Pyrene	129-00-0	0.2	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F161481AA	05/27/2016 09:06	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161481AA	05/27/2016 09:06	Anita M Dale	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/26/2016 05:55	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161440016A	05/25/2016 23:30	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161440016A	05/24/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 11:11	Choon Y Tian	1

Sample Description: A-137-20160519 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392575
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/19/2016 14:50 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: WP-14-20160520 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392576
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/20/2016 09:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR16

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l		ug/l	
07805	Anthracene	120-12-7	0.3	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.6		0.1	1
07805	Benzo(a)pyrene	50-32-8	0.7		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.7		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.6		0.1	1
07805	Chrysene	218-01-9	0.7		0.1	1
07805	Fluorene	86-73-7	0.5		0.1	1
07805	Naphthalene	91-20-3	0.4	J	0.1	1
07805	Phenanthrene	85-01-8	0.6		0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l		ug/l	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l		ug/l	
06035	Lead	7439-92-1	0.31	J	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	Z161462AA	05/26/2016 03:40	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161462AA	05/26/2016 03:40	Hu Yang	1
07805	PAHs by 8270	SW-846 8270C	1	16144WAB026	05/26/2016 06:25	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	16144WAB026	05/23/2016 17:00	Ryan A Schafran	1
10398	EDB in Wastewater	SW-846 8011	1	161440016A	05/25/2016 23:45	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161440016A	05/24/2016 09:00	Scott J Carini	1
06035	Lead	SW-846 6020	1	161496050002A	06/02/2016 11:12	Choon Y Tian	1

Sample Description: WP-14-20160520 Grab Groundwater
PHRO Annual Perimeter GWS

LL Sample # WW 8392576
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/20/2016 09:35 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR16

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161496050002	06/01/2016 12:46	James L Mertz	1

Sample Description: EB-20160520 Water
PHRO Annual Perimeter GWS

LL Sample # WW 8392577
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/20/2016 12:30 by DD

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR17

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dibromoethane	106-93-4	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/EDB/ TMBs	SW-846 8260B	1	Z161462AA	05/25/2016 20:02	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161462AA	05/25/2016 20:02	Hu Yang	1

Sample Description: Trip Blank Water
PHRO Annual Perimeter GWS

LL Sample # WW 8392578
LL Group # 1664163
Account # 16657

Project Name: PHRO Annual Perimeter GWS

Collected: 05/09/2016

Submitted: 05/20/2016 16:40
Reported: 06/02/2016 12:51

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHR18

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dibromoethane	106-93-4	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/EDB/ TMBs	SW-846 8260B	1	Z161462AA	05/25/2016 20:26	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161462AA	05/25/2016 20:26	Hu Yang	1

Quality Control Summary

Client Name: Stantec
Reported: 06/02/2016 12:51

Group Number: 1664163

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL
	ug/l	ug/l
Batch number: F161481AA	Sample number(s): 8392571-8392575	
Benzene	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
Isopropylbenzene	N.D.	0.5
Methyl Tertiary Butyl Ether	N.D.	0.5
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	0.5
1,3,5-Trimethylbenzene	N.D.	0.5
Xylene (Total)	N.D.	0.5
Batch number: Z161442AA	Sample number(s): 8392561-8392562,8392566,8392570	
Benzene	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
Isopropylbenzene	N.D.	0.5
Methyl Tertiary Butyl Ether	N.D.	0.5
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	0.5
1,3,5-Trimethylbenzene	N.D.	0.5
Xylene (Total)	N.D.	0.5
Batch number: Z161451AA	Sample number(s): 8392562-8392569	
Benzene	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
Isopropylbenzene	N.D.	0.5
Methyl Tertiary Butyl Ether	N.D.	0.5
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	0.5
1,3,5-Trimethylbenzene	N.D.	0.5
Xylene (Total)	N.D.	0.5
Batch number: Z161462AA	Sample number(s): 8392576-8392578	
Benzene	N.D.	0.5
1,2-Dibromoethane	N.D.	0.5
1,2-Dichloroethane	N.D.	0.5
Ethylbenzene	N.D.	0.5
Isopropylbenzene	N.D.	0.5
Methyl Tertiary Butyl Ether	N.D.	0.5
Toluene	N.D.	0.5
1,2,4-Trimethylbenzene	N.D.	0.5
1,3,5-Trimethylbenzene	N.D.	0.5
Xylene (Total)	N.D.	0.5
Batch number: 16144WAB026	Sample number(s): 8392561-8392576	

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/02/2016 12:51

Group Number: 1664163

Method Blank (continued)

Analysis Name	Result	MDL
	ug/l	ug/l
Anthracene	N.D.	0.1
Benzo(a)anthracene	N.D.	0.1
Benzo(a)pyrene	N.D.	0.1
Benzo(b)fluoranthene	N.D.	0.1
Benzo(g,h,i)perylene	N.D.	0.1
Chrysene	N.D.	0.1
Fluorene	N.D.	0.1
Naphthalene	N.D.	0.1
Phenanthrene	N.D.	0.1
Pyrene	N.D.	0.1
Batch number: 161420021A	Sample number(s): 8392561-8392566	
Ethylene dibromide	N.D.	0.010
Batch number: 161420022A	Sample number(s): 8392567-8392574	
Ethylene dibromide	N.D.	0.010
Batch number: 161440016A	Sample number(s): 8392575-8392576	
Ethylene dibromide	N.D.	0.010
Batch number: 161496050002A	Sample number(s): 8392561-8392576	
Lead	N.D.	0.13

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: F161481AA	Sample number(s): 8392571-8392575								
Benzene	20	19.22			96		78-120		
1,2-Dichloroethane	20	18.56			93		72-127		
Ethylbenzene	20	17.95			90		78-120		
Isopropylbenzene	20	18.28			91		80-120		
Methyl Tertiary Butyl Ether	20	19.15			96		75-120		
Toluene	20	18.51			93		80-120		
1,2,4-Trimethylbenzene	20	17.55			88		75-120		
1,3,5-Trimethylbenzene	20	17.52			88		75-120		
Xylene (Total)	60	55.02			92		80-120		
Batch number: Z161442AA	Sample number(s): 8392561-8392562,8392566,8392570								
Benzene	20	18.02	20	18.43	90	92	78-120	2	30
1,2-Dichloroethane	20	18.13	20	18.52	91	93	72-127	2	30
Ethylbenzene	20	18.05	20	18.51	90	93	78-120	3	30
Isopropylbenzene	20	18.55	20	19.03	93	95	80-120	3	30
Methyl Tertiary Butyl Ether	20	18.44	20	18.9	92	94	75-120	2	30
Toluene	20	19.13	20	19.5	96	98	80-120	2	30
1,2,4-Trimethylbenzene	20	17.77	20	17.89	89	89	75-120	1	30
1,3,5-Trimethylbenzene	20	17.36	20	17.51	87	88	75-120	1	30
Xylene (Total)	60	56.71	60	58.2	95	97	80-120	3	30

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/02/2016 12:51

Group Number: 1664163

LCS/LCSD (continued)

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: Z161451AA	Sample number(s): 8392562-8392569								
Benzene	20	19.08	20	18.85	95	94	78-120	1	30
1,2-Dichloroethane	20	18.49	20	18.38	92	92	72-127	1	30
Ethylbenzene	20	18.78	20	18.29	94	91	78-120	3	30
Isopropylbenzene	20	19.22	20	18.63	96	93	80-120	3	30
Methyl Tertiary Butyl Ether	20	18.25	20	18.56	91	93	75-120	2	30
Toluene	20	19.57	20	18.91	98	95	80-120	3	30
1,2,4-Trimethylbenzene	20	18.2	20	18.12	91	91	75-120	0	30
1,3,5-Trimethylbenzene	20	18.13	20	18.08	91	90	75-120	0	30
Xylene (Total)	60	58.04	60	56.45	97	94	80-120	3	30
Batch number: Z161462AA	Sample number(s): 8392576-8392578								
Benzene	20	17.62			88		78-120		
1,2-Dibromoethane	20	17.07			85		80-120		
1,2-Dichloroethane	20	16.92			85		72-127		
Ethylbenzene	20	16.54			83		78-120		
Isopropylbenzene	20	17.08			85		80-120		
Methyl Tertiary Butyl Ether	20	15.94			80		75-120		
Toluene	20	17.88			89		80-120		
1,2,4-Trimethylbenzene	20	16.42			82		75-120		
1,3,5-Trimethylbenzene	20	16.14			81		75-120		
Xylene (Total)	60	51.94			87		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16144WAB026	Sample number(s): 8392561-8392576								
Anthracene	50	46.07	50	44.58	92	89	68-126	3	30
Benzo(a)anthracene	50	52.62	50	49.54	105	99	69-133	6	30
Benzo(a)pyrene	50	47.42	50	45.49	95	91	68-126	4	30
Benzo(b)fluoranthene	50	47.29	50	45.02	95	90	71-131	5	30
Benzo(g,h,i)perylene	50	50.98	50	44.69	102	89	62-132	13	30
Chrysene	50	54.77	50	50.59	110	101	71-136	8	30
Fluorene	50	46.49	50	44.85	93	90	71-127	4	30
Naphthalene	50	44.95	50	42.23	90	84	62-121	6	30
Phenanthrene	50	45.57	50	42.94	91	86	65-120	6	30
Pyrene	50	46.15	50	42.63	92	85	68-118	8	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161420021A	Sample number(s): 8392561-8392566								
Ethylene dibromide	0.128	0.148	0.128	0.121	116	95	60-140	20	20
Batch number: 161420022A	Sample number(s): 8392567-8392574								
Ethylene dibromide	0.128	0.129	0.128	0.108	101	84	60-140	18	20
Batch number: 161440016A	Sample number(s): 8392575-8392576								
Ethylene dibromide	0.128	0.126	0.128	0.123	98	96	60-140	2	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161496050002A	Sample number(s): 8392561-8392576								
Lead	15	15.89			106		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/02/2016 12:51

Group Number: 1664163

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: F161481AA	Sample number(s): 8392571-8392575 UNSPK: 8392575									
Benzene	N.D.	20	20.35	20	20.31	102	102	78-120	0	30
1,2-Dichloroethane	N.D.	20	18.75	20	18.89	94	94	72-127	1	30
Ethylbenzene	N.D.	20	19.45	20	19.71	97	99	78-120	1	30
Isopropylbenzene	N.D.	20	20.31	20	20.35	102	102	80-120	0	30
Methyl Tertiary Butyl Ether	1.11	20	19.92	20	20.37	94	96	75-120	2	30
Toluene	N.D.	20	19.77	20	20.03	99	100	80-120	1	30
1,2,4-Trimethylbenzene	N.D.	20	17.84	20	17.97	89	90	75-120	1	30
1,3,5-Trimethylbenzene	N.D.	20	18.21	20	18.07	91	90	75-120	1	30
Xylene (Total)	N.D.	60	58.95	60	58.6	98	98	80-120	1	30
Batch number: Z161451AA	Sample number(s): 8392562-8392569 UNSPK: P390473									
Benzene	40.24	100	143.35	100	143.02	103	103	78-120	0	30
1,2-Dichloroethane	N.D.	100	95.52	100	94.37	96	94	72-127	1	30
Ethylbenzene	288.03	100	396.11	100	384.82	108	97	78-120	3	30
Isopropylbenzene	11.7	100	117.84	100	116.11	106	104	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	100	92.45	100	94.15	92	94	75-120	2	30
Toluene	4.69	100	108.45	100	106.17	104	101	80-120	2	30
1,2,4-Trimethylbenzene	997.91	100	1071.64	100	1029.9	74 (2)	32 (2)	75-120	4	30
1,3,5-Trimethylbenzene	642.73	100	741.68	100	737.35	99 (2)	95 (2)	75-120	1	30
Xylene (Total)	1917.27	300	2215.61	300	2139.33	99 (2)	74 (2)	80-120	4	30
Batch number: Z161462AA	Sample number(s): 8392576-8392578 UNSPK: P393782									
Benzene	N.D.	20	20.24	20	19.99	101	100	78-120	1	30
1,2-Dibromoethane	N.D.	20	18.97	20	18.76	95	94	80-120	1	30
1,2-Dichloroethane	N.D.	20	18.8	20	18.53	94	93	72-127	1	30
Ethylbenzene	N.D.	20	19.98	20	19.64	100	98	78-120	2	30
Isopropylbenzene	N.D.	20	20.89	20	20.73	104	104	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	17.81	20	17.51	89	88	75-120	2	30
Toluene	N.D.	20	20.56	20	20.44	103	102	80-120	1	30
1,2,4-Trimethylbenzene	5.50	20	25.24	20	25.69	99	101	75-120	2	30
1,3,5-Trimethylbenzene	0.579	20	19.89	20	19.82	97	96	75-120	0	30
Xylene (Total)	N.D.	60	61.81	60	61.29	103	102	80-120	1	30
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: 161420021A	Sample number(s): 8392561-8392566 UNSPK: 8392561									
Ethylene dibromide	N.D.	0.124	0.129			104		60-140		
Batch number: 161420022A	Sample number(s): 8392567-8392574 UNSPK: P389731									
Ethylene dibromide	N.D.	0.123	0.112	0.123	0.118	91	96	60-140	6	20
Batch number: 161440016A	Sample number(s): 8392575-8392576 UNSPK: P390402									
Ethylene dibromide	N.D.	0.124	0.119			96		60-140		
	ug/l	**ug/l**	**ug/l**	**ug/l**	**ug/l**					
Batch number: 161496050002A	Sample number(s): 8392561-8392576 UNSPK: P393791									

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/02/2016 12:51

Group Number: 1664163

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Lead	0.226	15	16.18	15	16.05	106	105	75-125	1	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc ug/l	DUP Conc ug/l	DUP RPD	DUP RPD Max
Batch number: 161420021A	Sample number(s): 8392561-8392566 BKG: 8392563			
Ethylene dibromide	0.0242	0.0259	7 (1)	30
Batch number: 161440016A	Sample number(s): 8392575-8392576 BKG: P390404			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
	ug/l	ug/l		
Batch number: 161496050002A	Sample number(s): 8392561-8392576 BKG: P393791			
Lead	0.226	0.222	2 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: F161481AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8392571	97	97	95	98
8392572	96	94	99	95
8392573	98	98	95	90
8392574	100	95	96	89
8392575	99	94	96	90
Blank	99	96	96	88
LCS	98	97	97	93
MS	98	99	97	95
MSD	99	97	97	93
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: Z161442AA

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/02/2016 12:51

Group Number: 1664163

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8392561	100	97	95	88
8392562	96	94	96	99
8392566	94	95	99	98
8392570	97	94	98	93
Blank	101	100	96	89
LCS	97	96	98	98
LCSD	98	96	97	97
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: Z161451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8392563	93	93	97	89
8392564	94	96	96	93
8392565	98	97	96	90
8392567	98	97	97	94
8392568	99	99	96	90
8392569	99	99	97	91
Blank	99	99	96	90
LCS	96	98	98	97
LCSD	96	98	97	96
MS	95	98	98	97
MSD	94	98	98	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/EDB/TMBs
Batch number: Z161462AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8392576	97	96	98	91
8392577	100	98	96	89
8392578	101	99	96	88
Blank	99	98	96	90
LCS	96	96	98	96
MS	97	96	98	96
MSD	96	98	98	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270
Batch number: 16144WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8392561	87	95	82
8392562	99	84	83
8392563	89	85	61
8392564	86	81	58
8392565	85	89	50
8392566	90	93	70

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Reported: 06/02/2016 12:51

Group Number: 1664163

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8392567	90	90	95
8392568	84	88	87
8392569	95	83	83
8392570	87	93	78
8392571	92	80	62
8392572	90	81	47
8392573	83	85	82
8392574	87	85	86
8392575	88	84	80
8392576	89	83	49
Blank	92	87	91
LCS	87	77	79
LCSD	83	81	69
Limits:	46-128	61-112	41-125

Analysis Name: EDB in Wastewater
Batch number: 161420021A

	1,1,2,2-Tetrachloroethane
8392561	86
8392562	83
8392563	89
8392564	99
8392565	127
8392566	101
Blank	91
DUP	87
LCS	101
LCSD	87
MS	72
Limits:	46-136

Analysis Name: EDB in Wastewater
Batch number: 161420022A

	1,1,2,2-Tetrachloroethane
8392567	99
8392568	96
8392569	93
8392570	160*
8392571	110
8392572	112
8392573	93
8392574	100
Blank	84
LCS	79
LCSD	75
MS	79
MSD	82

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Stantec
Group Number: 1664163
Reported: 06/02/2016 12:51

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Limits: 46-136

Analysis Name: EDB in Wastewater
Batch number: 161440016A

	1,1,2,2-Tetrachloroethane
8392575	87
8392576	75
Blank	79
DUP	4650*
LCS	89
LCSD	87
MS	13368*
Limits:	46-136

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

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For Eurofins Lancaster Laboratories Environmental use only

Acct. # 166657 Group # 1664163 Sample # 8392561-78

COC # 500199

Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: Evergreen PHRO Annual Perimeter GWS	PWSID #:
Project Manager: Jennifer Menges	P.O. #:
Sampler: Dan Downing	Quote #:
State where samples were collected: PA	For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐ Water ☒ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ Other: ____

Analysis Requested

Preservation Codes: H | | H | | | | | | | |

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs by 8260 (Specify)*	SVOCs by 8270 (Specify)*	EDB by 8011	Lead by 6010/6020
S-74-20160516	5/16/16	1100	X		8	X	X	X	X
TW-8-20160516	5/16/16	1125	X		8	X	X	X	X
MW-37-20160516	5/16/16	1230	X		8	X	X	X	X
MW-30-20160516	5/16/16	1335	X		8	X	X	X	X
S-196-20160516	5/16/16	1520	X		8	X	X	X	X
S-193-20160518	5/18/16	0900	X		8	X	X	X	X
S-268-20160518	5/18/16	1025	X		8	X	X	X	X
S-120-20160518	5/18/16	1335	X		8	X	X	X	X
S-222-20160518	5/18/16	1445	X		8	X	X	X	X
S-38-20160518	5/18/16	1535	X		8	X	X	X	X

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

* for specific VOC analyses, see attached Evergreen shortlist

** for specific SVOC analyses, see attached Evergreen shortlist

Turnaround Time (TAT) Requested (please circle)

(Standard) Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: Jennifer.Menges@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)

Type III (Reduced non-CLP) | NJ DKQP | TX TRRP-13

NYSDEC Category A or B | MA MCP | CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Dan Downing	5/20/16	1315		5/20/16	1318
	5/20/16	1640			
				5/20/16	1640

EDD Required? (Yes) No

If yes, format: EQUIS-EFW-stantec-4

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.6-1.6 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 166657 Group # 1664163 Sample # 8392561-78

COC # 500200

Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: Evergreen PHRO Annual Perimeter GWS	PWSID #:
Project Manager: Jennifer Menges	P.O. #:
Sampler: Dan Downing	Quote #:
State where samples were collected: PA	For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water ☒ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Other: ____

Analysis Requested

Preservation Codes: H | | H | | | | | | | |

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs by 8260 * (see specifics)	SVOCs by 8270 ** (see specifics)	EDB by 8011	Lead by 6010/6020
S-40-20160519	5/19/16	0920	X		8	X	X	X	X
S-223-20160519	5/19/16	1110	X		8	X	X	X	X
A-133-20160519	5/19/16	1330	X		8	X	X	X	X
A-133-20160519-DUP	5/19/16	1330	X		8	X	X	X	X
A-137-20160519	5/19/16	1450	X		8	X	X	X	X
WP-14-20160520	5/20/16	0935	X		8	X	X	X	X
EB-20160520	5/20/16	1230	X		3	X			
Trip Blank	5/4/16	—	X		3	X			

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

* for specific VOC analyses, see attached Evergreen shortlist
** for specific SVOC analyses, see attached Evergreen shortlist

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: Jennifer.Menges@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Dan Downing	5/20/16	1315	[signature]	5/20/16	1315
[signature]	5/20/16	1640			

EDD Required? (Yes) No

If yes, format: EQuIS-EFW-Stantec-4

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.6-1.6 °C

16657/16641163/8392561-78

enter "EQuIS-EFW-Stantec_4" on the COC. Also, under the Client Information section on the COC, enter Stantec for Client and for Acct #, enter "Evergreen".

Sampling pumps and interface probes **must be** decontaminated with an Alconox® or Liquinox® wash and distilled or DI water rinse before the start of sampling and between wells. Dedicated buckets designated for decon for these wells can be found in the Stantec storage trailer. At the end of each day, the excess decontamination water should be filtered through a GAC unit and discharged to the ground surface in an area near the trailers that will not create a puddle in the general walking/working area of the ground.

At the completion of the sampling event, email the EDD file(s) to Andrew Klingbeil for review.

Philadelphia Refinery Complex Groundwater COC List (PHL GW COC List)
Evergreen Petroleum Short List (April 2016)

VOCs by EPA Method 8260	**CAS No.**
Benzene	71-43-2
Cumene	98-82-8
Dichloroethane, 1,2-	107-06-2
Ethylbenzene	100-41-4
Ethylene Dibromide*	106-93-4
Methyl tert butyl ether	1634-04-4
Toluene	108-88-3
Trimethylbenzene, 1,2,4-	95-63-6
Trimethylbenzene, 1,3,5-	108-67-8
Xylenes	1330-20-7
SVOCs by EPA Method 8270	**CAS No.**
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(a)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Chrysene	218-01-9
Fluorene	86-73-7
Naphthalene**	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0
Metals by Method 6010/6020	**CAS No.**
Lead***	7439-92-1

*Ethylene Dibromide should be analyzed by EPA Method 8011 instead of 8260 in soil for tank investigations, soil reuse sampling, and in **all groundwater samples.**
**Naphthalene should be analyzed by EPA Method 8260 instead of 8270 for tank investigations.
***Metals analysis should be total in soil and dissolved in groundwater.

This list is comprised of the combined PADEP Short List of Petroleum Products (leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 Fuel Oils).

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Sample Administration Receipt Documentation Log

Doc Log ID: 147473

Group Number(s): 16641163

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	05/20/2016 16:40
Number of Packages:	3	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	3
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Patrick Engle (3472) at 17:45 on 05/20/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	0.8	DT	Wet	Y	Bagged	N
2	DT121	1.6	DT	Wet	Y	Bagged	N
3	DT121	0.6	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

Report Date: May 24, 2016

Project: Evergreen PHRO Annual Perimeter GWS

Submittal Date: 05/12/2016
Group Number: 1660187
PO Number: PHL REFINERY
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
S-232-20160510 Grab Groundwater	8378380
S-51-20160510 Grab Groundwater	8378381
S-41-20160510 Grab Groundwater	8378382
S-231-20160510 Grab Groundwater	8378383
S-43-20160510 Grab Groundwater	8378384
S-50-20160510 Grab Groundwater	8378385
S-44-20160511 Grab Groundwater	8378386
S-44-20160511DUP Grab Groundwater	8378387
S-249-20160511 Grab Groundwater	8378388
RW-108-20160511 Grab Groundwater	8378389
S-154-20160511 Grab Groundwater	8378390
S-72-20160511 Grab Groundwater	8378391
S-351-20160512 Grab Groundwater	8378392
S-1-20160512 Grab Groundwater	8378393
S-25-20160512 Grab Groundwater	8378394
S-3-20160512 Grab Groundwater	8378395
S-39-20160512 Grab Groundwater	8378396
S-122-20160512 Grab Groundwater	8378397
EB-20160512 Grab Water	8378398
TB-20160512 Water	8378399

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ .

Electronic Copy To Sunoco c/o Stantec Attn: Jennifer Menges

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: S-232-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-232

LL Sample # WW 8378380
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 12:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH232

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	2	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161372AA	05/16/2016 15:51	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161372AA	05/16/2016 15:51	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 20:28	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 01:00	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-232-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-232

LL Sample # WW 8378380
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 12:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH232

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 11:48	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-51-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-51

LL Sample # WW 8378381
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 12:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH051

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 5	5	3	5
10945	1,2-Dichloroethane	107-06-2	< 5	5	3	5
10945	Ethylbenzene	100-41-4	< 5	5	3	5
10945	Isopropylbenzene	98-82-8	28	10	3	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	32	5	3	5
10945	Toluene	108-88-3	< 5	5	3	5
10945	1,2,4-Trimethylbenzene	95-63-6	< 10	10	3	5
10945	1,3,5-Trimethylbenzene	108-67-8	< 10	10	3	5
10945	Xylene (Total)	1330-20-7	< 5	5	3	5
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	2	0.5	0.1	1
07805	Naphthalene	91-20-3	0.6	0.5	0.1	1
07805	Phenanthrene	85-01-8	1	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161372AA	05/16/2016 16:12	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161372AA	05/16/2016 16:12	Daniel H Heller	5
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 20:56	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 01:16	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-51-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-51

LL Sample # WW 8378381
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 12:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH051

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 11:50	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-41-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-41

LL Sample # WW 8378382
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH041

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 5	5	3	5
10945	1,2-Dichloroethane	107-06-2	< 5	5	3	5
10945	Ethylbenzene	100-41-4	< 5	5	3	5
10945	Isopropylbenzene	98-82-8	28	10	3	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	6	5	3	5
10945	Toluene	108-88-3	< 5	5	3	5
10945	1,2,4-Trimethylbenzene	95-63-6	< 10	10	3	5
10945	1,3,5-Trimethylbenzene	108-67-8	< 10	10	3	5
10945	Xylene (Total)	1330-20-7	< 5	5	3	5
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	2	0.5	0.1	1
07805	Naphthalene	91-20-3	2	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161372AA	05/16/2016 16:34	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161372AA	05/16/2016 16:34	Daniel H Heller	5
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 21:25	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 01:31	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-41-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-41

LL Sample # WW 8378382
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH041

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 11:37	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-231-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-231

LL Sample # WW 8378383
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH231

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	29	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	11	1	0.5	1
10945	Isopropylbenzene	98-82-8	29	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	4	1	0.5	1
10945	Toluene	108-88-3	15	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	10	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	16	2	0.5	1
10945	Xylene (Total)	1330-20-7	18	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	0.6	0.5	0.1	1
07805	Naphthalene	91-20-3	4	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161372AA	05/16/2016 16:56	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161372AA	05/16/2016 16:56	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 21:53	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 10:06	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-231-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-231

LL Sample # WW 8378383
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH231

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 11:55	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-43-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-43

LL Sample # WW 8378384
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH043

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	11	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	3	1	0.5	1
10945	Isopropylbenzene	98-82-8	56	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	5	1	0.5	1
10945	Toluene	108-88-3	7	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	7	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	4	0.5	0.1	1
07805	Naphthalene	91-20-3	1	0.5	0.1	1
07805	Phenanthrene	85-01-8	2	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161372AA	05/16/2016 17:18	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161372AA	05/16/2016 17:18	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 22:21	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 10:21	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-43-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-43

LL Sample # WW 8378384
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH043

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 11:57	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-50-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-50

LL Sample # WW 8378385
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH050

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161372AA	05/16/2016 17:39	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161372AA	05/16/2016 17:39	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 22:50	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 10:37	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-50-20160510 Grab Groundwater
PHRO Annual Perimeter GWS S-50

LL Sample # WW 8378385
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/10/2016 13:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH050

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 11:58	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-44-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-44

LL Sample # WW 8378386
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH044

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	310	5	3	5
10945	1,2-Dichloroethane	107-06-2	< 5	5	3	5
10945	Ethylbenzene	100-41-4	< 5	5	3	5
10945	Isopropylbenzene	98-82-8	14	10	3	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	120	5	3	5
10945	Toluene	108-88-3	14	5	3	5
10945	1,2,4-Trimethylbenzene	95-63-6	< 10	10	3	5
10945	1,3,5-Trimethylbenzene	108-67-8	< 10	10	3	5
10945	Xylene (Total)	1330-20-7	19	5	3	5
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	2	0.5	0.1	1
07805	Naphthalene	91-20-3	1	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.6	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0095	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161372AA	05/16/2016 18:01	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161372AA	05/16/2016 18:01	Daniel H Heller	5
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 23:18	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 10:52	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-44-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-44

LL Sample # WW 8378386
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH044

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:00	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-44-20160511DUP Grab Groundwater
PHRO Annual Perimeter GWS S-44

LL Sample # WW 8378387
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHFDP

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	310	5	3	5
10945	1,2-Dichloroethane	107-06-2	< 5	5	3	5
10945	Ethylbenzene	100-41-4	< 5	5	3	5
10945	Isopropylbenzene	98-82-8	14	10	3	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	120	5	3	5
10945	Toluene	108-88-3	14	5	3	5
10945	1,2,4-Trimethylbenzene	95-63-6	< 10	10	3	5
10945	1,3,5-Trimethylbenzene	108-67-8	< 10	10	3	5
10945	Xylene (Total)	1330-20-7	17	5	3	5
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	2	0.5	0.1	1
07805	Naphthalene	91-20-3	1	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.7	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 14:35	Daniel H Heller	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 14:35	Daniel H Heller	5
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/20/2016 23:46	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 11:08	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-44-20160511DUP Grab Groundwater
PHRO Annual Perimeter GWS S-44

LL Sample # WW 8378387
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHFDP

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:02	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-249-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-249

LL Sample # WW 8378388
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH249

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 14:57	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 14:57	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 00:14	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350018A	05/19/2016 11:23	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350018A	05/16/2016 19:00	Shawn J McMullen	1

*=This limit was used in the evaluation of the final result

Sample Description: S-249-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-249

LL Sample # WW 8378388
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH249

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:04	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: RW-108-20160511 Grab Groundwater
PHRO Annual Perimeter GWS RW-108

LL Sample # WW 8378389
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH108

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.030	0.030	0.0098	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 15:19	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 15:19	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 00:43	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 09:37	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: RW-108-20160511 Grab Groundwater
PHRO Annual Perimeter GWS RW-108

LL Sample # WW 8378389
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 12:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH108

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:05	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-154-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-154

LL Sample # WW 8378390
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 13:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH154

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	2	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	5	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	34	1	0.5	1
10945	Toluene	108-88-3	1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	7	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	0.9	0.5	0.1	1
07805	Naphthalene	91-20-3	0.6	0.5	0.1	1
07805	Phenanthrene	85-01-8	0.6	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 15:41	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 15:41	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 01:11	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 09:53	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-154-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-154

LL Sample # WW 8378390
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 13:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH154

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:07	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-72-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-72

LL Sample # WW 8378391
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 13:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH072

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	9	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	1	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	1	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	2	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	3	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	1	0.5	0.1	1
07805	Chrysene	218-01-9	3	0.5	0.1	1
07805	Fluorene	86-73-7	3	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	2	0.5	0.1	1
07805	Pyrene	129-00-0	4	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0096	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 16:03	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 16:03	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 01:39	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 10:08	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-72-20160511 Grab Groundwater
PHRO Annual Perimeter GWS S-72

LL Sample # WW 8378391
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/11/2016 13:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH072

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:09	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-351-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-351

LL Sample # WW 8378392
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 08:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH351

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.030	0.030	0.0098	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 16:25	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 16:25	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 02:08	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 10:24	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-351-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-351

LL Sample # WW 8378392
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 08:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH351

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:11	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-1-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-1

LL Sample # WW 8378393
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH001

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 16:47	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 16:47	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 02:36	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 11:10	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-1-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-1

LL Sample # WW 8378393
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH001

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:16	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-25-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-25

LL Sample # WW 8378394
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH025

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 17:08	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 17:08	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 03:05	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 11:26	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-25-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-25

LL Sample # WW 8378394
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:15 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH025

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:18	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-3-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-3

LL Sample # WW 8378395
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH003

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 17:30	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 17:30	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 03:33	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 11:42	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-3-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-3

LL Sample # WW 8378395
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH003

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:20	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-39-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-39

LL Sample # WW 8378396
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH039

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 17:52	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 17:52	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 04:02	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 11:57	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-39-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-39

LL Sample # WW 8378396
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 12:45 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH039

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:21	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: S-122-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-122

LL Sample # WW 8378397
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 13:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH122

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 18:14	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 18:14	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 04:30	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 12:13	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: S-122-20160512 Grab Groundwater
PHRO Annual Perimeter GWS S-122

LL Sample # WW 8378397
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 13:00 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH122

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:23	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-20160512 Grab Water
PHRO Annual Perimeter GWS EB

LL Sample # WW 8378398
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 13:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHEBK

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
07805	Anthracene	120-12-7	< 0.5	0.5	0.1	1
07805	Benzo(a)anthracene	56-55-3	< 0.5	0.5	0.1	1
07805	Benzo(a)pyrene	50-32-8	< 0.5	0.5	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	< 0.5	0.5	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	< 0.5	0.5	0.1	1
07805	Chrysene	218-01-9	< 0.5	0.5	0.1	1
07805	Fluorene	86-73-7	< 0.5	0.5	0.1	1
07805	Naphthalene	91-20-3	< 0.5	0.5	0.1	1
07805	Phenanthrene	85-01-8	< 0.5	0.5	0.1	1
07805	Pyrene	129-00-0	< 0.5	0.5	0.1	1
Pesticides/PCBs	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	< 0.029	0.029	0.0097	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	< 1.0	1.0	0.13	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.
This sample was filtered in the lab for dissolved metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	UST Unleaded/Leaded minus NAPH	SW-846 8260B	1	F161371AA	05/16/2016 18:35	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F161371AA	05/16/2016 18:35	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	16134WAD026	05/21/2016 04:58	Catherine E Bachman	1
07807	BNA Water Extraction	SW-846 3510C	1	16134WAD026	05/13/2016 17:00	Shawn J McMullen	1
10398	EDB in Wastewater	SW-846 8011	1	161350039A	05/18/2016 12:28	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	161350039A	05/17/2016 09:00	Scott J Carini	1

*=This limit was used in the evaluation of the final result

Sample Description: EB-20160512 Grab Water
PHRO Annual Perimeter GWS EB

LL Sample # WW 8378398
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016 13:30 by D

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHEBK

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	161396050001A	05/20/2016 12:25	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	161396050001	05/19/2016 22:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Sample Description: TB-20160512 Water
PHRO Annual Perimeter GWS TB

LL Sample # WW 8378399
LL Group # 1660187
Account # 16657

Project Name: Evergreen PHRO Annual Perimeter GWS

Collected: 05/12/2016

Submitted: 05/12/2016 16:45
Reported: 05/24/2016 11:13

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHTBK

CAT No.	Analysis Name	CAS Number	Result	Limit of Quantitation*	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	< 1	1	0.5	1
10945	1,2-Dibromoethane	106-93-4	< 1	1	0.5	1
10945	1,2-Dichloroethane	107-06-2	< 1	1	0.5	1
10945	Ethylbenzene	100-41-4	< 1	1	0.5	1
10945	Isopropylbenzene	98-82-8	< 2	2	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	< 1	1	0.5	1
10945	Toluene	108-88-3	< 1	1	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	< 2	2	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	< 2	2	0.5	1
10945	Xylene (Total)	1330-20-7	< 1	1	0.5	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/17.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/EDB/ TMBs	SW-846 8260B	1	Z161401AA	05/19/2016 11:06	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z161401AA	05/19/2016 11:06	Brett W Kenyon	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 05/24/2016 11:13

Group Number: 1660187

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
Batch number: F161371AA	Sample number(s): 8378387-8378398		
Benzene	< 1	1	0.5
1,2-Dichloroethane	< 1	1	0.5
Ethylbenzene	< 1	1	0.5
Isopropylbenzene	< 2	2	0.5
Methyl Tertiary Butyl Ether	< 1	1	0.5
Toluene	< 1	1	0.5
1,2,4-Trimethylbenzene	< 2	2	0.5
1,3,5-Trimethylbenzene	< 2	2	0.5
Xylene (Total)	< 1	1	0.5
Batch number: F161372AA	Sample number(s): 8378380-8378386		
Benzene	< 1	1	0.5
1,2-Dichloroethane	< 1	1	0.5
Ethylbenzene	< 1	1	0.5
Isopropylbenzene	< 2	2	0.5
Methyl Tertiary Butyl Ether	< 1	1	0.5
Toluene	< 1	1	0.5
1,2,4-Trimethylbenzene	< 2	2	0.5
1,3,5-Trimethylbenzene	< 2	2	0.5
Xylene (Total)	< 1	1	0.5
Batch number: Z161401AA	Sample number(s): 8378399		
Benzene	< 1	1	0.5
1,2-Dibromoethane	< 1	1	0.5
1,2-Dichloroethane	< 1	1	0.5
Ethylbenzene	< 1	1	0.5
Isopropylbenzene	< 2	2	0.5
Methyl Tertiary Butyl Ether	< 1	1	0.5
Toluene	< 1	1	0.5
1,2,4-Trimethylbenzene	< 2	2	0.5
1,3,5-Trimethylbenzene	< 2	2	0.5
Xylene (Total)	< 1	1	0.5
Batch number: 16134WAD026	Sample number(s): 8378380-8378398		
Anthracene	< 0.5	0.5	0.1
Benzo(a)anthracene	< 0.5	0.5	0.1
Benzo(a)pyrene	< 0.5	0.5	0.1
Benzo(b)fluoranthene	< 0.5	0.5	0.1
Benzo(g,h,i)perylene	< 0.5	0.5	0.1
Chrysene	< 0.5	0.5	0.1
Fluorene	< 0.5	0.5	0.1
Naphthalene	< 0.5	0.5	0.1
Phenanthrene	< 0.5	0.5	0.1
Pyrene	< 0.5	0.5	0.1

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 05/24/2016 11:13

Group Number: 1660187

Method Blank (continued)

Analysis Name	Result	LOQ**	MDL
	ug/l	ug/l	ug/l
Batch number: 161350018A	Sample number(s): 8378380-8378388		
Ethylene dibromide	< 0.030	0.030	0.010
Batch number: 161350039A	Sample number(s): 8378389-8378398		
Ethylene dibromide	< 0.030	0.030	0.010
Batch number: 161396050001A	Sample number(s): 8378380-8378398		
Lead	< 1.0	1.0	0.13

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: F161371AA	Sample number(s): 8378387-8378398								
Benzene	20	18.89	20	20.01	94	100	78-120	6	30
1,2-Dichloroethane	20	18.57	20	18.74	93	94	72-127	1	30
Ethylbenzene	20	17.93	20	18.59	90	93	78-120	4	30
Isopropylbenzene	20	18.24	20	19.08	91	95	80-120	5	30
Methyl Tertiary Butyl Ether	20	19.05	20	19.24	95	96	75-120	1	30
Toluene	20	18.12	20	18.94	91	95	80-120	4	30
1,2,4-Trimethylbenzene	20	16.68	20	17.8	83	89	75-120	6	30
1,3,5-Trimethylbenzene	20	16.35	20	18.05	82	90	75-120	10	30
Xylene (Total)	60	53.98	60	56.33	90	94	80-120	4	30
Batch number: F161372AA	Sample number(s): 8378380-8378386								
Benzene	20	20.09	20	20.13	100	101	78-120	0	30
1,2-Dichloroethane	20	18.88	20	18.81	94	94	72-127	0	30
Ethylbenzene	20	19.18	20	18.84	96	94	78-120	2	30
Isopropylbenzene	20	19.85	20	19.22	99	96	80-120	3	30
Methyl Tertiary Butyl Ether	20	20.01	20	20.13	100	101	75-120	1	30
Toluene	20	19.03	20	18.84	95	94	80-120	1	30
1,2,4-Trimethylbenzene	20	17.95	20	17.45	90	87	75-120	3	30
1,3,5-Trimethylbenzene	20	18.05	20	17.49	90	87	75-120	3	30
Xylene (Total)	60	57.41	60	57.74	96	96	80-120	1	30
Batch number: Z161401AA	Sample number(s): 8378399								
Benzene	20	18.81	20	18.86	94	94	78-120	0	30
1,2-Dibromoethane	20	19.39	20	18.89	97	94	80-120	3	30
1,2-Dichloroethane	20	18.78	20	18.97	94	95	72-127	1	30
Ethylbenzene	20	18.56	20	18.44	93	92	78-120	1	30
Isopropylbenzene	20	18.81	20	18.98	94	95	80-120	1	30
Methyl Tertiary Butyl Ether	20	18.58	20	18.58	93	93	75-120	0	30
Toluene	20	19.53	20	19.54	98	98	80-120	0	30
1,2,4-Trimethylbenzene	20	17.89	20	17.61	89	88	75-120	2	30
1,3,5-Trimethylbenzene	20	17.38	20	17.35	87	87	75-120	0	30
Xylene (Total)	60	57.46	60	57.54	96	96	80-120	0	30
	ug/l	ug/l	ug/l	ug/l					

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 05/24/2016 11:13

Group Number: 1660187

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 16134WAD026	Sample number(s): 8378380-8378398								
Anthracene	50	51.5	50	50.92	103	102	68-126	1	30
Benzo(a)anthracene	50	53.17	50	54.01	106	108	69-133	2	30
Benzo(a)pyrene	50	51.49	50	51.57	103	103	68-126	0	30
Benzo(b)fluoranthene	50	50.67	50	50.44	101	101	71-131	0	30
Benzo(g,h,i)perylene	50	52.22	50	51.65	104	103	62-132	1	30
Chrysene	50	55.39	50	56.5	111	113	71-136	2	30
Fluorene	50	49.79	50	50.21	100	100	71-127	1	30
Naphthalene	50	48.17	50	47.69	96	95	62-121	1	30
Phenanthrene	50	49.58	50	48.83	99	98	65-120	2	30
Pyrene	50	49.59	50	50.09	99	100	68-118	1	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161350018A	Sample number(s): 8378380-8378388								
Ethylene dibromide	0.128	0.140	0.128	0.144	109	113	60-140	3	20
Batch number: 161350039A	Sample number(s): 8378389-8378398								
Ethylene dibromide	0.128	0.125	0.128	0.133	98	104	60-140	6	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 161396050001A	Sample number(s): 8378380-8378398								
Lead	15	15.18			101		80-120		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 161350018A	Sample number(s): 8378380-8378388 UNSPK: P374854									
Ethylene dibromide	< 0.029	0.124	0.130			105		60-140		
Batch number: 161350039A	Sample number(s): 8378389-8378398 UNSPK: P377354									
Ethylene dibromide	< 0.029	0.126	0.138			110		60-140		
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 161396050001A	Sample number(s): 8378380-8378398 UNSPK: 8378382									
Lead	0.170	15	15.47	15	15.74	102	104	75-125	2	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 05/24/2016 11:13

Group Number: 1660187

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	ug/l	ug/l		
Batch number: 161350018A	Sample number(s): 8378380-8378388 BKG: P374855			
Ethylene dibromide	< 0.029	< 0.029	0 (1)	30
Batch number: 161350039A	Sample number(s): 8378389-8378398 BKG: P377356			
Ethylene dibromide	< 0.029	< 0.029	0 (1)	30
	ug/l	ug/l		
Batch number: 161396050001A	Sample number(s): 8378380-8378398 BKG: 8378382			
Lead	0.170	0.171	1 (1)	20

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: UST Unleaded/Leaded minus NAPH
Batch number: F161371AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8378387	97	95	96	92
8378388	100	97	95	90
8378389	99	96	95	90
8378390	97	96	95	92
8378391	99	95	95	95
8378392	98	95	96	93
8378393	99	96	95	90
8378394	100	98	95	91
8378395	99	97	96	91
8378396	101	98	96	89
8378397	99	95	94	89
8378398	100	97	95	90
Blank	100	96	95	86
LCS	97	99	95	93
LCSD	98	98	94	93
Limits:	80-116	77-113	80-113	78-113

Analysis Name: UST Unleaded/Leaded minus NAPH
Batch number: F161372AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8378380	98	95	93	91
8378381	97	97	92	93
8378382	96	95	93	95
8378383	96	96	94	95
8378384	98	95	95	95
8378385	95	95	94	91
8378386	97	98	93	92

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 05/24/2016 11:13

Group Number: 1660187

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
Blank	97	96	94	90
LCS	96	96	94	95
LCSD	98	99	94	92
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/EDB/TMBs
Batch number: Z161401AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
8378399	100	99	96	91
Blank	101	99	96	90
LCS	97	97	98	98
LCSD	98	97	98	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270
Batch number: 16134WAD026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
8378380	90	88	90
8378381	76	67	67
8378382	93	87	90
8378383	92	85	85
8378384	83	85	88
8378385	90	86	87
8378386	92	88	87
8378387	92	88	94
8378388	92	91	96
8378389	93	92	92
8378390	79	75	81
8378391	90	82	82
8378392	91	85	81
8378393	91	84	90
8378394	93	90	96
8378395	92	91	93
8378396	92	90	95
8378397	90	89	92
8378398	92	90	95
Blank	95	95	105
LCS	95	94	99
LCSD	96	94	101
Limits:	46-128	61-112	41-125

Analysis Name: EDB in Wastewater
Batch number: 161350018A

	1,1,2,2-Tetrachloroethane
8378380	106
8378381	131

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: Evergreen c/o Stantec
Group Number: 1660187
Reported: 05/24/2016 11:13

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

	1,1,2,2-Tetrachloroethane
8378382	129
8378383	107
8378384	117
8378385	111
8378386	112
8378387	109
8378388	105
Blank	110
DUP	117
LCS	111
LCSD	110
MS	101
Limits:	46-136

Analysis Name: EDB in Wastewater
Batch number: 161350039A

	1,1,2,2-Tetrachloroethane
8378389	103
8378390	108
8378391	102
8378392	100
8378393	103
8378394	99
8378395	90
8378396	100
8378397	101
8378398	105
Blank	99
DUP	104
LCS	98
LCSD	102
MS	191*
Limits:	46-136

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 11289 Group # ke60187 Sample # 8378380-99

COC # 500194

Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Refinery Annual GW Sampling	PWSID #:
Project Manager: Jennifer Menges	P.O. #:
Sampler: Dublinski	Quote #:
State where samples were collected: PA	For Compliance: Yes ☐ No ☐

For Lab Use Only

FSC:

SCR#: 188539

Preservation Codes

H=HCl T=Thiosulfate
N=HNO_3 B=NaOH
S=H_2SO_4 O=Other

Remarks

* See attached list of Constituents of Concern for GW Sampling
** Dissolved lead to be filtered by lab

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Tissue	Potable Water	Ground Water	Surface Water	NPDES	Other:	Total # of Containers	VOCs by 8260 *	SVOCs by 8270 *	Lead ** (by 6010/6020)	EDB by 8011 *	EDB by 8260 *
5-232-20160510	5/10/16	1230	X					X					8	X	X	X	X	
5-51-20160510	5/10/16	1245	X					X					9					
5-41-20160510	5/10/16	1300	X					X					8					
5-231-20160510	5/10/16	1315	X					X					8					
5-43-20160510	5/10/16	1330	X					X					8					
5-50-20160510	5/10/16	1345	X					X					8					
5-44-20160511	5/11/16	1200	X					X					8					
5-~~244~~-20160511DUP	5/11/16	1215	X					X					8					
5-249-20160511	5/11/16	1230	X					X					8					
RW-108-20160511	5/11/16	1245	X					X					8					

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: jennifer.menges@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only)

Type III (Reduced non-CLP) NJ DKQP TX TRRP-13

NYSDEC Category A or B MA MCP CT RCP

	Relinquished by	Date	Time	Received by	Date	Time
1	[signature]	5/10/16	1050	[signature]	5/10/16	1050
2	[signature]	5/12/16	1450	[signature]	5/12/16	1450
3	[signature]	5/12/16	1645			
4						
5				[signature]	5/12/16	1645

EDD Required? Yes No

If yes, format: EQUIS-EFW-Stantec_4

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier:

UPS FedEx Other

Temperature upon receipt 0.6-1.0 °C

Environmental Analysis Request/Chain of Custody

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Acct. # 11289 Group # 1660182 Sample # 8378380-99

COC # 500195

Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Refinery Annual GW Sampling	PWSID #:
Project Manager: Jennifer Menges	P.O. #:
Sampler: Dubinski	Quote #:
State where samples were collected: PA	For Compliance: Yes ☐ No ☐

Matrix

Soil ☐ Sediment ☐ Tissue ☐ | Water ☒ Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Other: ☐

Analysis Requested

Preservation Codes

For Lab Use Only

FSC:

SCR#:

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Remarks: * See attached constituents of concern for GW Sampling list. ** Dissolved lead to be filtered by lab

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs by 8260 * (Benzene, Cumene, 1,2-Dichloroethane, Ethylbenzene, MTBE, Toluene, Xylenes, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene)	SVOCs by 8270 * (Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Dibenz(a,h)anthracene, Naphthalene, Phenanthrene)	Lead ** (by 6010B/6020)	EDB by 8011 *	EDB by 8260 *
S-154-20160511	5/11/16	1300	X		8					
S-72-20160511	5/11/16	1315	X		8					
S-351-20160512	5/12/16	0845	X		8					
S-1-20160512	5/12/16	1200	X		8					
S-25-20160512	5/12/16	1215	X		8					
S-3-20160512	5/12/16	1230	X		8					
S-34-20160512	5/12/16	1245	X		8					
S-122-20160512	5/12/16	1300	X		8					
EB-20160512	5/12/16	1330	X		8	X	X	X	X	X
TB-20160512	5/12/16	—			2	X	X	X	X	X

Turnaround Time (TAT) Requested (please circle)

Standard Rush

(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: _____

E-mail address: jennifer.menges@stantec.com

Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/non-CLP) | Type VI (Raw Data Only)

Type III (Reduced non-CLP) | NJ DKQP | TX TRRP-13

NYSDEC Category A or B | MA MCP | CT RCP

Relinquished by	Date	Time	Received by	Date	Time
Chris Dubinski	5/12/16	1450	Bill DePaul	5-12-16	14:50
Bill DePaul	5-12-16	1645			

EDD Required? (Yes) No

If yes, format: EQUIS-EFW-Stantec_4

Site-Specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume.)

Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____

Temperature upon receipt 0.6-1.0 °C

GH 1660187

enter "EQuIS-EFW-Stantec_4" on the COC. Also, under the Client Information section on the COC, enter Stantec for Client and for Acct #, enter "Evergreen".

Sampling pumps and interface probes **must be** decontaminated with an Alconox® or Liquinox® wash and distilled or DI water rinse before the start of sampling and between wells. Dedicated buckets designated for decon for these wells can be found in the Stantec storage trailer. At the end of each day, the excess decontamination water should be filtered through a GAC unit and discharged to the ground surface in an area near the trailers that will not create a puddle in the general walking/working area of the ground.

At the completion of the sampling event, email the EDD file(s) to Andrew Klingbeil for review.

Philadelphia Refinery Complex Groundwater COC List (PHL GW COC List)
Evergreen Petroleum Short List (April 2016)

VOCs by EPA Method 8260	**CAS No.**
Benzene	71-43-2
Cumene	98-82-8
Dichloroethane, 1,2-	107-06-2
Ethylbenzene	100-41-4
Ethylene Dibromide*	106-93-4
Methyl tert butyl ether	1634-04-4
Toluene	108-88-3
Trimethylbenzene, 1,2,4-	95-63-6
Trimethylbenzene, 1,3,5-	108-67-8
Xylenes	1330-20-7
SVOCs by EPA Method 8270	**CAS No.**
Anthracene	120-12-7
Benzo(a)anthracene	56-55-3
Benzo(a)pyrene	50-32-8
Benzo(a)fluoranthene	205-99-2
Benzo(g,h,i)perylene	191-24-2
Chrysene	218-01-9
Fluorene	86-73-7
Naphthalene**	91-20-3
Phenanthrene	85-01-8
Pyrene	129-00-0
Metals by Method 6010/6020	**CAS No.**
Lead***	7439-92-1

*Ethylene Dibromide should be analyzed by EPA Method 8011 instead of 8260 in soil for tank investigations, soil reuse sampling, and in **all groundwater samples.**
**Naphthalene should be analyzed by EPA Method 8260 instead of 8270 for tank investigations.
***Metals analysis should be total in soil and dissolved in groundwater.

This list is comprised of the combined PADEP Short List of Petroleum Products (leaded and unleaded gasoline and No. 1, 2, 4, 5, 6 Fuel Oils).

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Sample Administration Receipt Documentation Log

Doc Log ID: 146369

Group Number(s): 1660187

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	05/12/2016 16:45
Number of Packages:	3	Number of Projects:	1
State/Province of Origin:	PA		

Arrival Condition Summary

Shipping Container Sealed:	No	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	2
Samples Intact:	Yes	Trip Blank Type:	HCl
Missing Samples:	No	Air Quality Samples Present:	No
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Patrick Engle (3472) at 20:58 on 05/12/2016

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT121	1.0	DT	Wet	Y	Bagged	N
2	DT121	0.6	DT	Wet	Y	Bagged	N
3	DT121	0.9	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425

T 717-656-2300
F 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
µg	microgram(s)	**mg**	milligram(s)
mL	milliliter(s)	**L**	liter(s)
m3	cubic meter(s)	**µL**	microliter(s)
		pg/L	picogram/liter

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Laboratory Data Qualifiers:

B - Analyte detected in the blank
C - Result confirmed by reanalysis
E - Concentration exceeds the calibration range
J (or G, I, X) - estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P - Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U - Analyte was not detected at the value indicated
V - Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference…

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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