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

July 28, 2017

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

RE: Philadelphia Refinery Remediation Program
Groundwater Remediation Status Report, First Half 2017

Dear Mr. Brown:

Enclosed for your review is the first half 2017 semi-annual summary report for Operation & Maintenance (O&M) work completed at the Philadelphia Energy Solutions Refining & Marketing, LLC (PES) Philadelphia Refining Complex (Complex) and the Sunoco Partners Marketing and Terminals L.P. (SPMT) Belmont Terminal between January 1, 2017 and June 30, 2017. Detailed information regarding O&M activity is included in the attached tables for the PES Complex and Belmont Terminal as prepared by Stantec Consulting Services Inc. (Stantec). This letter summarizes the information detailed in the tables plus additional activities under the "Work Plan for Site Wide Approach under the One Cleanup Program" (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 PES Complex located at 3144 Passyunk Avenue in Philadelphia, Pennsylvania, Sunoco has completed site characterization activities for all 11 AOIs. The Complex has since entered into the Pennsylvania One Cleanup Program. On November 30, 2011, Sunoco submitted a Site Wide Approach to the PADEP and the United States Environmental Protection Agency (USEPA). The Site Wide Approach clarified the technical approach beyond the CO&A and provided an anticipated schedule for future Act 2 submissions with respect to the Philadelphia Refinery remediation program. Effective December 30, 2013, Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC (Evergreen) assumed Sunoco legacy remediation liabilities with respect to the PES Complex. All remediation of Sunoco's/Atlantic's historic environmental liabilities at the PES Complex and Belmont Terminal 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.

Evergreen will continue to submit the required documentation and implement the required remedial obligations. 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 with limited tables and without figures.

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 submitted a revised RIR for AOI 1 on August 5, 2016 which was approved by the PADEP on November 1, 2016.

Belmont Terminal – Operation During the First Half of 2017

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 28, 2017 and May 8, 2017, and no LNAPL 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. LNAPL thicknesses are checked weekly, and pumps are turned on/off as needed based on recoverable LNAPL 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. During the reporting period the pumps in RW-4, RW-23 and RW-24 were active.

The Belmont Terminal system was operational during the reporting period with the following exceptions:

- From January 1 through January 11, RW-24 was inoperable. On January 11, the product pump was repaired and RW-24 was returned to service.
- From March 17 through June 30, the automatic function of the product pump in RW-24 was not operational. LNAPL was removed on a weekly basis using the control panel's manual function.
- On April 14, the flow meter was not functional. The batteries for the meter were replaced and the meter was placed back in service.
- On June 30, the vault lid to access RW-24 was damaged, making the well inaccessible. Repairs will be made to the vault in July 2017.

A total of 1,643,094 gallons of groundwater and 345.3 gallons of LNAPL was recovered by this system during the first half of 2017. System performance data for the Loading Rack System can be found in **Appendix 1**.

Shunk Street Sewer Ventilation System and Biofilter – Operation During the First Half of 2017

The biofilter was operational for the reporting period. Details of the Shunk Street Sewer Ventilation System and Biofilter operational status during the first half of 2017 can be found in **Appendix 1**.

26th Street Sewer Area – System Performance and Operation During the First Half of 2017

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 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 has not changed significantly.

The 26th Street Sewer Area system was modified in 2015 to increase the overall effectiveness of the system and was restarted on October 12, 2015. 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. Additionally, RW-400 and RW-402 are connected to the system for a total of fifteen 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 operational for the reporting period with the following exceptions:

- From December 13, 2016 through January 5, 2017, RW-400 was not operational and required cleaning and maintenance. On January 5, the pump for RW-400 was reinstalled returned to service.
- On January 27, S-188 was not operational. The pump was adjusted and restarted.
- On February 24, S-187 was not operational. The pump was removed for maintenance.
- On March 9, S-187 was repaired and placed back in service. S-192, S-191 and S-189 were not operational. S-192 and S-191 were adjusted and restarted. S-189 was removed for maintenance.
- On April 12, S-189 was cleaned and repaired and returned to service. S-188 was inoperable and was replaced with a functioning pump.
- On April 20, S-192, S-191, S-189 and S-186 were not operational. The pumps were adjusted and restarted.
- From April 21 through May 5, RW-400 was not operational. On May 5, RW-400 was returned to service with a cleaned and repaired pump.
- On June 8, S-191 was not operational. The pump was removed for repair and cleaning.
- On June 14, S-191 was returned to service. S-189 was not operational and was removed for repair and cleaning.
- On June 20, S-187 was not operational. The pump was removed for repair and cleaning.
- On June 28, S-189 was returned to service after being cleaned and repaired.

A total of 6,875,309 gallons of total fluids was recovered by this system during the first half of 2017. Details for the 26th Street Sewer Area system performance data can be found in **Appendix 1**.

26th Street South:

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 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 2017. The conceptualization of a recovery system will be evaluated in the Cleanup Plan.

26th Street and Packer Avenue Sewers Biofilter System – Operation During the First Half of 2017

The 26th Street and Packer Avenue Sewers Biofilter system was upgraded including replacing the compost beds, repairing the duct work, and replacing or repairing the fans. The system was restarted on June 6, 2016 for final stages of startup and system startup was completed on November 10, 2016. The system was operational for the first half of 2017 with the following exceptions:

- On January 26, the system was not operational due to work on an electrical substation. The system was returned to service on January 27.
- On January 31 and February 1, the system was not operational during the morning due to work on an electrical substation. The system was returned to service in the afternoon of each day.
- On May 16, the humidity sensor was not operational. The sensor was removed for service and sent to the manufacturer for repairs. On June 29, the humidity sensor was returned to service.

Details for the 26th Street and Packer Avenue Sewer Biofilter system performance data can be found in **Appendix 1**.

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 in 2017.

Pollock Street West End System – Operation During the First Half of 2017

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 LNAPL 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 PES complex. 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 turned off December 19, 2016 to evaluate LNALP recharge. The system remained off during the reporting period with the following exceptions:

- On February 21, the system was operated to removed LNAPL from RW-128. Due to iron fouling in the system piping RW-128 was not operational. Only 100 gallons of groundwater were pumped and the removal of LNAPL was not successful.
- On March 30, underground piping associated with RW-128 was augered to remove iron scaling. After the piping maintenance, the system was turned on briefly to remove LNAPL in RW-128 but did not produce enough volume of LNAPL to register an accumulation in the holding tank.

A total of 400 gallons of groundwater was recovered by the Pollock Street West End system during the first half of 2017. Operational and performance data can be found in **Appendix 1**.

Pollock Street Vertical Well System – Operation During the First Half of 2017

The Pollock Street Vertical Well system originally consisted 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 2017

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 discharge directly into a Benzene National Emission Standard for Hazardous Air Pollutants (NESHAP) controlled sewer, whereas groundwater and LNAPL from HW-3 discharges directly into an onsite process sewer.

Totalizers were installed in HW-1 and HW-2 on May 25, 2013 and July 6, 2015 respectively. The estimated flow rate for HW-3, as determined by pump testing, is 15.38 gallons per minute (gpm).

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

- On April 10, HW-1 was not operational. The pump was removed from the well. Before the pump was reinstalled, the well was redeveloped to remove silt. On June 7, the pump was reinstalled and the well was placed back in service.
- On May 1, HW-2 was off during repairs to HW-1. HW-2 was restarted on May 1.

A total of 7,228,264 gallons of total fluids was recovered by Pollock Street Horizontal Well Recovery system during the reporting period. System performance data for the Pollock Street Horizontal Well System can be found in **Appendix 1**.

Pollock Street Sewer Outfall – Operation During the First Half of 2017

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 2017 due to the absence of recoverable oil in the outfall.

Short Pier – Operation During the First Half of 2017

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 combined sewer overflow outfall (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 2017.

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. A revised RIR for AOI 3 was submitted March 20, 2017. The disposition of remediation systems in AOI 3 will be revisited in the Cleanup Plan.

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 was submitted on March 24, 2017.

Penrose Avenue Remediation System – Operation During the First Half of 2017

Following characterization of AOI 4, Sunoco installed a hydraulic control system on the southern border of AOI 4. This system is permitted for discharge to the Philadelphia Water Department (PWD) and by the 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:

- On March 1, the system effluent was blocked. The system was shut off pending maintenance to the line.
- On March 7, the effluent line was jetted, after which the system was restarted.
- On March 28, the pumps for the recovery wells were removed, cleaned, and reinstalled in the wells.
- On May 2, the pumps in recovery wells RW-708 and RW-714 were turned off.
- On January 18, March 7, April 3, and May 2 the system was not operational during scheduled OWS cleaning activities.

A total of 1,183,440 gallons of groundwater and 1,470 gallons of LNAPL were 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 2017 can be found in **Appendix 1**.

S-30 and S-36 LNAPL Recovery Systems – Operation During the First Half of 2017

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 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 letter from the PADEP on March 15, 2012. A revised RIR was submitted on January 16, 2016 and was approved by the PADEP on May 2, 2017.

9 Berth – Operation During the First Half of 2017

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. PADEP issued a disapproval letter on November 27, 2013. A revised RIR will be completed in 2017.

27 Pump House – Operation During the First Half of 2017

The 27 Pump House Total Fluids Recovery system was turned off September 20, 2010 due to absence of recoverable LNAPL. 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 were addressed in the revised RIR that was submitted June 9, 2017.

No. 3 Separator / Bulkhead Area – Operation During the First Half of 2017

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 2017 with the following exceptions.

- On February 6 through February 13, RW-807 was not operational due to compromised air fittings. On February 13, the fittings were replaced and the well was returned to service.
- On April 18, the system was turned off for scheduled cleaning of the oil/water separator.
- From April 18 through May 1, RW-810 was not operational due to iron fouling. On May 1, the pump was cleaned and returned to service.
- On June 5, RW-805 was not operational, the pump was adjusted and restarted. Additionally, RW-801 was not operational. The pump was removed for maintenance and cleaning.
- On June 12, the pump for RW-801 was reinstalled and returned to service.
- On June 30, the system was not operational during modifications to the electrical system for the transfer pump.

A total of 1,622,400 gallons of groundwater and 686.4 gallons of LNAPL were recovered by the system during the first half of 2017. 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 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.

Northern Boundary/Verizon Area

The northern boundary of AOI 8 near the Verizon property is being evaluated for offsite impacts and potential system installation. This includes an assessment of vapor intrusion at the Verizon property.

PGW Border Recovery System – Operation During the First Half of 2017

The PGW Total Fluids Recovery system is offline. The system is being evaluated for upgrades in 2017.

Jackson Street Sewer Area – Operation During the First Half of 2017

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 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 2017.

Jackson Street Sewer Water Curtain – Operation During the First Half of 2017

The Jackson Street Sewer Water Curtain was operational during the first half of 2017. 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 2017 is included in **Appendix 1**.

Sunoco agreed at a 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 2017.

North Yard Bulkhead Area and No. 3 Tank Farm Separator – Operation During the First Half of 2017

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 a RIR Addendum to address the deficiencies was submitted on February 8, 2017. On April 18, the PADEP disapproved the RIR Addendum.

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 was submitted in June 2016.

A Solid Waste Management Unit (SWMU) closure letter which addressed past disposal areas located in AOI 10 and AOI 8 (SWMU 1 and SWMU 2 respectively) was submitted the USEPA on February 16, 2016. On November 29, 2016, the USEPA issued a response letter denying the no further action request for SWMU 1. Evergreen collected additional information in 2017 to address the USEPA letter and 2016 PADEP comments on the 2011 SCR/RIR and the Ecological Risk Assessment Report.

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 thicknesses 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. Annual perimeter groundwater sampling typically is performed

in the second quarter in conjunction with annual site-wide gauging.

Liquid level measurements collected during the first quarter of 2017 are provided in **Table 1**. The second quarter 2017 liquid level measurements are provided in **Table 2** of this report.

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 USEPA SW846 Method 8260B; 1,2-dibromoethane (EDB) by USEPA 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 USEPA SW846 Method 8270D; dissolved lead by USEPA SW846 Method 6010C. A summary of the annual perimeter groundwater sampling event conducted in May 2017 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 2017 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 2017
Figure 4 – Water-Table Groundwater Elevation Map, May 2017
Figure 5 – Lower Aquifer Groundwater Elevation Map, May 2017

Table 1 – First Quarter 2017 Gauging Data
Table 2 – Second Quarter 2017 Gauging Data
Table 3 – May 2017 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

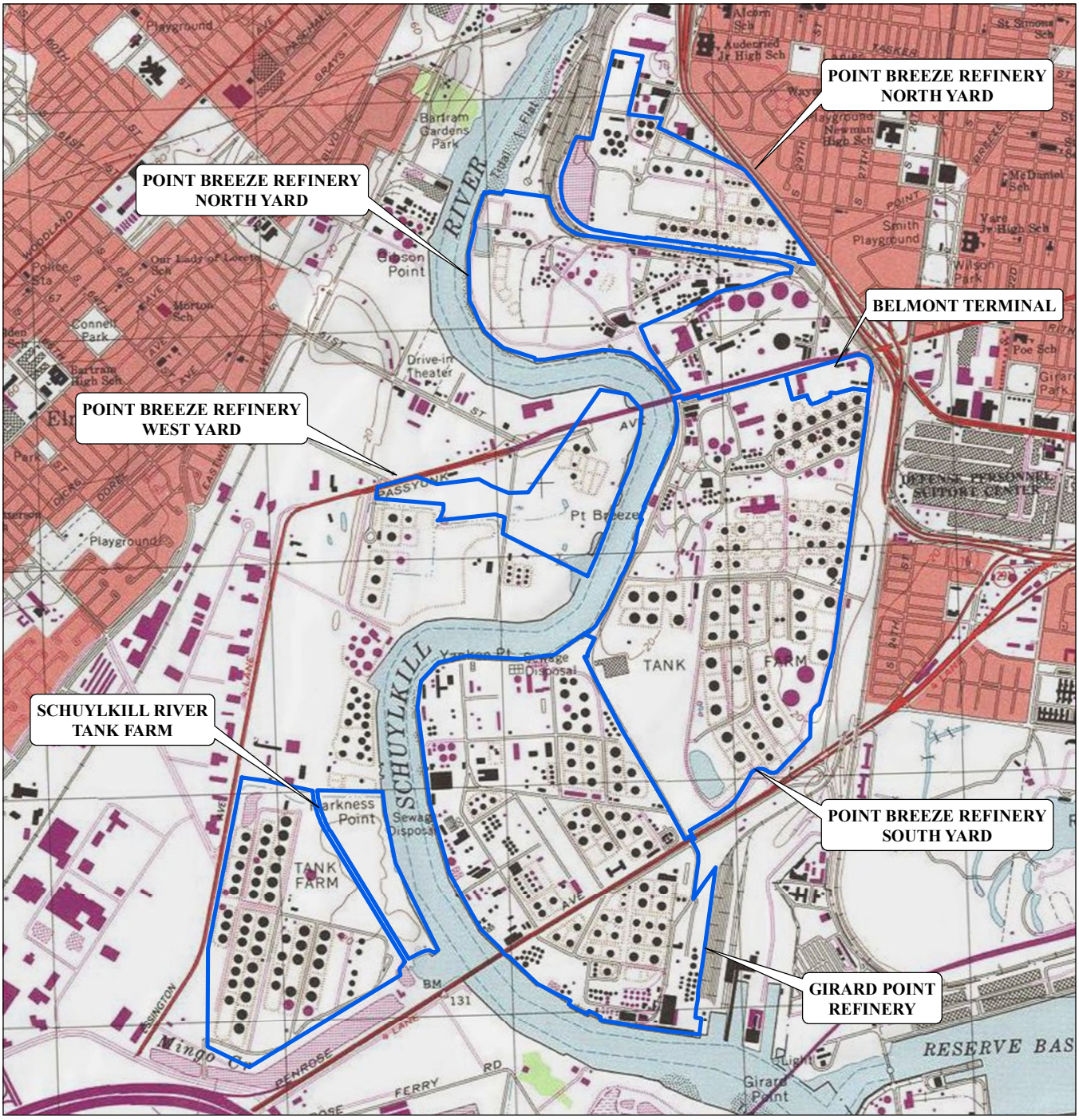
Mr. Nicholas Maliha, PE
Philadelphia Water Department
1101 Market Street, ARA Mark, 4th Floor
Philadelphia, Pennsylvania 19107

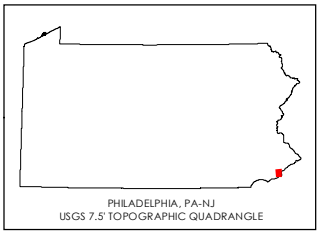
Mr. Charles D. Barksdale, Jr. PE
PES Refining & Marketing, LLC
3144 Passyunk Avenue
Philadelphia, Pennsylvania 19145

Mr. Andrew Bradley
Stantec Consulting Services Inc.
1060 Andrew Drive, Suite 140
West Chester, Pennsylvania 19380

File: ENFOS

FIGURES





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PHILADELPHIA REFINING COMPLEX

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Stantec

EVERGREEN

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

Project Location
City of Philadelphia,
Philadelphia County,
Pennsylvania

213402429
Prepared by GWC on 7/25/2017
Technical Review by AJB on 7/26/2017
Independent Review by JKD on 7/26/2017

Client/Project
PHILADELPHIA REFINERY OPERATIONS, A SERIES OF EVERGREEN RESOURCES GROUP, LLC
PHILADELPHIA REFINING COMPLEX
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Figure No.
1

Title
SITE LOCATION MAP

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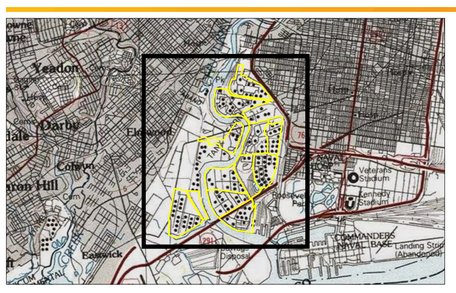

Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
2. Sources: Stantec
3. Aerial & Topo Source: Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation
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Legend

- MONITORING WELL
- RECOVERY WELL
- LOWER AQUIFER MONITORING WELL
- INJECTION WELL
- DAMAGED MONITORING WELL
- DESTROYED MONITORING WELL
- UNABLE TO ACCESS OR UNABLE TO LOCATE
- STAFF GAUGE
- PIEZOMETER
- POLLOCK STREET HORIZONTAL WELL
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- REMEDIATION SYSTEMS DESIGNATED AS CURRENTLY ACTIVE
- REMEDIATION SYSTEMS DESIGNATED AS INACTIVE
- AREA OF INTEREST (AOI)
- PHILADELPHIA GAS WORKS PROPERTY BOUNDARY

0 400 800 Feet

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N

Figure No.

2

Title

SITE PLAN

Client/Project

PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
PHILADELPHIA REFINING COMPLEX
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location

City of Philadelphia,
Philadelphia County,
Pennsylvania

213402429

Prepared by GWC on 7/24/2017
Technical Review by AJB on 7/26/2017
Independent Review by JKD on 7/26/2017

Stantec

EVERGREEN

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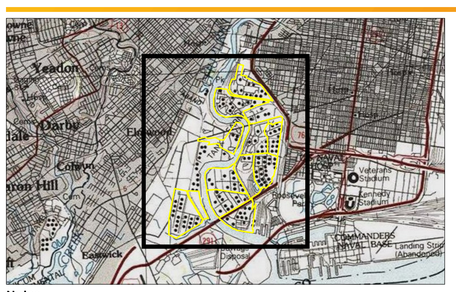

Legend

- WELL – LIGHT NON-AQUEOUS PHASE LIQUID (LNAPL) OBSERVED
- WELL – LNAPL NOT OBSERVED
- WELL – NOT MEASURED (SEE NOTE 4)
- POLLOCK STREET HORIZONTAL WELL
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- REMEDIATION SYSTEMS DESIGNATED AS CURRENTLY ACTIVE
- REMEDIATION SYSTEMS DESIGNATED AS INACTIVE
- AREA OF INTEREST (AOI)
- PHILADELPHIA GAS WORKS PROPERTY BOUNDARY
- 0.11 APPARENT LNAPL THICKNESS (FEET)
- DRY WELL WAS DRY AT TIME OF GAUGING

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 product thickness measured in feet using an interface probe.
4. Measurements from wells gauged during May 2017 synoptic event are provided. Wells not measured during the event include (but not limited to) damaged wells, destroyed wells, inaccessible wells, and wells with pumps.
5. Aerial & Topo Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation Copyright:© 2013 National Geographic Society, i-cubed Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

0 400 800 Feet

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N

Figure No.

3

Title

APPARENT LNAPL THICKNESS MAP MAY 2017

Client/Project

PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
PHILADELPHIA REFINING COMPLEX
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location

City of Philadelphia,
Philadelphia County,
Pennsylvania

213402429

Prepared by GWC on 7/14/2017
Technical Review by ANP on 7/20/2017
Independent Review by ADK on 7/20/2017

Stantec

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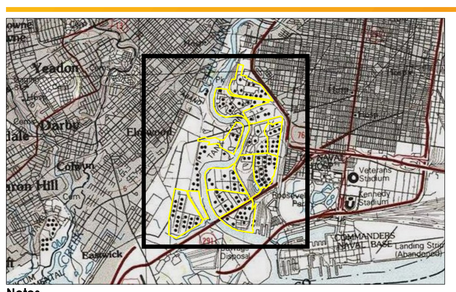

Legend

- WATER TABLE MONITORING WELL
- RECOVERY WELL
- PIEZOMETER
- WATER-TABLE ELEVATION CONTOUR (FEET NAVD 88)
- POLLOCK STREET HORIZONTAL WELL
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- AREA OF INTEREST (AOI)
- PHILADELPHIA GAS WORKS PROPERTY BOUNDARY
- 3.28 WATER-TABLE ELEVATION (FEET NAVD 88)
- DRY WELL WAS DRY AT TIME OF GAUGING

0 400 800 Feet

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N

Figure No.

4

Title

WATER-TABLE ELEVATION MAP
MAY 2017

Client/Project

PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
PHILADELPHIA REFINING COMPLEX
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location

City of Philadelphia,
Philadelphia County,
Pennsylvania

2134024 29

Prepared by GWC on 7/18/2017
Technical Review by ANP on 7/20/2017
Independent Review by ADK on 7/20/2017

Stantec

EVERGREEN

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. PES Complex groundwater remediation systems were operational during well gauging.
4. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
5. Wells not measured during the May 2017 event are not displayed and include (but not limited to) damaged wells, destroyed wells, inaccessible wells, and wells with pumps.
6. Wells gauged during May 2017 but not utilized for water-table contouring include those containing measurable light, non-aqueous phase liquid, wells screened across a fill-supported perched aquifer, wells intersecting more than one water-bearing unit, wells with fouled screens, a subset of the remediation system wells, and wells excluded from contouring in recent Remedial Investigation Reports. Wells not used for contouring are not displayed.
7. Contour Interval = 1 foot
8. Aerial & Topo Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation
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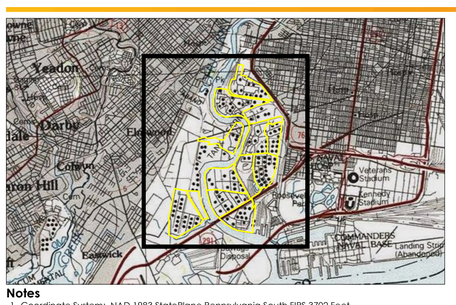

Notes

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. Contour Interval = 1 foot
6. Wells in the lower aquifer are not present in AOI 10. Therefore, groundwater contours are not shown in this AOI.
7. Aerial & Topo Image courtesy of USGS Earthstar Geographics SIO © 2017 Microsoft Corporation
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Legend

- LOWER AQUIFER MONITORING WELL
- DESTROYED LOWER AQUIFER MONITORING WELL
- UNABLE TO ACCESS
- GROUNDWATER ELEVATION CONTOUR (FEET NAVD 88)
- POLLOCK STREET HORIZONTAL WELL
- APPROXIMATE LOCATION OF PHILADELPHIA WATER DEPARTMENT SEWER
- AREA OF INTEREST (AOI)
- PHILADELPHIA GAS WORKS PROPERTY BOUNDARY
- 6.64 GROUNDWATER ELEVATION (FEET NAVD 88)
- N-13 (-19.34) WELL NOT USED FOR GROUNDWATER CONTOURING (FEET NAVD 88)

0 400 800 Feet

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N

Figure No.

5

Title

LOWER AQUIFER GROUNDWATER ELEVATION MAP MAY 2017

Client/Project

PHILADELPHIA REFINERY OPERATIONS, A SERIES OF
EVERGREEN RESOURCES GROUP, LLC
PHILADELPHIA REFINING COMPLEX
3144 PASSYUNK AVENUE, PHILADELPHIA, PA 19145

Project Location

City of Philadelphia,
Philadelphia County,
Pennsylvania

213402429

Prepared by GWC on 7/14/2017
Technical Review by ADK on 7/17/2017
Independent Review by JKD on 7/17/2017

Stantec

EVERGREEN

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TABLES

Table 1
First Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Top of Casing Elevation	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well	Static or Pumping	Comments
AOI 1	PZ-401	2/27/2017	23.725	21.34	21.35	0.01	2.38293	unconfined	No	Static	
AOI 1	PZ-402	2/27/2017	23.392	21.41	21.69	0.28	1.92404		No	Static	
AOI 1	PZ-403	2/27/2017	24.41	24.28	24.28	<0.01	0.13852		No	Static	
AOI 1	PZ-404	2/27/2017	26.01	27.03	27.82	0.79	-1.13668		No	Static	
AOI 1	RW-110	2/27/2017	17.671		17.43		0.241	unconfined	Yes	Static	
AOI 1	RW-111	2/27/2017	17.72		17.55		0.17	unconfined	Yes	Static	
AOI 1	RW-112	2/27/2017	17.609		17.49		0.119	unconfined	Yes	Static	
AOI 1	RW-401	2/27/2017	24.77	22.33	22.65	0.32	2.37741		Yes	Static	
AOI 1	RW-402	2/27/2017	21.71		24.05		-2.34	unconfined	Yes	Pumping	
AOI 1	RW-403	2/27/2017	24.13		22.75		1.38	unconfined	Yes	Static	
AOI 1	RW-404	2/27/2017	23.74		23.61		0.13	unconfined	Yes	Static	
AOI 1	RW-405	2/27/2017	24.11	25.26	25.75	0.49	-1.22237		Yes	Static	
AOI 1	RW-406	2/27/2017	28.59	24.63	24.87	0.24	3.91306		Yes	Static	
AOI 1	S-125	2/27/2017	25.99	23.8	23.99	0.19	2.15067		No	Static	
AOI 1	S-162	2/27/2017	18.058		17.13		0.928	unconfined	No	Static	
AOI 1	S-164	2/27/2017	16.696		16.37		0.326	unconfined	No	Static	
AOI 1	S-179	2/27/2017	24.53		21.77		2.76	unconfined	Yes	Static	
AOI 1	S-180	2/27/2017	22.2		23.9		-1.7	unconfined	Yes	Pumping	
AOI 1	S-181	2/27/2017	22.86		23.25		-0.39		Yes	Pumping	
AOI 1	S-182	2/27/2017	23		23.6		-0.6	unconfined	Yes	Pumping	
AOI 1	S-183	2/27/2017	23.48		26.25		-2.77	unconfined	Yes	Pumping	
AOI 1	S-184	2/27/2017	23.48		23.9		-0.42	unconfined	Yes	Pumping	
AOI 1	S-185	2/27/2017	23.88		22.1		1.78	unconfined	Yes	Pumping	
AOI 1	S-186	2/27/2017	24.36		28.6		-4.24	unconfined	Yes	Pumping	
AOI 1	S-187	2/27/2017	24.51		21.47		3.04	unconfined	Yes	Static	
AOI 1	S-188	2/27/2017	24.82		25.05		-0.23	unconfined	Yes	Pumping	
AOI 1	S-189	2/27/2017	25.79		26.6		-0.81	unconfined	Yes	Pumping	
AOI 1	S-190	2/27/2017	25.57		25.9		-0.33		Yes	Pumping	
AOI 1	S-191	2/27/2017	25.83		25.7		0.13	unconfined	Yes	Pumping	
AOI 1	S-192	2/27/2017	26.02		25.9		0.12	unconfined	Yes	Pumping	
AOI 1	S-271	2/27/2017	28.48		25.44		3.04	unconfined	No	Static	
AOI 1	S-272	2/27/2017	28.36		24.02		4.34	unconfined	No	Static	
AOI 1	S-273	2/27/2017	27.75		24.45		3.3	unconfined	No	Static	
AOI 1	S-274	2/27/2017	27.37	24.35	24.43	0.08	3.00358	unconfined	No	Static	
AOI 1	S-275	2/27/2017	26.57		23.71		2.86	unconfined	No	Static	
AOI 1	S-276	2/27/2017	26.59	23.92	24.58	0.66	2.53338		No	Static	
AOI 1	S-277	2/27/2017	25.7	23.68	24.18	0.5	1.9165		No	Static	
AOI 1	S-46	2/27/2017	22.56		22.3		0.26	unconfined	No	Static	
AOI 1	S-47I	2/27/2017	22.21		21.94		0.27	middle clay unit	No	Static	
AOI 1	S-82	2/27/2017	27.29	24.06	24.07	0.01	3.22793		No	Static	
AOI 1	S-83	2/27/2017	23.33	21.37	21.88	0.51	1.86137		No	Static	
AOI 1	S-84P	2/27/2017	23.26		20.42		2.84	unconfined	No	Static	
AOI 1	S-85	2/27/2017	25.13		25		0.13	unconfined	No	Static	
AOI 1	S-86	2/27/2017	27.05	27.25	27.26	0.01	-0.20148		No	Static	
AOI 1	S-87I	2/27/2017	25.87		25.66		0.21	middle sand unit	No	Static	
AOI 1	S-88	2/27/2017	24.1		25.77		-1.67	unconfined	No	Static	
AOI 1	S-88A	2/27/2017	23.8		24.67		NM	unconfined	No	Static	well damaged
AOI 1	S-89	2/27/2017	25.99	27.16	27.16	<0.01	-1.16148	unconfined	No	Static	
AOI 2	C-HEADER	2/28/2017	20.61		14.68		5.93		No	Static	
AOI 2	PZ-100	2/28/2017	18.071		18.2		NM		No	Static	well damaged
AOI 2	PZ-101	2/28/2017	17.17		6.19		10.98		No	Static	
AOI 2	River1	2/28/2017			13.9		NA		No	Static	
AOI 2	RW-100	2/28/2017	20.726	19.42	19.89	0.47	1.24452		Yes	Static	
AOI 2	RW-101	2/28/2017	19.77	19.01	19.58	0.57	0.69103		Yes	Static	
AOI 2	RW-102	2/28/2017	17.47	16.1	16.12	0.02	1.36758		Yes	Static	
AOI 2	RW-103	2/28/2017	20.01	18.61	19.37	0.76	1.30804		Yes	Static	
AOI 2	RW-104	2/28/2017	8.96		9.97		-1.01		Yes	Static	
AOI 2	RW-105	2/28/2017	8.68	9.21	9.22	0.01	-0.53125		Yes	Static	
AOI 2	RW-106	2/28/2017	9.3		8.51		0.79		Yes	Static	
AOI 2	RW-107	2/28/2017	10.55		10.23		0.32		Yes	Static	
AOI 2	RW-108	2/28/2017	9.9		7.97		1.93		Yes	Static	
AOI 2	RW-109	2/28/2017	9.852	8.13	8.13	<0.01	1.73121		Yes	Static	
AOI 2	RW-113	2/28/2017	10.23		9.84		0.39		Yes	Static	
AOI 2	RW-114	2/28/2017	13.01		12.51		0.5		Yes	Static	
AOI 2	RW-115	2/28/2017	10.2		9.58		0.62		Yes	Static	
AOI 2	RW-116	2/28/2017	10.81		10.08		0.73		Yes	Static	
AOI 2	RW-117	2/28/2017	9.78	9.1	9.11	0.01	0.67875		Yes	Static	
AOI 2	RW-118	2/28/2017	11.82	10.97	10.97	<0.01	0.85875		Yes	Static	
AOI 2	RW-119	2/28/2017	12.85	12.05	12.06	0.01	0.79856		Yes	Static	
AOI 2	RW-120	2/28/2017	13.58	12.9	12.9	<0.01	0.68856		Yes	Static	
AOI 2	RW-121	2/28/2017	15.3		14.55		0.75		Yes	Static	
AOI 2	RW-122	2/28/2017	10.24	9.34	9.34	<0.01	0.90842		Yes	Static	
AOI 2	RW-123	2/28/2017	9.97		9.09		0.88		Yes	Static	
AOI 2	RW-124	2/28/2017	9.16	8.17	8.17	<0.01	0.99841		Yes	Static	
AOI 2	RW-125	2/28/2017	14.27	13.82	13.82	<0.01	0.45856		Yes	Static	
AOI 2	RW-126	2/28/2017	9.23	8.44	8.44	<0.01	0.79841		Yes	Static	
AOI 2	RW-127	2/28/2017	13.9		13.26		0.64		Yes	Static	
AOI 2	RW-128	2/28/2017	8.43	9.15	9.97	0.82	-0.8225		Yes	Static	
AOI 2	RW-129	2/28/2017	9.83		9.7		0.13		Yes	Static	
AOI 2	S-130	2/28/2017	22.48				NA		No	Static	well dry at 19.60 feet (bottom)
AOI 2	S-131	2/28/2017	18.76		16.59		2.17		No	Static	
AOI 2	S-132	2/28/2017	21.029		18.9		2.129		No	Static	
AOI 2	S-133	2/28/2017	22.024		20.12		1.904		No	Static	
AOI 2	S-134	2/28/2017	22.033		20.92		1.113		No	Static	
AOI 2	S-135	2/28/2017	23.19	22.84	23.37	0.53	0.27702		No	Static	
AOI 2	S-136	2/28/2017	20.594		18.65		1.944		No	Static	

Table 1
First Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Top of Casing Elevation	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well	Static or Pumping	Comments
AOI 2	S-137	2/28/2017	20.044		17.25		2.794		No	Static	
AOI 2	S-139	2/28/2017	21.462		20.45		1.012		No	Static	
AOI 2	S-140	2/28/2017	22.032		20.53		NM		No	Static	well damaged
AOI 2	S-141	2/28/2017	21.923	21.16	21.17	0.01	0.76169		No	Static	
AOI 2	S-142	2/28/2017	19.84	21.05	21.13	0.08	-1.21968		No	Static	
AOI 2	S-143	2/28/2017	22.719				NA		No	Static	well blocked at 10 feet; well damaged
AOI 2	S-156	2/28/2017	20.84				NA		No	Static	unable to access
AOI 2	S-157	2/28/2017	19.94		17.92		2.02		No	Static	
AOI 2	S-159	2/28/2017	18.867	17.42	17.43	0.01	1.44579		No	Static	
AOI 2	S-165	2/28/2017	18.105		17.44		0.665	unconfined	No	Static	
AOI 2	S-166	2/28/2017	18.229		17.31		0.919	unconfined	No	Static	
AOI 2	S-174	2/28/2017	19.62	10.47	11.16	0.69	9.05499		No	Static	
AOI 2	S-175	2/28/2017	20.036	18.19	18.91	0.72	1.74686		No	Static	
AOI 2	S-176	2/28/2017	20.13		11.39		8.74		No	Static	
AOI 2	S-177	2/28/2017	19.555		18.71		0.845	unconfined	No	Static	
AOI 2	S-178	2/28/2017	19.536				NA	unconfined	No	Static	unable to access
AOI 2	S-246A	2/28/2017	11.764		11.27		0.494		No	Static	
AOI 2	S-247	2/28/2017	12.094		11.62		0.474		No	Static	
AOI 2	S-248	2/28/2017	10.799		10.35		0.449		No	Static	
AOI 2	S-249	2/28/2017	12.613		12.96		-0.347		No	Static	
AOI 2	S-251	2/28/2017	19.27		18.35		0.92		Yes	Static	
AOI 2	S-252	2/28/2017	19.29		18.47		0.82		Yes	Static	
AOI 2	S-253	2/28/2017	20.83		19.9		0.93		Yes	Static	
AOI 2	S-254	2/28/2017	20.88		20.37		0.51		Yes	Static	
AOI 2	S-303	2/28/2017	22.587		21.24		1.347		No	Static	
AOI 2	S-304	2/28/2017	24.18		15.26		NM	unconfined	No	Static	pad has raised 2 feet above grade; well damaged
AOI 2	S-306	2/28/2017	22.466		21.63		0.836		No	Static	
AOI 2	S-313	2/28/2017	20.9	19.94	19.94	<0.01	0.96869		Yes	Static	
AOI 2	S-314	2/28/2017	20.7		20.03		0.67		Yes	Static	
AOI 2	S-315	2/28/2017	20.47	20.24	20.68	0.44	0.1706		Yes	Static	
AOI 2	S-316	2/28/2017	20.9		19.9		1		Yes	Static	
AOI 2	S-317	2/28/2017	20.19				NA		Yes	Static	unable to access
AOI 2	S-318	2/28/2017	23.754		19.45		4.304		No	Static	
AOI 2	S-333	2/28/2017	13.73		13.25		0.48		No	Static	
AOI 2	S-346	2/28/2017	19.488	18.68	18.92	0.24	0.76072		No	Static	
AOI 2	S-347	2/28/2017	19.129	18.15	19.36	1.21	0.74063		No	Static	
AOI 2	S-348	2/28/2017	19.582	15.1	20.77	5.67	3.80727		No	Static	
AOI 2	S-349	2/28/2017	18.611	16.92	17.24	0.32	1.65228		No	Static	
AOI 2	S-406	2/28/2017	12.196		11.18		1.016		No	Static	
AOI 2	S-420	2/28/2017	9.26		6.63		2.63		No	Static	
AOI 2	S-48	2/28/2017	21.2714	20.35	20.75	0.4	NM		No	Static	well damaged
AOI 2	S-53	2/28/2017	21.68	19.25	19.25	<0.01	2.43862		No	Static	
AOI 2	S-62	2/28/2017	21.377		20.18		1.197		No	Static	
AOI 2	S-63	2/28/2017	21.27		20.36		0.91		No	Static	
AOI 2	S-64	2/28/2017	10.558		7.55		3.008		No	Static	
AOI 2	S-65	2/28/2017	10.618	10.52	10.52	<0.01	0.10675		No	Static	
AOI 2	S-91	2/28/2017	23.133		21.2		1.933		No	Static	
AOI 2	S-92	2/28/2017	20.07	12.64	12.7	0.06	7.42174		No	Static	
AOI 2	S-93	2/28/2017	18.25		17.39		0.86		Yes	Static	
AOI 3	RW-2	3/1/2017	11.29	11.8	12.47	0.67	-0.64139		Yes	Static	
AOI 4	RW-700	3/1/2017	18.0079		20.3		NM	unconfined	Yes	Pumping	top of pump
AOI 4	RW-701	3/1/2017	18.2698		19.6		NM	unconfined	Yes	Pumping	top of pump
AOI 4	RW-702	3/1/2017	20.955		31.55		NM	unconfined	Yes	Pumping	top of pump
AOI 4	RW-703	3/1/2017	20.6167		29		NM	unconfined	Yes	Pumping	top of pump
AOI 4	RW-704	3/1/2017	20.2297		21.9		NM	unconfined	Yes	Pumping	top of pump
AOI 4	RW-705	3/1/2017	15.9171		15.65		0.267	unconfined	Yes	Static	
AOI 4	RW-706	3/1/2017	15.8917		15.66		0.232	unconfined	Yes	Static	
AOI 4	RW-707	3/1/2017	16.2939		16.09		0.204	unconfined	Yes	Static	
AOI 4	RW-708	3/1/2017	15.487		16.3		NM	unconfined	Yes	Pumping	top of pump
AOI 4	RW-709	3/1/2017	15.3001		15.03		0.27	unconfined	Yes	Static	
AOI 4	RW-710	3/1/2017	15.8815		15.92		-0.038	unconfined	Yes	Static	
AOI 4	RW-711	3/1/2017	15.4917		15.19		0.302	unconfined	Yes	Static	
AOI 4	RW-712	3/1/2017	15.5572		15.34		0.217	unconfined	Yes	Static	
AOI 4	RW-713	3/1/2017	15.0175		14.76		0.257	unconfined	Yes	Static	
AOI 4	RW-714	3/1/2017	15.2073		16		-0.793	unconfined	Yes	Pumping	top of pump
AOI 4	RW-715	3/1/2017	15.3694		15.1		0.269	unconfined	Yes	Static	
AOI 4	RW-716	3/1/2017	15.5448		15.22		0.325	unconfined	Yes	Static	
AOI 4	RW-717	3/1/2017	15.6121		15.21		0.402	unconfined	Yes	Static	
AOI 4	S-124	3/1/2017	23.2	22.81	23.52	0.71	0.26383	unconfined	No	Static	
AOI 4	S-221	3/1/2017	23	22.5	24.05	1.55	0.22456	unconfined	No	Static	
AOI 4	S-222	3/1/2017	16.29		15.86		0.43	unconfined	No	Static	
AOI 4	S-223	3/1/2017	15.88		15.53		0.35	unconfined	No	Static	
AOI 4	S-224	3/1/2017	16.03		15.69		0.34	unconfined	No	Static	
AOI 4	S-233	3/1/2017	24.35	20.82	22.75	1.93	3.18704	unconfined	No	Static	
AOI 4	S-234	3/1/2017	21.23		21.3		-0.07	unconfined	No	Static	
AOI 4	S-235	3/1/2017	23.126	22.71	23.67	0.96	0.24541	unconfined	No	Static	
AOI 4	S-236	3/1/2017	22.973	22.61	24.03	1.42	0.11067	unconfined	No	Static	
AOI 4	S-237	3/1/2017	22.815	22.44	23.93	1.49	0.11023	unconfined	No	Static	
AOI 4	S-238	3/1/2017	22.915	22.55	23.07	0.52	0.2726	unconfined	No	Static	
AOI 4	S-239	3/1/2017	15.818		15.25		0.568	unconfined	No	Static	
AOI 4	S-240	3/1/2017	23.864	23.57	24.64	1.07	0.10386	unconfined	No	Static	
AOI 4	S-241	3/1/2017	26.084	25.59	28.32	2.73	0.19916	unconfined	No	Static	
AOI 4	S-242	3/1/2017	21.89		21.6		0.29	unconfined	No	Static	
AOI 4	S-243	3/1/2017	15.74				NA	unconfined	No	Static	unable to access
AOI 4	S-244	3/1/2017	21.94		21.56		0.38	unconfined	No	Static	
AOI 4	S-245	3/1/2017	22.211		21.94		0.271	unconfined	No	Static	

Table 1
First Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Top of Casing Elevation	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well	Static or Pumping	Comments
AOI 4	S-246	3/1/2017	21.564		20.87		0.694	unconfined	No	Static	
AOI 4	S-278	3/1/2017	21.03	20.68	21.55	0.87	0.1954	unconfined	No	Static	
AOI 4	S-279	3/1/2017	26.38	25.87	25.88	0.01	0.50822	unconfined	No	Static	
AOI 4	S-30	3/1/2017	23.13	21.63	29.25	7.62	0.49416	unconfined	No	Static	
AOI 4	S-329	3/1/2017	20.921		20.79		0.131	unconfined	No	Static	
AOI 4	S-34	3/1/2017	20.894		11.13		9.764	unconfined	No	Static	
AOI 4	S-35	3/1/2017	20.941		21.09		-0.149	unconfined	No	Static	
AOI 4	S-36	3/1/2017	24.23		24.15		0.08	unconfined	No	Static	
AOI 4	S-373	3/1/2017	20.77	20.74	20.77	0.03	0.02467	unconfined	No	Static	
AOI 5	RWBH-1	3/6/2017	5.33		3.24		2.09	unconfined	Yes	Static	
AOI 5	RWBH-2	3/6/2017	4.13	3.4	4.54	1.14	0.62273	unconfined	Yes	Static	
AOI 6	B-124	3/6/2017	8.97	6.07	6.96	0.89	2.73215		Yes	Static	
AOI 6	B-132	3/6/2017	6.87	5.12	5.19	0.07	1.74058		No	Static	
AOI 6	B-135	3/6/2017	6.38	5.14	5.33	0.19	1.21443		No	Static	
AOI 6	B-136	3/6/2017	9.15	6.38	6.42	0.04	2.76462		Yes	Static	
AOI 6	B-137	3/6/2017	8.73	5.21	6.07	0.86	3.40424		Yes	Static	
AOI 6	B-139	3/6/2017	9.4				NA		Yes	Static	well damaged
AOI 6	B-142	3/6/2017	9.74	7.43	8.36	0.93	2.18482		Yes	Static	
AOI 6	B-143	3/6/2017	8.98	5.92	6.63	0.71	2.96443		Yes	Static	
AOI 6	B-147	3/6/2017	8.9	6.51	6.7	0.19	2.36443		Yes	Static	
AOI 7	C-127	3/2/2017	9.8		9.15		0.65		No	Static	
AOI 7	C-142	3/2/2017	11.352		9.47		1.882		No	Static	
AOI 7	C-143	3/2/2017	6.45		10.56		-4.11		No	Static	
AOI 7	C-145	3/2/2017	6.922		6.22		0.702		No	Static	
AOI 7	C-146	3/2/2017	6.739	11.09	11.35	0.26	-4.39187		No	Static	
AOI 7	C-147	3/2/2017	6.874	11.57	11.72	0.15	-4.71987		No	Static	
AOI 7	C-148	3/2/2017	9.341		14.13		-4.789		No	Static	
AOI 7	C-150	3/2/2017	8.19	13.87	15.63	1.76	-5.95667		No	Static	
AOI 7	C-151	3/2/2017	7.91		12.77		NM		No	Static	well damaged
AOI 7	C-152	3/2/2017	9.38		10.46		-1.08		No	Static	
AOI 7	C-153	3/2/2017	8.27	14.53	14.72	0.19	-6.28622		No	Static	
AOI 7	C-154	3/2/2017	7.89	12.08	12.08	<0.01	-4.18119		No	Static	
AOI 7	C-155	3/2/2017	9.17		6.61		2.56		No	Static	
AOI 7	C-160	3/2/2017	6.87				NA		No	Static	well dry at 9.90 feet; well damaged
AOI 7	C-161	3/2/2017	9.07		10.58		-1.51		No	Static	
AOI 7	C-162	3/2/2017	8.5		11.49		-2.99		No	Static	
AOI 7	C-166	3/2/2017	6.99				NA		No	Static	well dry at 7.05 feet; well damaged
AOI 7	C-167	3/2/2017	7.81				NA		No	Static	well dry at 12.20 feet; well damaged
AOI 7	C-168	3/2/2017	7.41				NA		No	Static	well blocked at 5.90 feet; well damaged
AOI 7	C-169	3/2/2017	6.968	12.14	13.9	1.76	-5.39429		No	Static	
AOI 7	C-62	3/2/2017	11.4		4.72		6.68		No	Static	
AOI 7	C-64	3/2/2017	8.14	9.28	9.43	0.15	-1.15789		No	Static	
AOI 7	C-65	3/2/2017	10.84	7.49	7.91	0.42	3.3148		No	Static	
AOI 7	C-65D	3/2/2017	9.62		6.03		3.59		No	Static	
AOI 7	C-97	3/2/2017	10.52	16.54	17.46	0.92	-6.11936		No	Static	
AOI 7	River4	3/2/2017					NA		No	Static	area where the reading is taken is dry at low tide
AOI 7	RW-801	3/2/2017	6.272		18.95		-12.678		Yes	Pumping	
AOI 7	RW-802	3/2/2017	5.702		20.05		-14.348		Yes	Pumping	
AOI 7	RW-803	3/2/2017	5.776		22.1		-16.324		Yes	Pumping	
AOI 7	RW-804	3/2/2017	5.782		20		-14.218		Yes	Pumping	
AOI 7	RW-805	3/2/2017	5.7474		17.25		-11.503		Yes	Pumping	
AOI 7	RW-806	3/2/2017	5.41		20.3		-14.89		Yes	Pumping	
AOI 7	RW-807	3/2/2017	6.84		18.95		-12.11		Yes	Pumping	
AOI 7	RW-808	3/2/2017	6.081		18.1		-12.019		Yes	Pumping	
AOI 7	RW-809	3/2/2017	6.551		19.8		-13.249		Yes	Pumping	
AOI 7	RW-810	3/2/2017	6.438	16	16	<0.01	-9.5534		Yes	Pumping	
AOI 7	WP14-2	3/2/2017	7.91				NA		No	Static	well dry at 9.90 feet; well damaged
AOI 7,11	C-144D	3/2/2017	8.963		14.83		-5.867		No	Static	
AOI 8	RW-200	3/6/2017	12.02		6.84		5.18		Yes	Static	
AOI 8	RW-201	3/6/2017	31.99	23.47	23.96	0.49	8.45204		Yes	Static	
AOI 8	RW-202	3/6/2017	29.51		20.95		8.56		Yes	Static	
AOI 8	RW-203	3/6/2017	31.1	23.1	23.25	0.15	7.98493		Yes	Static	
AOI 8	RW-204	3/6/2017	28.57	19.75	21.42	1.67	8.65217		Yes	Static	
AOI 8	RW-205	3/6/2017	29.67	19.78	22.6	2.82	9.63958		Yes	Static	
AOI 8	RW-206	3/6/2017	30.94	21.91	23.77	1.86	8.82521		Yes	Static	LNAPL is viscous
AOI 8	RW-300	3/6/2017	21.64	15.63	15.91	0.28	5.96402		Yes	Static	
AOI 8	RW-301	3/6/2017	22.41		12.66		9.75		Yes	Static	
AOI 8	RW-302	3/6/2017	24.09		13.92		10.17		Yes	Static	
AOI 8	RW-303	3/6/2017	24.98		14.67		10.31		Yes	Static	
AOI 8	RW-304	3/6/2017	25.28		15.5		9.78		Yes	Static	
AOI 8	RW-305	3/6/2017	25.27		15.38		9.89		Yes	Static	
AOI 8	RW-306	3/6/2017	23.58	13.51	13.52	0.01	10.0682		Yes	Static	
AOI 8	RW-307	3/6/2017	23.26		15		8.26		Yes	Static	
AOI 8	RW-308	3/6/2017	25.61		17.19		8.42		Yes	Static	
AOI 8	RW-309	3/6/2017	25.23		16.02		9.21		Yes	Static	
AOI 8	RW-500	3/6/2017	7.56		3.06		4.5		Yes	Static	
AOI 8	RW-501	3/6/2017	9.79		6.5		3.29		Yes	Static	
AOI 8	RW-502	3/6/2017	12.473	9.45	9.98	0.53	2.97345		Yes	Static	
BELMONT	MW-26	2/27/2017	26.74	23.22	24.95	1.73	3.14546		No	Static	
BELMONT	MW-27	2/27/2017	28.65	25.25	26.33	1.08	3.18173		No	Static	
BELMONT	MW-28	2/27/2017	28.78	25.44	25.49	0.05	3.32959	unconfined	No	Static	
BELMONT	MW-30	2/27/2017	31.7		27.65		4.05	unconfined	No	Static	
BELMONT	MW-33	2/27/2017	29.99		26.77		3.22	unconfined	No	Static	
BELMONT	MW-35	2/27/2017	30.65		27.66		2.99	unconfined	No	Static	
BELMONT	MW-40	2/27/2017	27.88	24.48	24.96	0.48	3.31139		No	Static	
BELMONT	MW-41	2/27/2017	27.35	24.03	24.33	0.3	3.26435	unconfined	No	Static	

Table 1
First Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Top of Casing Elevation	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well	Static or Pumping	Comments
BELMONT	MW-44	2/27/2017	29.3	26.34	26.42	0.08	2.94242	unconfined	No	Static	
BELMONT	OW-12	2/27/2017	30.22		26.4		3.82	unconfined	No	Static	
BELMONT	OW-13	2/27/2017	32.2		28.58		3.62	unconfined	No	Static	
BELMONT	OW-14	2/27/2017	32.21		28.62		3.59	unconfined	No	Static	
BELMONT	OW-16	2/27/2017	31.38	27.81	27.96	0.15	3.54075	unconfined	No	Static	
BELMONT	OW-17	2/27/2017	29.99		26.86		3.13	unconfined	No	Static	
BELMONT	OW-18	2/27/2017	30.84		27.07		3.77	unconfined	No	Static	
BELMONT	OW-19	2/27/2017	31				NA	unconfined	No	Static	unable to access
BELMONT	OW-2	2/27/2017	31.67		28.01		3.66	unconfined	No	Static	
BELMONT	OW-20	2/27/2017	31.87		28.29		3.58	unconfined	No	Static	
BELMONT	PZ-400	2/27/2017	28.1		24.9		3.2	unconfined	No	Static	
BELMONT	RW-1	2/27/2017	29.55				NA	unconfined	Yes	Static	unable to access
BELMONT	RW-15	2/27/2017	30.05		27.52		2.53	unconfined	Yes	Static	
BELMONT	RW-21	2/27/2017	28.86		25.48		3.38	unconfined	Yes	Static	
BELMONT	RW-22	2/27/2017	27.03	23.58	23.65	0.07	3.43313	unconfined	Yes	Pumping	
BELMONT	RW-23	2/27/2017	27.13	27.16	27.52	0.36	-0.11676		Yes	Pumping	
BELMONT	RW-24	2/27/2017	27.17	27.46	27.83	0.37	-0.37632	unconfined	Yes	Pumping	
BELMONT	RW-25	2/27/2017	30.15	26.51	27.12	0.61	3.49769		Yes	Static	
BELMONT	RW-26	2/27/2017	29.21		26.3		2.91	unconfined	Yes	Static	
BELMONT	RW-27	2/27/2017	29.711		26.89		2.821	unconfined	Yes	Static	
BELMONT	RW-28	2/27/2017	29.739		26.15		3.589	unconfined	Yes	Static	
BELMONT	RW-29	2/27/2017	29.436		26.5		2.936	unconfined	Yes	Static	
BELMONT	RW-30	2/27/2017	29.388		26.31		3.078	unconfined	Yes	Static	
BELMONT	RW-31	2/27/2017	29.379		26.47		2.909	unconfined	Yes	Static	
BELMONT	RW-32	2/27/2017	29.054		21.76		7.294	unconfined	Yes	Static	
BELMONT	RW-4	2/27/2017	30.45	28.64	28.82	0.18	1.7704		Yes	Static	
BELMONT	RW-400	2/27/2017	28.19		27.12		1.07	unconfined	Yes	Pumping	
BELMONT	RW-6	2/27/2017	31.06		27.46		3.6	unconfined	Yes	Static	
BELMONT	RW-7	2/27/2017	28.21		24.75		3.46	unconfined	Yes	Static	
BELMONT	S-75	2/27/2017	31.23		27.98		3.25	unconfined	No	Static	
BELMONT	TW-10	2/27/2017	30.22				NA		No	Static	well damaged
BELMONT	TW-3	2/27/2017	32.11		28.57		3.54	unconfined	No	Static	
BELMONT	TW-5	2/27/2017	32.07		28.34		3.73	unconfined	No	Static	
BELMONT	TW-9	2/27/2017	32.1		28.33		3.77	unconfined	No	Static	

Notes:
For product thicknesses <0.01 ft, the corrected groundwater elevation was calculated using 0.01 foot.
LNAPL = Light non-aqueous phase liquid
ft = Feet
toc = Top of casing
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 or down well pump
NA = Not Accessible, Not Applicable, or Not Available
* = Wells without classification have not yet been classified

Table 2
Second Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	ARCO-1	5/8/2017	---	27.22	---	-0.27	unconfined	No	Static	
AOI 1	ARCO-1D	5/8/2017	---	27.11	---	-0.05	lower aquifer	No	Static	
AOI 1	ARCO-2	5/8/2017	---	26.31	---	-0.31	unconfined	No	Static	
AOI 1	ARCO-3	5/8/2017	---	24.93	---	-0.62	unconfined	No	Static	
AOI 1	MW-34	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 1	MW-330	5/8/2017	---	26.12	---	NM		No	Static	
AOI 1	MW-331	5/8/2017	---	27.93	---	NM		No	Static	
AOI 1	MW-332	5/8/2017	---	26.61	---	NM		No	Static	
AOI 1	MWELL-28	5/8/2017	---	21.68	---	-0.03		No	Static	
AOI 1	MWELL-29	5/8/2017	---	22.97	---	-0.75		No	Static	
AOI 1	MWELL-30	5/8/2017	---	26.77	---	-0.64		No	Static	
AOI 1	MWELL-31	5/8/2017	---	26.20	---	-0.29		No	Static	
AOI 1	PZ-401	5/8/2017	21.03	21.03	<0.01	2.70	unconfined	No	Static	
AOI 1	PZ-402	5/8/2017	21.20	21.32	0.12	2.17		No	Static	
AOI 1	PZ-403	5/8/2017	23.87	23.88	0.01	0.54		No	Static	viscous LNAPL
AOI 1	PZ-404	5/8/2017	26.84	27.10	0.26	-0.87		No	Static	
AOI 1	RW-110	5/8/2017	---	16.97	---	0.70	unconfined	Yes	Static	
AOI 1	RW-111	5/8/2017	---	17.10	---	0.62	unconfined	Yes	Static	
AOI 1	RW-112	5/8/2017	---	17.01	---	0.60	unconfined	Yes	Static	
AOI 1	RW-401	5/8/2017	---	22.18	---	2.59		Yes	Static	
AOI 1	RW-402	5/8/2017	---	18.51	---	3.20	unconfined	Yes	Pumping	
AOI 1	RW-403	5/8/2017	---	22.35	---	1.78	unconfined	Yes	Static	
AOI 1	RW-404	5/8/2017	---	23.24	---	0.50	unconfined	Yes	Static	
AOI 1	RW-405	5/8/2017	25.01	25.49	0.48	-0.97		Yes	Static	
AOI 1	RW-406	5/8/2017	24.41	24.69	0.28	4.13		Yes	Static	
AOI 1	S-41	5/8/2017	---	26.12	---	-0.37	unconfined	No	Static	
AOI 1	S-42I	5/8/2017	NA	NA	NA	NA	lower aquifer	No	Static	datalogger in well
AOI 1	S-43	5/8/2017	---	24.10	---	-0.88	unconfined	No	Static	
AOI 1	S-44	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	datalogger in well
AOI 1	S-45	5/8/2017	---	15.89	---	5.68	unconfined	No	Static	
AOI 1	S-46	5/8/2017	---	21.83	---	0.73	unconfined	No	Static	
AOI 1	S-47I	5/8/2017	---	21.41	---	0.80	middle clay unit	No	Static	
AOI 1	S-49	5/8/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 1	S-50	5/8/2017	---	22.79	---	-0.31	unconfined	No	Static	
AOI 1	S-51	5/8/2017	---	22.76	---	-0.22	unconfined	No	Static	
AOI 1	S-52	5/8/2017	---	23.32	---	0.22	unconfined	No	Static	
AOI 1	S-77	5/8/2017	9.91	10.50	0.59	20.78		No	Static	
AOI 1	S-77P	5/8/2017	---	29.47	---	3.57	unconfined	No	Static	
AOI 1	S-78	5/8/2017	---	27.09	---	3.84	unconfined	No	Static	
AOI 1	S-79	5/8/2017	23.77	24.10	0.33	7.15		No	Static	
AOI 1	S-79P	5/8/2017	---	27.26	---	3.16	unconfined	No	Static	
AOI 1	S-80	5/8/2017	---	28.82	---	3.31	unconfined	No	Static	
AOI 1	S-81	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	destroyed
AOI 1	S-82	5/8/2017	23.80	23.85	0.05	3.48		No	Static	
AOI 1	S-83	5/8/2017	21.21	21.69	0.48	2.03		No	Static	
AOI 1	S-84	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 1	S-84P	5/8/2017	---	18.96	---	4.30	unconfined	No	Static	
AOI 1	S-85	5/8/2017	---	24.59	---	0.54	unconfined	No	Static	
AOI 1	S-86	5/8/2017	26.79	26.80	0.01	0.26		No	Static	
AOI 1	S-87I	5/8/2017	---	25.25	---	0.62	lower aquifer	No	Static	
AOI 1	S-88	5/8/2017	---	25.52	---	-1.42	unconfined	No	Static	
AOI 1	S-88A	5/8/2017	---	24.37	---	-0.57	unconfined	No	Static	
AOI 1	S-89	5/8/2017	26.90	26.91	0.01	-0.91	unconfined	No	Static	
AOI 1	S-95	5/8/2017	---	22.71	---	0.28	unconfined	No	Static	
AOI 1	S-98	5/8/2017	---	24.00	---	4.80	unconfined	No	Static	
AOI 1	S-99	5/8/2017	---	25.48	---	-0.08	unconfined	No	Static	
AOI 1	S-100	5/8/2017	24.10	24.76	0.66	2.71		No	Static	
AOI 1	S-101	5/8/2017	---	47.67	---	1.45	unconfined	No	Static	
AOI 1	S-116	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	unable to locate
AOI 1	S-117	5/8/2017	---	17.59	---	0.82	unconfined	No	Static	
AOI 1	S-118	5/8/2017	---	17.84	---	0.06	unconfined	No	Static	
AOI 1	S-125	5/8/2017	23.63	23.71	0.08	2.34		No	Static	
AOI 1	S-126	5/8/2017	14.21	14.72	0.51	14.19		No	Static	
AOI 1	S-127	5/8/2017	---	16.30	---	0.80	unconfined	No	Static	
AOI 1	S-161	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 1	S-162	5/8/2017	17.35	17.41	0.06	0.69	unconfined	No	Static	
AOI 1	S-164	5/8/2017	---	15.89	---	0.81	unconfined	No	Static	
AOI 1	S-171	5/8/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 1	S-179	5/8/2017	---	20.12	---	4.41	unconfined	Yes	Static	
AOI 1	S-180	5/8/2017	---	24.05	---	-1.85	unconfined	Yes	Pumping	
AOI 1	S-181	5/8/2017	---	23.20	---	-0.34		Yes	Pumping	
AOI 1	S-182	5/8/2017	---	23.55	---	-0.55	unconfined	Yes	Pumping	
AOI 1	S-183	5/8/2017	---	26.25	---	-2.77	unconfined	Yes	Pumping	
AOI 1	S-184	5/8/2017	---	23.95	---	-0.47	unconfined	Yes	Pumping	
AOI 1	S-185	5/8/2017	---	25.10	---	-1.22	unconfined	Yes	Pumping	
AOI 1	S-186	5/8/2017	---	28.70	---	-4.34	unconfined	Yes	Pumping	
AOI 1	S-187	5/8/2017	---	24.40	---	0.11	unconfined	Yes	Pumping	
AOI 1	S-188	5/8/2017	---	25.00	---	-0.18	unconfined	Yes	Pumping	
AOI 1	S-189	5/8/2017	---	26.50	---	-0.71	unconfined	Yes	Pumping	
AOI 1	S-190	5/8/2017	---	25.90	---	-0.33		Yes	Pumping	
AOI 1	S-191	5/8/2017	---	25.80	---	0.03	unconfined	Yes	Pumping	
AOI 1	S-192	5/8/2017	---	26.00	---	0.02	unconfined	Yes	Pumping	
AOI 1	S-193	5/8/2017	---	24.61	---	3.49	unconfined	Yes	Static	
AOI 1	S-194	5/8/2017	---	27.12	---	3.92	unconfined	No	Static	
AOI 1	S-195	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 1	S-196	5/8/2017	---	46.05	---	4.00	unconfined	No	Static	
AOI 1	S-197	5/8/2017	---	45.73	---	4.05		No	Static	
AOI 1	S-198	5/8/2017	25.77	26.51	0.74	3.41		No	Static	
AOI 1	S-199	5/8/2017	25.52	26.60	1.08	3.45		No	Static	
AOI 1	S-200	5/8/2017	---	25.63	---	3.43	unconfined	No	Static	

Table 2
Second Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-201	5/8/2017	24.40	25.59	1.19	3.30		No	Static	
AOI 1	S-202	5/8/2017	---	29.09	---	3.52	unconfined	No	Static	
AOI 1	S-203	5/8/2017	28.85	28.89	0.04	3.16		No	Static	
AOI 1	S-204	5/17/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 1	S-204	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 1	S-205	5/8/2017	19.55	19.55	<0.01	8.63		No	Static	
AOI 1	S-206	5/8/2017	---	28.18	---	3.60	unconfined	No	Static	
AOI 1	S-207	5/8/2017	---	14.52	---	12.68	unconfined	No	Static	
AOI 1	S-208	5/8/2017	---	19.61	---	1.25	unconfined	No	Static	
AOI 1	S-209	5/8/2017	---	26.31	---	0.67	unconfined	No	Static	
AOI 1	S-210	5/8/2017	---	24.15	---	-0.46	unconfined	No	Static	
AOI 1	S-211	5/8/2017	---	14.29	---	0.96	unconfined	No	Static	
AOI 1	S-212	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	destroyed
AOI 1	S-213	5/8/2017	---	14.74	---	0.47	unconfined	No	Static	
AOI 1	S-214	5/8/2017	---	19.50	---	0.34	unconfined	No	Static	
AOI 1	S-215	5/8/2017	NA	NA	NA	NA		No	Static	unable to access
AOI 1	S-226	5/8/2017	---	22.18	---	-0.10	unconfined	No	Static	
AOI 1	S-227	5/8/2017	---	22.70	---	-0.91	unconfined	No	Static	
AOI 1	S-228	5/8/2017	---	22.03	---	-0.85	unconfined	No	Static	
AOI 1	S-230	5/8/2017	---	18.74	---	1.45	unconfined	No	Static	
AOI 1	S-231	5/8/2017	---	20.36	---	-0.42	unconfined	No	Static	
AOI 1	S-232	5/8/2017	---	21.00	---	-0.69	unconfined	No	Static	
AOI 1	S-255	5/8/2017	---	22.31	---	-0.40	unconfined	No	Static	
AOI 1	S-256	5/8/2017	---	21.89	---	-0.48	unconfined	No	Static	
AOI 1	S-257	5/8/2017	---	23.55	---	-0.28	unconfined	No	Static	
AOI 1	S-258	5/8/2017	---	24.07	---	-1.27	unconfined	No	Static	
AOI 1	S-259	5/8/2017	---	23.94	---	-1.38	unconfined	No	Static	
AOI 1	S-260	5/8/2017	---	23.33	---	-1.63	unconfined	No	Static	
AOI 1	S-261	5/8/2017	---	24.09	---	3.32	unconfined	No	Static	
AOI 1	S-262	5/8/2017	---	18.91	---	0.53	unconfined	No	Static	
AOI 1	S-263	5/8/2017	---	16.47	---	0.31	unconfined	No	Static	
AOI 1	S-265	5/8/2017	15.28	15.28	<0.01	15.91		Yes	Static	
AOI 1	S-266	5/8/2017	NA	NA	NA	NA		No	Static	unable to access - well covered with concrete
AOI 1	S-267	5/8/2017	---	21.29	---	11.58	unconfined	Yes	Static	
AOI 1	S-268	5/8/2017	---	27.42	---	4.03	unconfined	Yes	Static	
AOI 1	S-269	5/8/2017	---	20.35	---	2.21	unconfined	No	Static	
AOI 1	S-270	5/8/2017	---	21.89	---	1.24	unconfined	No	Static	
AOI 1	S-271	5/8/2017	---	25.20	---	3.28	unconfined	No	Static	
AOI 1	S-272	5/8/2017	---	15.24	---	13.12	unconfined	No	Static	
AOI 1	S-273	5/8/2017	---	24.26	---	3.49	unconfined	No	Static	
AOI 1	S-274	5/8/2017	24.10	24.19	0.09	3.25	unconfined	No	Static	
AOI 1	S-275	5/8/2017	---	23.58	---	2.99	unconfined	No	Static	
AOI 1	S-276	5/8/2017	---	23.76	---	2.83		No	Static	
AOI 1	S-277	5/8/2017	23.48	23.89	0.41	2.14		No	Static	
AOI 1	S-312	5/8/2017	---	5.41	---	12.47	unconfined	No	Static	
AOI 1	S-388D	5/8/2017	---	25.74	---	0.45	lower aquifer	No	Static	
AOI 1	S-389D	5/8/2017	---	25.76	---	0.54	lower aquifer	No	Static	
AOI 1	S-390D	5/8/2017	---	25.88	---	0.60	lower aquifer	No	Static	
AOI 1	S-391D	5/8/2017	---	29.86	---	1.60	lower aquifer	No	Static	
AOI 1	S-392D	5/8/2017	---	19.63	---	0.34	lower aquifer	No	Static	
AOI 1	S-396	5/8/2017	---	25.47	---	0.72	unconfined	No	Static	
AOI 1	S-397	5/8/2017	---	26.05	---	0.55	unconfined	No	Static	
AOI 1	S-398	5/8/2017	---	25.18	---	0.38	middle clay unit	No	Static	
AOI 1	S-399	5/8/2017	---	19.82	---	0.34	lower aquifer	No	Static	
AOI 1	S-400	5/8/2017	---	30.35	---	1.34	lower aquifer	No	Static	
AOI 1	S-401	5/8/2017	---	29.67	---	2.09	middle clay unit	No	Static	
AOI 1	S-402	5/8/2017	29.75	29.91	0.16	3.66		No	Static	
AOI 1	S-403	5/17/2017	24.11	24.50	0.39	NM		No	Static	
AOI 1	S-404	5/8/2017	12.29	12.32	0.03	16.22		No	Static	viscous LNAPL
AOI 1	S-405	5/17/2017	22.97	23.07	0.10	3.15		No	Static	
AOI 1	S-417	5/8/2017	---	27.50	---	4.78		Yes	Static	
AOI 1	S-418	5/8/2017	---	17.64	---	-0.35		No	Static	
AOI 1	S-419	5/8/2017	---	15.46	---	0.56		No	Static	
AOI 1,11	S-46D	5/8/2017	---	15.04	---	0.67		No	Static	
AOI 1,11	S-80D	5/8/2017	---	30.06	---	1.68	lower aquifer	No	Static	
AOI 1,11	S-264D	5/8/2017	NA	NA	NA	NA	lower aquifer	No	Static	datalogger in well
AOI 10	W-1	5/11/2017	---	6.22	---	3.38		No	Static	
AOI 10	W-1D	5/11/2017	---	10.14	---	0.59		No	Static	
AOI 10	W-2	5/11/2017	---	15.20	---	4.25		No	Static	
AOI 10	W-3	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 10	W-4	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 10	W-5	5/11/2017	---	3.38	---	4.35		No	Static	
AOI 10	W-6	5/11/2017	---	0.77	---	NM		No	Static	well damaged - riser missing
AOI 10	W-7	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 10	W-8	5/11/2017	3.36	3.39	0.03	5.08		No	Static	
AOI 10	W-9	5/11/2017	---	10.36	---	-1.07		No	Static	
AOI 10	W-10	5/11/2017	---	3.58	---	3.98		No	Static	
AOI 10	W-11	5/11/2017	---	4.43	---	3.63		No	Static	
AOI 10	W-12	5/11/2017	---	3.37	---	3.73		No	Static	
AOI 10	W-13	5/11/2017	---	8.45	---	-1.80		No	Static	
AOI 10	W-14	5/11/2017	---	2.90	---	4.36		No	Static	
AOI 10	W-15	5/11/2017	---	2.78	---	6.00		No	Static	
AOI 10	W-16	5/11/2017	---	2.50	---	4.14		No	Static	
AOI 10	W-17	5/11/2017	---	3.32	---	3.90		No	Static	
AOI 10	W-18	5/11/2017	NA	NA	NA	NA		No	Static	blocked at 3.50 ft btoc
AOI 10	W-19	5/11/2017	---	11.51	---	-1.45		No	Static	
AOI 10	W-20	5/11/2017	---	3.95	---	6.16		No	Static	
AOI 10	W-21	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 10	W-22	5/11/2017	---	1.39	---	5.05		No	Static	
AOI 10	W-23	5/11/2017	---	2.45	---	5.10		No	Static	

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AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 10	W-24	5/11/2017	NA	NA	NA	NA		No	Static	unable to access - area around well was flooded
AOI 10	W-25	5/11/2017	---	6.13	---	4.02		No	Static	
AOI 10	W-26	5/11/2017	---	12.87	---	-2.89		No	Static	
AOI 10	W-27	5/11/2017	---	11.13	---	-0.27		No	Static	
AOI 10	W-28	5/11/2017	---	3.79	---	4.82		No	Static	
AOI 10	W-29	5/11/2017	---	7.42	---	4.40		No	Static	
AOI 10	W-30	5/11/2017	---	4.02	---	4.63		No	Static	
AOI 10	W-31	5/11/2017	3.83	3.87	0.04	4.44		No	Static	
AOI 10	W-32	5/11/2017	9.85	10.15	0.30	4.97		No	Static	
AOI 10	W-32D	5/11/2017	---	15.73	---	-1.03		No	Static	
AOI 10	W-33	5/11/2017	---	11.77	---	5.30		No	Static	
AOI 10	W-34	5/11/2017	---	8.03	---	6.11		No	Static	
AOI 2	C-HEADER	5/9/2017	---	7.70	---	12.91		No	Static	
AOI 2	PGW-MW-8D	5/9/2017	---	32.79	---	2.32	lower aquifer	No	Static	
AOI 2	PGW-MW-8S	5/9/2017	---	30.77	---	4.31	unconfined	No	Static	
AOI 2	PGW-MW-9D	5/9/2017	---	30.90	---	1.53	lower aquifer	No	Static	
AOI 2	PZ-100	5/9/2017	---	15.10	---	NM		No	Static	well damaged
AOI 2	PZ-101	5/9/2017	---	5.27	---	11.90		No	Static	
AOI 2	River1	5/9/2017	---	11.50	---	NM		No	Static	measured at 9:45 AM
AOI 2	River3	5/9/2017	---	5.61	---	NM		No	Static	measured at 12:25 AM
AOI 2	RW-100	5/9/2017	18.31	18.64	0.33	2.37		Yes	Static	
AOI 2	RW-101	5/9/2017	16.97	17.36	0.39	2.75		Yes	Static	
AOI 2	RW-102	5/9/2017	14.90	14.91	0.01	2.57		Yes	Static	
AOI 2	RW-103	5/9/2017	16.90	17.70	0.80	3.01		Yes	Static	
AOI 2	RW-104	5/9/2017	---	9.84	---	-0.88		Yes	Static	
AOI 2	RW-105	5/9/2017	8.51	8.53	0.02	0.17		Yes	Static	
AOI 2	RW-106	5/9/2017	---	7.58	---	1.72		Yes	Static	
AOI 2	RW-107	5/9/2017	---	10.15	---	0.40		Yes	Static	
AOI 2	RW-108	5/9/2017	---	7.92	---	1.98		Yes	Static	
AOI 2	RW-109	5/9/2017	7.43	7.43	<0.01	2.43		Yes	Static	
AOI 2	RW-113	5/9/2017	---	8.85	---	1.38		Yes	Static	
AOI 2	RW-114	5/9/2017	11.51	11.51	<0.01	1.51		Yes	Static	
AOI 2	RW-115	5/9/2017	---	8.61	---	1.59		Yes	Static	
AOI 2	RW-116	5/9/2017	---	9.12	---	1.69		Yes	Static	
AOI 2	RW-117	5/9/2017	8.08	8.12	0.04	1.70		Yes	Static	
AOI 2	RW-118	5/9/2017	---	9.97	---	1.85		Yes	Static	
AOI 2	RW-119	5/9/2017	11.07	11.07	<0.01	1.79		Yes	Static	
AOI 2	RW-120	5/9/2017	---	11.88	---	1.70		Yes	Static	
AOI 2	RW-121	5/9/2017	---	13.54	---	1.76		Yes	Static	
AOI 2	RW-122	5/9/2017	8.47	8.47	<0.01	1.78		Yes	Static	
AOI 2	RW-123	5/9/2017	---	8.07	---	1.90		Yes	Static	
AOI 2	RW-124	5/9/2017	7.30	7.30	<0.01	1.87		Yes	Static	
AOI 2	RW-125	5/9/2017	---	12.50	---	1.77		Yes	Static	
AOI 2	RW-126	5/9/2017	---	7.57	---	1.66		Yes	Static	
AOI 2	RW-127	5/9/2017	---	12.22	---	1.68		Yes	Static	
AOI 2	RW-128	5/9/2017	8.56	8.57	0.01	-0.13		Yes	Static	
AOI 2	RW-129	5/9/2017	---	8.77	---	1.06		Yes	Static	
AOI 2	RW-600	5/9/2017	---	5.28	---	3.77		Yes	Static	
AOI 2	RW-601	5/9/2017	---	9.05	---	NM		Yes	Static	well damaged
AOI 2	RW-602	5/9/2017	NA	NA	NA	NA		Yes	Static	unable to locate
AOI 2	S-48	5/9/2017	20.00	20.22	0.22	NM		No	Static	well damaged
AOI 2	S-53	5/9/2017	---	18.79	---	2.89		No	Static	
AOI 2	S-54	5/9/2017	21.94	22.14	0.20	0.99		No	Static	
AOI 2	S-61	5/9/2017	16.59	16.64	0.05	1.71		No	Static	
AOI 2	S-62	5/9/2017	---	18.85	---	2.53		No	Static	
AOI 2	S-63	5/9/2017	---	19.35	---	1.92		No	Static	
AOI 2	S-64	5/9/2017	---	6.67	---	3.89		No	Static	
AOI 2	S-65	5/9/2017	10.48	10.48	<0.01	0.15		No	Static	
AOI 2	S-70	5/9/2017	NA	NA	NA	NA		No	Static	filled with gravel; well damaged
AOI 2	S-71	5/9/2017	---	20.69	---	3.35		No	Static	
AOI 2	S-72	5/9/2017	27.09	27.10	0.01	3.97		No	Static	
AOI 2	S-73	5/9/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 2	S-91	5/9/2017	---	20.51	---	2.62		No	Static	
AOI 2	S-92	5/9/2017	10.69	10.72	0.03	9.38		No	Static	viscous LNAPL
AOI 2	S-93	5/9/2017	---	16.27	---	1.98		Yes	Static	
AOI 2	S-105	5/9/2017	---	10.50	---	2.03		No	Static	
AOI 2	S-106	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-107	5/9/2017	9.39	10.21	0.82	2.73		No	Static	
AOI 2	S-108	5/9/2017	---	6.73	---	3.99		No	Static	
AOI 2	S-109	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-110	5/9/2017	---	15.35	---	10.32		No	Static	
AOI 2	S-128	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-129	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-130	5/9/2017	19.16	19.19	0.03	3.32		No	Static	
AOI 2	S-131	5/9/2017	---	16.00	---	2.76		No	Static	
AOI 2	S-132	5/9/2017	---	18.15	---	2.88		No	Static	
AOI 2	S-133	5/9/2017	---	19.36	---	2.66		No	Static	
AOI 2	S-134	5/9/2017	---	20.69	---	1.34		No	Static	
AOI 2	S-135	5/9/2017	22.60	23.65	1.05	0.45		No	Static	
AOI 2	S-136	5/9/2017	---	17.99	---	2.60		No	Static	
AOI 2	S-137	5/9/2017	---	16.16	---	3.88		No	Static	
AOI 2	S-138	5/9/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 2	S-139	5/9/2017	---	18.42	---	3.04		No	Static	
AOI 2	S-140	5/9/2017	---	18.75	---	NM		No	Static	damaged riser; well damaged
AOI 2	S-141	5/9/2017	19.23	19.24	0.01	2.69		No	Static	
AOI 2	S-142	5/9/2017	17.79	17.87	0.08	2.04		No	Static	
AOI 2	S-143	5/9/2017	NA	NA	NA	NA		No	Static	blocked at 10.05 ft btoc; well damaged
AOI 2	S-144	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-145	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-146	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate

Table 2
Second Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	S-147	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-148	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-149	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-150	5/9/2017	17.79	17.79	<0.01	3.05		No	Static	
AOI 2	S-151	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-152	5/9/2017	---	8.28	---	2.21		No	Static	
AOI 2	S-153	5/9/2017	---	8.94	---	0.87		No	Static	
AOI 2	S-154	5/9/2017	---	8.46	---	2.16		No	Static	
AOI 2	S-155	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-156	5/9/2017	---	18.44	---	2.40		No	Static	
AOI 2	S-157	5/9/2017	---	17.42	---	2.52		No	Static	
AOI 2	S-158	5/9/2017	NM	NM	NM	NM		No	Static	unable to locate
AOI 2	S-159	5/9/2017	16.23	16.24	0.01	2.64		No	Static	
AOI 2	S-165	5/9/2017	---	16.99	---	1.12	unconfined	No	Static	
AOI 2	S-166	5/9/2017	---	16.93	---	1.30	unconfined	No	Static	
AOI 2	S-167	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-168	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-169	5/9/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 2	S-174	5/9/2017	9.99	10.01	0.02	9.63		No	Static	
AOI 2	S-175	5/9/2017	17.91	18.72	0.81	2.01		No	Static	
AOI 2	S-176	5/9/2017	---	11.29	---	8.84		No	Static	
AOI 2	S-177	5/9/2017	NA	NA	NA	NA	unconfined	No	Static	unable to access - area around well was flooded
AOI 2	S-178	5/9/2017	NA	NA	NA	NA	unconfined	No	Static	unable to access - area around well was flooded
AOI 2	S-246A	5/9/2017	---	11.32	---	0.44		No	Static	
AOI 2	S-247	5/9/2017	---	11.53	---	0.56		No	Static	
AOI 2	S-248	5/9/2017	---	10.29	---	0.51		No	Static	
AOI 2	S-249	5/9/2017	---	13.19	---	-0.58		No	Static	
AOI 2	S-251	5/9/2017	---	17.25	---	2.02		Yes	Static	
AOI 2	S-252	5/9/2017	---	17.31	---	1.98		Yes	Static	
AOI 2	S-253	5/9/2017	---	18.29	---	2.54		Yes	Static	
AOI 2	S-254	5/9/2017	---	18.85	---	2.03		Yes	Static	
AOI 2	S-292	5/9/2017	NA	NA	NA	NA		No	Static	dry at 19.45 ft btoc; well damaged
AOI 2	S-294	5/9/2017	---	30.39	---	4.08	unconfined	No	Static	
AOI 2	S-295	5/9/2017	---	23.62	---	9.12		No	Static	
AOI 2	S-297	5/9/2017	24.10	24.69	0.59	NM		No	Static	well damaged
AOI 2	S-298	5/9/2017	15.64	15.70	0.06	11.34		No	Static	
AOI 2	S-299	5/9/2017	---	20.86	---	3.14		No	Static	
AOI 2	S-300	5/9/2017	---	23.30	---	1.98		No	Static	
AOI 2	S-301	5/9/2017	---	17.16	---	3.25		No	Static	
AOI 2	S-302	5/9/2017	21.41	21.62	0.21	2.51		No	Static	
AOI 2	S-303	5/9/2017	---	19.48	---	3.11		No	Static	
AOI 2	S-304	5/9/2017	---	14.84	---	NM	unconfined	No	Static	well damaged
AOI 2	S-305	5/9/2017	---	18.79	---	0.94	unconfined	No	Static	
AOI 2	S-306	5/9/2017	---	20.65	---	1.82		No	Static	
AOI 2	S-307	5/9/2017	---	16.26	---	2.31		No	Static	
AOI 2	S-308	5/9/2017	---	24.24	---	3.87		No	Static	
AOI 2	S-309	5/9/2017	---	17.89	---	1.84		No	Static	
AOI 2	S-310	5/9/2017	NA	NA	NA	NA		No	Static	blocked at 4.55 ft btoc, damaged well riser
AOI 2	S-311	5/9/2017	25.20	25.36	0.16	0.95		No	Static	
AOI 2	S-313	5/9/2017	---	18.20	---	2.70		Yes	Static	
AOI 2	S-314	5/9/2017	---	18.47	---	2.23		Yes	Static	
AOI 2	S-315	5/9/2017	18.68	18.68	<0.01	1.80		Yes	Static	
AOI 2	S-316	5/9/2017	---	16.06	---	4.84		Yes	Static	
AOI 2	S-317	5/9/2017	---	17.91	---	2.28		Yes	Static	
AOI 2	S-318	5/9/2017	---	21.77	---	1.98		No	Static	
AOI 2	S-328	5/9/2017	18.90	18.90	<0.01	3.07		No	Static	
AOI 2	S-333	5/9/2017	---	13.17	---	0.56		No	Static	
AOI 2	S-335	5/9/2017	---	8.33	---	NM		No	Static	well damaged
AOI 2	S-336	5/9/2017	---	9.20	---	2.32		No	Static	
AOI 2	S-337	5/9/2017	---	11.41	---	0.80		No	Static	
AOI 2	S-338	5/9/2017	12.66	12.80	0.14	2.85		No	Static	
AOI 2	S-346	5/9/2017	18.33	18.65	0.32	1.09		No	Static	
AOI 2	S-347	5/9/2017	17.90	18.60	0.70	1.09		No	Static	
AOI 2	S-348	5/9/2017	14.51	15.76	1.25	4.92		No	Static	
AOI 2	S-349	5/9/2017	15.11	15.37	0.26	3.47		No	Static	
AOI 2	S-350	5/9/2017	---	27.49	---	3.99	unconfined	No	Static	
AOI 2	S-351	5/9/2017	---	31.19	---	4.05		No	Static	
AOI 2	S-354	5/9/2017	---	24.99	---	3.04		No	Static	
AOI 2	S-355	5/9/2017	---	27.47	---	3.35		No	Static	
AOI 2	S-357	5/9/2017	20.11	20.34	0.23	7.95		No	Static	
AOI 2	S-359	5/9/2017	---	16.96	---	3.32		No	Static	
AOI 2	S-360	5/9/2017	22.64	22.92	0.28	1.10		No	Static	
AOI 2	S-361	5/9/2017	---	24.06	---	2.31		No	Static	
AOI 2	S-362	5/9/2017	NA	NA	NA	NA		No	Static	blocked at 4.05 ft btoc; well damaged
AOI 2	S-363	5/9/2017	25.02	25.11	0.09	0.82		No	Static	
AOI 2	S-406	5/9/2017	---	9.83	---	2.37		No	Static	
AOI 2	S-420	5/9/2017	---	6.65	---	2.61		No	Static	
AOI 2	S-422	5/9/2017	---	14.12	---	2.45		No	Static	
AOI 2	S-423	5/9/2017	26.88	27.23	0.35	4.52		No	Static	
AOI 2	SD-1	5/9/2017	---	7.73	---	11.77		No	Static	
AOI 2,11	S-72D	5/9/2017	---	33.09	---	1.42		No	Static	
AOI 2,11	S-294D	5/9/2017	---	32.66	---	2.02	lower aquifer	No	Static	
AOI 2,11	S-302D	5/9/2017	---	24.79	---	-0.19		No	Static	
AOI 2,11	S-305D	5/9/2017	---	20.31	---	0.17	lower aquifer	No	Static	
AOI 3	BF-88	5/10/2017	---	10.20	---	0.41		No	Static	
AOI 3	BF-89	5/10/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 3	BF-90	5/10/2017	---	1.72	---	5.77		No	Static	
AOI 3	BF-99	5/10/2017	---	10.79	---	0.17		No	Static	
AOI 3	BF-100	5/10/2017	---	12.27	---	0.09		No	Static	
AOI 3	BF-101	5/10/2017	---	3.56	---	3.31		No	Static	

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AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 3	BF-102	5/10/2017	NM	NM	NM	NM		No	Static	unable to locate
AOI 3	BF-103R	5/10/2017	---	14.57	---	0.00		No	Static	
AOI 3	BF-104	5/10/2017	---	5.43	---	6.31		No	Static	
AOI 3	BF-105	5/10/2017	---	11.86	---	0.05		No	Static	
AOI 3	BF-106	5/10/2017	---	13.65	---	-0.03		No	Static	
AOI 3	BF-107	5/10/2017	---	12.26	---	0.10		No	Static	
AOI 3	RW-2	5/10/2017	11.43	11.43	<0.01	-0.13		Yes	Static	
AOI 3	S-1	5/10/2017	---	5.01	---	3.74		No	Static	
AOI 3	S-2	5/10/2017	---	3.67	---	3.54		No	Static	
AOI 3	S-3	5/10/2017	---	7.44	---	3.36		No	Static	
AOI 3	S-4	5/10/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 3	S-5	5/10/2017	2.48	2.72	0.24	3.32		No	Static	
AOI 3	S-6	5/10/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 3	S-7	5/10/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 3	S-9	5/10/2017	---	2.63	---	3.95		No	Static	
AOI 3	S-10	5/10/2017	---	4.69	---	1.38		No	Static	
AOI 3	S-11	5/10/2017	---	2.44	---	3.94		No	Static	
AOI 3	S-12	5/10/2017	---	5.27	---	0.96		No	Static	
AOI 3	S-14	5/10/2017	---	2.34	---	3.40		No	Static	
AOI 3	S-15	5/10/2017	NA	NA	NA	NA		No	Static	well filled with stone; well damaged
AOI 3	S-16	5/10/2017	---	22.69	---	0.99		No	Static	
AOI 3	S-17	5/10/2017	---	15.84	---	1.01	unconfined	No	Static	
AOI 3	S-18	5/10/2017	---	3.97	---	19.52		No	Static	
AOI 3	S-19	5/10/2017	NA	NA	NA	NA		No	Static	blocked at 1.28 ft btoc; well damaged+N351
AOI 3	S-20	5/10/2017	---	19.32	---	0.94	unconfined	No	Static	
AOI 3	S-21	5/10/2017	---	15.99	---	NM		No	Static	well riser broken off at pad; well damaged
AOI 3	S-22	5/10/2017	---	19.87	---	-1.21	lower aquifer	No	Static	
AOI 3	S-23	5/10/2017	---	19.33	---	0.95		No	Static	
AOI 3	S-24	5/10/2017	NA	NA	NA	NA		No	Static	blocked at 1.41 ft btoc; well damaged
AOI 3	S-25	5/10/2017	---	11.17	---	NM		No	Static	damaged
AOI 3	S-59	5/10/2017	---	9.67	---	2.82	unconfined	No	Static	
AOI 3	S-60	5/10/2017	11.68	12.32	0.64	0.44		No	Static	
AOI 3	S-66	5/10/2017	NA	NA	NA	NM		No	Static	dry at 26.00 ft btoc; well damaged
AOI 3	S-68	5/10/2017	NM	NM	NM	NM		No	Static	unable to locate
AOI 3	S-69	5/17/2017	NA	NA	NA	NA		No	Static	damaged - blocked at 1.10 ft btoc
AOI 3	S-112	5/10/2017	NM	NM	NM	NM		No	Static	unable to locate
AOI 3	S-113	5/10/2017	NA	NA	NA	NA		No	Static	unable to access
AOI 3	S-114	5/10/2017	NM	NM	NM	NM		No	Static	unable to locate
AOI 3	S-280	5/10/2017	---	25.26	---	1.26		No	Static	
AOI 3	S-281	5/10/2017	---	14.07	---	0.29		No	Static	
AOI 3	S-283	5/17/2017	10.81	12.25	1.44	NM		No	Static	
AOI 3	S-284	5/10/2017	---	8.47	---	1.04		No	Static	
AOI 3	S-285	5/10/2017	13.88	15.57	1.69	1.15		No	Static	
AOI 3	S-288	5/10/2017	---	14.41	---	4.68		No	Static	
AOI 3	S-290	5/10/2017	---	10.21	---	1.48		No	Static	
AOI 3	S-291	5/10/2017	---	8.19	---	3.80		No	Static	
AOI 3	S-372	5/10/2017	---	18.94	---	0.79	unconfined	No	Static	
AOI 3	S-382	5/10/2017	17.05	18.84	1.79	2.78		No	Static	
AOI 3	S-383	5/17/2017	NA	NA	NA	NA		No	Static	damaged riser
AOI 3	S-384	5/10/2017	---	16.32	---	0.20		No	Static	
AOI 3	S-385	5/10/2017	---	12.27	---	0.64	unconfined	No	Static	
AOI 3	S-386	5/10/2017	---	13.25	---	0.50		No	Static	
AOI 3	S-387	5/10/2017	---	4.35	---	2.76		No	Static	
AOI 3	S-407	5/10/2017	14.01	14.01	<0.01	NM		No	Static	
AOI 3	S-409	5/10/2017	---	2.75	---	19.54		No	Static	
AOI 3	S-410	5/10/2017	12.66	13.93	1.27	9.50		No	Static	
AOI 3	S-411	5/10/2017	---	24.54	---	0.51		No	Static	
AOI 3	S-412	5/10/2017	---	12.91	---	0.20		No	Static	
AOI 3	S-413	5/10/2017	---	17.59	---	0.32		No	Static	
AOI 3	S-414	5/10/2017	---	22.37	---	0.16		No	Static	
AOI 3,11	BF-90D	5/10/2017	---	10.25	---	-0.48		No	Static	
AOI 3,11	BF-108	5/10/2017	---	11.37	---	-0.39		No	Static	
AOI 3,11	S-8	5/10/2017	---	7.57	---	-1.15		No	Static	
AOI 3,11	S-13	5/10/2017	---	7.74	---	-1.38		No	Static	
AOI 3,11	S-69D	5/17/2017	---	11.88	---	-0.53		No	Static	
AOI 3,11	S-280D	5/10/2017	---	25.33	---	0.55		No	Static	
AOI 3,11	S-284D	5/10/2017	---	11.93	---	0.19		No	Static	
AOI 3,7	C-95	5/11/2017	---	6.00	---	6.25		No	Static	
AOI 4	MW-1	5/8/2017	---	15.74	---	0.64	unconfined	No	Static	
AOI 4	MW-2	5/8/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 4	MW-3	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 4	MW-4	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 4	RW-700	5/8/2017	---	29.90	---	-11.89	unconfined	Yes	Static	
AOI 4	RW-701	5/8/2017	---	20.30	---	-2.03	unconfined	Yes	Static	
AOI 4	RW-702	5/8/2017	---	33.80	---	-12.85	unconfined	Yes	Static	
AOI 4	RW-703	5/8/2017	---	29.70	---	-9.08	unconfined	Yes	Static	
AOI 4	RW-704	5/8/2017	---	21.25	---	-1.02	unconfined	Yes	Static	
AOI 4	RW-705	5/8/2017	---	14.90	---	1.02	unconfined	Yes	Static	
AOI 4	RW-706	5/8/2017	---	15.24	---	0.65	unconfined	Yes	Static	
AOI 4	RW-707	5/8/2017	---	15.64	---	0.65	unconfined	Yes	Static	
AOI 4	RW-708	5/8/2017	---	14.82	---	0.67	unconfined	Yes	Static	
AOI 4	RW-709	5/8/2017	---	15.05	---	0.25	unconfined	Yes	Static	
AOI 4	RW-710	5/8/2017	---	15.52	---	0.36	unconfined	Yes	Static	
AOI 4	RW-711	5/8/2017	---	14.79	---	0.70	unconfined	Yes	Static	
AOI 4	RW-712	5/8/2017	---	14.90	---	0.66	unconfined	Yes	Static	
AOI 4	RW-713	5/8/2017	---	14.29	---	0.73	unconfined	Yes	Static	
AOI 4	RW-714	5/8/2017	---	14.51	---	0.70	unconfined	Yes	Static	
AOI 4	RW-715	5/8/2017	---	14.63	---	0.74	unconfined	Yes	Static	
AOI 4	RW-716	5/8/2017	---	14.68	---	0.87	unconfined	Yes	Static	
AOI 4	RW-717	5/8/2017	---	14.83	---	0.78	unconfined	Yes	Static	

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AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 4	S-26	5/8/2017	---	19.91	---	0.85	unconfined	No	Static	
AOI 4	S-27	5/8/2017	---	23.96	---	0.65	unconfined	No	Static	
AOI 4	S-28	5/8/2017	---	18.99	---	NM	unconfined	No	Static	well damaged
AOI 4	S-29	5/8/2017	21.03	23.00	1.97	2.00	unconfined	No	Static	
AOI 4	S-30	5/8/2017	22.22	23.97	1.75	0.68	unconfined	No	Static	
AOI 4	S-31	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	blocked at 13.10 ft btoc; well damaged
AOI 4	S-32	5/8/2017	---	23.58	---	0.62	unconfined	No	Static	
AOI 4	S-33	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 4	S-34	5/8/2017	---	19.40	---	1.49	unconfined	No	Static	
AOI 4	S-35	5/8/2017	---	20.58	---	0.36	unconfined	No	Static	
AOI 4	S-36	5/8/2017	---	23.79	---	0.44	unconfined	No	Static	
AOI 4	S-37	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 4	S-38	5/8/2017	---	18.26	---	0.69	unconfined	No	Static	
AOI 4	S-39	5/8/2017	---	22.13	---	0.75	unconfined	No	Static	
AOI 4	S-39D	5/8/2017	---	25.12	---	-0.61	lower aquifer	No	Static	
AOI 4	S-40	5/8/2017	---	24.33	---	0.13	unconfined	No	Static	
AOI 4	S-55	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 4	S-56	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	destroyed
AOI 4	S-57	5/8/2017	---	11.91	---	0.59	unconfined	No	Static	
AOI 4	S-96	5/8/2017	---	19.36	---	0.41	unconfined	No	Static	
AOI 4	S-97	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	destroyed
AOI 4	S-102	5/8/2017	---	15.54	---	2.68	unconfined	No	Static	
AOI 4	S-103	5/8/2017	---	25.19	---	0.92	unconfined	No	Static	
AOI 4	S-104	5/8/2017	16.45	18.08	1.63	1.91	unconfined	No	Static	
AOI 4	S-111	5/8/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 4	S-119	5/8/2017	---	28.20	---	-1.60	unconfined	No	Static	
AOI 4	S-120	5/8/2017	---	19.06	---	0.76	unconfined	No	Static	
AOI 4	S-121	5/8/2017	---	20.54	---	NM	unconfined	No	Static	broken below grade 2 feet; well damaged
AOI 4	S-122	5/8/2017	---	25.11	---	0.60	unconfined	No	Static	
AOI 4	S-123	5/8/2017	---	21.52	---	0.61	unconfined	No	Static	
AOI 4	S-124	5/8/2017	22.47	22.57	0.10	0.71	unconfined	No	Static	
AOI 4	S-216	5/8/2017	---	15.12	---	0.64	unconfined	No	Static	
AOI 4	S-217	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 4	S-218	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	datalogger in well
AOI 4	S-218D	5/8/2017	NA	NA	NA	NA	lower aquifer	No	Static	datalogger in well
AOI 4	S-219	5/8/2017	---	22.34	---	0.75	unconfined	No	Static	
AOI 4	S-220	5/8/2017	19.85	20.35	0.50	0.89	unconfined	No	Static	
AOI 4	S-221	5/8/2017	22.19	23.01	0.82	0.66	unconfined	No	Static	
AOI 4	S-222	5/8/2017	---	15.33	---	0.96	unconfined	No	Static	
AOI 4	S-223	5/8/2017	---	15.16	---	0.72	unconfined	No	Static	
AOI 4	S-224	5/8/2017	---	15.28	---	0.75	unconfined	No	Static	
AOI 4	S-225	5/8/2017	---	9.45	---	5.54	unconfined	No	Static	
AOI 4	S-229	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 4	S-233	5/8/2017	20.44	21.90	1.46	3.65	unconfined	No	Static	
AOI 4	S-234	5/8/2017	---	20.78	---	0.45	unconfined	No	Static	
AOI 4	S-235	5/8/2017	22.40	22.57	0.17	0.70	unconfined	No	Static	
AOI 4	S-236	5/8/2017	22.28	23.21	0.93	0.53	unconfined	No	Static	
AOI 4	S-237	5/8/2017	22.17	22.95	0.78	0.51	unconfined	No	Static	
AOI 4	S-238	5/8/2017	22.16	22.25	0.09	0.74	unconfined	No	Static	
AOI 4	S-239	5/8/2017	---	15.05	---	0.77	unconfined	No	Static	
AOI 4	S-240	5/8/2017	23.09	24.45	1.36	0.53	unconfined	No	Static	
AOI 4	S-241	5/8/2017	25.20	27.51	2.31	0.63	unconfined	No	Static	
AOI 4	S-242	5/8/2017	---	21.22	---	0.67	unconfined	No	Static	
AOI 4	S-243	5/8/2017	---	14.76	---	0.98	unconfined	No	Static	
AOI 4	S-244	5/8/2017	---	20.82	---	1.12	unconfined	No	Static	
AOI 4	S-245	5/8/2017	---	21.40	---	0.81	unconfined	No	Static	
AOI 4	S-246	5/8/2017	---	19.72	---	1.84	unconfined	No	Static	
AOI 4	S-278	5/8/2017	20.19	20.33	0.14	0.82	unconfined	No	Static	
AOI 4	S-279	5/8/2017	25.32	26.00	0.68	0.94	unconfined	No	Static	
AOI 4	S-282	5/8/2017	---	20.98	---	-0.19	unconfined	No	Static	
AOI 4	S-329	5/8/2017	---	20.31	---	0.61	unconfined	No	Static	
AOI 4	S-364	5/17/2017	---	3.71	---	NM	unconfined	No	Static	damaged riser
AOI 4	S-365	5/8/2017	20.54	20.56	0.02	0.37	unconfined	No	Static	
AOI 4	S-366	5/8/2017	---	21.63	---	0.63	unconfined	No	Static	
AOI 4	S-367	5/8/2017	---	15.49	---	0.53	unconfined	No	Static	
AOI 4	S-368	5/8/2017	---	18.18	---	-0.16	unconfined	No	Static	
AOI 4	S-369	5/8/2017	---	28.97	---	0.45	unconfined	No	Static	
AOI 4	S-370	5/8/2017	---	11.80	---	0.26	unconfined	No	Static	
AOI 4	S-371	5/8/2017	20.59	20.59	<0.01	1.47	unconfined	No	Static	
AOI 4	S-373	5/8/2017	---	20.48	---	0.29	unconfined	No	Static	
AOI 4	S-379	5/8/2017	NA	NA	NA	NA	unconfined	No	Static	well damaged
AOI 4	S-380	5/8/2017	---	20.69	---	0.63	unconfined	No	Static	
AOI 4	S-381	5/8/2017	---	25.36	---	0.50	unconfined	No	Static	
AOI 4	S-408	5/8/2017	---	14.85	---	1.03	unconfined	No	Static	
AOI 4	S-415	5/8/2017	---	18.66	---	0.57	unconfined	No	Static	
AOI 4	S-416	5/8/2017	---	11.66	---	7.52	unconfined	No	Static	
AOI 4,11	S-38D	5/8/2017	---	18.37	---	-0.67	lower aquifer	No	Static	
AOI 4,11	S-38D2	5/8/2017	---	19.06	---	-0.87	lower aquifer	No	Static	
AOI 4,11	S-59D	5/17/2017	---	16.53	---	0.60	lower aquifer	No	Static	
AOI 4,11	S-119D	5/8/2017	---	25.02	---	0.08	lower aquifer	No	Static	
AOI 5	A-1	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	well damaged
AOI 5	A-3	5/11/2017	---	6.60	---	1.64	unconfined	No	Static	
AOI 5	A-4	5/11/2017	---	3.91	---	2.13	unconfined	No	Static	
AOI 5	A-5	5/11/2017	---	4.31	---	0.70	unconfined	No	Static	well damaged
AOI 5	A-6	5/11/2017	---	3.71	---	3.03	unconfined	No	Static	
AOI 5	A-7	5/11/2017	---	3.40	---	3.51	unconfined	No	Static	product film
AOI 5	A-9	5/11/2017	---	3.56	---	2.24	unconfined	No	Static	
AOI 5	A-10	5/17/2017	---	5.46	---	2.82	unconfined	No	Static	
AOI 5	A-11	5/11/2017	---	5.20	---	2.57	unconfined	No	Static	
AOI 5	A-12	5/11/2017	---	5.31	---	2.26	unconfined	No	Static	

Table 2
Second Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 5	A-15	5/11/2017	---	1.50	---	3.61	unconfined	No	Static	
AOI 5	A-21	5/11/2017	2.43	2.44	0.01	5.73	unconfined	No	Static	viscous LNAPL
AOI 5	A-22	5/11/2017	---	6.24	---	1.71	unconfined	No	Static	
AOI 5	A-23	5/11/2017	---	3.62	---	2.69	unconfined	No	Static	
AOI 5	A-24	5/11/2017	---	2.49	---	3.04	unconfined	No	Static	
AOI 5	A-25	5/11/2017	---	4.81	---	NM	unconfined	No	Static	well damaged
AOI 5	A-26	5/11/2017	---	4.95	---	3.70	unconfined	No	Static	
AOI 5	A-27	5/11/2017	---	6.41	---	3.60	unconfined	No	Static	
AOI 5	A-39	5/11/2017	---	3.41	---	4.27	unconfined	No	Static	
AOI 5	A-40	5/11/2017	---	6.73	---	1.90	unconfined	No	Static	
AOI 5	A-41	5/11/2017	---	3.89	---	1.74	unconfined	No	Static	
AOI 5	A-43	5/11/2017	---	7.64	---	2.79	unconfined	No	Static	
AOI 5	A-44	5/11/2017	---	8.03	---	1.98	unconfined	No	Static	
AOI 5	A-45	5/11/2017	---	3.68	---	1.04	unconfined	No	Static	product film
AOI 5	A-46	5/11/2017	---	8.46	---	2.36	unconfined	No	Static	
AOI 5	A-47	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	well damaged
AOI 5	A-48	5/11/2017	---	4.42	---	2.03	unconfined	No	Static	
AOI 5	A-49	5/11/2017	---	3.46	---	3.74	unconfined	No	Static	
AOI 5	A-118	5/11/2017	---	2.59	---	5.71	unconfined	No	Static	
AOI 5	A-122	5/11/2017	---	5.01	---	2.43	unconfined	No	Static	
AOI 5	A-133	5/11/2017	---	7.49	---	5.53	unconfined	No	Static	
AOI 5	A-134	5/11/2017	---	7.54	---	1.60	unconfined	No	Static	
AOI 5	A-135	5/11/2017	---	7.55	---	3.21	unconfined	No	Static	
AOI 5	A-136	5/11/2017	---	6.94	---	1.76	unconfined	No	Static	product film
AOI 5	A-137	5/11/2017	---	6.97	---	1.66	unconfined	No	Static	
AOI 5	A-139	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	blocked at 3.90 ft btoc; well damaged
AOI 5	A-140	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	destroyed
AOI 5	A-142	5/11/2017	---	8.02	---	0.54	unconfined	No	Static	
AOI 5	A-143	5/11/2017	---	7.64	---	1.86	unconfined	No	Static	
AOI 5	A-146	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	unable to locate
AOI 5	A-147	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	unable to locate
AOI 5	A-148	5/11/2017	---	2.74	---	5.27	unconfined	No	Static	
AOI 5	A-149	5/11/2017	---	3.43	---	5.06	unconfined	No	Static	
AOI 5	A-150	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	blocked at 3.50 ft btoc, damaged well riser
AOI 5	A-151	5/11/2017	---	4.48	---	3.01	unconfined	No	Static	
AOI 5	A-152	5/11/2017	---	3.55	---	1.30	unconfined	No	Static	
AOI 5	A-155	5/11/2017	5.24	5.75	0.51	3.09	unconfined	No	Static	
AOI 5	A-156	5/11/2017	---	5.14	---	3.74	unconfined	No	Static	
AOI 5	A-157	5/11/2017	---	4.75	---	3.87	unconfined	No	Static	
AOI 5	A-158	5/11/2017	---	3.92	---	2.22	unconfined	No	Static	
AOI 5	A-162	5/11/2017	NA	NA	NA	NA	unconfined	No	Static	destroyed
AOI 5	A-163	5/11/2017	---	6.14	---	4.35	unconfined	No	Static	
AOI 5	A-164	5/11/2017	---	5.04	---	3.87	unconfined	No	Static	
AOI 5	A-166	5/11/2017	---	8.02	---	3.26	unconfined	No	Static	
AOI 5	A-167	5/11/2017	---	5.61	---	3.85	unconfined	No	Static	
AOI 5	A-168	5/11/2017	---	6.39	---	4.30	unconfined	No	Static	
AOI 5	A-169	5/11/2017	---	4.56	---	4.06	unconfined	No	Static	
AOI 5	A-170	5/11/2017	---	2.80	---	1.83	unconfined	No	Static	
AOI 5	A-171	5/11/2017	---	5.43	---	2.21	unconfined	No	Static	
AOI 5	A-172	5/17/2017	---	3.90	---	2.42	unconfined	No	Static	
AOI 5	A-173	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	unable to access
AOI 5	A-174	5/11/2017	---	4.50	---	3.52	unconfined	No	Static	
AOI 5	A-175	5/11/2017	---	4.19	---	0.54	unconfined	No	Static	
AOI 5	A-176	5/11/2017	3.99	4.20	0.21	0.55	unconfined	No	Static	viscous LNAPL
AOI 5	A-178	5/11/2017	3.49	4.70	1.21	0.95	unconfined	No	Static	viscous LNAPL
AOI 5	A-179	5/11/2017	3.19	5.52	2.33	5.08	unconfined	No	Static	viscous LNAPL
AOI 5	A-180	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	destroyed
AOI 5	A-181	5/11/2017	---	3.70	---	2.82	unconfined	No	Static	
AOI 5	A-182	5/11/2017	---	4.91	---	1.99	unconfined	No	Static	
AOI 5	A-183	5/11/2017	4.02	4.85	0.83	4.27	unconfined	No	Static	viscous LNAPL
AOI 5	A-184	5/11/2017	5.60	5.61	0.01	NM	unconfined	No	Static	viscous LNAPL
AOI 5	A-185	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	destroyed
AOI 5	A-186	5/11/2017	---	5.26	---	3.00	unconfined	No	Static	
AOI 5	A-187	5/11/2017	---	6.15	---	3.25	unconfined	No	Static	
AOI 5	A-188	5/11/2017	7.78	8.84	1.06	NM	unconfined	No	Static	
AOI 5	A-189	5/11/2017	---	4.73	---	3.78	unconfined	No	Static	
AOI 5	PZ-1	5/11/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 5	PZ-2	5/11/2017	---	5.30	---	5.58	unconfined	No	Static	
AOI 5	PZ-3	5/11/2017	---	7.46	---	3.07	unconfined	No	Static	
AOI 5	RW-6S	5/11/2017	---	5.11	---	3.11	unconfined	Yes	Static	
AOI 5	RWBH-1	5/11/2017	5.81	5.81	<0.01	-0.47	unconfined	Yes	Static	
AOI 5	RWBH-2	5/11/2017	2.61	4.97	2.36	1.30	unconfined	Yes	Static	
AOI 5	SW-1	5/11/2017	7.70	9.28	1.58	1.92	unconfined	No	Static	viscous LNAPL
AOI 5	SW-2	5/11/2017	---	7.15	---	2.79	unconfined	No	Static	
AOI 5	SW-3	5/11/2017	---	7.71	---	2.26	unconfined	No	Static	
AOI 5	SW-4	5/11/2017	4.41	4.42	0.01	2.74	unconfined	No	Static	viscous LNAPL
AOI 5	SW-5	5/11/2017	5.49	5.52	0.03	5.00	unconfined	No	Static	viscous LNAPL
AOI 5	SWR-1	5/11/2017	---	4.90	---	3.38	unconfined	Yes	Static	
AOI 5	SWR-2	5/11/2017	---	7.94	---	2.12	unconfined	Yes	Static	
AOI 5	SWR-3	5/11/2017	---	8.40	---	2.21	unconfined	Yes	Static	
AOI 5	WP2-1	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	blocked at 6.80 ft btoc; well damaged
AOI 5	WP2-2	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	unable to locate
AOI 5	WP3-1	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	blocked at 6.20 ft btoc; well damaged
AOI 5	WP-3a	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	unable to locate
AOI 5	WP5-1	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	unable to locate
AOI 5	WP-5a	5/11/2017	NM	NM	NM	NM	unconfined	No	Static	unable to locate
AOI 5	WP-8	5/11/2017	---	5.37	---	1.62	unconfined	No	Static	
AOI 5	WP-9	5/11/2017	---	1.29	---	7.28	unconfined	No	Static	
AOI 5	WP9-8	5/11/2017	4.68	6.65	1.97	3.82	unconfined	No	Static	
AOI 5	WP-14	5/11/2017	---	7.12	---	2.00	unconfined	No	Static	

Table 2
Second Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 5	WP16-3	5/17/2017	---	7.13	---	3.94	unconfined	No	Static	
AOI 5	WP-A	5/11/2017	4.90	4.91	0.01	4.70	unconfined	No	Static	viscous LNAPL
AOI 5	WP-B	5/11/2017	6.61	6.73	0.12	3.46	unconfined	No	Static	
AOI 5	WP-C	5/11/2017	---	4.09	---	2.44	unconfined	No	Static	
AOI 5	WP-D	5/11/2017	---	5.36	---	2.90	unconfined	No	Static	
AOI 5	WP-E	5/11/2017	---	4.68	---	2.67	unconfined	No	Static	
AOI 5,11	A-19D	5/11/2017	---	12.98	---	-2.34	lower aquifer	No	Static	
AOI 5,11	A-19D	5/17/2017	---	12.98	---	-2.34	lower aquifer	No	Static	
AOI 5,11	A-21D	5/17/2017	---	16.64	---	-5.39	lower aquifer	No	Static	
AOI 6	B-39	5/11/2017	---	1.39	---	4.09		No	Static	
AOI 6	B-40	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 6	B-41	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 6	B-42	5/11/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 6	B-43	5/11/2017	---	2.72	---	4.49		No	Static	
AOI 6	B-44	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 6	B-45	5/11/2017	---	0.13	---	4.97		No	Static	
AOI 6	B-46	5/11/2017	---	1.44	---	6.59		No	Static	
AOI 6	B-47	5/11/2017	NA	NA	NA	NA		No	Static	viscous LNAPL
AOI 6	B-48	5/17/2017	---	0.25	---	6.25		No	Static	
AOI 6	B-92	5/11/2017	---	5.60	---	4.63		No	Static	
AOI 6	B-93	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 6	B-94	5/11/2017	---	7.28	---	3.07		No	Static	
AOI 6	B-95	5/11/2017	---	4.38	---	4.49		No	Static	
AOI 6	B-115	5/11/2017	---	3.14	---	4.36		No	Static	
AOI 6	B-116	5/11/2017	---	5.89	---	-0.82		No	Static	
AOI 6	B-117	5/11/2017	---	7.50	---	-1.53		No	Static	
AOI 6	B-123	5/11/2017	---	4.79	---	5.97		No	Static	
AOI 6	B-124	5/11/2017	4.95	6.70	1.75	3.69		Yes	Static	
AOI 6	B-125	5/11/2017	---	4.87	---	3.64		No	Static	
AOI 6	B-126	5/11/2017	---	5.10	---	3.41		No	Static	
AOI 6	B-129	5/11/2017	5.15	10.23	5.08	2.19		No	Static	
AOI 6	B-130	5/11/2017	5.09	5.39	0.30	4.58		No	Static	
AOI 6	B-131	5/11/2017	---	4.94	---	3.78		No	Static	
AOI 6	B-132	5/11/2017	4.65	4.66	0.01	2.22		No	Static	
AOI 6	B-133	5/11/2017	---	5.01	---	2.32		Yes	Static	
AOI 6	B-134	5/11/2017	---	4.76	---	1.76		Yes	Static	
AOI 6	B-135	5/11/2017	4.91	4.93	0.02	1.47		No	Static	
AOI 6	B-136	5/11/2017	4.89	4.92	0.03	4.26		Yes	Static	
AOI 6	B-137	5/11/2017	4.29	4.39	0.10	4.43		Yes	Static	
AOI 6	B-138	5/11/2017	---	4.47	---	4.86		Yes	Static	
AOI 6	B-139	5/11/2017	NA	NA	NA	NA		Yes	Static	destroyed
AOI 6	B-140	5/11/2017	NA	NA	NA	NA		Yes	Static	destroyed
AOI 6	B-141	5/11/2017	---	2.69	---	NM		No	Static	casing broken off at grade; well damaged
AOI 6	B-142	5/11/2017	6.91	7.58	0.67	2.74		Yes	Static	
AOI 6	B-143	5/11/2017	4.96	5.64	0.68	3.93		Yes	Static	
AOI 6	B-144	5/11/2017	4.85	4.86	0.01	4.17		No	Static	
AOI 6	B-145	5/11/2017	---	4.63	---	5.18		No	Static	
AOI 6	B-146	5/11/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 6	B-147	5/11/2017	5.94	8.21	2.27	2.65		Yes	Static	
AOI 6	B-148	5/11/2017	5.41	5.91	0.50	1.74		No	Static	
AOI 6	B-149	5/11/2017	3.09	3.63	0.54	4.58		No	Static	
AOI 6	B-150	5/11/2017	5.09	5.21	0.12	2.69		No	Static	
AOI 6	B-151	5/11/2017	---	3.86	---	3.88		No	Static	
AOI 6	B-152	5/11/2017	---	1.28	---	3.76		No	Static	
AOI 6	B-153	5/11/2017	---	2.08	---	4.29		No	Static	
AOI 6	B-154	5/11/2017	---	2.72	---	5.96		No	Static	
AOI 6	B-155	5/11/2017	---	5.10	---	3.44		No	Static	
AOI 6	B-156	5/11/2017	---	5.18	---	3.68		No	Static	
AOI 6	B-157	5/11/2017	---	1.79	---	3.13		No	Static	
AOI 6	B-158	5/11/2017	---	2.35	---	5.86		No	Static	
AOI 6	B-159	5/11/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 6	B-160	5/11/2017	---	4.27	---	4.26		No	Static	
AOI 6	B-161	5/11/2017	4.61	4.77	0.16	3.66		No	Static	
AOI 6	B-162	5/11/2017	---	2.49	---	5.10		No	Static	
AOI 6	B-163	5/11/2017	---	1.94	---	5.51		No	Static	
AOI 6	B-164	5/11/2017	---	5.50	---	3.32		No	Static	
AOI 6	B-165	5/11/2017	---	2.63	---	3.16		No	Static	
AOI 6	B-166	5/11/2017	NA	NA	NA	NA		No	Static	unable to access - vehicle parked on manhole
AOI 6	B-167	5/11/2017	---	3.55	---	3.18		No	Static	
AOI 6	B-168	5/11/2017	---	2.07	---	4.39		No	Static	
AOI 6	B-169	5/11/2017	---	1.74	---	4.38		No	Static	
AOI 6	B-170	5/11/2017	---	1.70	---	-1.66		No	Static	
AOI 6	B-172	5/11/2017	---	5.09	---	2.92		No	Static	
AOI 6	B-173	5/11/2017	---	4.68	---	3.50		No	Static	
AOI 6	B-174	5/11/2017	---	3.00	---	5.30		No	Static	
AOI 6	B-175	5/17/2017	3.92	7.71	3.79	4.11		No	Static	
AOI 6	PZ-132A	5/11/2017	---	6.29	---	3.86		No	Static	
AOI 6	PZ-132B	5/11/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 6	PZ-134A	5/11/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 6	PZ-134B	5/11/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 6	PZ-135A	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 6	PZ-135B	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 6	RW-9	5/11/2017	4.86	6.04	1.18	3.68		Yes	Static	
AOI 6	SUMP-1	5/11/2017	5.44	5.46	0.02	5.26		Yes	Static	
AOI 6	U-1	5/11/2017	---	7.39	---	3.31		No	Static	
AOI 6	U-2	5/11/2017	---	6.75	---	2.64		No	Static	
AOI 6	U-3	5/11/2017	5.79	7.50	1.71	3.69		No	Static	
AOI 6	U-4	5/11/2017	---	3.92	---	5.30		No	Static	
AOI 6	U-5	5/11/2017	---	8.17	---	1.62		No	Static	
AOI 6	URS-1	5/11/2017	---	5.75	---	4.27		No	Static	

Table 2
Second Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 6	URS-2	5/11/2017	---	3.99	---	3.90		No	Static	
AOI 6	URS-3	5/11/2017	4.12	4.12	<0.01	3.49		No	Static	
AOI 6	URS-4	5/11/2017	---	9.96	---	-0.02		No	Static	
AOI 6	URS-5	5/11/2017	---	5.30	---	2.64		No	Static	
AOI 6	WP9-3	5/17/2017	---	1.80	---	4.36		No	Static	
AOI 6	WP9-4	5/17/2017	---	4.87	---	4.17		No	Static	
AOI 6	WPM-2	5/11/2017	NA	NA	NA	NA		No	Static	unable to access
AOI 6	WPM-3	5/11/2017	---	3.34	---	4.69		No	Static	
AOI 6	WPM-11	5/11/2017	---	1.04	---	5.47		No	Static	
AOI 6,11	B-48D	5/17/2017	---	11.50	---	-2.08		No	Static	
AOI 6,11	B-132D	5/11/2017	---	16.55	---	-6.24		No	Static	
AOI 6,11	B-133D	5/11/2017	---	10.81	---	-2.21		No	Static	
AOI 6,11	B-134D	5/11/2017	---	11.93	---	-3.81		No	Static	
AOI 6,7,11	C-134D	5/11/2017	---	11.41	---	-2.01		No	Static	
AOI 7	C-49	5/11/2017	---	4.96	---	4.62		No	Static	
AOI 7	C-50	5/11/2017	---	7.48	---	5.29		No	Static	
AOI 7	C-51	5/11/2017	---	5.14	---	4.12		No	Static	
AOI 7	C-52	5/11/2017	---	5.38	---	2.25		No	Static	
AOI 7	C-53	5/11/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 7	C-53A	5/11/2017	---	3.77	---	5.70		No	Static	
AOI 7	C-54	5/11/2017	---	1.22	---	5.39		No	Static	
AOI 7	C-55	5/11/2017	---	5.10	---	4.31		No	Static	
AOI 7	C-56	5/11/2017	---	2.45	---	8.27		No	Static	
AOI 7	C-57	5/11/2017	---	2.84	---	5.66		No	Static	
AOI 7	C-58	5/11/2017	---	1.99	---	5.43		No	Static	
AOI 7	C-59	5/11/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 7	C-60	5/11/2017	---	3.67	---	3.77		No	Static	
AOI 7	C-61	5/11/2017	---	3.35	---	4.58		No	Static	
AOI 7	C-62	5/11/2017	---	4.88	---	6.52		No	Static	
AOI 7	C-63	5/11/2017	---	5.03	---	2.38		No	Static	
AOI 7	C-64	5/11/2017	7.86	7.93	0.07	0.27		No	Static	
AOI 7	C-65	5/11/2017	6.61	6.98	0.37	4.20		No	Static	
AOI 7	C-65D	5/11/2017	---	5.15	---	4.47		No	Static	
AOI 7	C-96	5/11/2017	---	6.13	---	6.75		No	Static	
AOI 7	C-97	5/11/2017	15.47	16.39	0.92	-5.05		No	Static	
AOI 7	C-98	5/11/2017	---	5.82	---	4.73		No	Static	
AOI 7	C-104	5/11/2017	---	6.85	---	2.68		No	Static	
AOI 7	C-105	5/11/2017	---	4.11	---	5.06		No	Static	
AOI 7	C-106	5/11/2017	NA	NA	NA	NA		No	Static	viscous LNAPL
AOI 7	C-107	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 7	C-108	5/11/2017	---	4.44	---	3.83		No	Static	
AOI 7	C-109	5/11/2017	---	4.50	---	5.50		No	Static	
AOI 7	C-110	5/11/2017	---	5.84	---	6.74		No	Static	
AOI 7	C-111	5/11/2017	---	5.58	---	6.59		No	Static	
AOI 7	C-112	5/11/2017	NA	NA	NA	NA		No	Static	unable to access - area around well was flooded
AOI 7	C-113	5/11/2017	---	4.81	---	6.84		No	Static	
AOI 7	C-114	5/11/2017	---	4.11	---	6.85		No	Static	
AOI 7	C-127	5/11/2017	---	8.45	---	1.35		No	Static	
AOI 7	C-128	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 7	C-129	5/11/2017	---	4.83	---	4.11		No	Static	
AOI 7	C-130	5/11/2017	---	6.88	---	5.10		No	Static	
AOI 7	C-131	5/11/2017	---	3.62	---	6.52		No	Static	
AOI 7	C-132	5/11/2017	---	4.82	---	5.15		No	Static	
AOI 7	C-133	5/11/2017	---	1.96	---	5.77		No	Static	
AOI 7	C-136	5/11/2017	---	5.00	---	3.85		No	Static	
AOI 7	C-137	5/11/2017	---	1.70	---	2.21		No	Static	
AOI 7	C-138	5/11/2017	---	4.50	---	2.45		No	Static	
AOI 7	C-139	5/11/2017	---	2.87	---	4.45		No	Static	
AOI 7	C-140	5/11/2017	---	1.68	---	5.87		No	Static	
AOI 7	C-142	5/11/2017	---	8.68	---	2.67		No	Static	
AOI 7	C-143	5/11/2017	---	9.79	---	-3.34		No	Static	
AOI 7	C-145	5/11/2017	---	5.15	---	1.77		No	Static	
AOI 7	C-146	5/11/2017	10.46	10.72	0.26	-3.76		No	Static	
AOI 7	C-147	5/11/2017	10.18	10.60	0.42	-3.37		No	Static	
AOI 7	C-148	5/11/2017	---	13.05	---	-3.71		No	Static	
AOI 7	C-149	5/11/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 7	C-150	5/11/2017	12.80	14.53	1.73	-4.88		No	Static	
AOI 7	C-151	5/11/2017	---	11.58	---	-3.67		No	Static	
AOI 7	C-152	5/11/2017	---	10.03	---	-0.65		No	Static	
AOI 7	C-153	5/11/2017	13.30	13.41	0.11	-5.05		No	Static	
AOI 7	C-154	5/11/2017	12.03	12.03	<0.01	-4.13		No	Static	
AOI 7	C-155	5/11/2017	---	6.01	---	3.16		No	Static	
AOI 7	C-156	5/11/2017	---	3.70	---	3.02		No	Static	
AOI 7	C-157	5/11/2017	---	3.35	---	3.23		No	Static	needs new manhole lid
AOI 7	C-158	5/11/2017	NA	NA	NA	NA		No	Static	damaged at 2.80 ft below grade
AOI 7	C-159	5/11/2017	---	3.50	---	3.29		No	Static	
AOI 7	C-160	5/11/2017	NA	NA	NA	NA		No	Static	dry at 9.90 ft btoc
AOI 7	C-161	5/11/2017	---	9.83	---	-0.76		No	Static	
AOI 7	C-162	5/11/2017	10.78	10.78	<0.01	-2.27		No	Static	
AOI 7	C-163	5/11/2017	---	4.13	---	2.75		No	Static	
AOI 7	C-164	5/11/2017	---	4.22	---	2.61		No	Static	
AOI 7	C-165	5/11/2017	---	5.61	---	2.85		No	Static	
AOI 7	C-166	5/11/2017	---	6.90	---	0.09		No	Static	
AOI 7	C-167	5/11/2017	NA	NA	NA	NA		No	Static	dry at 12.20 ft btoc
AOI 7	C-168	5/11/2017	5.26	5.30	0.04	NM		No	Static	blocked with debris; well damaged
AOI 7	C-169	5/11/2017	8.03	8.92	0.89	-1.17		No	Static	
AOI 7	C-170	5/11/2017	NM	NM	NM	NM		No	Static	damaged at 4.90 ft below grade
AOI 7	C-171	5/11/2017	---	3.64	---	6.72		No	Static	
AOI 7	C-172	5/11/2017	---	3.32	---	2.59		No	Static	
AOI 7	River4	5/11/2017	---	5.40	---	NM		No	Static	measured at 1345

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AOI 7	RW-801	5/11/2017	---	18.90	---	NM		Yes	Pumping	top of pump
AOI 7	RW-802	5/11/2017	---	19.85	---	NM		Yes	Pumping	top of pump
AOI 7	RW-803	5/11/2017	---	21.20	---	NM		Yes	Pumping	top of pump
AOI 7	RW-804	5/11/2017	---	20.00	---	NM		Yes	Pumping	top of pump
AOI 7	RW-805	5/11/2017	---	17.15	---	NM		Yes	Pumping	top of pump
AOI 7	RW-806	5/11/2017	---	20.40	---	NM		Yes	Pumping	top of pump
AOI 7	RW-807	5/11/2017	---	18.90	---	NM		Yes	Pumping	top of pump
AOI 7	RW-808	5/11/2017	---	18.10	---	NM		Yes	Pumping	top of pump
AOI 7	RW-809	5/11/2017	19.70	19.70	<0.01	NM		Yes	Pumping	top of pump
AOI 7	RW-810	5/11/2017	---	14.20	---	NM		Yes	Pumping	top of pump
AOI 7	WP14-2	5/11/2017	NA	NA	NA	NA		No	Static	dry at 10.45 ft btoc
AOI 7,11	C-50D	5/11/2017	---	11.80	---	-0.31		No	Static	
AOI 7,11	C-129D	5/11/2017	---	10.36	---	-1.17		No	Static	
AOI 7,11	C-144D	5/11/2017	---	14.00	---	-5.04		No	Static	
AOI 8	N-1	5/10/2017	---	11.38	---	10.89		No	Static	
AOI 8	N-2	5/10/2017	---	18.14	---	NM		No	Static	well damaged
AOI 8	N-3	5/10/2017	---	14.59	---	12.07		No	Static	
AOI 8	N-5	5/10/2017	---	8.40	---	17.56		No	Static	
AOI 8	N-6	5/10/2017	---	11.63	---	19.42		No	Static	
AOI 8	N-8	5/10/2017	---	25.97	---	11.64		No	Static	
AOI 8	N-10	5/10/2017	---	4.39	---	15.55		No	Static	
AOI 8	N-11	5/10/2017	---	18.24	---	11.50		No	Static	
AOI 8	N-12	5/10/2017	---	15.95	---	NM		No	Static	well damaged
AOI 8	N-14	5/10/2017	21.06	21.06	<0.01	10.94		No	Static	viscous LNAPL
AOI 8	N-15	5/10/2017	---	20.91	---	8.44		No	Static	
AOI 8	N-16	5/10/2017	---	21.81	---	11.17		No	Static	
AOI 8	N-17	5/10/2017	---	23.26	---	11.16		No	Static	
AOI 8	N-18	5/10/2017	---	21.87	---	11.03		No	Static	
AOI 8	N-20	5/10/2017	---	17.54	---	10.85		No	Static	
AOI 8	N-23	5/17/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-24	5/10/2017	---	9.38	---	8.35		No	Static	
AOI 8	N-25	5/10/2017	3.97	3.97	<0.01	14.82		No	Static	
AOI 8	N-26	5/10/2017	---	8.36	---	NM		No	Static	well damaged
AOI 8	N-29	5/10/2017	---	26.62	---	9.82		No	Static	
AOI 8	N-31	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-32	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-34	5/10/2017	---	4.10	---	6.86		No	Static	
AOI 8	N-35	5/10/2017	NA	NA	NA	NA		No	Static	well damaged
AOI 8	N-37	5/10/2017	---	12.35	---	5.87		No	Static	
AOI 8	N-38	5/10/2017	---	6.85	---	3.24		No	Static	
AOI 8	N-39	5/10/2017	NA	NA	NA	NA		No	Static	well damaged
AOI 8	N-42	5/10/2017	7.64	7.65	0.01	7.26		No	Static	
AOI 8	N-43	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-46D	5/10/2017	NA	NA	NA	NA		No	Static	blocked at 1.15 ft btoc; well damaged
AOI 8	N-47	5/10/2017	20.00	20.41	0.41	11.87		No	Static	viscous LNAPL
AOI 8	N-48	5/10/2017	21.89	22.01	0.12	9.35		No	Static	viscous LNAPL
AOI 8	N-49	5/10/2017	24.64	26.01	1.37	8.92		No	Static	
AOI 8	N-51	5/10/2017	22.60	23.79	1.19	9.13		No	Static	viscous LNAPL
AOI 8	N-52	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-55	5/10/2017	---	5.61	---	4.65		No	Static	
AOI 8	N-56	5/10/2017	8.51	8.52	0.01	4.86		No	Static	viscous LNAPL
AOI 8	N-57	5/10/2017	---	5.91	---	5.00		No	Static	
AOI 8	N-58	5/10/2017	---	4.48	---	NM		No	Static	well damaged
AOI 8	N-59	5/10/2017	1.84	1.85	0.01	5.11		No	Static	viscous LNAPL
AOI 8	N-60	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-61	5/10/2017	---	4.10	---	4.81		No	Static	
AOI 8	N-64	5/10/2017	---	4.99	---	3.79		No	Static	
AOI 8	N-66	5/17/2017	NA	NA	NA	NA		No	Static	well damaged
AOI 8	N-67	5/10/2017	---	4.02	---	14.21		No	Static	
AOI 8	N-68	5/10/2017	7.31	7.47	0.16	16.90		No	Static	
AOI 8	N-69	5/10/2017	---	15.02	---	8.18		No	Static	
AOI 8	N-70	5/10/2017	---	14.68	---	7.49		No	Static	
AOI 8	N-72	5/10/2017	---	9.09	---	3.58		No	Static	
AOI 8	N-73	5/10/2017	---	8.19	---	0.71		No	Static	
AOI 8	N-74	5/10/2017	---	7.52	---	0.36		No	Static	
AOI 8	N-75	5/10/2017	5.49	5.50	0.01	2.70		No	Static	
AOI 8	N-76	5/10/2017	20.49	27.20	6.71	9.24		Yes	Static	viscous LNAPL
AOI 8	N-77	5/10/2017	---	6.50	---	12.11		No	Static	
AOI 8	N-79	5/10/2017	NA	NA	NA	NA		No	Static	filled with soil; well damaged
AOI 8	N-81	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-82	5/10/2017	---	23.80	---	9.69		No	Static	
AOI 8	N-83	5/10/2017	---	15.36	---	6.09		No	Static	
AOI 8	N-84	5/10/2017	---	14.78	---	11.10		No	Static	
AOI 8	N-85	5/10/2017	---	14.13	---	11.16		No	Static	
AOI 8	N-86	5/10/2017	---	15.18	---	10.66		No	Static	
AOI 8	N-87	5/10/2017	---	15.55	---	10.71		No	Static	
AOI 8	N-89	5/10/2017	---	14.31	---	9.10		No	Static	
AOI 8	N-90	5/10/2017	NA	NA	NA	NA		No	Static	blocked at 13.50 ft btoc; well damaged
AOI 8	N-91	5/10/2017	---	7.85	---	NM		No	Static	well damaged
AOI 8	N-92	5/10/2017	---	7.72	---	13.14		No	Static	
AOI 8	N-93	5/10/2017	---	14.90	---	10.19		No	Static	
AOI 8	N-94	5/10/2017	---	5.70	---	14.66		No	Static	
AOI 8	N-97	5/10/2017	---	13.98	---	8.98		No	Static	
AOI 8	N-98	5/10/2017	---	23.28	---	11.25		No	Static	
AOI 8	N-99	5/10/2017	---	18.95	---	9.31		No	Static	
AOI 8	N-100	5/10/2017	---	17.91	---	9.10		No	Static	
AOI 8	N-101	5/10/2017	---	15.95	---	11.20		No	Static	
AOI 8	N-102	5/10/2017	22.21	22.40	0.19	10.99		No	Static	
AOI 8	N-103	5/10/2017	17.33	17.33	<0.01	12.01		No	Static	
AOI 8	N-104	5/10/2017	---	16.77	---	10.87		No	Static	

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AOI 8	N-105	5/10/2017	---	17.41	---	10.70		No	Static	
AOI 8	N-106	5/10/2017	---	8.67	---	14.36		No	Static	
AOI 8	N-107	5/10/2017	15.26	15.30	0.04	11.11		No	Static	
AOI 8	N-108	5/10/2017	10.36	10.40	0.04	12.04		No	Static	
AOI 8	N-109	5/10/2017	---	12.09	---	6.33		No	Static	
AOI 8	N-111	5/10/2017	---	6.76	---	4.00		No	Static	
AOI 8	N-112	5/10/2017	9.79	12.18	2.39	5.73		No	Static	
AOI 8	N-113	5/10/2017	8.24	10.61	2.37	5.71		No	Static	
AOI 8	N-114	5/10/2017	---	8.99	---	5.38		No	Static	
AOI 8	N-115	5/10/2017	7.80	7.91	0.11	7.52		No	Static	
AOI 8	N-116	5/10/2017	5.38	7.14	1.76	5.72		No	Static	viscous LNAPL
AOI 8	N-118	5/17/2017	---	14.28	---	NM		No	Static	well damaged
AOI 8	N-119	5/17/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 8	N-121	5/17/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 8	N-122	5/10/2017	---	10.32	---	6.73		No	Static	
AOI 8	N-123	5/10/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 8	N-126	5/17/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 8	N-127	5/10/2017	24.28	24.87	0.59	9.10		No	Static	
AOI 8	N-128	5/17/2017	NA	NA	NA	NA		No	Static	well destroyed
AOI 8	N-129	5/10/2017	19.04	19.61	0.57	9.80		No	Static	
AOI 8	N-130	5/10/2017	20.35	21.01	0.66	11.11		No	Static	
AOI 8	N-132	5/10/2017	---	3.59	---	NM		No	Static	casing broke at grade; well damaged
AOI 8	N-133	5/10/2017	NA	NA	NA	NA		No	Static	blocked at 4.35 ft btoc; well damaged
AOI 8	N-134	5/10/2017	---	17.75	---	9.74		No	Static	
AOI 8	N-135	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	N-137	5/17/2017	17.13	17.20	0.07	8.45		No	Static	changed out wick
AOI 8	N-137	5/10/2017	17.30	17.37	0.07	8.28		No	Static	changed out wick
AOI 8	N-138	5/17/2017	26.79	26.88	0.09	8.48		No	Static	changed out wick
AOI 8	N-138	5/10/2017	26.95	27.05	0.10	8.32		No	Static	changed out wick
AOI 8	N-139	5/17/2017	26.55	26.68	0.13	8.42		No	Static	changed out wick
AOI 8	N-139	5/10/2017	26.75	26.89	0.14	8.22		No	Static	changed out wick
AOI 8	N-140	5/10/2017	---	16.94	---	9.80		No	Static	
AOI 8	N-141	5/10/2017	---	13.71	---	10.68		No	Static	
AOI 8	N-142	5/10/2017	---	26.43	---	8.13		No	Static	
AOI 8	N-142	5/17/2017	---	26.26	---	8.30		No	Static	
AOI 8	N-143	5/10/2017	---	22.42	---	10.60		No	Static	
AOI 8	N-144	5/10/2017	---	25.75	---	8.53		No	Static	
AOI 8	N-144	5/17/2017	---	25.62	---	8.66		No	Static	
AOI 8	N-145	5/10/2017	---	17.93	---	8.06		No	Static	
AOI 8	N-145	5/17/2017	---	17.75	---	8.24		No	Static	
AOI 8	N-146	5/10/2017	17.45	18.08	0.63	8.80		No	Static	
AOI 8	N-146	5/17/2017	17.53	18.25	0.72	8.71		No	Static	
AOI 8	N-148D	5/10/2017	---	30.69	---	1.29		No	Static	
AOI 8	N-149D	5/10/2017	---	11.99	---	-1.70		No	Static	
AOI 8	N-150	5/10/2017	---	7.04	---	3.16		No	Static	
AOI 8	N-151	5/10/2017	17.44	20.16	2.72	9.95		No	Static	viscous LNAPL
AOI 8	N-152	5/10/2017	---	10.92	---	9.94		No	Static	
AOI 8	N-153	5/10/2017	---	27.50	---	8.21		No	Static	
AOI 8	N-154	5/10/2017	---	9.35	---	18.18		No	Static	
AOI 8	N-155	5/10/2017	---	26.02	---	NM		No	Static	
AOI 8	N-155	5/17/2017	---	25.86	---	NM		No	Static	
AOI 8	N-156	5/10/2017	---	9.25	---	1.26		No	Static	
AOI 8	N-503	5/10/2017	8.61	8.65	0.04	3.79		No	Static	
AOI 8	N-504	5/10/2017	8.94	9.00	0.06	3.37		No	Static	
AOI 8	P-21	5/10/2017	---	5.09	---	8.00		No	Static	
AOI 8	PGW-MW-5	5/10/2017	---	27.23	---	7.98	unconfined	No	Static	
AOI 8	PGW-MW-6	5/10/2017	---	5.17	---	3.88	unconfined	No	Static	
AOI 8	PGW-MW-7	5/10/2017	16.06	16.07	0.01	8.12	unconfined	No	Static	
AOI 8	PGW-MW-8	5/10/2017	---	24.85	---	7.88	unconfined	No	Static	
AOI 8	PGW-MW-9	5/10/2017	---	25.69	---	7.85	unconfined	No	Static	
AOI 8	PGW-MW-20	5/10/2017	---	6.10	---	8.92	unconfined	No	Static	
AOI 8	PGW-MW-21	5/10/2017	NA	NA	NA	NM	unconfined	No	Static	damaged - blocked at 4.80 ft btoc; well damaged
AOI 8	PGW-MW-24	5/15/2017	---	26.58	---	10.08	unconfined	No	Static	
AOI 8	PGW-RW-3	5/17/2017	NM	NM	NM	NM		No	Static	unable to access -well is inside a metal shed which is locked
AOI 8	PZ-201	5/10/2017	22.16	22.31	0.15	10.10		No	Static	
AOI 8	PZ-202	5/10/2017	22.49	22.69	0.20	10.88		No	Static	viscous LNAPL
AOI 8	PZ-203	5/10/2017	---	19.64	---	14.47		No	Static	
AOI 8	PZ-204	5/10/2017	20.35	21.89	1.54	8.38		No	Static	viscous LNAPL
AOI 8	PZ-300	5/10/2017	---	17.35	---	9.42		No	Static	
AOI 8	PZ-500	5/17/2017	---	2.42	---	5.13		No	Static	
AOI 8	PZ-501	5/10/2017	---	5.30	---	3.70		No	Static	
AOI 8	PZ-502	5/10/2017	2.91	2.92	0.01	5.01		No	Static	viscous LNAPL
AOI 8	PZ-503	5/10/2017	---	3.90	---	4.79		No	Static	
AOI 8	PZ-504	5/10/2017	---	2.90	---	4.73		No	Static	
AOI 8	PZ-505	5/10/2017	---	3.75	---	4.71		No	Static	
AOI 8	PZ-506	5/10/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 8	PZ-507	5/10/2017	---	9.01	---	3.67		No	Static	
AOI 8	RW-200	5/10/2017	---	6.07	---	5.95		Yes	Static	
AOI 8	RW-201	5/10/2017	22.90	23.32	0.42	9.03		Yes	Static	
AOI 8	RW-202	5/10/2017	---	20.49	---	9.02		Yes	Static	
AOI 8	RW-203	5/10/2017	22.59	22.81	0.22	8.49		Yes	Static	viscous LNAPL
AOI 8	RW-204	5/10/2017	19.34	20.91	1.57	9.07		Yes	Static	viscous LNAPL
AOI 8	RW-205	5/10/2017	19.25	22.11	2.86	10.17		Yes	Static	viscous LNAPL
AOI 8	RW-206	5/10/2017	21.41	23.30	1.89	9.32		Yes	Static	viscous LNAPL
AOI 8	RW-300	5/10/2017	14.92	15.20	0.28	6.67		Yes	Static	
AOI 8	RW-301	5/10/2017	---	12.22	---	10.19		Yes	Static	
AOI 8	RW-302	5/10/2017	---	13.45	---	10.64		Yes	Static	
AOI 8	RW-303	5/10/2017	---	14.26	---	10.72		Yes	Static	
AOI 8	RW-304	5/10/2017	---	15.01	---	10.27		Yes	Static	
AOI 8	RW-305	5/10/2017	---	14.96	---	10.31		Yes	Static	

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

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 8	RW-306	5/10/2017	13.11	13.12	0.01	10.47		Yes	Static	
AOI 8	RW-307	5/10/2017	---	14.67	---	8.59		Yes	Static	
AOI 8	RW-308	5/10/2017	---	16.77	---	8.84		Yes	Static	
AOI 8	RW-309	5/10/2017	---	15.68	---	9.55		Yes	Static	
AOI 8	RW-500	5/10/2017	---	2.71	---	4.85		Yes	Static	
AOI 8	RW-501	5/10/2017	---	6.02	---	3.77		Yes	Static	
AOI 8	RW-502	5/10/2017	8.52	8.80	0.28	3.93		Yes	Static	
AOI 8,11	N-4	5/10/2017	---	17.87	---	8.49		No	Static	
AOI 8,11	N-9	5/10/2017	---	32.60	---	3.30		No	Static	
AOI 8,11	N-13	5/10/2017	---	7.43	---	19.34		No	Static	
AOI 8,11	N-19	5/10/2017	---	29.77	---	3.01		No	Static	
AOI 8,11	N-21	5/10/2017	---	22.18	---	5.83		No	Static	
AOI 8,11	N-27	5/10/2017	---	16.62	---	6.64		No	Static	
AOI 8,11	N-38D	5/17/2017	---	10.12	---	0.31		No	Static	
AOI 8,11	N-44D	5/17/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 9	MW-1SRTF	5/15/2017	---	3.09	---	4.47		No	Static	
AOI 9	MW-2SRTF	5/15/2017	---	3.34	---	3.99		No	Static	
AOI 9	MW-3SRTF	5/15/2017	---	3.24	---	3.75		No	Static	
AOI 9	RW-A	5/15/2017	NA	NA	NA	NA		Yes	Static	water level at toc
AOI 9	RW-B	5/15/2017	---	3.38	---	4.02		Yes	Static	
AOI 9	RW-B5	5/15/2017	---	3.98	---	3.86		Yes	Static	
AOI 9	S-27SRTF	5/15/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 9	S-74D1SRTF	5/15/2017	---	21.21	---	-8.47		No	Static	
AOI 9	S-74D2SRTF	5/15/2017	---	16.67	---	-3.59		No	Static	
AOI 9	S-74SRTF	5/15/2017	---	8.23	---	6.31		No	Static	
AOI 9	S-75SRTF	5/15/2017	---	5.62	---	5.91		No	Static	
AOI 9	S-76DSRTF	5/15/2017	---	16.98	---	-8.43		No	Static	
AOI 9	S-76SRTF	5/15/2017	---	7.65	---	-0.72		No	Static	
AOI 9	S-77SRTF	5/15/2017	---	12.36	---	-8.01		No	Static	
AOI 9	S-78SRTF	5/15/2017	---	7.11	---	-5.61		No	Static	
AOI 9	S-79SRTF	5/15/2017	---	7.82	---	-5.98		No	Static	
AOI 9	S-80SRTF	5/15/2017	---	3.40	---	-0.83		No	Static	
AOI 9	S-81SRTF	5/15/2017	---	9.99	---	-8.53		No	Static	
AOI 9	S-82SRTF	5/15/2017	---	0.98	---	0.13		No	Static	
AOI 9	S-83SRTF	5/15/2017	---	2.02	---	0.36		No	Static	
AOI 9	S-104SRTF	5/15/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 9	S-105SRTF	5/15/2017	---	4.03	---	-2.08		No	Static	
AOI 9	S-106SRTF	5/15/2017	---	5.72	---	4.30		No	Static	
AOI 9	S-107SRTF	5/15/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 9	S-108SRTF	5/15/2017	---	3.76	---	0.55		No	Static	
AOI 9	S-109SRTF	5/15/2017	---	2.27	---	0.08		No	Static	
AOI 9	S-110DSRTF	5/15/2017	---	11.18	---	-8.51		No	Static	
AOI 9	S-110SRTF	5/15/2017	---	5.72	---	-2.23		No	Static	
AOI 9	S-111SRTF	5/15/2017	---	9.02	---	-8.24		No	Static	
AOI 9	S-112SRTF	5/15/2017	---	10.22	---	-8.71		No	Static	
AOI 9	S-113SRTF	5/15/2017	---	11.81	---	-8.79		No	Static	
AOI 9	S-114SRTF	5/15/2017	---	10.92	---	-8.76		No	Static	
AOI 9	S-115DSRTF	5/15/2017	---	11.30	---	-8.60		No	Static	
AOI 9	S-115SRTF	5/15/2017	---	11.67	---	-8.92		No	Static	
AOI 9	S-116SRTF	5/15/2017	---	9.78	---	-8.91		No	Static	
AOI 9	S-117SRTF	5/15/2017	---	7.68	---	-4.81		No	Static	
AOI 9	S-118DSRTF	5/15/2017	---	12.27	---	-9.01		No	Static	
AOI 9	S-118SRTF	5/15/2017	---	10.97	---	-7.34		No	Static	
AOI 9	S-119SRTF	5/15/2017	---	3.53	---	-1.18		No	Static	
AOI 9	S-120SRTF	5/15/2017	---	8.74	---	3.33		No	Static	
AOI 9	S-121SRTF	5/15/2017	---	8.07	---	-7.06		No	Static	
AOI 9	S-122SRTF	5/15/2017	---	9.29	---	-6.87		No	Static	
AOI 9	S-123SRTF	5/15/2017	NA	NA	NA	NA		No	Static	dry at 10.12 ft btoc; well damaged
AOI 9	S-124SRTF	5/15/2017	---	7.18	---	0.70		No	Static	
AOI 9	S-125SRTF	5/15/2017	---	5.32	---	1.86		No	Static	
AOI 9	S-126SRTF	5/15/2017	---	7.29	---	4.54		No	Static	
AOI 9	S-127SRTF	5/15/2017	---	8.50	---	3.63		No	Static	
AOI 9	S-128SRTF	5/15/2017	---	10.41	---	2.90		No	Static	
AOI 9	S-129SRTF	5/15/2017	NA	NA	NA	NA		No	Static	unable to access
AOI 9	S-130SRTF	5/15/2017	---	8.06	---	2.48		No	Static	
AOI 9	S-131SRTF	5/15/2017	---	3.78	---	5.03		No	Static	
AOI 9	S-132SRTF	5/15/2017	---	6.84	---	1.86		No	Static	
AOI 9	S-133SRTF	5/15/2017	---	3.23	---	1.45		No	Static	
AOI 9	S-134SRTF	5/15/2017	---	7.37	---	2.81		No	Static	
AOI 9	S-135SRTF	5/15/2017	---	10.79	---	-7.81		No	Static	
AOI 9	S-136SRTF	5/15/2017	---	4.88	---	0.40		No	Static	
AOI 9	S-137SRTF	5/15/2017	---	19.89	---	-9.93		No	Static	
AOI 9	S-138SRTF	5/15/2017	---	18.67	---	-8.68		No	Static	
AOI 9	S-139SRTF	5/15/2017	---	18.19	---	-8.14		No	Static	
AOI 9	S-140SRTF	5/15/2017	---	4.65	---	5.82		No	Static	
AOI 9	S-141SRTF	5/15/2017	---	20.26	---	-9.80		No	Static	
AOI 9	S-142SRTF	5/15/2017	---	16.98	---	-10.04		No	Static	
AOI 9	S-143SRTF	5/15/2017	---	16.16	---	-9.39		No	Static	
AOI 9	S-144SRTF	5/15/2017	---	8.83	---	-8.31		No	Static	
AOI 9	S-145SRTF	5/15/2017	---	9.85	---	-8.63		No	Static	
AOI 9	WPA-1	5/15/2017	---	4.98	---	-2.25		No	Static	
AOI 9	WPA-2	5/15/2017	---	5.03	---	-2.34		No	Static	
AOI 9	WPA-3	5/15/2017	---	6.08	---	-2.83		No	Static	
AOI 9	WPA-5	5/15/2017	---	6.18	---	-3.70		No	Static	
AOI 9	WPB-1	5/15/2017	NA	NA	NA	NA		No	Static	destroyed
AOI 9	WPB-2	5/15/2017	---	7.33	---	3.97		No	Static	
AOI 9	WPB-3	5/15/2017	NA	NA	NA	NA		No	Static	unable to locate
AOI 9	WPB-4	5/15/2017	---	3.79	---	4.25		No	Static	
AOI 9	WPB-5	5/15/2017	---	8.78	---	3.54		No	Static	
AOI 9	WPB-6	5/15/2017	NM	NM	NM	NM		No	Static	destroyed

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AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
AOI 9	WPB-7	5/15/2017	NM	NM	NM	NM		No	Static	destroyed
AOI 9,11	S-76D	5/15/2017	---	16.98	---	NM		No	Static	
AOI 9,11	S-106DSRTF	5/15/2017	---	18.70	---	-9.24		No	Static	
AOI 9,11	S-120DSRTF	5/15/2017	---	21.49	---	-9.12		No	Static	
BELMONT	MW-26	5/8/2017	22.97	24.55	1.58	3.43		No	Static	
BELMONT	MW-27	5/8/2017	25.00	25.88	0.88	3.47		No	Static	
BELMONT	MW-28	5/8/2017	25.20	25.42	0.22	3.53	unconfined	No	Static	
BELMONT	MW-29	5/8/2017	25.30	26.22	0.92	3.46		No	Static	
BELMONT	MW-30	5/8/2017	---	27.48	---	4.22	unconfined	No	Static	
BELMONT	MW-31	5/17/2017	26.01	26.05	0.04	NM	unconfined	No	Static	
BELMONT	MW-32	5/8/2017	---	25.50	---	3.64	unconfined	No	Static	
BELMONT	MW-33	5/8/2017	---	25.32	---	4.67	unconfined	No	Static	
BELMONT	MW-35	5/8/2017	---	27.39	---	3.26	unconfined	No	Static	
BELMONT	MW-36	5/8/2017	---	28.64	---	3.93	unconfined	No	Static	
BELMONT	MW-37	5/8/2017	---	27.65	---	4.27	unconfined	No	Static	
BELMONT	MW-38	5/8/2017	---	23.87	---	3.75	unconfined	No	Static	
BELMONT	MW-39	5/8/2017	---	23.83	---	3.72	unconfined	No	Static	
BELMONT	MW-40	5/8/2017	24.22	24.65	0.43	3.58		No	Static	
BELMONT	MW-41	5/8/2017	23.71	24.01	0.30	3.58	unconfined	No	Static	
BELMONT	MW-42	5/8/2017	NA	NA	NA	NA		No	Static	destroyed
BELMONT	MW-43	5/8/2017	---	26.86	---	3.75	unconfined	No	Static	
BELMONT	MW-44	5/8/2017	26.11	26.14	0.03	3.18	unconfined	No	Static	
BELMONT	OW-2	5/8/2017	---	27.68	---	3.99	unconfined	No	Static	
BELMONT	OW-12	5/8/2017	---	26.28	---	3.94	unconfined	No	Static	
BELMONT	OW-13	5/8/2017	---	28.26	---	3.94	unconfined	No	Static	
BELMONT	OW-14	5/8/2017	---	28.30	---	3.91	unconfined	No	Static	
BELMONT	OW-16	5/8/2017	---	27.52	---	3.86	unconfined	No	Static	
BELMONT	OW-17	5/8/2017	---	26.59	---	3.40	unconfined	No	Static	
BELMONT	OW-18	5/8/2017	---	26.79	---	4.05	unconfined	No	Static	
BELMONT	OW-19	5/8/2017	26.36	26.51	0.15	4.61	unconfined	No	Static	
BELMONT	OW-20	5/8/2017	---	27.84	---	4.03	unconfined	No	Static	
BELMONT	PZ-400	5/8/2017	---	24.65	---	3.45	unconfined	No	Static	
BELMONT	RW-1	5/8/2017	---	25.88	---	3.67	unconfined	Yes	Static	
BELMONT	RW-4	5/8/2017	27.75	27.88	0.13	2.67		Yes	Static	
BELMONT	RW-6	5/8/2017	---	26.97	---	4.09	unconfined	Yes	Static	
BELMONT	RW-7	5/8/2017	---	24.40	---	3.81	unconfined	Yes	Static	
BELMONT	RW-15	5/8/2017	---	27.32	---	2.73	unconfined	Yes	Static	
BELMONT	RW-21	5/8/2017	---	25.17	---	3.69	unconfined	Yes	Static	
BELMONT	RW-22	5/8/2017	---	23.28	---	3.75	unconfined	Yes	Static	
BELMONT	RW-23	5/8/2017	27.33	27.76	0.43	-0.30		Yes	Pumping	
BELMONT	RW-24	5/8/2017	24.05	27.15	3.10	2.40	unconfined	Yes	Pumping	
BELMONT	RW-25	5/8/2017	26.27	26.85	0.58	3.74		Yes	Static	
BELMONT	RW-26	5/8/2017	---	25.17	---	4.04	unconfined	Yes	Static	
BELMONT	RW-27	5/8/2017	---	26.60	---	3.11	unconfined	Yes	Static	
BELMONT	RW-28	5/8/2017	---	25.15	---	4.59	unconfined	Yes	Static	
BELMONT	RW-29	5/8/2017	---	26.28	---	3.16	unconfined	Yes	Static	
BELMONT	RW-30	5/8/2017	---	26.14	---	3.25	unconfined	Yes	Static	
BELMONT	RW-31	5/8/2017	---	26.15	---	3.23	unconfined	Yes	Static	
BELMONT	RW-32	5/8/2017	---	20.90	---	8.15	unconfined	Yes	Static	
BELMONT	RW-400	5/8/2017	---	27.30	---	0.89	unconfined	Yes	Pumping	
BELMONT	S-74	5/8/2017	---	26.21	---	3.83	unconfined	No	Static	
BELMONT	S-75	5/8/2017	---	27.70	---	3.53	unconfined	No	Static	
BELMONT	S-76	5/8/2017	27.52	28.21	0.69	3.37		No	Static	
BELMONT	S-330	5/8/2017	---	26.12	---	3.73	unconfined	No	Static	
BELMONT	S-331	5/8/2017	---	27.93	---	3.35	unconfined	No	Static	
BELMONT	S-332	5/8/2017	---	26.61	---	3.64	unconfined	No	Static	
BELMONT	S-393D	5/8/2017	---	30.08	---	1.98	lower aquifer	No	Static	
BELMONT	S-394	5/8/2017	---	30.20	---	1.92	lower aquifer	No	Static	
BELMONT	S-395	5/8/2017	---	28.01	---	4.21	unconfined	No	Static	
BELMONT	TW-3	5/8/2017	---	28.23	---	3.88	unconfined	No	Static	
BELMONT	TW-5	5/8/2017	---	27.97	---	4.10	unconfined	No	Static	
BELMONT	TW-8	5/8/2017	---	26.42	---	NM	unconfined	No	Static	well damaged
BELMONT	TW-9	5/8/2017	---	28.10	---	4.00	unconfined	No	Static	
BELMONT	TW-10	5/8/2017	NA	NA	NA	NA		No	Static	unable to access - lid is damaged
BELMONT	TW-11	5/8/2017	---	28.49	---	3.91	unconfined	No	Static	
PGW	PGW-MW-1	5/15/2017	---	27.56	---	8.41	unconfined	No	Static	
PGW	PGW-MW-1D	5/15/2017	---	32.38	---	1.19	lower aquifer	No	Static	
PGW	PGW-MW-1S	5/15/2017	---	25.73	---	7.49	unconfined	No	Static	
PGW	PGW-MW-2A	5/15/2017	---	26.41	---	7.86	unconfined	No	Static	
PGW	PGW-MW-2D	5/15/2017	---	33.22	---	1.94	lower aquifer	No	Static	
PGW	PGW-MW-2S	5/15/2017	---	26.33	---	8.90	unconfined	No	Static	
PGW	PGW-MW-3	5/15/2017	---	27.17	---	10.23	unconfined	No	Static	
PGW	PGW-MW-3D	5/15/2017	---	32.64	---	2.09	lower aquifer	No	Static	
PGW	PGW-MW-3S	5/15/2017	---	25.58	---	8.91	unconfined	No	Static	
PGW	PGW-MW-4	5/15/2017	---	22.80	---	14.26	unconfined	No	Static	
PGW	PGW-MW-5S	5/15/2017	---	25.09	---	8.10	unconfined	No	Static	
PGW	PGW-MW-6S	5/15/2017	---	24.15	---	7.94	unconfined	No	Static	
PGW	PGW-MW-7S	5/15/2017	---	23.26	---	5.82	unconfined	No	Static	
PGW	PGW-MW-10A	5/15/2017	27.60	27.91	0.31	NM	unconfined	No	Static	
PGW	PGW-MW-10S	5/15/2017	---	24.10	---	9.50	unconfined	No	Static	
PGW	PGW-MW-11	5/15/2017	---	23.85	---	10.12	unconfined	No	Static	
PGW	PGW-MW-11S	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	unable to access
PGW	PGW-MW-12	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	unable to locate
PGW	PGW-MW-12D	5/15/2017	NA	NA	NA	NA	lower aquifer	No	Static	unable to access
PGW	PGW-MW-12S	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	unable to access
PGW	PGW-MW-15	5/15/2017	---	28.19	---	7.98	unconfined	No	Static	
PGW	PGW-MW-16	5/15/2017	24.34	24.39	0.05	NM	unconfined	No	Static	
PGW	PGW-MW-17	5/15/2017	---	26.93	---	9.46	unconfined	No	Static	
PGW	PGW-MW-18N	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	dry at 18.20 ft btoc; well damaged
PGW	PGW-MW-18S	5/15/2017	---	26.62	---	9.08	unconfined	No	Static	

Table 2
Second Quarter 2017 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (feet btoc)	Depth to Water (feet btoc)	Apparent LNAPL Thickness (feet)	Corrected Groundwater Elevation (ft NAVD 88)	Well Classification*	Recovery Well Yes or No	Static or Pumping	Comments
PGW	PGW-MW-19	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	dry at 19.31 ft btoc; well damaged
PGW	PGW-MW-22	5/15/2017	---	27.19	---	9.82	unconfined	No	Static	
PGW	PGW-MW-23	5/15/2017	---	25.69	---	10.20	unconfined	No	Static	
PGW	PGW-MW-25	5/15/2017	25.78	26.60	0.82	NM	unconfined	No	Static	
PGW	PGW-MW-26A	5/15/2017	25.95	26.00	0.05	NM	unconfined	No	Static	
PGW	PGW-MW-27	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	unable to locate
PGW	PGW-MW-30	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	pump in well
PGW	PGW-MW-31	5/15/2017	24.39	25.31	0.92	NM	unconfined	No	Static	
PGW	PGW-MW-32	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	unable to locate
PGW	PGW-MW-33	5/15/2017	24.91	25.01	0.10	NM	unconfined	No	Static	
PGW	PGW-MW-34	5/15/2017	---	25.49	---	10.31	unconfined	No	Static	
PGW	PGW-MW-36	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	unable to locate
PGW	PGW-MW-37	5/15/2017	25.81	25.99	0.18	NM	unconfined	No	Static	
PGW	PGW-MW-39	5/15/2017	---	24.44	---	9.56	unconfined	No	Static	
PGW	PGW-MW-40A	5/15/2017	NA	NA	NA	NA	unconfined	No	Static	pump in well
PGW	PGW-MW-42	5/15/2017	---	30.97	---	3.45	unconfined	No	Static	
PGW	PGW-MW-42D	5/15/2017	---	12.19	---	21.50	lower aquifer	No	Static	
PGW	PGW-MW-42R	5/15/2017	---	22.80	---	10.31	unconfined	No	Static	
PGW	PGW-MW-44	5/17/2017	---	21.72	---	11.57	unconfined	No	Static	
PGW	PGW-MW-45	5/15/2017	23.50	23.51	0.01	11.24	unconfined	No	Static	

Notes:
For product thicknesses <0.01 ft, the corrected groundwater elevation was calculated using 0.01 foot.
LNAPL = Light non-aqueous phase liquid
ft = Feet
toc = Top of casing
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
* = Wells without classification have not yet been classified

Table 3
May 2017 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
Area of Interest	**Sample Location**	**Sample Date**	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**	**16-May-17**	ND (3)	ND (3)	ND (3)	ND (3)	ND	4 J	70	0.8	ND (3)	ND (3)	ND (3)	ND (0.0095)	ND (0.1)	0.7	0.3 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.15 J
	S-44	**16-May-17**	130	7	3 J	7	147	78	27	ND (0.1)	ND (3)	23	ND (3)	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)	0.19 J
	S-50	**16-May-17**	5	ND (0.5)	ND (0.5)	ND (0.5)	5	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 (0.090)
	S-193	**16-May-17**	47	1	22	110	180	2	8	1	140	59	ND (0.5)	ND (0.0095)	ND (0.1)	0.3 J	0.4 J	0.2 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3.1
AOI 2	**RW-108**	**17-May-17**	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 (0.090)
	S-154	**16-May-17**	ND (5)	7 J	ND (5)	44	51	19	6 J	ND (0.1)	6 J	ND (5)	ND (5)	ND (0.0094)	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 (0.090)
	S-249	**17-May-17**	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 (0.090)
	S-351	**17-May-17**	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 (0.0095)	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 (0.090)
	S-354	**17-May-17**	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 (0.0094)	0.2 J	0.4 J	0.1 J	0.3 J	0.2 J	ND (0.1)	ND (0.1)	0.1 J	ND (0.1)	0.094 J
AOI 3	**S-3**	**22-May-17**	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)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.13 J
	S-25	**22-May-17**	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)	0.1 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.21 J
	S-280	**22-May-17**	27,000	290	5	19	27,314	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 (0.090)
AOI 4	**RW-701**	**17-May-17**	16,000	9,100	1,300	6,900	33,300	5,100	35 J	470	870	250	ND (10)	0.64	0.5 J	91	230	11	35	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	0.17 J
	S-38	**17-May-17**	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 (0.0096)	ND (0.1)	1	0.3 J	0.1 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.099 J
	S-222	**17-May-17**	3	2	2	8	15	ND (0.5)	ND (0.5)	0.3 J	2 J	0.6 J	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 (0.090)
	S-223	**17-May-17**	37	9	26	87	159	ND (0.5)	1 J	0.1 J	50	21	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)	0.40 J
	S-369	**17-May-17**	1,900	62	17	42	2,021	47	71	3	ND (5)	5 J	ND (5)	ND (0.0097)	0.1 J	2	2	0.4 J	0.6	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	0.67 J
	S-380	**17-May-17**	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)	0.3 J	ND (0.1)	0.3 J	0.4 J	ND (0.1)	0.2 J	0.2 J	0.3 J	0.2 J	0.16 J
AOI 5	**A-133**	**22-May-17**	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)	1	ND (0.1)	ND (0.1)	1	ND (0.1)	0.3 J	0.5 J	0.2 J	0.6	ND (0.090)
	A-137	**22-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.8 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	0.4 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	WP-14	**22-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	1	0.4 J	1	2	0.5 J	1	2	2	1	0.40 J
AOI 6	**B-43**	**22-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	2	2	ND (0.5)	7	1	0.8 J	ND (0.5)	ND (0.5)	ND (0.020)	0.3 J	0.3 J	1	2	0.4 J	0.4 J	0.3 J	0.3 J	0.1 J	ND (0.090)
AOI 7	**C-62**	**23-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	0.8 J	0.8	ND (0.5)	0.9 J	9	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.4 J	0.9	1	0.7	0.4 J	0.4 J	0.5 J	0.5 J	0.4 J	0.29 J
	C-104	**23-May-17**	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)	0.3 J	5	1	2	0.6	0.2 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.090)
	C-127	**23-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	5	3	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	3	0.1 J	0.9	0.5 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	C-129	**23-May-17**	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)	0.5 J	0.1 J	0.4 J	0.6	0.2 J	0.4 J	0.4 J	0.5 J	0.4 J	0.39 J

See notes on last page.

Table 3
May 2017 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
Area of Interest	**Sample Location**	**Sample Date**	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-1**	**23-May-17**	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)	0.2 J	0.3 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	N-2	**23-May-17**	4	ND (0.5)	ND (0.5)	ND (0.5)	4	ND (0.5)	0.9 J	0.3 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	9	2	3	15	3	9	10	11	6	0.18 J
	N-3	**23-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	2	0.5 J	1	2	0.8	1	1	1	1	0.87 J
	N-8	**24-May-17**	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)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	N-37	**24-May-17**	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)	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 (0.090)
	N-57	**24-May-17**	ND (5)	ND (5)	ND (5)	290	290	ND (5)	ND (5)	0.1 J	ND (5)	ND (5)	ND (5)	ND (0.0096)	0.9	0.4 J	0.2 J	1	ND (0.1)	0.6	1	0.7	2	0.091 J
	N-74	**24-May-17**	6	ND (0.5)	ND (0.5)	ND (0.5)	6	ND (0.5)	ND (0.5)	0.7	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	2	0.4 J	0.4 J	0.5 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	N-85	**24-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	0.7 J	0.1 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	0.3 J	0.1 J	0.2 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	N-98	**24-May-17**	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 (0.090)
	N-99	**24-May-17**	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)	0.3 J	0.3 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	N-111	**24-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	3	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	2	ND (0.1)	0.6	0.3 J	ND (0.1)	0.2 J	0.2 J	0.3 J	ND (0.090)
	N-156	**24-May-17**	8	0.7 J	2	10	20.7	ND (0.5)	29	13	29	20	ND (0.5)	ND (0.0095)	0.3 J	55	54	3	8	0.3 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
AOI 9	**S-74D2SRTF**	**19-May-17**	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 (0.090)
	S-110DSRTF	**23-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	27	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	4	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 (0.090)
	S-112SRTF	**18-May-17**	820	1,600	410	1,600	4,430	23	72	46	450	150	ND (3)	ND (0.030)	ND (0.1)	2	1	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3.4
	S-113SRTF	**18-May-17**	94	2	28	13	137	2	16	5	5	10	ND (0.5)	ND (0.0099)	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)	0.37 J
	S-114SRTF	**23-May-17**	1,800	5,100	1,100	12,000	20,000	ND (5)	89	380	2,200	790	ND (5)	ND (0.0096)	0.2 J	4	5	0.7	0.7	0.2 J	0.1 J	0.2 J	ND (0.1)	2.2
	S-115DSRTF	**23-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	43	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	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 (0.090)
	S-115SRTF	**23-May-17**	1,000	100	130	150	1,380	ND (3)	120	25	18	39	ND (3)	ND (0.0095)	ND (0.1)	0.6	0.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3.6
	S-116SRTF	**18-May-17**	ND (0.5)	0.5 J	ND (0.5)	ND (0.5)	0.5	ND (0.5)	ND (0.5)	0.2 J	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)	0.29 J
	S-120DSRTF	**18-May-17**	ND (0.5)	0.7 J	ND (0.5)	0.5 J	1.2	45	8	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	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 (0.1)	ND (0.090)
	S-122SRTF	**18-May-17**	170	100	34	290	594	58	180	9	40	27	ND (0.5)	ND (0.0097)	0.2 J	5	5	0.7	0.8	0.2 J	0.1 J	0.1 J	ND (0.1)	7.6
	S-137SRTF	**19-May-17**	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)	0.3 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	S-139SRTF	**19-May-17**	ND (0.5)	0.9 J	ND (0.5)	2	2.9	21	ND (0.5)	ND (0.1)	0.8 J	ND (0.5)	ND (0.5)	ND (0.010)	ND (0.1)	ND (0.1)	1	0.3 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	S-142SRTF	**18-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	250	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)	0.24 J
	S-144SRTF	**18-May-17**	ND (0.5)	ND (0.5)	ND (0.5)	0.6 J	0.6	69	ND (0.5)	ND (0.1)	0.6 J	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 (0.090)
	S-145SRTF	**18-May-17**	80	4	22	52	158	45	9	4	68	23	ND (0.5)	ND (0.0097)	ND (0.1)	0.4 J	0.2 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.21 J
BELMONT	**MW-30**	**16-May-17**	12	ND (5)	ND (5)	ND (5)	12	ND (5)	ND (5)	4	ND (5)	ND (5)	ND (5)	ND (0.0096)	10	0.8	7	13	0.5	4	7	12	7	ND (0.090)
	MW-37	**16-May-17**	160,000	1,200	ND (250)	ND (250)	161,200	ND (250)	ND (250)	5	ND (250)	ND (250)	ND (250)	ND (0.0095)	0.1 J	0.4 J	0.7	0.3 J	0.1 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.090)
	S-74	**16-May-17**	3	ND (0.5)	ND (0.5)	ND (0.5)	3	ND (0.5)	ND (0.5)	0.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	0.1 J	0.3 J	0.5	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	TW-8	**16-May-17**	330	3 J	560	69	962	ND (3)	180	4,400	670	63	ND (3)	ND (0.0095)	18	83	140	41	32	17	12	14	7	ND (0.090)

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

Stantec

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
					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	7.4	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	5.93	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)
		16-May-17			ND (3)	ND (3)	ND (3)	ND (3)	ND	4 J	70	0.8	ND (3)	ND (3)	ND (3)	ND (0.0095)	ND (0.1)	0.7	0.3 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.15 J
	S-43	1-Jan-93	DM		12,000	190	1,300	1,000	14,490	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	DM		17,000	1,700	250 J	1,680	20,630	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		28-Dec-95			12,000	1,200	170	860	14,230	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	DM		2,100	110	120	110	2,440	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		19-Nov-97			13,000	210	1,200	1,000	15,410	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			6,700	94 J	720	470	7,984	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		2-Dec-99			3,600	ND (100)	ND (100)	250	3,850	-	-	-	-	-	-	-	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			6,100	ND (500)	ND (500)	ND (1,000)	6,100	ND (500)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		12-Nov-02			5,500	170	790	460	6,920	-	-	-	-	-	-	-	ND (15)	-	-	-	-	ND (13)	ND (10)	ND (14)	-	-
		13-Nov-03			3,600	130	836	489	5,055	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	1,004	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	1,329	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	1,691	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 J	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	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	74.9	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	105.7	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)

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
					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-44	18-Oct-04			1,700	37	16	28	1,722	19	51	ND (10)	-	-	ND (5.0)	0.058	ND (0.16)	ND (11)	ND (11)	ND (11)	-	-	-	-	-	ND (5.0)
		18-Nov-09			1,100	27	7	38	1,172	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	635.2	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	292.4	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)
		16-May-17			130	7	3 J	7	147	78	27	ND (0.1)	ND (3)	23	ND (3)	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)	0.19 J
	S-50	1-Jan-85	DM		23,000	ND	5,400	23,000	51,400	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		24,000	ND	2,300	1,520	27,820	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		24,000	ND	ND	ND	24,000	-	-	-	-	-	-	-	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			17,000	1,600	98 J	3,000	21,698	-	-	-	-	-	-	-	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			21,000	210	1,300	2,200	24,710	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			18,000	57 J	570	980	19,607	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		2-Dec-99			28,000	ND (1,000)	ND (1,000)	ND (2,000)	28,000	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		16-Nov-00			47,000	ND (100)	240	370	47,610	590	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		27-Nov-01			53,000	1,400	9	1,300	55,709	5,200	-	-	-	-	-	-	ND (2)	-	-	-	-	ND (2)	ND (2)	ND (3)	-	-
		30-Nov-06			42,000	94 J	720	630	43,444	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			31,000	86	420	370	31,876	-	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			16,000	160	400	1,400	17,960	390	36 J	110 J	260	90 J	ND (25)	ND (0.0096)	ND (1)	-	1 J	ND (1)	-	-	-	-	-	0.073 J
		19-Nov-09			4,700	10	75	22	4,807	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			7,600	12	34	11	7,657	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	525.9	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			2,390	9.8	19.7	ND (5.0)	2,419.5	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			2,000	8	34	ND (3)	2,042	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)
		16-May-17			5	ND (0.5)	ND (0.5)	ND (0.5)	5	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 (0.090)

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
				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-51	19-Apr-05		590	ND (100)	ND (100)	190	780	1,900	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		5,000	32	160	38	5,230	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 (1)
		23-May-14		9.9	2.6 J	ND (5.0)	2.3 J	14.8	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	23.3	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)
	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	1,200	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	1,390	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)	ND	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	0.96	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		19,900 D	91	248	850	21,089	3,100 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	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	50	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	2,060
		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	26.6	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	22.1	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

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
				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-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	103	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)	0.092 J	4.4	3.8	0.41	0.72	0.054	0.033 J	0.042	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	60.1	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	65.3	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		1,100	7.5	16	68	1,191.5	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 (3)	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	340	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	59.6	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 (3.0)
		11-Dec-14		20.2	6.4	1.6	12.0	40.2	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)

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
				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-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	1,029	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 (0.095)	ND (0.060)	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	1,041	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		1,000	12	20	110	1,142	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		1,200	11	100	180	1,491	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	852	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		1,350	10.2	46.9	138	1,545.1	35.5	13.5	4.42 J-	50.6	22.1	ND (5.0)	ND (0.020)	R R	0.302 J-	0.262 J-	R R	ND (0.10)	R R	R R	R R	R R	2.0 J
		19-May-15		1,000	8	34	140	1,182	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
		16-May-17		47	1	22	110	180	2	8	1	140	59	ND (0.5)	ND (0.0095)	ND (0.1)	0.3 J	0.4 J	0.2 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3.1

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
				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-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)
	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)	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)	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 (0.034)
		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)	0.035 J
		4-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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)	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	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		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)
		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 (0.13)
	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		9,500	460	86	280	10,326	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		1,570	33.7	105	1,560	3,268.7	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 (1)
		21-May-14		24.3	5.8	26.5	24.0	80.6	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)	2.7 J
		12-Dec-14		232	7.4	22.5	22.3	284.2	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)	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 (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
				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-232	19-Nov-09		6,800	39	130	410	7,379	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 (1)
		20-May-14		4.7	0.67 J	1.1	0.91 J	7.38	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 (3.0)
		9-Dec-14		0.66	ND (1.0)	ND (1.0)	ND (1.0)	0.66	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)	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)	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 (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)	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	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)	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	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)	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)	0.10 J
		4-Jun-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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
		9-Dec-14		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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		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 (0.082)
		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 (0.13)
AOI 2	PGW-MW-8S	8-Apr-13		-	-	-	-	13.48	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		8-Apr-13		2.4	1.9	0.78 J	8.4	13.48	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	3.69	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 (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 (1.0)
		17-May-17		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 (0.090)

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
					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	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)	0.051 J
		29-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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	0.121	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 (0.082)
	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)
	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)	15	7.0	3.9	ND (1.0)	-	-	-	-	-	3.8
		29-May-14			10.8	0.66 J	ND (1.0)	ND (1.0)	11.46	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	2	4	1	1	2	3	1	ND (1.0)
	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	1,005	-	-	-	-	-	-	-	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)

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
				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-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)	0.16 J
		29-May-14		9.6	15.5	7.8	80.4	113.3	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 (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)
		16-May-17		ND (5)	7 J	ND (5)	44	51	19	6 J	ND (0.1)	6 J	ND (5)	ND (5)	ND (0.0094)	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 (0.090)
	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	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)
		17-May-17		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 (0.090)
	S-351	4-Jun-13		4.1	0.73 J	7.4	6.4	18.63	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)
		17-May-17		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 (0.0095)	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 (0.090)
	S-354	5-Jun-13		0.48 J	0.77 J	0.48 J	1.6	3.33	ND (1)	26.2	ND (0.1)	0.53 J	ND (2)	ND (1)	ND (0.02)	ND (0.1)	1.65	0.57	0.289	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		16-Aug-16		ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND	ND (1.0)	9.4	1.2	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.040)	0.35	2.1	0.94	0.33	1.1	ND (0.14)	0.059 J	0.10 J	0.032 J	7.1 J
		17-May-17		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 (0.0094)	0.2 J	0.4 J	0.1 J	0.3 J	0.2 J	ND (0.1)	ND (0.1)	0.1 J	ND (0.1)	0.094 J
	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

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
					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	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
	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	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	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.

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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
					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)	0.73 J
		30-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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)
		22-May-17			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)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.13 J

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
					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-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	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)	ND	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)
		22-May-17			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)	0.1 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.21 J

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
					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-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)	0.88	ND (1.0)	ND (1.0)	-	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	-	-	-	-	-	-	-	-	-	-
		30-May-14			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (3.0)
	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	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	-	21	1.0 J	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	10	16	1.0 J	-	-	-	-	-	0.11 J

See notes on last page.

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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
					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-280	7-Jul-10			41,000	6,900	ND (50)	ND (50)	47,900	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			6,570	ND (50.0)	ND (50.0)	ND (150)	6,570	ND (50.0)	ND (50.0)	0.15 J	ND (50.0)	ND (50.0)	ND (50.0)	ND (0.040)	0.048 J	ND (0.24)	0.37	0.21 J	0.038 J	0.058 J	ND (0.24)	ND (0.24)	0.35	ND (5.0)
		16-Dec-15			28,500	35.1 J	ND (100)	ND (100)	28,535.1	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			16,000	26 J	ND (25)	ND (25)	16,026	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)
		22-May-17			27,000	290	5	19	27,314	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 (0.090)
AOI 4	RW-701	19-Oct-10			13,000	9,900	1,400	8,200	32,500	ND (50)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		13-Dec-12			10,700	9,260	1,140	6,090	27,190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (3.0)
		26-Feb-14			13,900	10,400	1,160	7,290	32,750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		18-Mar-15			2,800	1,300	830	5,600	10,530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-Feb-16			14,100	8,370	1,380	7,360	31,210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		17-Aug-16			13,300	8,430	1,160	6,100	28,990	4,980	ND (50.0)	323	714	209	ND (50.0)	0.491*	ND (0.0500)	6.45	14.6	0.572	0.995	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (2.00)
		12-Oct-16			13,300	6,790	1,250	6,410	27,750	5,070	ND (500)	734	840	ND (500)	ND (500)	0.537*	ND (2.50)	105	452	27.8	ND (2.50)	ND (2.50)	ND (2.50)	ND (2.50)	ND (2.50)	ND (2.00)
		17-May-17			16,000	9,100	1,300	6,900	33,300	5,100	35 J	470	870	250	ND (10)	0.64	0.5 J	91	230	11	35	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	0.17 J
	S-38	1-Jan-85	DM		1,200	ND	ND	ND	1,200	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		1,300	160	ND	210	1,670	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		930	260	240	280	1,710	-	-	-	-	-	-	-	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			1,300	720	220	500	2,740	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		12-Nov-98			700	410	220	430	1,760	-	-	-	-	-	-	-	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			1,100	180	260	150	1,690	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)	0.55	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)
		17-May-17			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 (0.0096)	ND (0.1)	1	0.3 J	0.1 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.099 J

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
					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-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	1.7	-	-	-	-	-	-	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	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)

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
					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		2,800	ND	1,200	6,100	10,100	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		600	ND	210	1,520	2,330	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	DM		2,000	ND	2,900	4,100	9,000	-	-	-	-	-	-	-	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			1,000	ND (100)	ND (100)	ND (200)	1,000	-	-	-	-	-	-	-	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			1,200	76	68	ND (100)	1,344	1,200	-	-	-	-	-	-	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	1,064.3	ND (5.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-	-	-	-	-
		6-Dec-06			220	9.0	8.0	5.0 J	242	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 (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	0.2 J	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	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 (1)
		21-May-14			7.8	1.1	ND (1.0)	ND (1.0)	79.1	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)
		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)
		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 (0.13)

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
					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-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	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 (1)
		19-May-14			ND (0.50)	ND (1.0)	ND (0.50)	ND (1.0)	ND	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)
		18-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 (0.0097)	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)
		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-222	30-Nov-06			0.8 J	ND (0.7)	ND (0.8)	ND (0.8)	0.8	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	-	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)	1.3
		21-May-14			29.7	6.8	ND (1.0)	ND (1.0)	36.5	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)
		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 (0.082)
		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 (0.13)
		17-May-17			3	2	2	8	15	ND (0.5)	ND (0.5)	0.3 J	2 J	0.6 J	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 (0.090)
	S-223	29-Nov-06			4,300	2,800	930	4,400	12,430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		14-Dec-07			4,700	2,000	900	4,500	12,100	-	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			8,100	1,700	1,100	5,100	16,000	ND (5)	38	380	1,000	330	ND (5)	ND (0.010)	ND (1)	-	1 J	ND (1)	-	-	-	-	-	0.10 J
		12-Nov-09			3,900	460	850	3,700	8,910	ND (3)	36	330	1,000	360	ND (3)	ND (0.0099)	0.47	-	2.3	ND (0.095)	-	-	-	-	-	0.098 J
		15-Nov-10			3,300	410	890	3,800	8,400	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			1,100	110	440	1,900	3,550	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			5,530	337	866	4,040	10,773	ND (40)	29.3 J	130	1,070	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)	0.26 J
		15-Jan-14			6,280	2,030	960	3,860	13,130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4-Apr-14			2,320	1,020	259	1,370	4,969	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		30-May-14			1,470	108	396	1,300	3,274	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)	6.8
		12-Aug-14			4,240	294	713	2,820	8,067	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		6-Jan-15			11,400	5,410	871	3,980	21,661	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-Apr-15			1,100	190	330	1,200	2,820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		19-May-16			2,200	330	440	1,500	4,470	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)
		17-May-17			37	9	26	87	159	ND (0.5)	1 J	0.1 J	50	21	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)	0.40 J

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
					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-224	29-Nov-06			1,200	1,400	500	2,200	5,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-Jan-14			405	127	289	697	1,518	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4-Apr-14			110	45.0	182	363	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12-Aug-14			114	35.0	81.9	197	427.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		6-Jan-15			255	150	213	457	1075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-Apr-15			480	84	300	370	1,234	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S-239	29-Nov-06			12	260	310	1,100	1,682	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		15-Jan-14			ND (1.0)	ND (1.0)	ND (1.0)	0.74 J	0.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4-Apr-14			0.49 J	ND (1.0)	0.79	3.5	4.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		29-May-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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)	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		6-Jan-15			ND (0.50)	0.26 J	0.51 J	2.0	2.77	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-Apr-15			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	S-369	16-Aug-16			2,370	ND (125)	ND (25.0)	ND (75.0)	2,370	ND (25.0)	71.7	11.9	ND (25.0)	ND (25.0)	ND (25.0)	ND (25.0)*	0.0860	2.39	3.12	0.364	0.576	0.0811	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (2.00)
		10-Oct-16			1,870	ND (100)	ND (20.0)	ND (60.0)	1,870	ND (20.0)	62.4	10.4	ND (20.0)	ND (20.0)	ND (20.0)	ND (20.0)*	0.153	3.74	4.65	0.678	0.518	0.152	0.0695	0.0654	ND (0.0500)	ND (2.00)
		17-May-17			1,900	62	17	42	2,021	47	71	3	ND (5)	5 J	ND (5)	ND (0.0097)	0.1 J	2	2	0.4 J	0.6	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	0.67 J
	S-380	12-Jun-13			2.1	0.27 J	0.26 J	0.45 J	3.08	ND (1)	ND (2)	ND (0.1)	ND (2)	ND (2)	ND (1)	ND (0.02)	ND (0.1)	0.3	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (3)
		12-Aug-16			ND (1.00)	14.7	ND (1.00)	ND (3.00)	14.7	ND (1.00)	ND (1.00)	ND (0.250)	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)*	0.0698	ND (0.0500)	0.0745 B	0.126	ND (0.0500)	0.0689 B	0.0617	0.0939	0.0561	ND (2.00)
		10-Oct-16			ND (1.00)	ND (5.00)	ND (1.00)	ND (3.00)	ND	ND (1.00)	ND (1.00)	ND (0.250)	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)*	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (2.00)
		10-Oct-16		Field Duplicate	ND (1.00)	ND (5.00)	ND (1.00)	ND (3.00)	ND	ND (1.00)	ND (1.00)	ND (0.250)	ND (1.00)	ND (1.00)	ND (1.00)	ND (1.00)*	ND (0.0500)	ND (0.0500)	0.0609	0.0809	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (0.0500)	ND (2.00)
		17-May-17			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)	0.3 J	ND (0.1)	0.3 J	0.4 J	ND (0.1)	0.2 J	0.2 J	0.3 J	0.2 J	0.16 J
AOI 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	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

See notes on last page.

Table 4
Historical 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	
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 5	**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)	2,200	760	1,000	ND (4,000)	-	-	-	-	-	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	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	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)	1.24	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)	
		22-May-17			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)	1	ND (0.1)	ND (0.1)	1	ND (0.1)	0.3 J	0.5 J	0.2 J	0.6	ND (0.090)	
	A-136	**1-Jan-95**	**DM**		ND	ND	ND	0.8 J	0.8	-	-	-	-	-	-	-	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	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	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	0.76	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	

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
					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	A-137	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	-	-	-	-	-	-	-	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)	ND	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)	ND	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)	ND	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)
		22-May-17			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.8 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	0.4 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	A-138	17-Nov-10			6	ND (0.5)	10	27	43	1 J	7,900	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)	1,700	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	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	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	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	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
					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	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	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)	ND	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
		22-May-17			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.5	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	1	0.4 J	1	2	0.5 J	1	2	2	1	0.40 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 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)
		22-May-17			ND (0.5)	ND (0.5)	ND (0.5)	2	2	ND (0.5)	7	1	0.8 J	ND (0.5)	ND (0.5)	ND (0.020)	0.3 J	0.3 J	1	2	0.4 J	0.4 J	0.3 J	0.3 J	0.1 J	ND (0.090)
	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	1.15	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

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
					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 6	B-153	9-Jun-06			ND (5)	ND (5)	ND (5)	ND (5)	ND	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	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 (0.5)	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	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)	ND	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
AOI 7	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)
	C-62	15-Jan-10			ND (0.5)	ND (0.5)	ND (0.5)	2	2	ND (0.5)	0.9 J	ND (0.9)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.9)	ND (0.9)	2 J	ND (0.9)	-	-	-	-	-	0.076 J
		20-Jul-10			ND (0.5)	ND (0.5)	ND (0.5)	0.6 J	0.6	ND (0.5)	0.5 J	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (1)	1 J	2 J	1 J	-	-	-	-	-	0.17 J
		27-Jul-16			ND (5)	ND (5)	ND (5)	ND (5)	ND	ND (5)	ND (10)	ND (0.061)	ND (10)	ND (10)	ND (5)	ND (0.028)	0.28	0.64	1.2	0.46	0.33	0.26	0.30	0.34	0.22	0.19 J
		23-May-17			ND (0.5)	ND (0.5)	ND (0.5)	0.8 J	0.8	ND (0.5)	0.9 J	9	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	0.4 J	0.9	1	0.7	0.4 J	0.4 J	0.5 J	0.5 J	0.4 J	0.29 J
	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 (0.0095)	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	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)
		23-May-17			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)	0.3 J	5	1	2	0.6	0.2 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.090)

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
					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	-	-	-	-	-	-	-	11	-	-	-	-	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	0.22	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)
		23-May-17			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	5	3	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	3	0.1 J	0.9	0.5 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	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	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)
		23-May-17			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)	0.5 J	0.1 J	0.4 J	0.6	0.2 J	0.4 J	0.4 J	0.5 J	0.4 J	0.39 J

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
					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-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	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	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)
		23-May-17			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)	0.2 J	0.3 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	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	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)
		23-May-17			4	ND (0.5)	ND (0.5)	ND (0.5)	4	ND (0.5)	0.9 J	0.3 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	9	2	3	15	3	9	10	11	6	0.18 J

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
					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-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	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
		23-May-17			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	0.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	2	0.5 J	1	2	0.8	1	1	1	1	0.87 J
	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)
	N-8	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)
		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 (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 (1.0)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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)
		24-May-17			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)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)

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
					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-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 (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

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Table 4
Historical 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
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
AOI 8	**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	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)
		24-May-17			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)	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 (0.090)

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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
					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	2,100	17,100	19,530	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	DM		300	ND	1,300	10,900	12,500	-	-	-	-	-	-	-	21	-	-	-	-	14	16	16	-	-
		1-Jan-88	DM		ND	ND	ND	1,600	1,600	-	-	-	-	-	-	-	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	4,140	4,970	-	-	-	-	-	-	-	5 J	-	-	-	-	ND (10)	2 J	ND (10)	-	-
		1-Jan-95	DM		89	ND	ND	3,040	3,129	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96			190	2.8	13	2,000	2,205.8	-	-	-	-	-	-	-	1	-	-	-	-	1	2	ND (1)	-	-
		1-Jan-97	DM		180	ND (100)	ND (100)	1,900	2,080	-	-	-	-	-	-	-	2	-	-	-	-	2	2	1	-	-
		1-Jan-98	DM		82 J	ND (100)	ND (100)	1,600	1,682	-	-	-	-	-	-	-	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	-	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	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	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)
		4-Apr-13			ND (5.0)	ND (5.0)	ND (5.0)	384	384	ND (5.0)	ND (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)	0.064 J
		2-Jun-14			ND (0.50)	0.54 J	ND (1.0)	267	267.54	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
		24-May-17			ND (5)	ND (5)	ND (5)	290	290	ND (5)	ND (5)	0.1 J	ND (5)	ND (5)	ND (5)	ND (0.0096)	0.9	0.4 J	0.2 J	1	ND (0.1)	0.6	1	0.7	2	0.091 J

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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
					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-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	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)	0.072 J

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
					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-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 (3)
		2-Jun-14			ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	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 (0.082)
		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)	25	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)	4	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)	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 (0.13)
		24-May-17			6	ND (0.5)	ND (0.5)	ND (0.5)	6	ND (0.5)	ND (0.5)	0.7	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	2	0.4 J	0.4 J	0.5 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	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)	ND	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)	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)	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 (0.13)
		24-May-17			ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	0.7 J	0.1 J	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.1)	0.3 J	0.1 J	0.2 J	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	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	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)
		24-May-17			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 (0.090)

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
				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-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	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)
		24-May-17		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)	0.3 J	0.3 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	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	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	11	20	ND (0.5)	ND (0.5)	0.7	4	1 J	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	0.73	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	0.3 J	ND (0.13)
		24-May-17		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	3	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	2	ND (0.1)	0.6	0.3 J	ND (0.1)	0.2 J	0.2 J	0.3 J	ND (0.090)
	N-133	4-Jun-14		7,100	ND (25)	11.5 J	23.6 J	7,135.1	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
	N-156	19-Oct-16		3.51	ND (5.00)	ND (1.00)	4.07	7.58	ND (1.00)	8.97	9.20	10.3	8.64	ND (1.00)	ND (1.00)*	0.495	64.8	52.1	3.64	9.52	0.576	0.210	0.227	0.0805	ND (2.00)
		17-Jan-17		6.95	ND (1.00)	2.70	11.3	20.95	ND (1.00)	26.3	31.1*	29.1	19.5	ND (1.00)	ND (0.0100)	0.283	64.3	82.6	4.14	12.3	0.452	0.0839	0.118	ND (0.0500)	ND (2.00)
		24-May-17		8	0.7 J	2	10	20.7	ND (0.5)	29	13	29	20	ND (0.5)	ND (0.0095)	0.3 J	55	54	3	8	0.3 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
AOI 9	S-74D2SRTF	8-Apr-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.6 J	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 (1.0)
		30-Jun-11		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.6 J	ND (0.5)	ND (0.9)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.9)	ND (0.9)	ND (0.9)	ND (0.9)	-	-	-	-	-	ND (1.0)
		29-May-12		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	ND (0.5)	ND (0.5)	ND (0.09)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (0.09)	ND (0.09)	0.1 J	ND (0.09)	-	-	-	-	-	ND (1.0)
		20-Aug-12		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	0.7 J	ND (0.5)	ND (0.09)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0098)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (1.0)
		31-Oct-12		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	0.63 J	ND (5.0)	ND (0.10)	ND (5.0)	ND (5.0)	ND (1.0)	ND (2.0)*	ND (0.10)	ND (0.10)	0.066	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.050)	ND (0.10)	ND (5.0)
		28-Mar-13		ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	1 ND	0.66 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)	4.2
		12-Mar-15		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	0.48 J	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020) ED	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)
		14-Aug-15		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	0.37 J	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.019)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		3-Dec-15		ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND	0.40 J	ND (1.0)	-	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	-	-	-	-	-	-
		19-May-17		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 (0.090)
	S-110DSRTF	12-Aug-15		0.35 J	ND (1.0)	ND (1.0)	ND (1.0)	0.35	31.7	ND (1.0)	ND (0.10)	0.34 J	ND (2.0)	5.4	ND (0.021)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		11-Nov-15		0.30 J	ND (1.0)	ND (1.0)	ND (1.0)	0.3	43.9	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	5.7	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		9-Nov-16		ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND	47.7	ND (1.0)	ND (0.030)	ND (1.0)	ND (1.0)	5.1	ND (0.040) J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	0.026 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		23-May-17		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	27	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	4	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 (0.090)

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
				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 9	S-112SRTF	11-Mar-15		993	215	256	924	2,388	21.7	98.4	69.2	258	75.1	ND (5.0)	ND (0.020) ED	ND (0.10)	2.46	1.68	0.0803 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		18-Aug-15		785	183	94.5	321	1,383.5	27.4	40.3	35.2	107	29.6	ND (5.0)	ND (0.053)	ND (0.10)	1.96	1.09	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		5-Nov-15		1,080	337	140	495	2,052	31.1	51.3	16.8	148	46.6	ND (5.0)	ND (0.020)	ND (0.10)	1.70	1.07	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		10-Nov-16		8,440	22,500	4,320	14,900	50,160	36.7	421	163,000	5,160	1,730	ND (10.0)	ND (0.040)	32.1 J	3,920	5,860	331	514	30.1 J	9.7 J	17.0 J	15.1 J	23.9
		18-May-17		820	1,600	410	1,600	4,430	23	72	46	450	150	ND (3)	ND (0.030)	ND (0.1)	2	1	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3.4
	S-113SRTF	11-Aug-09		510	37	890	2,100	3,537	5	180	180	1,100	370	ND (2)	ND (0.029)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-	-	-	19.1
		10-Mar-15		137	5.0	94.3	66.6	302.9	1.7	29.6	4.75	37.3	24.1	ND (1.0)	ND (0.020) ED	ND (0.11)	0.161	0.110	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (0.11)	ND (3.0)
		11-Aug-15		344	4.0	7.2	4.3	359.5	12.1	45.9	1.34	0.89 J	1.5 J	ND (1.0)	ND (0.019)	ND (0.10)	0.249	0.161	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		4-Nov-15		152	1.6	8.7	2.6	164.9	0.85 J	15.1	0.636	0.50 J	0.53 J	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		9-Nov-16		332	17.0	14.5	16.0	379.5	6.7	90.5	2.0	8.6	4.3	ND (1.0)	0.36	0.019 J	0.20	0.12	0.049 J	0.028 J	0.028 J	0.019 J	0.036 J	0.052 J	ND (5.0)
		9-Nov-16	Field Duplicate	335	17.0	14.6	11.1	377.7	6.7	92.1	1.6	3.0	3.5	ND (1.0)	0.41	0.011 J	0.15	0.089 J	0.026 J	0.018 J	ND (0.10)	ND (0.10)	ND (0.10)	0.035 J	ND (5.0)
		18-May-17		94	2	28	13	137	2	16	5	5	10	ND (0.5)	ND (0.0099)	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)	0.37 J
	S-114SRTF	11-Aug-09		3,200	12,000	2,300	19,000	36,500	66	320	880	6,100	1,900	ND (20)	0.057	ND (5)	ND (5)	6	ND (5)	-	-	-	-	-	13.2
		21-Oct-14		880	2,300	440	4,200	7,820	16 J	77	170	800	300	ND (10)	ND (0.0094)	ND (0.1)	1	0.9	0.1 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	2.2
		18-Nov-14		1,500	7,700	1,400	14,000	24,600	ND (5)	100	240	2,100	800	ND (5)	ND (0.0095)	0.2 J	3	4	0.7	0.5	0.1 J	ND (0.1)	0.1 J	0.2 J	8.6
		17-Dec-14		700	4,900	970	8,400	14,970	ND (10)	78	270	1,500	580	ND (10)	ND (0.0095)	0.1 J	2	3	0.4 J	0.4 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	4.3
		21-Jan-15		250	490	140	1,000	1,880	17	37	73	200	74	ND (3)	ND (0.0095)	ND (0.1)	0.8	0.6	ND (0.1)	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	1.1
		10-Mar-15		1,410	6,640	1,640	10,800	20,490	4.6 J	121	220	1,880	647	ND (10)	ND (0.020) ED	ND (0.10)	1.05	1.06	0.209	0.167	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	3.6
		11-Aug-15		654	2,160	471	3,110	6,395	19.1	44.4	53.5	539	176	ND (5.0)	ND (0.019)	ND (0.10)	0.344	0.313	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		6-Nov-15		487	1,320	352	3,210	5,369	19.3	45.8	54.0	662	220	ND (5.0)	ND (0.019)	ND (0.10)	0.397	0.324	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		8-Nov-16		52.7 SL	22.0 SL	7.9 SL	202 SL	284.6 SL	21.0 SL	18.8 SL	7.0 SL	127 SL	34.5 SL	ND (1.0) SL	ND (0.040) SL	0.035 J SL	0.27 SL	0.31 SL	0.093 J SL	0.062 J SL	0.019 J SL	0.0081 J SL	0.020 J SL	ND (0.10) SL	ND (5.0) SL
		23-May-17		1,800	5,100	1,100	12,000	20,000	ND (5)	89	380	2,200	790	ND (5)	ND (0.0096)	0.2 J	4	5	0.7	0.7	0.2 J	0.1 J	0.2 J	ND (0.1)	2.2
	S-115DSRTF	12-Aug-15		0.63	0.21 J	ND (1.0)	0.73 J	1.57	59.4	0.25 J	ND (0.10)	0.67 J	0.57 J	ND (1.0)	ND (0.020)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		11-Nov-15		0.44 J	ND (1.0)	ND (1.0)	ND (1.0)	0.44	59.0	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.019)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		9-Nov-16		0.55 J	0.19 J	ND (1.0)	ND (3.0)	0.74	61.2	ND (1.0)	ND (0.025)	ND (1.0)	ND (1.0)	0.38 J	ND (0.040) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	0.047 J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (0.10) J	ND (5.0)
		23-May-17		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	43	ND (0.5)	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.010)	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 (0.090)
	S-115SRTF	11-Aug-09		1,800	180	1,300	1,800	5,080	ND (20)	270	310	1,400	680	ND (20)	ND (0.029)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-	-	-	10.1
		11-Mar-15		421	34.3	71.8	83.9	611	ND (1.0)	38.9	56.2	2.9	79.8	ND (1.0)	ND (0.020) ED	ND (0.10)	0.299	0.194	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		14-Aug-15		1,070	131	159	265	1,625	1.9 J	172	42.2	1.1 J	98.3	ND (5.0)	ND (0.019)	ND (0.10)	0.363	0.300	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	2.3 J
		6-Nov-15		581	64.7	57.5	149	852.2	ND (2.0)	151	4.70	5.3	57.6	ND (2.0)	ND (0.020)	ND (0.10)	0.392	0.303	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	2.5 J
		10-Nov-16		644	73.5	50.0	120	887.5	3.2	153	19.9	1.5	41.2	ND (1.0)	ND (0.040)	ND (0.10)	0.44	0.31	0.033 J	0.029 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	4.3 J
		23-May-17		1,000	100	130	150	1,380	ND (3)	120	25	18	39	ND (3)	ND (0.0095)	ND (0.1)	0.6	0.6	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	3.6
	S-116SRTF	11-Aug-09		31	3	14	9	57	4	10	7	3	12	ND (1)	ND (0.03)	ND (5)	ND (5)	ND (5)	ND (5)	-	-	-	-	-	ND (1)
		11-Mar-15		ND (0.50)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (1.0)	ND (0.11)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020) ED	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)
		14-Aug-15		27.4	12.0	4.7	8.6	52.7	44.3	70.2	0.591	0.32 J	1.8 J	ND (1.0)	ND (0.019)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		9-Nov-15		ND (0.50)	0.37 J	ND (1.0)	0.61 J	0.98	0.37 J	0.86 J	ND (0.11)	0.26 J	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 (0.056)	ND (0.056)	ND (0.11)	ND (0.11)	ND (3.0)
		11-Nov-16		21.6	3.0	8.1	2.5 J	35.2	16.4	36.1	2.4	1.4	19.2	ND (1.0)	ND (0.040)	ND (0.10)	0.051 J	0.062 J	0.023 J	0.015 J	0.016 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		18-May-17		ND (0.5)	0.5 J	ND (0.5)	ND (0.5)	0.5	ND (0.5)	ND (0.5)	0.2 J	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)	0.29 J

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
				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 9	S-120DSRTF	8-Apr-11		0.7 J	2	ND (0.5)	1	3.7	37	6	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	ND (1.0)
		30-Jun-11		0.6 J	0.7 J	ND (0.5)	0.6 J	1.9	30	4	ND (1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (1)	ND (1)	ND (1)	ND (1)	-	-	-	-	-	ND (1.0)
		29-May-12		ND (0.5)	0.5 J	ND (0.5)	0.7 J	1.2	36	6	ND (0.09)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.09)	0.1 J	0.3 J	ND (0.09)	-	-	-	-	-	ND (1.0)
		20-Aug-12		ND (0.5)	0.7 J	ND (0.5)	1	1.7	39	6	ND (0.09)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0097)	ND (0.09)	ND (0.09)	0.3 J	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (0.09)	ND (1.0)
		1-Nov-12		0.57	0.73 J	ND (1.0)	ND (1.0)	1.3	42.9	11.1	0.11	ND (5.0)	ND (5.0)	ND (1.0)	ND (2.0)*	ND (0.10)	ND (0.10)	0.15	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.10)	ND (0.050)	ND (0.10)	ND (5.0)
		28-Mar-13		0.87 J	1.1	0.36 J	1.9	4.23	47.1	24.6	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	ND (0.10)	0.314	0.280	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	1.8 J
		13-Mar-15		0.65	0.94 J	ND (1.0)	0.88 J	2.47	76.1	12.4	ND (0.10)	ND (2.0)	0.24 J	ND (1.0)	ND (0.020) ED	ND (0.10)	0.343	0.200	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		13-Aug-15		0.57	0.80 J	ND (1.0)	0.69 J	2.06	64.3	8.8	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.019)	ND (0.10)	0.169	0.132	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		10-Nov-15		ND (0.50)	ND (1.0)	ND (1.0)	0.43 J	0.43	ND (1.0)	ND (1.0)	ND (0.10)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.021)	ND (0.10)	0.237	0.170	ND (0.10)	ND (0.10)	ND (0.050)	ND (0.050)	ND (0.10)	ND (0.10)	ND (3.0)
		9-Nov-16		0.42 J	0.84 J	ND (1.0)	0.78 J	2.04	60.1	10.6	0.62	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.040) J	ND (0.10)	0.15	0.20	0.019 J	0.047 J	0.016 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		18-May-17		ND (0.5)	0.7 J	ND (0.5)	0.5 J	1.2	45	8	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0099)	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 (0.1)	ND (0.090)
	S-122SRTF	13-Aug-09		1,800	51	56	49	1,956	140	240	310	19	290	ND (5)	ND (0.029)	ND (5)	21	47	14	-	-	-	-	-	8.5
		10-Mar-15		120	39.0	27.2	30.8	217	39.5	171	27.2	5.0	119	ND (1.0)	ND (0.020) ED	0.442	6.07	7.47	1.36	1.06	0.395	0.204	0.237	0.110	12.8
		18-Aug-15		64.9	31.9	11.7	18.4	126.9	41.8	166	4.52	1.4 J	38.4	ND (1.0)	ND (0.024)	0.152	4.94	4.80	0.546	0.627	0.156	0.0811	ND (0.10)	ND (0.10)	6.2
		5-Nov-15		49.9	28.3	8.9	19.1	106.2	57.6	162	ND (0.10)	1.2 J	23.0	ND (1.0)	ND (0.020)	0.330	8.18	11.2	1.42	1.13	0.386	0.210	0.252	0.136	3.3
		8-Nov-16		214 SL	603 SL	47.8 SL	278 SL	1,142.8 SL	64.7 SL	164 SL	3.1 SL	45.9 SL	17.3 SL	ND (1.0) SL	ND (0.040) SL	0.076 J SL	3.6 SL	3.9 SL	0.33 SL	0.44 SL	0.071 J SL	0.034 J SL	0.038 J SL	0.051 J SL	ND (5.0) SL
		18-May-17		170	100	34	290	594	58	180	9	40	27	ND (0.5)	ND (0.0097)	0.2 J	5	5	0.7	0.8	0.2 J	0.1 J	0.1 J	ND (0.1)	7.6
	S-137SRTF	10-Nov-16		ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND	0.18 J	ND (1.0)	0.087 J	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.040)	ND (0.10)	ND (0.10)	0.041 J	0.029 J	ND (0.10)	0.015 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		19-May-17		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)	0.3 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	S-139SRTF	10-Nov-16		5.6	16.3	9.1	34.1	65.1	27.6	1.8	4.7	17.1	5.5	ND (1.0)	ND (0.040)	ND (0.10)	0.13	1.3	0.37	0.15	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		19-May-17		ND (0.5)	0.9 J	ND (0.5)	2	2.9	21	ND (0.5)	ND (0.1)	0.8 J	ND (0.5)	ND (0.5)	ND (0.010)	ND (0.1)	ND (0.1)	1	0.3 J	0.2 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)
	S-142SRTF	10-Nov-16		ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND	36.4	ND (1.0)	0.38	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.040)	ND (0.10)	ND (0.10)	ND (0.10)	0.023 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		10-Nov-16	Field Duplicate	ND (1.0)	ND (1.0)	ND (1.0)	ND (3.0)	ND	62.7	ND (1.0)	0.17	ND (1.0)	ND (1.0)	ND (1.0)	ND (0.040)	ND (0.10)	ND (0.10)	ND (0.10)	0.022 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		18-May-17		ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	250	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)	0.24 J
	S-144SRTF	9-Nov-16		ND (1.0)	ND (1.0)	ND (1.0)	0.61 J	0.61	106	ND (1.0)	ND (0.073)	2.2	0.56 J	0.36 J	ND (0.040) J	ND (0.10)	0.11	0.26	0.12	0.029 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		18-May-17		ND (0.5)	ND (0.5)	ND (0.5)	0.6 J	0.6	69	ND (0.5)	ND (0.1)	0.6 J	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 (0.090)
	S-145SRTF	9-Nov-16		300	38.4	291	1,150	1,779.4	32.5	59.4	41.4	568	201	ND (1.0)	ND (0.040)	ND (0.10)	0.74	0.83	0.045 J	0.14	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (5.0)
		18-May-17		80	4	22	52	158	45	9	4	68	23	ND (0.5)	ND (0.0097)	ND (0.1)	0.4 J	0.2 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	0.21 J
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	-	-	-	-	-	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	28.1	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	22.9	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		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)
		16-May-17		12	ND (5)	ND (5)	ND (5)	12	ND (5)	ND (5)	4	ND (5)	ND (5)	ND (5)	ND (0.0096)	10	0.8	7	13	0.5	4	7	12	7	ND (0.090)

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
				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	MW-32	28-May-14		7.6	0.79 J	34.2	89.1	131.69	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	198.74	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		1,800	9	22	4 J	1,835	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	25.15	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)	3.9	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		15,000	300	37	130	15,467	-	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		130,000	640	ND (250)	ND (250)	130,640	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		79,000	800	44 J	150	79,994	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		29,000	390	ND (25)	31 J	29,421	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		130,000	1,400	32 J	120	131,552	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		200,000	1,200	ND (250)	ND (250)	201,200	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		96,600	1,250	ND (250)	70.7 J	97,920.7	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		236,000	3,040	ND (100)	197	239,237	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		197,000	2,220	ND (1,000)	ND (1,000)	199,220	ND (1,000)	ND (1,000)	3.60	ND (2,000)	ND (2,000)	ND (1,000)	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		90,000	1,400	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		130,000	1,100	ND (100)	ND (100)	131,100	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)
		16-May-17		160,000	1,200	ND (250)	ND (250)	161,200	ND (250)	ND (250)	5	ND (250)	ND (250)	ND (250)	ND (0.0095)	0.1 J	0.4 J	0.7	0.3 J	0.1 J	ND (0.1)	0.1 J	ND (0.1)	ND (0.1)	ND (0.090)
	MW-43	5-Dec-06		2,300	63	1,300	740	4,403	13 J	140	7,500	-	-	ND (5.0)	ND (0.0097)	88.0	170	320	190	-	-	-	-	-	0.16 J
		19-Dec-07		2,600	88	2,400	1,300	6,388	-	150	9,700	-	-	ND (25)	ND (0.0096)	8.0	65	79	24	-	-	-	-	-	ND (0.047)
		19-Jul-12		970	47	1,500	900	3,417	6	130	5,100	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		1,110	75.9	3,200	1,710	6,095.9	5.3 J	185	7,070	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	840.4	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	6.6	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	0.72	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)
		16-May-17		3	ND (0.5)	ND (0.5)	ND (0.5)	3	ND (0.5)	ND (0.5)	0.8	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0095)	ND (0.1)	0.1 J	0.3 J	0.5	0.1 J	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.090)

See notes on last page.

Table 4
Historical 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
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
BELMONT	**TW-8**	**15-Oct-04**		1,500	ND (80)	2,100	1,800	5,400	290	210	14,000	-	-	ND (74)	ND (0.020)	270	800	1,800	740	-	-	-	-	-	ND (5.0)
		5-Dec-06		150	5.0	2,100	1,700	3,955	17	290	13,000	-	-	ND (1.0)	ND (0.0099)	580	2,100	4,300	1,700	-	-	-	-	-	0.15 J
		18-Dec-07		660	12 J	1,400	870	2942	-	190	12,000	-	-	ND (10)	ND (0.0094)	240	700	1,500	570	-	-	-	-	-	0.15 J
		7-Nov-08		240	ND (5)	1,600	790	2,630	31	170	13,000	1,100	140	ND (5)	ND (0.0097)	12	-	96	24	-	-	-	-	-	ND (0.050)
		18-Nov-09		240	ND (10)	1,000	510	1,750	ND (10)	230	9,100	1,200	130	ND (10)	ND (0.0097)	16	-	180	63	-	-	-	-	-	ND (0.050)
		10-Nov-10		84	2	1,300	430	1,816	8	180	9,200	1,200	91	ND (1)	ND (0.0097)	14 J	75	120	35 J	-	-	-	-	-	0.20 J
		29-Nov-11		37	ND (3)	1,100	280	1,417	8	200	11,000	960	78	ND (3)	ND (0.0097)	ND (29)	120	180	68	-	-	-	-	-	0.84 J
		18-Jul-12		80	ND (5)	1,900	330	2,310	6 J	270	16,000	1,800	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	1,290	ND (20)	216	2,400	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	1,100	136	1,275.9	5.3	346	5,970	1,620	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	211.2	ND (10)	61.8	3,150	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	7,300	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	1,149.9	4	150	6,000	530	52	2	ND (0.0097)	9	56	67	18	15	7	5	6	3	ND (0.13)
		16-May-17		330	3 J	560	69	962	ND (3)	180	4,400	670	63	ND (3)	ND (0.0095)	18	83	140	41	32	17	12	14	7	ND (0.090)

Notes:

15.2	Concentration was detected.
ND (0.5)	Analyte was not detected at a concentration greater than the laboratory reporting limit.
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.
ED	EDB was analyzed under SW8011. Laboratory work order and laboratory sample ID may be different for this result.
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 above 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
ND	Not Detected
DR	Dry
WI	Well Inaccessible
µg/L	Micrograms per liter
-	Not analyzed
*	Indicates that the analyte was reported by two different methods. The maximum value is shown.

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 Half 2017

Date	Total Flow (gallons)	Period Total Flow (gallons)	Average Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
4-Jan-17	91,406,120	77,995	6.02	8.2	253,037
11-Jan-17	91,468,488	62,368	6.19	0.0	253,037
20-Jan-17	91,572,570	104,082	8.03	52.2	253,089
27-Jan-17	91,650,914	78,344	7.77	37.5	253,127
1-Feb-17	91,700,138	49,224	6.84	0.0	253,127
8-Feb-17	91,772,434	72,296	7.17	34.2	253,161
17-Feb-17	91,863,779	91,345	7.05	4.6	253,165
24-Feb-17	91,932,964	69,185	6.86	49.5	253,215
27-Feb-17	91,961,762	28,798	6.67	0.0	253,215
10-Mar-17	92,067,059	105,297	6.65	37.7	253,253
17-Mar-17	92,131,804	64,745	6.42	0.0	253,253
23-Mar-17	92,187,168	55,364	6.41	29.4	253,282
29-Mar-17	92,239,440	52,272	6.05	16.5	253,299
6-Apr-17	92,311,218	71,778	6.23	12.9	253,311
14-Apr-17	92,311,218	0	0.00	0.0	253,311
21-Apr-17	92,375,965	64,747	6.42	8.3	253,320
28-Apr-17	92,441,217	65,252	6.47	24.8	253,345
4-May-17	92,497,235	56,018	6.48	0.0	253,345
8-May-17	92,534,802	37,567	6.52	0.0	253,345
16-May-17	92,608,643	73,841	6.41	0.0	253,345
23-May-17	92,663,764	55,121	5.47	8.3	253,353
2-Jun-17	92,743,072	79,308	5.51	8.3	253,361
8-Jun-17	92,790,379	47,307	5.48	0.0	253,361
15-Jun-17	92,845,653	55,274	5.48	8.3	253,369
23-Jun-17	92,910,007	64,354	5.59	0.0	253,369
30-Jun-17	92,971,219	61,212	6.07	4.6	253,374

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 LNAPL was detected during the first half of 2017.

The Belmont Terminal system was operational during the reporting period with the following exceptions:
• From January 1 through January 11, RW-24 was inoperable. On January 11, the product pump was repaired and RW-24 was returned to service.
• From March 17 through June 30, the automatic function of the product pump in RW-24 was not functional. LNAPL was removed on a weekly basis using the control panel's manual function.
• On April 14, the flow meter was not functional. The batteries for the meter were replaced and the meter was placed back in service.
• On June 30, the vault lid to access RW-24 was damaged, making the well inaccessible. Repairs will be made to the vault in July 2017.

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

First Half 2017

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
4-Jan-17	3,700	0	0	0	0	0	60	60	60
11-Jan-17	3,700	0	0	0	0	0	60	60	60
20-Jan-17	3,700	0	0	0	0	0	58	58	58
27-Jan-17	3,700	0	0	0	0	0	56	56	56
1-Feb-17	3,700	0	0	0	0	0	56	56	56
8-Feb-17	3,700	0	0	0	0	0	68	66	66
17-Feb-17	3,700	0	0	0	0	0	58	58	58
24-Feb-17	3,700	0	0	0	0	0	66	66	66
27-Feb-17	3,700	0	0	0	0	0	60	60	60
10-Mar-17	3,700	0	0	0	0	0	56	56	56
17-Mar-17	3,700	0	0	0	0	0	58	58	58
23-Mar-17	3,700	0	0	0	0	0	64	64	64
29-Mar-17	3,700	0	0	0	0	0	62	62	62
6-Apr-17	3,700	0	0	0	0	0	56	56	56
14-Apr-17	3,700	0	0	0	0	0	66	66	66
21-Apr-17	3,700	0	0	0	0	0	62	62	62
28-Apr-17	3,700	0	0	0	0	0	62	62	62
4-May-17	3,700	0	0	0	0	0	73	73	73
8-May-17	3,700	0	0	0	0	0	66	66	66
16-May-17	3,700	0	0	0	0	0	72	72	72
23-May-17	3,700	0	0	0	0	0	70	70	70
8-Jun-17	3,700	0	0	0	0	0	70	70	70
15-Jun-17	3,700	0	0	0	0	0	75	75	75
23-Jun-17	3,700	6	6	0	0	0	76	76	76
30-Jun-17	3,700	1	1	0	0	0	80	80	80

Notes:

CFM: cubic feet per minute

ppm: parts per million

°F: Degrees Fahrenheit

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

The Sewer Air reading is collected and quantified 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.

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

First Half 2017

Date	Leachate pH	Biofilter Treatment Cell - Soil pH		
		Cell 1	Cell 2	Cell 3
20-Jan-17	6.79	NA	NA	NA
27-Feb-17	NA	NA	NA	NA
29-Mar-17	6.88	6.51	6.03	6.12
21-Apr-17	NA	NA	NA	NA
23-May-17	7.34	NA	NA	NA
30-Jun-17	6.94	6.62	6.21	6.36

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.

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

First Half 2017

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
1/2/2017	0.0	11.0	6	0.0	0.0	0.0	0.0	NA	NA	NA	NA
1/10/2017	0.0	6.0	7	0.0	0.0	0.0	0.0	NA	NA	NA	NA
1/18/2017	0.0	3.0	5	0.0	0.0	0.0	0.0	NA	NA	NA	NA
1/27/2017	9.0	31.0	30	0.0	0.0	0.0	0.0	NA	NA	NA	NA
1/31/2017	15.0	16.0	5	0.0	0.0	0.0	0.0	NA	NA	NA	NA
2/7/2017	1.0	1.0	2	0.0	0.0	0.0	0.0	NA	NA	NA	NA
2/16/2017	2.0	15.0	7	0.0	0.0	0.0	0.0	NA	NA	NA	NA
2/22/2017	5.0	5.0	16	0.0	0.0	0.0	0.0	NA	NA	NA	NA
3/3/2017	6.0	15.0	11	0.0	0.0	0.0	0.0	NA	NA	NA	NA
3/8/2017	1.0	31.0	17	0.0	0.0	0.0	0.0	NA	NA	NA	NA
3/15/2017	1.0	4.0	6	0.0	0.0	0.0	0.0	NA	NA	NA	NA
3/21/2017	2.0	8.0	6	0.0	0.0	0.0	0.0	NA	NA	NA	NA
3/28/2017	0.0	1.0	1	0.0	0.0	0.0	0.0	NA	NA	NA	NA
4/6/2017	1.0	3.0	1	0.0	0.0	0.0	0.0	NA	NA	NA	NA
4/11/2017	0.0	1.0	1	0.0	0.0	0.0	0.0	NA	NA	NA	NA
4/19/2017	1.0	4.0	2	0.0	0.0	0.0	0.0	NA	NA	NA	NA
4/25/2017	0.0	3.0	3	0.0	0.0	0.0	0.0	NA	NA	NA	NA
5/2/2017	2.0	14.0	16	0.0	0.0	0.0	0.0	NA	NA	NA	NA
5/8/2017	4.0	4.0	4	0.0	0.0	0.0	0.0	NA	NA	NA	NA
5/16/2017	13.0	27.0	25	0.0	0.0	0.0	0.0	NA	NA	NA	NA
5/23/2017	1.0	3.0	3	0.0	0.0	0.0	0.0	NA	NA	NA	NA
6/2/2017	7.0	8.0	13	0.0	0.0	0.0	0.0	NA	NA	NA	NA
6/9/2017	35.0	29.0	44	0.0	0.0	0.0	0.0	NA	NA	NA	NA
6/14/2017	0.0	2.0	2	0.0	0.0	0.0	0.0	NA	NA	NA	NA
6/22/2017	1.0	2.0	1	0.0	0.0	0.0	0.0	NA	NA	NA	NA
6/29/2017	0.0	2.0	1	0.0	0.0	0.0	0.0	NA	NA	NA	NA

Notes:

ppm: parts per million

NA: Not applicable

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

The system was operational for the first half of 2017 with the following exceptions:

• On January 26, the system was not operational due to work on an electrical substation. The system was returned to service on January 27.

• On January 31 and February 1, the system was not operational during the morning due to work on an electrical substation. The system was returned to service in the afternoon of each day.

• On May 16, the humidity sensor was not operational. The sensor was removed for service and sent to the manufacturer for repairs. On June 29, the humidity sensor was returned to service.

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

First Half 2017

Date	Leachate pH	Biofilter Bed - Soil pH			
		Cell 1	Cell 2	Cell 3	Cell 4
27-Jan-17	7.93	---	---	---	---
22-Feb-17	7.62	---	---	---	---
28-Mar-17	7.59	7.72	7.63	---	---
25-Apr-17	7.54	---	---	---	---
23-May-17	7.51	---	---	---	---
29-Jun-17	7.81	7.28	7.24	---	---

Notes:

Media pH readings are collected on a quarterly basis.

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.

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

First Half 2017

Date	Total Flow (gallons)	Period Total Flow (gallons)	Calculated System Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
5-Jan-17	70,709,450	373,104	25.91	NA	9,148.60
13-Jan-17	71,021,988	312,538	27.13	NA	9,148.60
19-Jan-17	71,267,882	245,894	28.46	NA	9,148.60
27-Jan-17	71,571,204	303,322	26.33	NA	9,148.60
31-Jan-17	71,729,258	158,054	27.44	NA	9,148.60
8-Feb-17	72,031,543	302,285	26.24	NA	9,148.60
16-Feb-17	72,291,434	259,891	22.56	NA	9,148.60
24-Feb-17	72,538,078	246,643	21.41	NA	9,148.60
27-Feb-17	72,639,511	101,434	23.48	NA	9,148.60
9-Mar-17	73,015,783	376,272	26.13	NA	9,148.60
15-Mar-17	73,216,058	200,275	23.18	NA	9,148.60
22-Mar-17	73,426,226	210,168	20.85	NA	9,148.60
28-Mar-17	73,637,215	210,989	24.42	NA	9,148.60
6-Apr-17	73,954,476	317,261	24.48	NA	9,148.60
12-Apr-17	74,176,956	222,480	25.75	NA	9,148.60
20-Apr-17	74,476,706	299,750	26.02	NA	9,148.60
26-Apr-17	74,758,370	281,664	32.60	NA	9,148.60
5-May-17	75,141,857	383,486	29.59	NA	9,148.60
8-May-17	75,261,434	119,578	27.68	NA	9,148.60
16-May-17	75,601,505	340,070	29.52	NA	9,148.60
22-May-17	75,851,114	249,610	28.89	NA	9,148.60
31-May-17	76,208,940	357,826	27.61	NA	9,148.60
7-Jun-17	76,499,647	290,707	28.84	NA	9,148.60
13-Jun-17	76,701,132	201,485	23.32	NA	9,148.60
20-Jun-17	76,941,742	240,610	23.87	NA	9,148.60
28-Jun-17	77,211,655	269,914	23.43	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 operational for the reporting period with the following exceptions:
• From December 13, 2016 through January 5, 2017, RW-400 was not operational and required cleaning and maintenance. On January 5, the pump for RW-400 was reinstalled returned to service.
• On January 27, S-188 was not operational. The pump was adjusted and restarted.
• On February 24, S-187 was not operational. The pump was removed for maintenance.
• On March 9, S-187 was repaired and placed back in service. S-192, S-191 and S-189 were not operational. S-192 and S-191 were adjusted and restarted. S-189 was removed for maintenance.
• On April 12, S-189 was cleaned and repaired and returned to service. S-188 was inoperable and was replaced with a functioning pump.
• On April 20, S-192, S-191, S-189 and S-186 were not operational. The pumps were adjusted and restarted.
• From April 21 through May 5, RW-400 was not operational. On May 5, RW-400 was returned to service with a cleaned and repaired pump.
• On June 8, S-191 was not operational. The pump was removed for repair and cleaning.
• On June 14, S-191 was returned to service. S-189 was not operational and was removed for repair and cleaning.
• On June 20, S-187 was not operational. The pump was removed for repair and cleaning.
• On June 28, S-189 was returned to service after being cleaned and repaired.

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 Half 2017

Date	Period Total Flow (gallons)	Total Flow (gallons)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
3-Jan-17	0	30,425,805	0.0	60,642
9-Jan-17	0	30,425,805	0.0	60,642
19-Jan-17	0	30,425,805	0.0	60,642
25-Jan-17	0	30,425,805	0.0	60,642
30-Jan-17	0	30,425,805	0.0	60,642
6-Feb-17	0	30,425,805	0.0	60,642
13-Feb-17	0	30,425,805	0.0	60,642
21-Feb-17	100	30,425,905	0.0	60,642
28-Feb-17	0	30,425,905	0.0	60,642
8-Mar-17	0	30,425,905	0.0	60,642
13-Mar-17	0	30,425,905	0.0	60,642
20-Mar-17	0	30,425,905	0.0	60,642
27-Mar-17	300	30,426,205	0.0	60,642
3-Apr-17	0	30,426,205	0.0	60,642
10-Apr-17	0	30,426,205	0.0	60,642
17-Apr-17	0	30,426,205	0.0	60,642
24-Apr-17	0	30,426,205	0.0	60,642
1-May-17	0	30,426,205	0.0	60,642
9-May-17	0	30,426,205	0.0	60,642
15-May-17	0	30,426,205	0.0	60,642
22-May-17	0	30,426,205	0.0	60,642
31-May-17	0	30,426,205	0.0	60,642
5-Jun-17	0	30,426,205	0.0	60,642
12-Jun-17	0	30,426,205	0.0	60,642
19-Jun-17	0	30,426,205	0.0	60,642
26-Jun-17	0	30,426,205	0.0	60,642

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.

The system remained off during the reporting period with the following exceptions:
• On February 21, the system was operated to removed LNAPL from RW-128. Due to iron fouling in the system piping RW-128 was not operational.
• On March 30, underground piping associated with RW-128 was augered to remove iron scaling. After the piping maintenance, the system was turned on briefly to remove LNAPL in RW-128.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Total Fluids Recovery System Operational Data
AOI 2: Pollock Street Horizontal Wells

First Half 2017

Actual Dates in Period	Reporting Period (Internal)	Days in Period	HW-1 Days of Operation Within Period	HW-1 Water Recovered During Period (gallons)	HW-2 Days of Operation Within Period	HW-2 Water Recovered During Period (gallons)	HW-3 Days of Operation Within Period	HW-3 Water Recovered During Period (gallons)	Total Fluids Extracted During Period (gallons)	Total Fluids Extracted (gallons)	LNAPL Recovered During Period (gallons)
12/22/2016 - 1/25/2017	Jan 2017	35	Totalizer	625,200	Totalizer	161,120	35	775,152	1,561,472	90,483,916	NA
1/26/2017 - 2/21/2017	Feb 2017	27	Totalizer	436,700	Totalizer	127,254	27	597,974	1,161,928	91,645,844	NA
2/22/2017 - 3/21/2017	Mar 2017	28	Totalizer	394,600	Totalizer	172,261	28	620,122	1,186,983	92,832,827	NA
3/22/2017 - 3/31/2017	end 1Q2017	10	Totalizer	105,700	Totalizer	46,458	10	221,472	373,630	93,206,457	NA
3/22/2017 - 4/28/2017	Apr 2017	38	Totalizer	228,700	Totalizer	239,280	35	775,152	1,243,132	94,075,959	NA
4/29/2017 - 5/26/2017	May 2017	28	Totalizer	0	Totalizer	239,376	28	620,122	859,498	94,935,457	NA
5/27/2017 - 6/26/2017	Jun 2017	31	Totalizer	164,700	Totalizer	363,988	31	686,563	1,215,251	96,150,708	NA
6/27/2017 - 6/30/2017	end 2Q2017	4	Totalizer	97,900	Totalizer	7,004	4	88,589	193,493	96,344,201	NA

Notes:

LNAPL: Light Non-Aqueous Phase Liquid

NA: Not Applicable

Pump tests were performed in March 2011 for the horizontal wells so that recovered volumes could be estimated based on flow rates and system up-time, beginning in the second quarter of 2011. A second pump test was completed following the installation of a new pump at HW-1 on May 13, 2013. The HW-1 flow rate was estimated at 10 gallons per minute (gpm), HW-2 at 3.73 gpm, and HW-3 at 15.38 gpm. Beginning May 25, 2013, HW-1 flow is measured and reported by a totalizer. HW-2 flow is measured and reported by a totalizer as of July 6, 2015.

HW-1 was operational for the reporting period with the following exceptions:
• On April 10, HW-1 was not operational. The pump was removed from the well. In order for the pump to be reinstalled, the well had to be redeveloped to remove silt. On June 7, the pump was reinstalled and the well was placed back in service.

HW-2 was operational for the reporting period with the following exception:
• On May 1, HW-2 was off during repairs to HW-1. HW-2 was restarted on May 1.

HW-3 was operational for the reporting period.

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

First Half 2017

Date	Period Total Flow (gallons)	Total Flow (gallons)	Average Daily Flow (gpd)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
02-Jan-17	45,580	16,027,810	6,511	93.9	2514.8
10-Jan-17	37,850	16,065,660	4,731	118.4	2633.2
18-Jan-17	37,290	16,102,950	4,661	84.4	2717.6
25-Jan-17	37,900	16,140,850	5,414	60.7	2778.3
31-Jan-17	33,290	16,174,140	5,548	46.0	2824.3
07-Feb-17	36,960	16,211,100	5,280	66.1	2890.4
16-Feb-17	47,960	16,259,060	5,329	59.6	2950.0
22-Feb-17	28,080	16,287,140	4,680	44.0	2994.0
01-Mar-17	31,490	16,318,630	4,499	55.6	3049.6
07-Mar-17	1,720	16,320,350	287	0.0	3049.6
13-Mar-17	43,120	16,363,470	7,187	47.0	3096.6
21-Mar-17	47,780	16,411,250	5,973	116.7	3213.3
28-Mar-17	32,730	16,443,980	4,676	178.3	3391.6
05-Apr-17	51,640	16,495,620	6,455	211.6	3603.2
11-Apr-17	66,320	16,561,940	11,053	2.9	3606.1
19-Apr-17	97,690	16,659,630	12,211	9.8	3615.9
25-Apr-17	76,920	16,736,550	12,820	17.0	3632.9
02-May-17	83,850	16,820,400	11,979	25.2	3658.1
08-May-17	34,730	16,855,130	5,788	0.0	3658.1
15-May-17	38,040	16,893,170	5,434	0.4	3658.5
22-May-17	41,540	16,934,710	5,934	11.5	3670.0
31-May-17	64,890	16,999,600	7,210	26.3	3696.3
06-Jun-17	41,060	17,040,660	6,843	35.6	3731.9
12-Jun-17	41,150	17,081,810	6,858	44.4	3776.3
19-Jun-17	43,550	17,125,360	6,221	52.3	3828.6
26-Jun-17	40,310	17,165,670	5,759	62.1	3890.7

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:
• On March 1, the system effluent was blocked. The system was shut off pending maintenance to the line.
• On March 7, the effluent line was jetted after which, the system was restarted.
• On March 28, the pumps for the recovery wells were removed, cleaned, and reinstalled in the wells.
• On May 2, the pumps in recovery wells RW-708 and RW-714 were turned off.
• On January 18, March 7, April 3, and May 2 the system was not operational during scheduled OWS cleaning activities.

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

First Half 2017

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)
2-Jan-17	20.9	33.4	70	58	90.7	53.7	42	31	0	0
10-Jan-17	17	30.2	70	58	67.8	39.5	148	40	0	0
18-Jan-17	17.8	31.1	72	60	72.2	56.3	127	43	8	2.25
25-Jan-17	21.8	33.6	72	58	89.1	55.3	74	26	0	0
31-Jan-17	22.1	34.4	72	58	83.1	49.2	127	44	0	0
7-Feb-17	24.3	34.1	76	60	71.5	57.7	136	66	0	0
16-Feb-17	24.7	35.2	60	54	58.1	43	89	18	0	0
22-Feb-17	23.9	34.3	80	62	68	56.2	81	36	1	0.15
1-Mar-17	22.3	33.4	80	70	92.7	72.6	188	121	1	0.05
7-Mar-17	24.9	35.2	78	58	68.7	56	47	26	1	0
13-Mar-17	23.7	32.4	78	58	90.5	48.7	60	19	1	0
21-Mar-17	6.6	14.9	80	64	98.8	62.9	210	68	4	0
28-Mar-17	3.29	6.4	86	74	93.6	72.4	396	125	8	3.25
5-Apr-17	14.9	31.9	92	78	64.8	66.4	104	16	0	0
11-Apr-17	16.4	33.9	96	74	65.4	67.7	42	19	0	0
19-Apr-17	17.1	31.9	80	70	96.1	68.8	78	38	0	0
25-Apr-17	16.2	31.3	80	70	73.6	62	60	7	0	0
2-May-17	16.2	31.3	80	70	73.6	62	60	7	0	0
8-May-17	18.9	34.4	62	52	97.4	55	85	10	0	0
15-May-17	20.1	34.6	62	52	98.1	62.9	95	5	0	0
22-May-17	17.9	33.8	68	60	86.8	61.2	98	19	0	0
31-May-17	13.5	34.3	74	62	80.4	63.1	113	50	0	0
6-Jun-17	17.1	31.8	70	66	82.5	62.4	94	27	0	0
12-Jun-17	14.2	32.9	70	66	70.2	72.4	104	45	0	0
19-Jun-17	13.8	33.5	80	72	82.2	74	98	17	0	0
26-Jun-17	15.1	34.1	76	66	66.5	59.8	98	27	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).

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

First Half 2017

Date	Total Flow (gallons)	Period Total Flow (gallons)	Calculated System Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
3-Jan-17	17,285,985	59,100	82.08	20.4	111,668.1
9-Jan-17	17,328,385	42,400	58.89	0.0	111,668.1
19-Jan-17	17,397,985	69,600	96.67	45.0	111,713.1
25-Jan-17	17,441,285	43,300	60.14	10.9	111,724.1
30-Jan-17	17,481,285	40,000	55.56	6.7	111,730.7
6-Feb-17	17,535,285	54,000	75.00	15.9	111,746.6
13-Feb-17	17,584,085	48,800	67.78	14.0	111,760.6
22-Feb-17	17,642,785	58,700	81.53	19.1	111,779.7
2-Mar-17	17,700,485	57,700	80.14	44.7	111,824.3
8-Mar-17	17,739,885	39,400	54.72	31.0	111,855.3
13-Mar-17	17,771,385	31,500	43.75	26.4	111,881.8
20-Mar-17	17,820,485	49,100	68.19	51.6	111,933.4
27-Mar-17	17,879,985	59,500	82.64	89.9	112,023.3
5-Apr-17	17,971,085	91,100	126.53	83.5	112,106.8
10-Apr-17	18,032,185	61,100	84.86	8.7	112,115.5
18-Apr-17	18,123,085	90,900	126.25	26.1	112,141.5
24-Apr-17	18,177,985	54,900	76.25	11.3	112,152.8
1-May-17	18,241,785	63,800	88.61	31.9	112,184.6
11-May-17	18,379,685	137,900	191.53	50.9	112,235.5
15-May-17	18,427,385	47,700	66.25	27.7	112,263.2
22-May-17	18,511,585	84,200	116.94	8.3	112,271.5
31-May-17	18,620,985	109,400	151.94	30.4	112,301.9
5-Jun-17	18,670,185	49,200	68.33	9.0	112,310.9
12-Jun-17	18,722,185	52,000	72.22	2.3	112,313.2
20-Jun-17	18,794,785	72,600	100.83	6.9	112,320.1
26-Jun-17	18,849,285	54,500	75.69	14.0	112,334.1

Notes:

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 first half of 2017 with the following exceptions.

- On February 6 through February 13, RW-807 was not operational due air fittings requiring replacement. On February 13, the fittings were replaced and the well was returned to service.
- On April 18, the system was turned off for scheduled cleaning of the oil water separator.
- From April 18 through May 1, RW-810 was not operational due to iron fouling. On May 1, the pump was returned to service.
- On June 5, RW-805 was not operational, the pump was adjusted and restarted. Additionally, RW-801 was not operational. The pump was removed for maintenance and cleaning.
- On June 12, the pump for RW-801 was reinstalled and returned to service.
- On June 30, the system was not operational during modifications to the electrical system for the transfer pump.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
AOI 8: Jackson Street Sewer Water Curtain
First Half 2017

Date	PID readings (ppm)			Comments
	Blower	Water Curtain	Interceptor Chamber	
06-Jan-17	NA	0.0	0.0	
13-Jan-17	NA	0.0	0.0	
20-Jan-17	NA	0.0	0.0	
27-Jan-17	NA	0.0	0.0	
01-Feb-17	NA	0.0	0.0	
10-Feb-17	NA	0.0	0.0	
17-Feb-17	NA	0.0	0.0	
24-Feb-17	NA	0.0	0.0	
03-Mar-17	NA	0.0	0.0	
10-Mar-17	NA	0.0	0.0	
17-Mar-17	NA	0.0	0.0	
22-Mar-17	NA	0.0	0.0	
29-Mar-17	NA	0.0	0.0	
06-Apr-17	NA	0.0	0.0	
14-Apr-17	NA	0.0	0.0	
20-Apr-17	NA	0.0	0.0	
28-Apr-17	NA	0.0	0.0	
04-May-17	NA	0.0	0.0	
10-May-17	NA	0.0	0.0	
17-May-17	NA	0.0	0.0	
23-May-17	NA	0.0	0.0	
02-Jun-17	NA	0.0	0.0	
09-Jun-17	NA	0.0	0.0	
15-Jun-17	NA	0.0	0.0	
22-Jun-17	NA	0.0	0.0	
29-Jun-17	NA	0.0	0.0	
06-Jul-17	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)

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: June 06, 2017

Project: PES PHL Annual GWS

Submittal Date: 05/17/2017
Group Number: 1803596
PO Number: PES PHL ANNUAL
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
MW-37-20170516 Grab Groundwater	9002952
TW-8-20170516 Grab Groundwater	9002953
S-74-20170516 Grab Groundwater	9002954
S-193-20170516 Grab Groundwater	9002955
MW-30-20170516 Grab Groundwater	9002956
S-50-20170516 Grab Groundwater	9002957
S-41-20170516 Grab Groundwater	9002958
S-154-20170516 Grab Groundwater	9002959
S-44-20170516 Grab Groundwater	9002960

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

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

Electronic Copy To Stantec Attn: Andrew Bradley

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

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

Analysis Report

Sample Description: MW-37-20170516 Grab Groundwater
PES PHL Annual GWS MW-37

LL Sample # WW 9002952
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 10:25 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL37

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	160,000		500	1,000	1000
10945	1,2-Dichloroethane	107-06-2	N.D.		250	500	500
10945	Ethylbenzene	100-41-4	N.D.		250	500	500
10945	Isopropylbenzene	98-82-8	N.D.		250	1,000	500
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		250	500	500
10945	Toluene	108-88-3	1,200		250	500	500
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		250	1,000	500
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		250	1,000	500
10945	Xylene (Total)	1330-20-7	N.D.		250	500	500
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.1	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	0.1	J	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	0.1	J	0.1	0.5	1
14249	Fluorene	86-73-7	0.4	J	0.1	0.5	1
14249	Naphthalene	91-20-3	5		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.7		0.1	0.5	1
14249	Pyrene	129-00-0	0.3	J	0.1	0.5	1

The recovery for the sample surrogate(s) is 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.

Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-37-20170516 Grab Groundwater
PES PHL Annual GWS MW-37

LL Sample # WW 9002952
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 10:25 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL37

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 03:22	Hu Yang	1000
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 05:00	Hu Yang	500
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 03:22	Hu Yang	1000
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z171441AA	05/25/2017 05:00	Hu Yang	500
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 12:29	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 04:54	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:26	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: TW-8-20170516 Grab Groundwater
PES PHL Annual GWS TW-8

LL Sample # WW 9002953
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 09:55 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLT8

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	330		3	5	5
10945	1,2-Dichloroethane	107-06-2	N.D.		3	5	5
10945	Ethylbenzene	100-41-4	560		3	5	5
10945	Isopropylbenzene	98-82-8	180		3	10	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		3	5	5
10945	Toluene	108-88-3	3	J	3	5	5
10945	1,2,4-Trimethylbenzene	95-63-6	670		3	10	5
10945	1,3,5-Trimethylbenzene	108-67-8	63		3	10	5
10945	Xylene (Total)	1330-20-7	69		3	5	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	32		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	17		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	12		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	14		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	7		0.1	0.5	1
14249	Chrysene	218-01-9	18		0.1	0.5	1
14249	Fluorene	86-73-7	83		0.1	0.5	1
14249	Naphthalene	91-20-3	4,400		5	25	50
14249	Phenanthrene	85-01-8	140		0.5	3	5
14249	Pyrene	129-00-0	41		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.028	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 04:10	Hu Yang	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 04:10	Hu Yang	5
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 12:59	Joseph M Gambler	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/27/2017 05:51	Anthony P Bauer	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: TW-8-20170516 Grab Groundwater
PES PHL Annual GWS TW-8

LL Sample # WW 9002953
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 09:55 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLT8

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/29/2017 06:32	Anthony P Bauer	50
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 05:10	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:28	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-74-20170516 Grab Groundwater
PES PHL Annual GWS S-74

LL Sample # WW 9002954
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 11:00 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL74

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	3		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.1	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	0.1	J	0.1	0.5	1
14249	Naphthalene	91-20-3	0.8		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.3	J	0.1	0.5	1
14249	Pyrene	129-00-0	0.5		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.028	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 00:10	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 00:10	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 13:28	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-74-20170516 Grab Groundwater
PES PHL Annual GWS S-74

LL Sample # WW 9002954
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 11:00 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL74

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 05:26	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:29	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-193-20170516 Grab Groundwater
PES PHL Annual GWS S-193

LL Sample # WW 9002955
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 08:14 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH173

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	47		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	22		0.5	1	1
10945	Isopropylbenzene	98-82-8	8		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	2		0.5	1	1
10945	Toluene	108-88-3	1		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	140		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	59		0.5	2	1
10945	Xylene (Total)	1330-20-7	110		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.1	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	0.3	J	0.1	0.5	1
14249	Naphthalene	91-20-3	1		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.4	J	0.1	0.5	1
14249	Pyrene	129-00-0	0.2	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.028	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	3.1		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 00:34	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 00:34	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 13:58	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-193-20170516 Grab Groundwater
PES PHL Annual GWS S-193

LL Sample # WW 9002955
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 08:14 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH173

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 05:42	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:35	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-30-20170516 Grab Groundwater
PES PHL Annual GWS MW-30

LL Sample # WW 9002956
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 11:48 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	12	5	10	10
10945	1,2-Dichloroethane	107-06-2	N.D.	5	10	10
10945	Ethylbenzene	100-41-4	N.D.	5	10	10
10945	Isopropylbenzene	98-82-8	N.D.	5	20	10
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	5	10	10
10945	Toluene	108-88-3	N.D.	5	10	10
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	5	20	10
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	5	20	10
10945	Xylene (Total)	1330-20-7	N.D.	5	10	10
Reporting limits were raised due to sample foaming.						
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.5	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	4	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	7	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	12	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	7	0.1	0.5	1
14249	Chrysene	218-01-9	10	0.1	0.5	1
14249	Fluorene	86-73-7	0.8	0.1	0.5	1
14249	Naphthalene	91-20-3	4	0.1	0.5	1
14249	Phenanthrene	85-01-8	7	0.1	0.5	1
14249	Pyrene	129-00-0	13	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 05:24	Hu Yang	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 05:24	Hu Yang	10
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 14:27	Joseph M Gambler	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: MW-30-20170516 Grab Groundwater
PES PHL Annual GWS MW-30

LL Sample # WW 9002956
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 11:48 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 06:30	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:36	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-50-20170516 Grab Groundwater
PES PHL Annual GWS S-50

LL Sample # WW 9002957
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 10:25 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	5	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 01:22	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 01:22	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 14:57	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-50-20170516 Grab Groundwater
PES PHL Annual GWS S-50

LL Sample # WW 9002957
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 10:25 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 06:45	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:38	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-41-20170516 Grab Groundwater
PES PHL Annual GWS S-41

LL Sample # WW 9002958
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 12:06 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL41

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		3	5	5
10945	1,2-Dichloroethane	107-06-2	N.D.		3	5	5
10945	Ethylbenzene	100-41-4	N.D.		3	5	5
10945	Isopropylbenzene	98-82-8	70		3	10	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	4	J	3	5	5
10945	Toluene	108-88-3	N.D.		3	5	5
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		3	10	5
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		3	10	5
10945	Xylene (Total)	1330-20-7	N.D.		3	5	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.1	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	0.7		0.1	0.5	1
14249	Naphthalene	91-20-3	0.8		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.3	J	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.15	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 04:34	Hu Yang	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 04:34	Hu Yang	5
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 15:27	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-41-20170516 Grab Groundwater
PES PHL Annual GWS S-41

LL Sample # WW 9002958
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 12:06 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL41

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 07:01	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:40	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-154-20170516 Grab Groundwater
PES PHL Annual GWS S-154

LL Sample # WW 9002959
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 14:19 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH154

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		5	10	10
10945	1,2-Dichloroethane	107-06-2	N.D.		5	10	10
10945	Ethylbenzene	100-41-4	N.D.		5	10	10
10945	Isopropylbenzene	98-82-8	6	J	5	20	10
10945	Methyl Tertiary Butyl Ether	1634-04-4	19		5	10	10
10945	Toluene	108-88-3	7	J	5	10	10
10945	1,2,4-Trimethylbenzene	95-63-6	6	J	5	20	10
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		5	20	10
10945	Xylene (Total)	1330-20-7	44		5	10	10
	Reporting limits were raised due to sample foaming.						
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
	The recovery for the sample surrogate(s) is 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: Several compounds were detected in the re-extraction that were not detected in the original analysis.						
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0094	0.028	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-154-20170516 Grab Groundwater
PES PHL Annual GWS S-154

LL Sample # WW 9002959
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 14:19 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

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
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171452AA	05/25/2017 16:49	Anita M Dale	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171452AA	05/25/2017 16:49	Anita M Dale	10
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 15:56	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 07:17	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:42	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-44-20170516 Grab Groundwater
PES PHL Annual GWS S-44

LL Sample # WW 9002960
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 15:25 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL44

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	130		3	5	5
10945	1,2-Dichloroethane	107-06-2	N.D.		3	5	5
10945	Ethylbenzene	100-41-4	3	J	3	5	5
10945	Isopropylbenzene	98-82-8	27		3	10	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	78		3	5	5
10945	Toluene	108-88-3	7		3	5	5
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		3	10	5
10945	1,3,5-Trimethylbenzene	108-67-8	23		3	10	5
10945	Xylene (Total)	1330-20-7	7		3	5	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1

The recovery for the sample surrogate(s) is 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:
Several compounds were detected in the re-extraction that were not detected in the original analysis.

Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.028	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.19	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-44-20170516 Grab Groundwater
PES PHL Annual GWS S-44

LL Sample # WW 9002960
LL Group # 1803596
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/16/2017 15:25 by JC

Submitted: 05/17/2017 15:30
Reported: 06/06/2017 18:43

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL44

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171441AA	05/25/2017 02:10	Hu Yang	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171441AA	05/25/2017 02:10	Hu Yang	5
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 16:26	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1
10398	8011 Master Master	SW-846 8011	1	171390037A	05/24/2017 07:33	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171390037A	05/22/2017 10:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171440605006A	05/30/2017 05:44	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171440605006	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 06/06/2017 18:43

Group Number: 1803596

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**	LOQ
	ug/l	ug/l	ug/l
Batch number: Z171441AA	Sample number(s): 9002952-9002958,9002960		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: Z171452AA	Sample number(s): 9002959		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: 17142WAA026	Sample number(s): 9002952-9002960		
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Chrysene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Naphthalene	N.D.	0.1	0.5
Phenanthrene	N.D.	0.1	0.5
Pyrene	N.D.	0.1	0.5
Batch number: 171390037A	Sample number(s): 9002952-9002960		
Ethylene dibromide	N.D.	0.010	0.030
Batch number: 171440605006A	Sample number(s): 9002952-9002960		
Lead	N.D.	0.090	1.0

*- 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: 06/06/2017 18:43

Group Number: 1803596

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: Z171441AA	Sample number(s): 9002952-9002958,9002960								
Benzene	20	18.07			90		78-120		
1,2-Dichloroethane	20	18.93			95		66-128		
Ethylbenzene	20	18.08			90		78-120		
Isopropylbenzene	20	18.86			94		80-120		
Methyl Tertiary Butyl Ether	20	17.3			86		75-120		
Toluene	20	19.07			95		80-120		
1,2,4-Trimethylbenzene	20	18.26			91		75-120		
1,3,5-Trimethylbenzene	20	17.72			89		75-120		
Xylene (Total)	60	56.97			95		80-120		
Batch number: Z171452AA	Sample number(s): 9002959								
Benzene	20	18.86			94		78-120		
1,2-Dichloroethane	20	19.37			97		66-128		
Ethylbenzene	20	19.01			95		78-120		
Isopropylbenzene	20	19.6			98		80-120		
Methyl Tertiary Butyl Ether	20	19.26			96		75-120		
Toluene	20	20.05			100		80-120		
1,2,4-Trimethylbenzene	20	18.56			93		75-120		
1,3,5-Trimethylbenzene	20	18.04			90		75-120		
Xylene (Total)	60	59.48			99		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17142WAA026	Sample number(s): 9002952-9002960								
Anthracene	50	39.94	50	42.99	80	86	72-120	7	30
Benzo(a)anthracene	50	42.71	50	45.65	85	91	74-124	7	30
Benzo(a)pyrene	50	38.32	50	41.55	77	83	71-119	8	30
Benzo(b)fluoranthene	50	39.77	50	43.71	80	87	72-124	9	30
Benzo(g,h,i)perylene	50	41.97	50	46.78	84	94	61-124	11	30
Chrysene	50	41.94	50	45.42	84	91	75-129	8	30
Fluorene	50	40.24	50	43.91	80	88	67-120	9	30
Naphthalene	50	34.46	50	37.3	69	75	54-109	8	30
Phenanthrene	50	39.13	50	42.77	78	86	72-117	9	30
Pyrene	50	38.87	50	42.24	78	84	69-119	8	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171390037A	Sample number(s): 9002952-9002960								
Ethylene dibromide	0.128	0.139	0.128	0.145	108	113	60-140	4	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171440605006A	Sample number(s): 9002952-9002960								
Lead	15	15.68			105		80-120		

*- 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: 06/06/2017 18:43

Group Number: 1803596

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: Z171441AA	Sample number(s): 9002952-9002958,9002960 UNSPK: P002398									
Benzene	N.D.	20	18.7	20	18.43	93	92	78-120	1	30
1,2-Dichloroethane	N.D.	20	18.94	20	19.09	95	95	66-128	1	30
Ethylbenzene	N.D.	20	19.01	20	18.52	95	93	78-120	3	30
Isopropylbenzene	N.D.	20	19.58	20	19.38	98	97	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	16.72	20	16.69	84	83	75-120	0	30
Toluene	N.D.	20	19.54	20	19.46	98	97	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	20	18.06	20	18.05	90	90	75-120	0	30
1,3,5-Trimethylbenzene	N.D.	20	18.11	20	17.85	91	89	75-120	1	30
Xylene (Total)	N.D.	60	58.59	60	58.15	98	97	80-120	1	30
Batch number: Z171452AA	Sample number(s): 9002959 UNSPK: P002413									
Benzene	N.D.	20	19.76	20	19.77	99	99	78-120	0	30
1,2-Dichloroethane	N.D.	20	19.73	20	19.54	99	98	66-128	1	30
Ethylbenzene	N.D.	20	19.83	20	19.56	99	98	78-120	1	30
Isopropylbenzene	N.D.	20	20.48	20	20.36	102	102	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	19.39	20	19.07	97	95	75-120	2	30
Toluene	N.D.	20	20.62	20	20.39	103	102	80-120	1	30
1,2,4-Trimethylbenzene	N.D.	20	19.13	20	19.21	96	96	75-120	0	30
1,3,5-Trimethylbenzene	N.D.	20	18.76	20	18.71	94	94	75-120	0	30
Xylene (Total)	N.D.	60	61.49	60	61.39	102	102	80-120	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171390037A	Sample number(s): 9002952-9002960 UNSPK: P999776									
Ethylene dibromide	N.D.	0.122	0.141			115		60-140		
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171440605006A	Sample number(s): 9002952-9002960 UNSPK: P000812									
Lead	4.73	15	20.62	15	20.51	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: 171390037A	Sample number(s): 9002952-9002960 BKG: P999777			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
	ug/l	ug/l		
Batch number: 171440605006A	Sample number(s): 9002952-9002960 BKG: P000812			
Lead	4.73	4.40	7 (1)	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
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(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: 06/06/2017 18:43

Group Number: 1803596

Laboratory Duplicate (continued)

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

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: VOCs- 5ml Water by 8260B UST
Batch number: Z171441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9002952	97	96	99	93
9002953	98	98	99	97
9002954	100	98	100	93
9002955	98	96	100	102
9002956	99	98	99	96
9002957	97	97	100	95
9002958	97	96	98	97
9002960	99	97	100	96
Blank	99	98	99	93
LCS	98	100	99	98
MS	99	101	99	98
MSD	98	98	100	97
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z171452AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9002959	99	99	100	95
Blank	100	101	99	94
LCS	98	98	100	98
MS	99	100	101	98
MSD	98	100	100	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs 8270C MINI
Batch number: 17142WAA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9002952	46	47	36*
9002953	57	54	54
9002954	69	72	56
9002955	65	58	56
9002956	47	43	34*
9002957	51	57	55

*- 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: 06/06/2017 18:43

Group Number: 1803596

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.

Analysis Name: PAHs 8270C MINI
Batch number: 17142WAA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9002958	58	61	61
9002959	0*	0*	0*
9002960	0*	0*	0*
Blank	49	52	69
LCS	69	69	68
LCSD	76	77	72
Limits:	29-119	41-112	38-125

Analysis Name: 8011 Master Master
Batch number: 171390037A

	1,1,2,2-Tetrachloroethane
9002952	132
9002953	121
9002954	79
9002955	142*
9002956	107
9002957	71
9002958	78
9002959	74
9002960	101
Blank	59
DUP	81
LCS	67
LCSD	80
MS	85
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

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For Eurofins Lancaster Laboratories Environmental use only
Acct. # ~~11289~~ 16657 Group # 1803596 Sample # 9002952-60
Instructions on reverse side correspond with circled numbers.
③ A< 5/22/17

365583

① Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PES PHL Annual GWS	PWSID #:
Project Manager: Andy Bradley	P.O. #:
Sampler: J. Craft / C. Correll	Quote #:
Name of state where samples were collected:	

④ Matrix: Sediment ☐ Soil ☐ Ground ☒ Potable ☐ Surface ☐ NPDES ☐ Water ☐ Other: ____

⑤ Analysis Requested — Preservation Codes

Sample Identification	Collected Date	Collected Time	③ Grab	Composite	Total # of Containers	VOC's EPA 8260 (H)	SVOC's EPA 8270 (O)	Lead-Dissolved Lab Filter (O)	Naphthalene EPA 8270 (O)	EDB-8011 (H)					
MW-37-20170516	5-16-17	1025	X		8	X	X	X	X	X					
TW-8-20170516	↓	0955	X		8	X	X	X	X	X					
S-74-20170516	↓	1100	X		8	X	X	X	X	X					
S-193-20170516	↓	0814	X		8	X	X	X	X	X					
MW-30-20170516	↓	1148	X		8	X	X	X	X	X					
S-50-20170516	↓	1025	X		8	X	X	X	X	X					
S-41-20170516	↓	1206	X		8	X	X	X	X	X					
S-154-20170516	↓	1419	X		8	X	X	X	X	X					
S-44-20170516	↓	1525	X		8	X	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

⑥ Remarks

VOC 8260: Benzene, Cumene
Dichloroethane, 1,2-
Ethylbenzene
Ethylene Dibromide.
MTBE, Toluene
Trimethylbenzene 1,2,4-
Trimethylbenzene 1,3,5-
Xylenes

SVOC: Anthracene,
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Chrysene, Fluorene
Naphthalene
Phenanthrene
Pyrene

*See Attached list

⑦ Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: andrew.bradley@stantec.com

⑧ Data Package Options (circle if required)
Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

⑨

Relinquished by	Date	Time	Received by	Date	Time
[signature]	5-17-17	1125	[signature]	5/17/17	1125
[signature]	5-17-17	1530			
			[signature]	5-17-17	1530

EDD Required? Yes No
If yes, format: EQUIS

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 1.3 °C

1803596

Table 1
Evergreen Petroleum Short List of Constituents of Concern

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(b)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 (EDB) should be analyzed by Method 8011 instead of 8260 in soil for tank investigations and in **all groundwater samples**. EDB in all trip blank samples should be analyzed by 8260 regardless of method used for primary 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).

Stantec

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Sample Administration Receipt Documentation Log

Doc Log ID: 183936

Group Number(s): 1803596

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	05/17/2017 15:30
Number of Packages:	2	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Melvin Sanchez (8943) at 17:24 on 05/17/2017

Samples Chilled Details

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

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT131	1.3	DT	Wet	Y	Bagged	N
2	DT131	0.8	DT	Wet	Y	Bagged	N

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

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

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

< 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:

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…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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.

Additional Data Qualifiers

Qualifier	Definition
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q4	MS/MSD Out of Range
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

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: June 02, 2017

Project: PES PHL Annual GWS

Submittal Date: 05/19/2017
Group Number: 1803720
PO Number: PES PHL ANNUAL
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
S-38-20170517 Grab Groundwater	9003659
RW-701-20170517 Grab Groundwater	9003660
S-369-20170517 Grab Groundwater	9003661
S-223-20170517 Grab Groundwater	9003662
S-222-20170517 Grab Groundwater	9003663
S-380-20170517 Grab Groundwater	9003664
RW-108-20170517 Grab Groundwater	9003665
S-249-20170517 Grab Groundwater	9003666
S-354-20170517 Grab Groundwater	9003667
S-351-20170517 Grab Groundwater	9003668
S-142SRTF-20170518 Grab Groundwater	9003669
S-143SRFT-20170518 Grab Groundwater	9003670
S-120DSRTF-20170518 Grab Groundwater	9003671
S-106DSRTF-20170518 Grab Groundwater	9003672
S-116SRTF-20170518 Grab Groundwater	9003673
S-113SRTF-20170518 Grab Groundwater	9003674
S-112SRTF-20170518 Grab Groundwater	9003675
S-145SRTF-20170518 Grab Groundwater	9003676
S-122SRTF-20170518 Grab Groundwater	9003677
S-144SRTF-20170518 Grab Groundwater	9003678
S-137SRTF-20170519 Grab Groundwater	9003679
S-138SRTF-20170519 Grab Groundwater	9003680
S-74DISRTF-20170519 Grab Groundwater	9003681
S-76DSRTF-20170519 Grab Groundwater	9003682
S-74D2SRTF-20170519 Grab Groundwater	9003683
S-139SRTF-20170519 Grab Groundwater	9003684

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

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

Electronic Copy To Stantec Attn: Andrew Bradley

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

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

Analysis Report

Sample Description: S-38-20170517 Grab Groundwater
PES PHL Annual GWS S-38

LL Sample # WW 9003659
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 09:01 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL38

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.1	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	1		0.1	0.5	1
14249	Naphthalene	91-20-3	1		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.3	J	0.1	0.5	1
14249	Pyrene	129-00-0	0.1	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.099	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 09:10	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 09:10	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 16:56	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

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Analysis Report

Sample Description: S-38-20170517 Grab Groundwater
PES PHL Annual GWS S-38

LL Sample # WW 9003659
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 09:01 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL38

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 05:10	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:24	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: RW-701-20170517 Grab Groundwater
PES PHL Annual GWS RW-701

LL Sample # WW 9003660
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 09:38 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH701

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	16,000		100	200	200
10945	1,2-Dichloroethane	107-06-2	N.D.		10	20	20
10945	Ethylbenzene	100-41-4	1,300		10	20	20
10945	Isopropylbenzene	98-82-8	35	J	10	40	20
10945	Methyl Tertiary Butyl Ether	1634-04-4	5,100		10	20	20
10945	Toluene	108-88-3	9,100		100	200	200
10945	1,2,4-Trimethylbenzene	95-63-6	870		10	40	20
10945	1,3,5-Trimethylbenzene	108-67-8	250		10	40	20
10945	Xylene (Total)	1330-20-7	6,900		10	20	20
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	35		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	0.2	J	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	0.5	J	0.1	0.5	1
14249	Fluorene	86-73-7	91		0.1	0.5	1
14249	Naphthalene	91-20-3	470		0.5	3	5
14249	Phenanthrene	85-01-8	230		0.5	3	5
14249	Pyrene	129-00-0	11		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	0.64		0.096	0.29	10
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.17	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 09:34	Anita M Dale	20
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 09:58	Anita M Dale	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 09:34	Anita M Dale	20

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Analysis Report

Sample Description: RW-701-20170517 Grab Groundwater
PES PHL Annual GWS RW-701

LL Sample # WW 9003660
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 09:38 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH701

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D171461AA	05/26/2017 09:58	Anita M Dale	200
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 17:25	Joseph M Gambler	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/27/2017 06:50	Anthony P Bauer	5
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1
10398	8011 Master Master	SW-846 8011	1	171430015A	06/01/2017 14:14	Heather M Miller	10
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:29	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-369-20170517 Grab Groundwater
PES PHL Annual GWS S-369

LL Sample # WW 9003661
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 10:17 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH369

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1,900		5	10	10
10945	1,2-Dichloroethane	107-06-2	N.D.		5	10	10
10945	Ethylbenzene	100-41-4	17		5	10	10
10945	Isopropylbenzene	98-82-8	71		5	20	10
10945	Methyl Tertiary Butyl Ether	1634-04-4	47		5	10	10
10945	Toluene	108-88-3	62		5	10	10
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		5	20	10
10945	1,3,5-Trimethylbenzene	108-67-8	5	J	5	20	10
10945	Xylene (Total)	1330-20-7	42		5	10	10
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.6		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	0.1	J	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	0.1	J	0.1	0.5	1
14249	Fluorene	86-73-7	2		0.1	0.5	1
14249	Naphthalene	91-20-3	3		0.1	0.5	1
14249	Phenanthrene	85-01-8	2		0.1	0.5	1
14249	Pyrene	129-00-0	0.4	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.67	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 10:22	Anita M Dale	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 10:22	Anita M Dale	10
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 17:55	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

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Analysis Report

Sample Description: S-369-20170517 Grab Groundwater
PES PHL Annual GWS S-369

LL Sample # WW 9003661
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 10:17 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH369

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 05:41	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:12	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

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Analysis Report

Sample Description: S-223-20170517 Grab Groundwater
PES PHL Annual GWS S-223

LL Sample # WW 9003662
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 11:04 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH223

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	37		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	26		0.5	1	1
10945	Isopropylbenzene	98-82-8	1	J	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	9		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	50		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	21		0.5	2	1
10945	Xylene (Total)	1330-20-7	87		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	0.1	J	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.40	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 10:46	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 10:46	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 18:25	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-223-20170517 Grab Groundwater
PES PHL Annual GWS S-223

LL Sample # WW 9003662
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 11:04 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH223

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 06:29	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:31	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

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Analysis Report

Sample Description: S-222-20170517 Grab Groundwater
PES PHL Annual GWS S-222

LL Sample # WW 9003663
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 11:45 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH222

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	3		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	2		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	2		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	2	J	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	0.6	J	0.5	2	1
10945	Xylene (Total)	1330-20-7	8		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	0.3	J	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 11:10	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 11:10	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 18:55	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

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Analysis Report

Sample Description: S-222-20170517 Grab Groundwater
PES PHL Annual GWS S-222

LL Sample # WW 9003663
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 11:45 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH222

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 06:45	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:32	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

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Analysis Report

Sample Description: S-380-20170517 Grab Groundwater
PES PHL Annual GWS S-380

LL Sample # WW 9003664
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 12:38 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH380

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	0.2	J	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	0.2	J	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	0.3	J	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	0.5	1
14249	Chrysene	218-01-9	0.3	J	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.3	J	0.1	0.5	1
14249	Pyrene	129-00-0	0.4	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.16	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 11:34	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 11:34	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 19:25	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-380-20170517 Grab Groundwater
PES PHL Annual GWS S-380

LL Sample # WW 9003664
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 12:38 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH380

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 07:01	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:34	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: RW-108-20170517 Grab Groundwater
PES PHL Annual GWS RW-108

LL Sample # WW 9003665
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 10:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH108

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 11:58	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 11:58	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 19:54	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: RW-108-20170517 Grab Groundwater
PES PHL Annual GWS RW-108

LL Sample # WW 9003665
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 10:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

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
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 07:17	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:36	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-249-20170517 Grab Groundwater
PES PHL Annual GWS S-249

LL Sample # WW 9003666
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 11:55 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH249

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 12:22	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 12:22	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 20:24	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-249-20170517 Grab Groundwater
PES PHL Annual GWS S-249

LL Sample # WW 9003666
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 11:55 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

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
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 07:33	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:37	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-354-20170517 Grab Groundwater
PES PHL Annual GWS S-354

LL Sample # WW 9003667
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 13:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH354

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	2	J	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.2	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	0.1	J	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	0.2	J	0.1	0.5	1
14249	Fluorene	86-73-7	0.4	J	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.1	J	0.1	0.5	1
14249	Pyrene	129-00-0	0.3	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0094	0.028	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.094	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 12:46	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 12:46	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/26/2017 20:54	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-354-20170517 Grab Groundwater
PES PHL Annual GWS S-354

LL Sample # WW 9003667
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 13:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH354

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 07:48	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:39	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-351-20170517 Grab Groundwater
PES PHL Annual GWS S-351

LL Sample # WW 9003668
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 14:20 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH351

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	2	J	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	0.1	J	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 13:10	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 13:10	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/27/2017 04:51	Anthony P Bauer	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-351-20170517 Grab Groundwater
PES PHL Annual GWS S-351

LL Sample # WW 9003668
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/17/2017 14:20 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

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
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 08:04	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171450605003A	05/30/2017 10:41	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171450605003	05/25/2017 23:45	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-142SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-142SRTF

LL Sample # WW 9003669
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 08:02 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH142

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	250	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.24 J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 13:34	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 13:34	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17142WAA026	05/27/2017 05:21	Anthony P Bauer	1
07807	BNA Water Extraction	SW-846 3510C	1	17142WAA026	05/22/2017 16:00	Kate E Lutte	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-142SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-142SRTF

LL Sample # WW 9003669
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 08:02 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH142

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 08:20	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:00	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-143SRFT-20170518 Grab Groundwater
PES PHL Annual GWS S-143SRFT

LL Sample # WW 9003670
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 08:28 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH143

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 13:58	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 13:58	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 06:08	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

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Analysis Report

Sample Description: S-143SRFT-20170518 Grab Groundwater
PES PHL Annual GWS S-143SRFT

LL Sample # WW 9003670
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 08:28 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH143

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171430015A	05/25/2017 08:36	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171430015A	05/23/2017 11:45	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:11	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

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Analysis Report

Sample Description: S-120DSRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-120DSRTF

LL Sample # WW 9003671
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 10:09 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH120

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	8		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	45		0.5	1	1
10945	Toluene	108-88-3	0.7	J	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	0.5	J	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.2	J	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7		0.0099	0.030	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 14:22	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 14:22	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 06:36	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-120DSRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-120DSRTF

LL Sample # WW 9003671
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 10:09 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH120

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 17:19	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:12	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-106DSRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-106DSRTF

LL Sample # WW 9003672
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 11:05 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH106

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	4	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 14:46	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 14:46	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 07:04	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-106DSRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-106DSRTF

LL Sample # WW 9003672
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 11:05 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH106

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 17:51	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:18	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-116SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-116SRTF

LL Sample # WW 9003673
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 11:51 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH116

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	0.5	J	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	0.2	J	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7		0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.29	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 15:10	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 15:10	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 07:32	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-116SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-116SRTF

LL Sample # WW 9003673
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 11:51 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH116

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 18:22	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:19	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-113SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-113SRTF

LL Sample # WW 9003674
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 11:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH113

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	94	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	28	0.5	1	1
10945	Isopropylbenzene	98-82-8	16	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	2	0.5	1	1
10945	Toluene	108-88-3	2	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	5	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	10	0.5	2	1
10945	Xylene (Total)	1330-20-7	13	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	5	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.0099	0.030	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.37 J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 15:34	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 15:34	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 08:00	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-113SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-113SRTF

LL Sample # WW 9003674
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 11:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH113

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 18:37	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:21	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-112SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-112SRTF

LL Sample # WW 9003675
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 12:40 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH112

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	820	3	5	5
10945	1,2-Dichloroethane	107-06-2	N.D.	3	5	5
10945	Ethylbenzene	100-41-4	410	3	5	5
10945	Isopropylbenzene	98-82-8	72	3	10	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	23	3	5	5
10945	Toluene	108-88-3	1,600	5	10	10
10945	1,2,4-Trimethylbenzene	95-63-6	450	3	10	5
10945	1,3,5-Trimethylbenzene	108-67-8	150	3	10	5
10945	Xylene (Total)	1330-20-7	1,600	3	5	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.2 J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	2	0.1	0.5	1
14249	Naphthalene	91-20-3	46	0.1	0.5	1
14249	Phenanthrene	85-01-8	1	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.030	0.030	1
	Reporting limits were raised due to interference from the sample matrix.					
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	3.4	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 15:59	Anita M Dale	10
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171466AA	05/27/2017 01:04	Hu Yang	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-112SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-112SRTF

LL Sample # WW 9003675
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 12:40 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH112

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 15:59	Anita M Dale	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D171466AA	05/27/2017 01:04	Hu Yang	5
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 08:28	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 18:53	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:23	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-145SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-145SRTF

LL Sample # WW 9003676
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 14:15 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH145

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	80		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	22		0.5	1	1
10945	Isopropylbenzene	98-82-8	9		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	45		0.5	1	1
10945	Toluene	108-88-3	4		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	68		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	23		0.5	2	1
10945	Xylene (Total)	1330-20-7	52		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.1	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	0.4	J	0.1	0.5	1
14249	Naphthalene	91-20-3	4		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.2	J	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7		0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.21	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171461AA	05/26/2017 16:23	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171461AA	05/26/2017 16:23	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 08:56	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-145SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-145SRTF

LL Sample # WW 9003676
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 14:15 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH145

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 19:39	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:25	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-122SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-122SRTF

LL Sample # WW 9003677
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 15:30 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH122

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	170		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	34		0.5	1	1
10945	Isopropylbenzene	98-82-8	180		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	58		0.5	1	1
10945	Toluene	108-88-3	100		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	40		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	27		0.5	2	1
10945	Xylene (Total)	1330-20-7	290		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.8		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	0.2	J	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	0.1	J	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	0.1	J	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	0.2	J	0.1	0.5	1
14249	Fluorene	86-73-7	5		0.1	0.5	1
14249	Naphthalene	91-20-3	9		0.1	0.5	1
14249	Phenanthrene	85-01-8	5		0.1	0.5	1
14249	Pyrene	129-00-0	0.7		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7		0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	7.6		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 00:04	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 00:04	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 09:24	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-122SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-122SRTF

LL Sample # WW 9003677
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 15:30 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

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
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 19:55	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:27	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-144SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-144SRTF

LL Sample # WW 9003678
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 16:45 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH144

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	69		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	0.6	J	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	0.6	J	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	0.1	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7		0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 00:28	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 00:28	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 09:51	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-144SRTF-20170518 Grab Groundwater
PES PHL Annual GWS S-144SRTF

LL Sample # WW 9003678
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/18/2017 16:45 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH144

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 20:10	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:29	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-137SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-137SRTF

LL Sample # WW 9003679
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 08:05 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH137

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	0.3 J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 00:53	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 00:53	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 10:19	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-137SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-137SRTF

LL Sample # WW 9003679
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 08:05 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH137

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 20:26	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:30	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-138SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-138SRTF

LL Sample # WW 9003680
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 08:30 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH138

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	2	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 01:17	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 01:17	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 10:47	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-138SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-138SRTF

LL Sample # WW 9003680
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 08:30 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH138

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 20:41	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:32	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-74DISRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-74DISRTF

LL Sample # WW 9003681
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 08:58 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH74D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	1	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 01:41	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 01:41	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 11:15	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-74DISRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-74DISRTF

LL Sample # WW 9003681
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 08:58 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH74D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 20:57	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:34	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-76DSRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-76DSRTF

LL Sample # WW 9003682
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 09:40 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH76D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	1	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.020	0.030	1
	Reporting limits were raised due to interference from the sample matrix.					
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 02:05	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 02:05	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 11:43	Holly B Ziegler	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-76DSRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-76DSRTF

LL Sample # WW 9003682
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 09:40 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH76D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 21:13	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:39	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-74D2SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-74D2SRTF

LL Sample # WW 9003683
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 10:31 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH-74

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7	0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 02:29	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 02:29	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 12:10	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-74D2SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-74D2SRTF

LL Sample # WW 9003683
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 10:31 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH-74

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 21:28	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:42	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-139SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-139SRTF

LL Sample # WW 9003684
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 09:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH139

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	21		0.5	1	1
10945	Toluene	108-88-3	0.9	J	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	0.8	J	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	2		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.2	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	1		0.1	0.5	1
14249	Pyrene	129-00-0	0.3	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D. Q7		0.010	0.030	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals.
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	D171464AA	05/27/2017 02:53	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D171464AA	05/27/2017 02:53	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17144WAC026	05/29/2017 12:38	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	17144WAC026	05/24/2017 20:30	Christine Gleim	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-139SRTF-20170519 Grab Groundwater
PES PHL Annual GWS S-139SRTF

LL Sample # WW 9003684
LL Group # 1803720
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/19/2017 09:25 by JC

Submitted: 05/19/2017 16:45
Reported: 06/02/2017 16:12

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH139

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171450020A	05/29/2017 21:44	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171450020A	05/26/2017 11:30	Olivia Arosemena	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:44	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 06/02/2017 16:12

Group Number: 1803720

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 ug/l	MDL** ug/l	LOQ ug/l
Batch number: D171461AA	Sample number(s): 9003659-9003676		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: D171464AA	Sample number(s): 9003677-9003684		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: D171466AA	Sample number(s): 9003675		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: 17142WAA026	Sample number(s): 9003659-9003669		
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Chrysene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Naphthalene	N.D.	0.1	0.5
Phenanthrene	N.D.	0.1	0.5
Pyrene	N.D.	0.1	0.5

*- 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: 06/02/2017 16:12

Group Number: 1803720

Method Blank (continued)

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: 17144WAC026	Sample number(s): 9003670-9003684		
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Chrysene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Naphthalene	N.D.	0.1	0.5
Phenanthrene	N.D.	0.1	0.5
Pyrene	N.D.	0.1	0.5
Batch number: 171430015A	Sample number(s): 9003659-9003670		
Ethylene dibromide	N.D.	0.010	0.030
Batch number: 171450020A	Sample number(s): 9003671-9003684		
Ethylene dibromide	N.D.	0.010	0.030
Batch number: 171450605003A	Sample number(s): 9003659-9003668		
Lead	N.D.	0.090	1.0
Batch number: 171460605003A	Sample number(s): 9003669-9003684		
Lead	N.D.	0.090	1.0

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: D171461AA	Sample number(s): 9003659-9003676								
Benzene	20	21.51	20	20.57	108	103	78-120	4	30
1,2-Dichloroethane	20	19.38	20	18.49	97	92	66-128	5	30
Ethylbenzene	20	20.9	20	19.39	104	97	78-120	7	30
Isopropylbenzene	20	21.38	20	19.81	107	99	80-120	8	30
Methyl Tertiary Butyl Ether	20	22.11	20	20.86	111	104	75-120	6	30
Toluene	20	21.13	20	19.53	106	98	80-120	8	30
1,2,4-Trimethylbenzene	20	20.47	20	19.11	102	96	75-120	7	30
1,3,5-Trimethylbenzene	20	20.63	20	19	103	95	75-120	8	30
Xylene (Total)	60	64.27	60	60.57	107	101	80-120	6	30
Batch number: D171464AA	Sample number(s): 9003677-9003684								
Benzene	20	19.92			100		78-120		
1,2-Dichloroethane	20	17.98			90		66-128		
Ethylbenzene	20	19.14			96		78-120		
Isopropylbenzene	20	19.74			99		80-120		
Methyl Tertiary Butyl Ether	20	21.4			107		75-120		
Toluene	20	19.33			97		80-120		

*- 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: 06/02/2017 16:12

Group Number: 1803720

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
1,2,4-Trimethylbenzene	20	18.97			95		75-120		
1,3,5-Trimethylbenzene	20	18.96			95		75-120		
Xylene (Total)	60	59.32			99		80-120		
Batch number: D171466AA	Sample number(s): 9003675								
Benzene	20	20.73			104		78-120		
1,2-Dichloroethane	20	18.44			92		66-128		
Ethylbenzene	20	19.8			99		78-120		
Isopropylbenzene	20	20.48			102		80-120		
Methyl Tertiary Butyl Ether	20	20.8			104		75-120		
1,2,4-Trimethylbenzene	20	20.1			101		75-120		
1,3,5-Trimethylbenzene	20	19.99			100		75-120		
Xylene (Total)	60	61.57			103		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17142WAA026	Sample number(s): 9003659-9003669								
Anthracene	50	39.94	50	42.99	80	86	72-120	7	30
Benzo(a)anthracene	50	42.71	50	45.65	85	91	74-124	7	30
Benzo(a)pyrene	50	38.32	50	41.55	77	83	71-119	8	30
Benzo(b)fluoranthene	50	39.77	50	43.71	80	87	72-124	9	30
Benzo(g,h,i)perylene	50	41.97	50	46.78	84	94	61-124	11	30
Chrysene	50	41.94	50	45.42	84	91	75-129	8	30
Fluorene	50	40.24	50	43.91	80	88	67-120	9	30
Naphthalene	50	34.46	50	37.3	69	75	54-109	8	30
Phenanthrene	50	39.13	50	42.77	78	86	72-117	9	30
Pyrene	50	38.87	50	42.24	78	84	69-119	8	30
Batch number: 17144WAC026	Sample number(s): 9003670-9003684								
Anthracene	50	44.77	50	46.3	90	93	72-120	3	30
Benzo(a)anthracene	50	46.73	50	49.95	93	100	74-124	7	30
Benzo(a)pyrene	50	40.81	50	44.92	82	90	71-119	10	30
Benzo(b)fluoranthene	50	41.91	50	46.6	84	93	72-124	11	30
Benzo(g,h,i)perylene	50	33.97	50	37.86	68	76	61-124	11	30
Chrysene	50	47.4	50	49.5	95	99	75-129	4	30
Fluorene	50	44.88	50	45.49	90	91	67-120	1	30
Naphthalene	50	40.85	50	41.24	82	82	54-109	1	30
Phenanthrene	50	44.17	50	45.55	88	91	72-117	3	30
Pyrene	50	44.03	50	45.64	88	91	69-119	4	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171430015A	Sample number(s): 9003659-9003670								
Ethylene dibromide	0.128	0.158	0.128	0.153	123	119	60-140	3	20
Batch number: 171450020A	Sample number(s): 9003671-9003684								
Ethylene dibromide	0.128	0.107	0.128	0.136	83	106	60-140	24*	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171450605003A	Sample number(s): 9003659-9003668								

*- 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: 06/02/2017 16:12

Group Number: 1803720

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
Lead	15	16.81			112		80-120		
Batch number: 171460605003A	Sample number(s): 9003669-9003684								
Lead	15	15.61			104		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: D171464AA	Sample number(s): 9003677-9003684 UNSPK: P007486									
Benzene	N.D.	20	20.83	20	21.8	104	109	78-120	5	30
1,2-Dichloroethane	N.D.	20	18.46	20	19.09	92	95	66-128	3	30
Ethylbenzene	N.D.	20	20.06	20	20.71	100	104	78-120	3	30
Isopropylbenzene	N.D.	20	20.63	20	21.26	103	106	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	20	21.1	20	21.77	106	109	75-120	3	30
Toluene	N.D.	20	20.07	20	20.88	100	104	80-120	4	30
1,2,4-Trimethylbenzene	N.D.	20	19.79	20	20.12	99	101	75-120	2	30
1,3,5-Trimethylbenzene	N.D.	20	19.47	20	20.32	97	102	75-120	4	30
Xylene (Total)	N.D.	60	61.79	60	63.78	103	106	80-120	3	30
Batch number: D171466AA	Sample number(s): 9003675 UNSPK: P007601									
Benzene	N.D.	20	20.43	20	20.42	102	102	78-120	0	30
1,2-Dichloroethane	N.D.	20	17.94	20	17.71	90	89	66-128	1	30
Ethylbenzene	N.D.	20	19.11	20	19.45	96	97	78-120	2	30
Isopropylbenzene	N.D.	20	20.34	20	20.33	102	102	80-120	0	30
Methyl Tertiary Butyl Ether	N.D.	20	19.77	20	20.21	99	101	75-120	2	30
1,2,4-Trimethylbenzene	N.D.	20	18.98	20	19.36	95	97	75-120	2	30
1,3,5-Trimethylbenzene	N.D.	20	19.17	20	19.32	96	97	75-120	1	30
Xylene (Total)	N.D.	60	59.64	60	60.7	99	101	80-120	2	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171430015A	Sample number(s): 9003659-9003670 UNSPK: P003536									
Ethylene dibromide	N.D.	0.123	0.145			118		60-140		
Batch number: 171450020A	Sample number(s): 9003671-9003684 UNSPK: 9003671									
Ethylene dibromide	N.D.	0.123	0.165			134		60-140		
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171450605003A	Sample number(s): 9003659-9003668 UNSPK: 9003661									
Lead	0.666	15	15.68	15	15.51	100	99	75-125	1	20
Batch number: 171460605003A	Sample number(s): 9003669-9003684 UNSPK: 9003669									

*- 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: 06/02/2017 16:12

Group Number: 1803720

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	0.240	15	16.5	15	16.01	108	105	75-125	3	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: 171430015A	Sample number(s): 9003659-9003670 BKG: P003542			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
Batch number: 171450020A	Sample number(s): 9003671-9003684 BKG: 9003672			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
	ug/l	ug/l		
Batch number: 171450605003A	Sample number(s): 9003659-9003668 BKG: 9003661			
Lead	0.666	0.599	11 (1)	20
Batch number: 171460605003A	Sample number(s): 9003669-9003684 BKG: 9003669			
Lead	0.240	0.226	6 (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: VOCs- 5ml Water by 8260B UST
Batch number: D171461AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9003659	99	98	96	96
9003660	96	94	97	100
9003661	93	92	97	101
9003662	95	94	97	100
9003663	96	96	98	99
9003664	98	96	97	98
9003665	96	94	96	97
9003666	98	97	96	97
9003667	97	97	97	99
9003668	96	95	98	100
9003669	96	94	96	101
9003670	98	95	97	97

*- 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: 06/02/2017 16:12

Group Number: 1803720

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: VOCs- 5ml Water by 8260B UST
Batch number: D171461AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9003671	95	94	97	105
9003672	94	97	97	99
9003673	94	94	98	100
9003674	94	95	98	101
9003676	94	94	99	106
Blank	98	94	97	97
LCS	96	97	99	101
LCSD	96	98	98	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: D171464AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9003677	95	95	97	108
9003678	99	95	97	101
9003679	98	94	97	101
9003680	98	95	97	101
9003681	98	94	98	102
9003682	96	94	98	104
9003683	96	95	97	103
9003684	96	92	98	105
Blank	96	95	96	98
LCS	96	100	98	103
MS	97	100	97	102
MSD	96	97	96	101
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: D171466AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9003675	99	95	97	107
Blank	97	96	96	98
LCS	96	99	97	102
MS	97	99	98	102
MSD	96	98	97	102
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs 8270C MINI
Batch number: 17142WAA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9003659	65	66	65
9003660	78	70	67

*- 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: 06/02/2017 16:12

Group Number: 1803720

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.

Analysis Name: PAHs 8270C MINI
Batch number: 17142WAA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9003661	54	58	56
9003662	42	54	52
9003663	67	71	59
9003664	51	55	64
9003665	61	63	52
9003666	71	72	59
9003667	47	51	54
9003668	62	62	52
9003669	55	55	41
Blank	49	52	69
LCS	69	69	68
LCSD	76	77	72
Limits:	29-119	41-112	38-125

Analysis Name: PAHs 8270C MINI
Batch number: 17144WAC026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9003670	61	64	64
9003671	66	68	62
9003672	62	61	70
9003673	69	68	72
9003674	61	57	55
9003675	43	45	54
9003676	69	64	55
9003677	66	62	55
9003678	76	73	54
9003679	65	65	43
9003680	72	70	54
9003681	73	70	55
9003682	70	66	58
9003683	65	64	57
9003684	66	62	42
Blank	77	74	69
LCS	82	82	64
LCSD	87	82	74
Limits:	29-119	41-112	38-125

Analysis Name: 8011 Master Master
Batch number: 171430015A

	1,1,2,2-Tetrachloroethane
9003659	71
9003660	72
9003661	117

*- 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: 06/02/2017 16:12

Group Number: 1803720

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.

Analysis Name: 8011 Master Master
Batch number: 171430015A

	1,1,2,2-Tetrachloroethane
9003662	116
9003663	95
9003664	94
9003665	92
9003666	87
9003667	102
9003668	103
9003669	84
9003670	98
Blank	112
DUP	96
LCS	118
LCSD	113
MS	86
Limits:	46-136

Analysis Name: 8011 Master Master
Batch number: 171450020A

	1,1,2,2-Tetrachloroethane
9003671	60
9003672	61
9003673	54
9003674	52
9003675	68
9003676	54
9003677	64
9003678	58
9003679	58
9003680	66
9003681	61
9003682	96
9003683	55
9003684	54
Blank	85
DUP	65
LCS	60
LCSD	83
MS	99
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

③ AC 5/22/17

Acct. # ~~11289~~ 16657

For Eurofins Lancaster Laboratories Environmental use only
Group # 1803720 Sample # 9003659-84
Instructions on reverse side correspond with circled numbers.

365584

① Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL PES Refinery Annual GWS	PWSID #:
Project Manager: Andy Bradley	P.O. #:
Sampler: J. Craft / C. Correll	Quote #:
Name of state where samples were collected: PA	

② Sample Identification / **③ Collected**

Sample Identification	Date	Time	Grab	Composite	Soil	Water (Potable / Ground / NPDES / Surface)	Other:	Total # of Containers	VOC's EPA 8260 (H)	SVOC's EPA 8270 (O)	Lead Dissolved Lab filter (O)	Naphthalene EPA 8270 (O)	EDB-8011 (H)					
S-38-20170517	5-17-17	0901	X			X		8	X	X	X	X	X					
RW-701-20170517		0938	X			X		8	X	X	X	X	X					
S-369-20170517		1017	X			X		8	X	X	X	X	X					
S-223-20170517		1104	X			X		8	X	X	X	X	X					
S-222-20170517		1145	X			X		8	X	X	X	X	X					
S-380-20170517		1238	X			X		8	X	X	X	X	X					
RW-108-2017517		1025	X			X		8	X	X	X	X	X					
S-249-2017517		1155	X			X		8	X	X	X	X	X					
S-354-2017517		1325	X			X		8	X	X	X	X	X					
S-351-2017517		1420	X			X		8	X	X	X	X	X					

④ Matrix — Sediment ☐ Soil ☐ Water: Potable ☐ Ground ☒ NPDES ☐ Surface ☐ Other: ____

⑤ 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

⑥ Remarks

VOC 8260: Benzene, Cumene, Dichloroethane, 1,2-Ethylbenzene Ethylene Dibromide MTBE, Toluene, Trimethyl benzene 1,2,4-Trimethyl benzene 1,3,5 Xylenes

SVOC: Anthracene, Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Chrysene, fluorene Naphthalene, Phenanthrene Pyrene

* See Attached list *

⑦ Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ____

E-mail address: ~~andy.b~~ andrew.bradley@Stantec.com

⑧ Data Package Options (circle if required)

Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

⑨

Relinquished by	Date	Time	Received by	Date	Time
[signature]	5-19-17	1130	[signature]	5-19-17	1130
[signature]	5-19-17	1645			
			[signature]	5-19-17	1645

EDD Required? Yes No
If yes, format: EQUIS

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 10.14 °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only
Acct. # ~~11289~~ Group # 1803720 Sample # 9003659-84
③ 16657 Ac 5/22/17
Instructions on reverse side correspond with circled numbers.

365585

① Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHC PES Refinery Annual GWS	PWSID #:
Project Manager: Andy Bradley	P.O. #:
Sampler: J. Craft / C. Correll	Quote #:
Name of state where samples were collected: PA	

② Sample Identification / **③ Collected**

Sample Identification	Date	Time	Grab	Composite	Soil	Water (Potable / Ground / NPDES / Surface)	Other:	Total # of Containers	VOC's EPA 8260	SVOC's EPA 8270	Lead Dissolved Lab Filter	Naphthalene 8270	EDB - 8011
S-142SRTF-20170518	5-18-17	0802	X			X		8	X	X	X	X	X
S-143SRTF-20170518		0828	X			X		8	X	X	X	X	X
S-120DSRTF-20170518		1009	X			X		8	X	X	X	X	X
S-106DSRTF-20170518		1105	X			X		8	X	X	X	X	X
S-116SRTF-20170518		1151	X			X		8	X	X	X	X	X
S-113SRTF-20170518 SRTF		1125	X			X		8	X	X	X	X	X
S-112SRTF-20170518 SRTF		1240	X			X		8	X	X	X	X	X
S-145SRTF-20170518 SRTF		1415	X			X		8	X	X	X	X	X
S-122SRTF-20170518 SRTF		1530	X			X		8	X	X	X	X	X
S-144SRTF-20170518 SRTF		1645	X			X		8	X	X	X	X	X

④ Matrix / **⑤ Analysis Requested**

Preservation Codes: H, O, O, O, H

For Lab Use Only
FSC:
SCR#:

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

⑥ Remarks
VOC 8260: Benzene, Cumene
Dichloroethane, 1,2-
Ethylbenzene
Ethylene Dibromide, MTBE,
Toluene, Trimethylbenzene 1,2,4-
Trimethylbenzene 1,3,5
Xylenes
SVOC: Anthracene
Benzo(a) anthracene
Benzo(a) pyrene
Benzo(b) fluoranthene
Benzo(g,h,i) perylene
Chrysene, Fluorene
Naphthalene, Phenanthrene
Pyrene
* See Attached list *

⑦ Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed:

E-mail address: andrew.bradley@stantec.com

⑧ Data Package Options (circle if required)
Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

⑨

Relinquished by	Date	Time	Received by	Date	Time
[signature]	5-19-17	1130	[signature]	5-19-17	1130
[signature]	5-19-17	1645			
			[signature]	5-19-17	1645

EDD Required? Yes No
If yes, format: EQUIS

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 1.0-1.9 °C

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

(3)Ac 5/22/17 16657

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 11289 Group # 1803720 Sample # 9003659-84

COC # 525082

Client Information

Client: Stantec

Acct. #: Evergreen

Project Name/#: PES PHL Refinery Annual GWS

PWSID #:

Project Manager: Andy Bradley

P.O. #:

Sampler: J. Grant / C. Cornell

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, O, O, O, H

For Lab Use Only

FSC:

SCR#:

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOCs 8260	SVOCs 8270	Lead Dissolved Lab Filtered	Naphthalene 8270	EDB 8011
S-137SRTF-20170519	5-19-17	0805	X		8	X	X	X	X	X
S-138SRTF-20170519		0830	X			X	X	X	X	X
S-74D1SRTF-20170519		0858	X			X	X	X	X	X
S-76DSRTF-20170519		0940	X			X	X	X	X	X
S-74D2SRTF-20170519		1031	X			X	X	X	X	X
S-139SRTF-20170519		0925	X			X	X	X	X	X

Preservation Codes

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

Remarks

Turnaround Time (TAT) Requested (please circle)

Standard Rush

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

Date results are needed: ____

E-mail address: andrew.bradley@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
[signature]	5-19-17	1130	[signature]	5-19-17	1130
[signature]	5-19-17	1645			
			[signature]	5-19-17	1695

EDD Required? Yes No

If yes, format: EQUIS

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 10.14 °C

1803720

Table 1
Evergreen Petroleum Short List of Constituents of Concern

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(b)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 (EDB) should be analyzed by Method 8011 instead of 8260 in soil for tank investigations and in **all groundwater samples**. EDB in all trip blank samples should be analyzed by 8260 regardless of method used for primary 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).

Stantec

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Sample Administration Receipt Documentation Log

Doc Log ID: 184239

Group Number(s): 1803720

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	05/19/2017 16:45
Number of Packages:	5	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:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Cory Jeremiah (10469) at 19:52 on 05/19/2017

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	DT146	1.1	DT	Wet	Y	Bagged	N
2	DT146	1.4	DT	Wet	Y	Bagged	N
3	DT146	1.0	DT	Wet	Y	Bagged	N
4	DT146	1.3	DT	Wet	Y	Bagged	N
5	DT146	1.2	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:

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

< 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:

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…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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.

Additional Data Qualifiers

Qualifier	Definition
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q4	MS/MSD Out of Range
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

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: June 06, 2017

Project: PES PHL Annual GWS

Submittal Date: 05/23/2017
Group Number: 1804966
PO Number: PES PHL ANNUAL
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
S-3-20170522 Grab Groundwater	9010864
S-25-20170522 Grab Groundwater	9010865
S-280-20170522 Grab Groundwater	9010866
B-43-20170522 Grab Groundwater	9010867
A-137-20170522 Grab Groundwater	9010868
WP-14-20170522 Grab Groundwater	9010869
A-133-20170522 Grab Groundwater	9010870
S-115SRTF-20170523 Grab Groundwater	9010871
S-110DSRTF-20170523 Grab Groundwater	9010872
S-118DSRTF-20170523 Grab Groundwater	9010873
S-114SRTF-20170523 Grab Groundwater	9010874
S-115DSRTF-20170523 Grab Groundwater	9010875

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

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

Electronic Copy To Stantec Attn: Andrew Bradley

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

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Analysis Report

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Sample Description: S-3-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
S-3

LL Sample # WW 9010864
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 11:06 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

--S-3

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	0.1	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.13	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 09:03	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 09:03	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 10:59	Anthony P Bauer	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-3-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
S-3

LL Sample # WW 9010864
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 11:06 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

--S-3

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 20:25	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:45	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

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Sample Description: S-25-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
S-25

LL Sample # WW 9010865
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 11:27 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

-S-25

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	0.1	J	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.1	J	0.1	0.5	1
14249	Pyrene	129-00-0	0.1	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.21	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 09:26	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 09:26	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 11:29	Anthony P Bauer	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-25-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
S-25

LL Sample # WW 9010865
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 11:27 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

-S-25

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 20:40	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:47	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-280-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
S-280

LL Sample # WW 9010866
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 12:34 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S-280

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	27,000	100	200	200
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	5	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
10945	Toluene	108-88-3	290	10	20	20
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	19	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1

The recovery for the sample surrogate(s) is 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.

Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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.

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-280-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
S-280

LL Sample # WW 9010866
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 12:34 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S-280

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 09:51	Anita M Dale	1
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 16:40	Anita M Dale	20
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 17:04	Anita M Dale	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 09:51	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z171501AA	05/30/2017 16:40	Anita M Dale	20
01163	GC/MS VOA Water Prep	SW-846 5030B	3	Z171501AA	05/30/2017 17:04	Anita M Dale	200
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 11:58	Anthony P Bauer	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 20:56	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:49	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: B-43-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
B-43

LL Sample # WW 9010867
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 10:25 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

-B-43

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	7		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	0.8	J	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	2		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.4	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	0.4	J	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	0.3	J	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	0.3	J	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	0.1	J	0.1	0.5	1
14249	Chrysene	218-01-9	0.3	J	0.1	0.5	1
14249	Fluorene	86-73-7	0.3	J	0.1	0.5	1
14249	Naphthalene	91-20-3	1		0.1	0.5	1
14249	Phenanthrene	85-01-8	1		0.1	0.5	1
14249	Pyrene	129-00-0	2		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.020	0.029	1
	Reporting limits were raised due to interference from the sample matrix.						
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 17:28	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 17:28	Anita M Dale	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: B-43-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
B-43

LL Sample # WW 9010867
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 10:25 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

-B-43

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 12:28	Anthony P Bauer	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 21:12	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605003A	05/30/2017 06:51	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605003	05/28/2017 21:00	Annamaria Kuhns	1

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Analysis Report

Sample Description: A-137-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
A-137

LL Sample # WW 9010868
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 14:25 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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1060 Andrew Drive
Suite 140
West Chester PA 19380

A-137

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	0.8	J	0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	0.1	J	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	0.4	J	0.1	0.5	1
14249	Pyrene	129-00-0	0.2	J	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 10:39	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 10:39	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 12:58	Anthony P Bauer	1

*=This limit was used in the evaluation of the final result

Sample Description: A-137-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
A-137

LL Sample # WW 9010868
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 14:25 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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Suite 140
West Chester PA 19380

A-137

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 21:28	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605010A	06/05/2017 02:21	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605010	05/30/2017 22:45	Denise L Trimby	1

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Analysis Report

Sample Description: WP-14-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
WP-14

LL Sample # WW 9010869
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 15:15 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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Suite 140
West Chester PA 19380

WP-14

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.5	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	1		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	2		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	2		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	1		0.1	0.5	1
14249	Chrysene	218-01-9	1		0.1	0.5	1
14249	Fluorene	86-73-7	0.4	J	0.1	0.5	1
14249	Naphthalene	91-20-3	0.5		0.1	0.5	1
14249	Phenanthrene	85-01-8	1		0.1	0.5	1
14249	Pyrene	129-00-0	2		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.40	J	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 11:03	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 11:03	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 13:27	Anthony P Bauer	1

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Analysis Report

Sample Description: WP-14-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
WP-14

LL Sample # WW 9010869
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 15:15 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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Suite 140
West Chester PA 19380

WP-14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 21:44	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605010A	06/05/2017 02:23	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605010	05/30/2017 22:45	Denise L Trimby	1

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Analysis Report

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Sample Description: A-133-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
A-133

LL Sample # WW 9010870
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 16:05 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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Suite 140
West Chester PA 19380

A-133

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	0.3	J	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	0.5	J	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	0.6		0.1	0.5	1
14249	Chrysene	218-01-9	1		0.1	0.5	1
14249	Fluorene	86-73-7	N.D.		0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.		0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.		0.1	0.5	1
14249	Pyrene	129-00-0	1		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 11:27	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 11:27	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 13:57	Anthony P Bauer	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: A-133-20170522 Grab Groundwater
PHL PES Refinery Annual GWS
A-133

LL Sample # WW 9010870
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/22/2017 16:05 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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West Chester PA 19380

A-133

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 22:00	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 00:37	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

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Analysis Report

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Sample Description: S-115SRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-115

LL Sample # WW 9010871
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 09:20 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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Suite 140
West Chester PA 19380

S-115

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1,000	10	20	20
10945	1,2-Dichloroethane	107-06-2	N.D.	3	5	5
10945	Ethylbenzene	100-41-4	130	3	5	5
10945	Isopropylbenzene	98-82-8	120	3	10	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	3	5	5
10945	Toluene	108-88-3	100	3	5	5
10945	1,2,4-Trimethylbenzene	95-63-6	18	3	10	5
10945	1,3,5-Trimethylbenzene	108-67-8	39	3	10	5
10945	Xylene (Total)	1330-20-7	150	3	5	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	0.6	0.1	0.5	1
14249	Naphthalene	91-20-3	25	0.1	0.5	1
14249	Phenanthrene	85-01-8	0.6	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**	**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	**ug/l**	
06035	Lead	7439-92-1	3.6	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171501AA	05/30/2017 11:51	Anita M Dale	20
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 04:29	Hu Yang	5

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-115SRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-115

LL Sample # WW 9010871
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 09:20 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

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Suite 140
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S-115

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171501AA	05/30/2017 11:51	Anita M Dale	20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z171503AA	05/31/2017 04:29	Hu Yang	5
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/29/2017 14:27	Anthony P Bauer	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 22:15	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 00:47	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-110DSRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-110D

LL Sample # WW 9010872
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 08:24 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S110D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	4	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	27	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171502AA	05/30/2017 14:51	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171502AA	05/30/2017 14:51	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/30/2017 09:55	Joseph M Gambler	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-110DSRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-110D

LL Sample # WW 9010872
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 08:24 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S110D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 22:31	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 00:49	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-118DSRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-118D

LL Sample # WW 9010873
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 10:55 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S118D

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l		ug/l	ug/l	
10945	Benzene	71-43-2	N.D.		0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	3		0.5	1	1
10945	Toluene	108-88-3	N.D.		0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	0.7	J	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l		ug/l	ug/l	
14249	Anthracene	120-12-7	0.2	J	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	N.D.		0.1	0.5	1
14249	Fluorene	86-73-7	0.6		0.1	0.5	1
14249	Naphthalene	91-20-3	0.2	J	0.1	0.5	1
14249	Phenanthrene	85-01-8	0.9		0.1	0.5	1
14249	Pyrene	129-00-0	N.D.		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		ug/l		ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	0.029	1
Metals Dissolved	**SW-846 6020**		ug/l		ug/l	ug/l	
06035	Lead	7439-92-1	N.D.		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171502AA	05/30/2017 15:16	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171502AA	05/30/2017 15:16	Anita M Dale	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/30/2017 10:25	Joseph M Gambler	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-118DSRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-118D

LL Sample # WW 9010873
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 10:55 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S118D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 23:19	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171530605001A	06/06/2017 13:42	Patrick J Engle	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171530605001	06/04/2017 21:30	Annamaria Kuhns	1

*=This limit was used in the evaluation of the final result

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Analysis Report

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Sample Description: S-114SRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-114

LL Sample # WW 9010874
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 08:42 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S-114

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	1,800		5	10	10
10945	1,2-Dichloroethane	107-06-2	N.D.		5	10	10
10945	Ethylbenzene	100-41-4	1,100		5	10	10
10945	Isopropylbenzene	98-82-8	89		5	20	10
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		5	10	10
10945	Toluene	108-88-3	5,100		50	100	100
10945	1,2,4-Trimethylbenzene	95-63-6	2,200		50	200	100
10945	1,3,5-Trimethylbenzene	108-67-8	790		5	20	10
10945	Xylene (Total)	1330-20-7	12,000		50	100	100
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	**ug/l**	
14249	Anthracene	120-12-7	0.7		0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	0.2	J	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	0.1	J	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	0.5	1
14249	Chrysene	218-01-9	0.2	J	0.1	0.5	1
14249	Fluorene	86-73-7	4		0.1	0.5	1
14249	Naphthalene	91-20-3	380		1	5	10
14249	Phenanthrene	85-01-8	5		0.1	0.5	1
14249	Pyrene	129-00-0	0.7		0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		**ug/l**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	0.029	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	2.2		0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171502AA	05/30/2017 15:40	Anita M Dale	10
10945	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171502AA	05/30/2017 16:04	Anita M Dale	100

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-114SRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-114

LL Sample # WW 9010874
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 08:42 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S-114

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171502AA	05/30/2017 15:40	Anita M Dale	10
01163	GC/MS VOA Water Prep	SW-846 5030B	2	Z171502AA	05/30/2017 16:04	Anita M Dale	100
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/30/2017 10:54	Joseph M Gambler	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/31/2017 01:55	Brandon H Smith	10
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 23:35	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 00:55	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-115DSRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-115D

LL Sample # WW 9010875
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 10:15 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S115D

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		ug/l	ug/l	ug/l	
10945	Benzene	71-43-2	N.D.	0.5	1	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	2	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	43	0.5	1	1
10945	Toluene	108-88-3	N.D.	0.5	1	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	2	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	2	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1	1
GC/MS Semivolatiles	**SW-846 8270C**		ug/l	ug/l	ug/l	
14249	Anthracene	120-12-7	N.D.	0.1	0.5	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	0.5	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	0.5	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	0.5	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	0.5	1
14249	Chrysene	218-01-9	N.D.	0.1	0.5	1
14249	Fluorene	86-73-7	N.D.	0.1	0.5	1
14249	Naphthalene	91-20-3	N.D.	0.1	0.5	1
14249	Phenanthrene	85-01-8	N.D.	0.1	0.5	1
14249	Pyrene	129-00-0	N.D.	0.1	0.5	1
Volatiles by Extraction	**SW-846 8011**		ug/l	ug/l	ug/l	
10398	Ethylene dibromide	106-93-4	N.D.	0.010	0.029	1
	Reporting limits were raised due to interference from the sample matrix.					
Metals Dissolved	**SW-846 6020**		ug/l	ug/l	ug/l	
06035	Lead	7439-92-1	N.D.	0.090	1.0	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171502AA	05/30/2017 16:28	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171502AA	05/30/2017 16:28	Anita M Dale	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: S-115DSRTF-20170523 Grab Groundwater
PHL PES Refinery Annual GWS
S-115D

LL Sample # WW 9010875
LL Group # 1804966
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 10:15 by JC

Submitted: 05/23/2017 17:20
Reported: 06/06/2017 21:24

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

S115D

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAE026	05/30/2017 11:24	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAE026	05/25/2017 19:15	Ryan J Dowdy	1
10398	8011 Master Master	SW-846 8011	1	171460033A	05/29/2017 23:50	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460033A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 00:56	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 06/06/2017 21:24

Group Number: 1804966

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 ug/l	MDL** ug/l	LOQ ug/l
Batch number: Z171501AA	Sample number(s): 9010864-9010871		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: Z171502AA	Sample number(s): 9010872-9010875		
Benzene	N.D.	0.5	1
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: Z171503AA	Sample number(s): 9010871		
1,2-Dichloroethane	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Isopropylbenzene	N.D.	0.5	2
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
1,2,4-Trimethylbenzene	N.D.	0.5	2
1,3,5-Trimethylbenzene	N.D.	0.5	2
Xylene (Total)	N.D.	0.5	1
Batch number: 17145WAE026	Sample number(s): 9010864-9010875		
Anthracene	N.D.	0.1	0.5
Benzo(a)anthracene	N.D.	0.1	0.5
Benzo(a)pyrene	N.D.	0.1	0.5
Benzo(b)fluoranthene	N.D.	0.1	0.5
Benzo(g,h,i)perylene	N.D.	0.1	0.5
Chrysene	N.D.	0.1	0.5
Fluorene	N.D.	0.1	0.5
Naphthalene	N.D.	0.1	0.5
Phenanthrene	N.D.	0.1	0.5
Pyrene	N.D.	0.1	0.5

*- 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: 06/06/2017 21:24

Group Number: 1804966

Method Blank (continued)

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: 171460033A	Sample number(s): 9010864-9010875		
Ethylene dibromide	N.D.	0.010	0.030
Batch number: 171460605003A	Sample number(s): 9010864-9010867		
Lead	N.D.	0.090	1.0
Batch number: 171460605010A	Sample number(s): 9010868-9010869		
Lead	N.D.	0.090	1.0
Batch number: 171460605012A	Sample number(s): 9010870-9010872,9010874-9010875		
Lead	N.D.	0.090	1.0
Batch number: 171530605001A	Sample number(s): 9010873		
Lead	N.D.	0.090	1.0

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: Z171501AA	Sample number(s): 9010864-9010871								
Benzene	20	18.6			93		78-120		
1,2-Dichloroethane	20	20.28			101		66-128		
Ethylbenzene	20	18.7			94		78-120		
Isopropylbenzene	20	19.3			97		80-120		
Methyl Tertiary Butyl Ether	20	18.16			91		75-120		
Toluene	20	19.43			97		80-120		
1,2,4-Trimethylbenzene	20	18.42			92		75-120		
1,3,5-Trimethylbenzene	20	18.06			90		75-120		
Xylene (Total)	60	57.94			97		80-120		
Batch number: Z171502AA	Sample number(s): 9010872-9010875								
Benzene	20	19.12			96		78-120		
1,2-Dichloroethane	20	20.16			101		66-128		
Ethylbenzene	20	19.35			97		78-120		
Isopropylbenzene	20	19.91			100		80-120		
Methyl Tertiary Butyl Ether	20	20.11			101		75-120		
Toluene	20	20.26			101		80-120		
1,2,4-Trimethylbenzene	20	18.98			95		75-120		
1,3,5-Trimethylbenzene	20	18.32			92		75-120		
Xylene (Total)	60	60.35			101		80-120		
Batch number: Z171503AA	Sample number(s): 9010871								
1,2-Dichloroethane	20	18.46			92		66-128		
Ethylbenzene	20	17.44			87		78-120		
Isopropylbenzene	20	18.33			92		80-120		
Methyl Tertiary Butyl Ether	20	16.97			85		75-120		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
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(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: 06/06/2017 21:24

Group Number: 1804966

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
Toluene	20	18.46			92		80-120		
1,2,4-Trimethylbenzene	20	17.44			87		75-120		
1,3,5-Trimethylbenzene	20	17.23			86		75-120		
Xylene (Total)	60	55.01			92		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17145WAE026	Sample number(s): 9010864-9010875								
Anthracene	50	46.33	50	47.88	93	96	72-120	3	30
Benzo(a)anthracene	50	48.95	50	53	98	106	74-124	8	30
Benzo(a)pyrene	50	45.04	50	46.5	90	93	71-119	3	30
Benzo(b)fluoranthene	50	44.97	50	49.44	90	99	72-124	9	30
Benzo(g,h,i)perylene	50	42.93	50	42.72	86	85	61-124	0	30
Chrysene	50	48	50	51.64	96	103	75-129	7	30
Fluorene	50	44.57	50	45.96	89	92	67-120	3	30
Naphthalene	50	38.57	50	38.27	77	77	54-109	1	30
Phenanthrene	50	45.9	50	47.18	92	94	72-117	3	30
Pyrene	50	44.56	50	47.17	89	94	69-119	6	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460033A	Sample number(s): 9010864-9010875								
Ethylene dibromide	0.128	0.130	0.128	0.131	102	102	60-140	1	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460605003A	Sample number(s): 9010864-9010867								
Lead	15	15.61			104		80-120		
Batch number: 171460605010A	Sample number(s): 9010868-9010869								
Lead	15	14.81			99		80-120		
Batch number: 171460605012A	Sample number(s): 9010870-9010872,9010874-9010875								
Lead	15	14.88			99		80-120		
Batch number: 171530605001A	Sample number(s): 9010873								
Lead	15	14.33			96		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: Z171501AA	Sample number(s): 9010864-9010871 UNSPK: P011362									
Benzene	N.D.	20	18.7	20	19.06	93	95	78-120	2	30
1,2-Dichloroethane	N.D.	20	19.98	20	19.95	100	100	66-128	0	30

*- 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: 06/06/2017 21:24

Group Number: 1804966

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
Ethylbenzene	N.D.	20	19.04	20	18.95	95	95	78-120	0	30
Isopropylbenzene	N.D.	20	20.13	20	19.99	101	100	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	17.59	20	17.48	88	87	75-120	1	30
Toluene	N.D.	20	20.21	20	20.18	101	101	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	20	18.69	20	19.01	93	95	75-120	2	30
1,3,5-Trimethylbenzene	N.D.	20	18.4	20	18.6	92	93	75-120	1	30
Xylene (Total)	N.D.	60	59.54	60	59.48	99	99	80-120	0	30
Batch number: Z171502AA	Sample number(s): 9010872-9010875 UNSPK: P011364									
Benzene	N.D.	20	19.62	20	19.05	98	95	78-120	3	30
1,2-Dichloroethane	N.D.	20	19.9	20	19.7	99	98	66-128	1	30
Ethylbenzene	N.D.	20	19.46	20	19.35	97	97	78-120	1	30
Isopropylbenzene	N.D.	20	20.08	20	19.83	100	99	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	19.17	20	18.84	96	94	75-120	2	30
Toluene	N.D.	20	20.4	20	20.24	102	101	80-120	1	30
1,2,4-Trimethylbenzene	N.D.	20	18.6	20	18.42	93	92	75-120	1	30
1,3,5-Trimethylbenzene	N.D.	20	18.07	20	18.11	90	91	75-120	0	30
Xylene (Total)	N.D.	60	60.76	60	60.4	101	101	80-120	1	30
Batch number: Z171503AA	Sample number(s): 9010871 UNSPK: P011941									
1,2-Dichloroethane	N.D.	20	18.24	20	18.27	91	91	66-128	0	30
Ethylbenzene	N.D.	20	17.59	20	17.7	88	89	78-120	1	30
Isopropylbenzene	N.D.	20	18.36	20	18.6	92	93	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	15.92	20	16.22	80	81	75-120	2	30
Toluene	N.D.	20	18.71	20	18.61	94	93	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	20	17.15	20	17.59	86	88	75-120	3	30
1,3,5-Trimethylbenzene	N.D.	20	16.75	20	17.17	84	86	75-120	2	30
Xylene (Total)	N.D.	60	55.03	60	55.26	92	92	80-120	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460033A	Sample number(s): 9010864-9010875 UNSPK: P009818									
Ethylene dibromide	N.D.	0.121	0.133			110		60-140		
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460605003A	Sample number(s): 9010864-9010867 UNSPK: P003669									
Lead	0.240	15	16.5	15	16.01	108	105	75-125	3	20
Batch number: 171460605010A	Sample number(s): 9010868-9010869 UNSPK: P016935									
Lead	N.D.	15	15.36	15	15.38	102	103	75-125	0	20
Batch number: 171460605012A	Sample number(s): 9010870-9010872,9010874-9010875 UNSPK: 9010870									
Lead	N.D.	15	15.29	15	15.42	102	103	75-125	1	20
Batch number: 171530605001A	Sample number(s): 9010873 UNSPK: 9010873									
Lead	N.D.	15	14.68	15	14.29	98	95	75-125	3	20

*- 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: 06/06/2017 21:24

Group Number: 1804966

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: 171460033A	Sample number(s): 9010864-9010875 BKG: P009819			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
	ug/l	ug/l		
Batch number: 171460605003A	Sample number(s): 9010864-9010867 BKG: P003669			
Lead	0.240	0.226	6 (1)	20
Batch number: 171460605010A	Sample number(s): 9010868-9010869 BKG: P016935			
Lead	N.D.	N.D.	0 (1)	20
Batch number: 171460605012A	Sample number(s): 9010870-9010872,9010874-9010875 BKG: 9010870			
Lead	N.D.	N.D.	0 (1)	20
Batch number: 171530605001A	Sample number(s): 9010873 BKG: 9010873			
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: VOCs- 5ml Water by 8260B UST
Batch number: Z171501AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9010864	101	100	99	92
9010865	102	101	98	94
9010866	102	101	99	93
9010867	100	97	98	100
9010868	99	98	99	97
9010869	99	96	99	95
9010870	100	98	99	95
Blank	101	100	100	95
LCS	99	99	100	99
MS	100	100	101	100
MSD	99	99	100	99
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z171502AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9010872	102	99	100	96
9010873	102	99	100	95

*- 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: 06/06/2017 21:24

Group Number: 1804966

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.

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z171502AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9010874	98	96	99	98
9010875	99	98	100	98
Blank	102	99	100	95
LCS	100	99	100	100
MS	101	99	100	100
MSD	100	100	100	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: VOCs- 5ml Water by 8260B UST
Batch number: Z171503AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9010871	98	97	100	100
Blank	100	100	99	93
LCS	99	100	99	98
MS	99	100	100	98
MSD	99	99	99	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs 8270C MINI
Batch number: 17145WAE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9010864	73	69	44
9010865	63	65	41
9010866	56	55	37*
9010867	66	69	51
9010868	63	64	54
9010869	56	54	43
9010870	64	64	73
9010871	66	66	61
9010872	67	67	56
9010873	72	70	65
9010874	59	59	59
9010875	69	69	55
Blank	81	76	78
LCS	81	75	57
LCSD	82	77	75
Limits:	29-119	41-112	38-125

Analysis Name: 8011 Master Master
Batch number: 171460033A

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
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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: 06/06/2017 21:24

Group Number: 1804966

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.

Analysis Name: 8011 Master Master
Batch number: 171460033A

	1,1,2,2-Tetrachloroethane
9010864	107
9010865	98
9010866	139*
9010867	112
9010868	112
9010869	108
9010870	104
9010871	114
9010872	112
9010873	100
9010874	143*
9010875	89
Blank	104
DUP	107
LCS	93
LCSD	97
MS	113
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

Acct. # 11289 For Eurofins Lancaster Laboratories Environmental use only Group # 1804966 Sample # 9010864-76
Instructions on reverse side correspond with circled numbers.

365586

1 Client Information

Client: Stantec
Acct. #: Evergreen
Project Name/#: PHL PES Refinery Annual GWS
PWSID #:
Project Manager: Andy Bradley
P.O. #:
Sampler: J. Croft / C. Correll
Quote #:
Name of state where samples were collected: PA

For Lab Use Only
FSC:
SCR#:

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

4 Matrix: Soil ☐ Sediment ☐ Water: Potable ☐ Ground ☒ NPDES ☐ Surface ☐ Other: ___

5 Analysis Requested

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	VOC's 8260 (H)	SVOC's 8270 (O)	Lead Dissolved Lab Filter (O)	Naphthalene 8270 (O)	EDB 8011 (H)	6 Remarks
S-3-20170522	~~5-22-17~~ 5-22-17	1106	X		8	X	X	X	X	X	*See Attached Analysis list
S-25-20170522		1127	X		8	X	X	X	X	X	
S-280-20170522		1234	X		8	X	X	X	X	X	
B-43-20170522		1025	X		8	X	X	X	X	X	
A-137-20170522		1425	X		8	X	X	X	X	X	
WP-14-20170522		1515	X		8	X	X	X	X	X	
A-133-20170522		1605	X		8	X	X	X	X	X	
S-115SRTF-20170523	5.23.17	0920	X		8	X	X	X	X	X	
S-110DSRTF-20170523		0824	X		8	X	X	X	X	X	
S-118DSRTF-20170523		1055	X		8	X	X	X	X	X	

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ___

E-mail address: ~~Andy~~ Andrew.Bradley@Stantec.com

8 Data Package Options (circle if required)
Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

9

Relinquished by	Date	Time	Received by	Date	Time
[signature]	5/23/17	1135	[signature]	5/23/17	1135
[signature]	5/23/17	1720			
			[signature]	5-23-17	1720

EDD Required? Yes No
If yes, format: EQuIS

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 1.1-4.8 °C

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.

7044 0614

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

Acct. # 11289

For Eurofins Lancaster Laboratories Environmental use only
Group # 1804766 Sample # 9010864-76
Instructions on reverse side correspond with circled numbers.

365588

1 Client Information

Client: Stantec
Acct. #: Evergreen
Project Name/#: PHL PES Refinery Annual GWS
PWSID #:
Project Manager: Andy Bradley
P.O. #:
Sampler: J. Croft / C. Correll
Quote #:
Name of state where samples were collected: PA

4 Matrix: Sediment ☐ Soil ☐ Ground ☒ Potable ☐ Water Surface ☐ NPDES ☐ Other: ___

5 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

6 Remarks: * See Attached Analysis list *

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Soil	Water	Other	Total # of Containers	VOC's 8260 (H)	SVOC's 8270 (O)	Lead Dissolved Lab Filter (O)	Naphthalene 8270 (O)	EDB Soil (H)					
S-114SRTF-20170523	5-23-17	0842	X			X		8	X	X	X	X	X					
S-115DSRTF-20170523	↓	1015	X			X		8	X	X	X	X	X					

7 Turnaround Time (TAT) Requested (please circle)
Standard Rush
(Rush TAT is subject to laboratory approval and surcharge.)

Date results are needed: ___

E-mail address: andrew.bradley@stantec.com

8 Data Package Options (circle if required)
Type I (Validation/non-CLP) Type VI (Raw Data Only)
Type III (Reduced non-CLP) TX TRRP-13
NYSDEC Category A or B MA MCP CT RCP

Relinquished by	Date	Time	Received by	Date	Time
[signature]	5/23/17	1135	[signature]	5-23-17	1135
[signature]	5-23-17	1720			
			[signature]	5-23-17	1720

9

EDD Required? Yes No
If yes, format: EQuIS

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 1.1-4.8 °C

1804966

Table 1
Evergreen Petroleum Short List of Constituents of Concern

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(b)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 (EDB) should be analyzed by Method 8011 instead of 8260 in soil for tank investigations and in **all groundwater samples**. EDB in all trip blank samples should be analyzed by 8260 regardless of method used for primary 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).

Stantec

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Sample Administration Receipt Documentation Log

Doc Log ID: 184466

Group Number(s): 1804966

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	05/23/2017 17:20
Number of Packages:	2	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:	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 Cory Jeremiah (10469) at 21:15 on 05/23/2017

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	DT146	1.1	DT	Wet	Y	Bagged	N
2	DT146	4.8	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:

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

< 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:

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…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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

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

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

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

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

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

Additional Data Qualifiers

Qualifier	Definition
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q4	MS/MSD Out of Range
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD

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: June 06, 2017

Project: PES PHL Annual GWS

Submittal Date: 05/24/2017
Group Number: 1805454
PO Number: PES PHL ANNUAL
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
N-1-20170523 Grab Groundwater	9012708
N-2-20170523 Grab Groundwater	9012709
N-3-20170523 Grab Groundwater	9012710
C-104-20170523 Grab Groundwater	9012711
C-127-20170523 Grab Groundwater	9012712
C-129-20170523 Grab Groundwater	9012713
C-62-20170523 Grab Groundwater	9012714
N-99-20170524 Grab Groundwater	9012715
N-8-20170524 Grab Groundwater	9012716
N-98-20170524 Grab Groundwater	9012717
N-85-20170524 Grab Groundwater	9012718
N-156-20170524 Grab Groundwater	9012719
N-74-20170524 Grab Groundwater	9012720
N-57-20170524 Grab Groundwater	9012721
N-111-20170524 Grab Groundwater	9012722
N-37-20170524 Grab Groundwater	9012723

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

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

Electronic Copy To Stantec Attn: Andrew Bradley

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Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

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Analysis Report

Sample Description: N-1-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012708
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:11 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL01

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**	
14249	Anthracene	120-12-7	N.D.		0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	0.2	J	0.1	1
14249	Naphthalene	91-20-3	0.2	J	0.1	1
14249	Phenanthrene	85-01-8	0.3	J	0.1	1
14249	Pyrene	129-00-0	0.1	J	0.1	1
Volatiles by Extraction	**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.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/30/2017 21:37	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/30/2017 21:37	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 11:54	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: N-1-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012708
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:11 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460034A	05/30/2017 15:24	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460034A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 01:18	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

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Analysis Report

Sample Description: N-2-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012709
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:25 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL02

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	4		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	0.9	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**	
14249	Anthracene	120-12-7	3		0.1	1
14249	Benzo(a)anthracene	56-55-3	9		0.1	1
14249	Benzo(a)pyrene	50-32-8	10		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	11		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	6		0.1	1
14249	Chrysene	218-01-9	9		0.1	1
14249	Fluorene	86-73-7	2		0.1	1
14249	Naphthalene	91-20-3	0.3	J	0.1	1
14249	Phenanthrene	85-01-8	3		0.1	1
14249	Pyrene	129-00-0	15		0.1	1
Volatiles by Extraction	**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	0.18	J	0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/30/2017 22:01	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/30/2017 22:01	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 12:23	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: N-2-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012709
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:25 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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Suite 140
West Chester PA 19380

PHL02

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460034A	05/30/2017 16:16	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460034A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 01:20	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

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Analysis Report

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Sample Description: N-3-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012710
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:55 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL03

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**	
14249	Anthracene	120-12-7	0.8		0.1	1
14249	Benzo(a)anthracene	56-55-3	1		0.1	1
14249	Benzo(a)pyrene	50-32-8	1		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	1		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	1		0.1	1
14249	Chrysene	218-01-9	2		0.1	1
14249	Fluorene	86-73-7	0.5	J	0.1	1
14249	Naphthalene	91-20-3	0.8		0.1	1
14249	Phenanthrene	85-01-8	1		0.1	1
14249	Pyrene	129-00-0	2		0.1	1
Volatiles by Extraction	**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	0.87	J	0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/30/2017 22:25	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/30/2017 22:25	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 12:53	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: N-3-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012710
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:55 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171520023A	06/02/2017 19:23	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	2	171520023A	06/01/2017 19:30	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 01:22	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

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Analysis Report

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Sample Description: C-104-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012711
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 09:40 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL04

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**	
14249	Anthracene	120-12-7	0.6		0.1	1
14249	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
14249	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	0.3	J	0.1	1
14249	Fluorene	86-73-7	5		0.1	1
14249	Naphthalene	91-20-3	N.D.		0.1	1
14249	Phenanthrene	85-01-8	1		0.1	1
14249	Pyrene	129-00-0	2		0.1	1
Volatiles by Extraction	**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.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/30/2017 22:49	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/30/2017 22:49	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 13:23	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: C-104-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012711
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 09:40 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL04

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460034A	05/30/2017 16:48	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460034A	05/28/2017 10:15	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 01:24	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

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Analysis Report

Sample Description: C-127-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012712
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 11:15 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL05

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	3		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**	
14249	Anthracene	120-12-7	0.5	J	0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	3		0.1	1
14249	Naphthalene	91-20-3	N.D.		0.1	1
14249	Phenanthrene	85-01-8	0.1	J	0.1	1
14249	Pyrene	129-00-0	0.9		0.1	1
Volatiles by Extraction	**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	N.D.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/30/2017 23:13	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/30/2017 23:13	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 13:52	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: C-127-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012712
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 11:15 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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West Chester PA 19380

PHL05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 01:25	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 01:25	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

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Analysis Report

Sample Description: C-129-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012713
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:45 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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Suite 140
West Chester PA 19380

PHL06

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**	
14249	Anthracene	120-12-7	0.2	J	0.1	1
14249	Benzo(a)anthracene	56-55-3	0.4	J	0.1	1
14249	Benzo(a)pyrene	50-32-8	0.4	J	0.1	1
14249	Benzo(b)fluoranthene	205-99-2	0.5	J	0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	0.4	J	0.1	1
14249	Chrysene	218-01-9	0.5	J	0.1	1
14249	Fluorene	86-73-7	0.1	J	0.1	1
14249	Naphthalene	91-20-3	0.1	J	0.1	1
14249	Phenanthrene	85-01-8	0.4	J	0.1	1
14249	Pyrene	129-00-0	0.6		0.1	1
Volatiles by Extraction	**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	0.39	J	0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/30/2017 23:37	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/30/2017 23:37	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 14:22	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: C-129-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012713
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 12:45 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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PHL06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 02:28	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171460605012A	06/05/2017 01:27	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171460605012	05/30/2017 22:50	Denise L Trimby	1

Sample Description: C-62-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012714
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 13:30 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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Suite 140
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PHL07

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	0.9	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	0.8	J	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
14249	Anthracene	120-12-7	0.4	J	0.1	1
14249	Benzo(a)anthracene	56-55-3	0.4	J	0.1	1
14249	Benzo(a)pyrene	50-32-8	0.5	J	0.1	1
14249	Benzo(b)fluoranthene	205-99-2	0.5	J	0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	0.4	J	0.1	1
14249	Chrysene	218-01-9	0.4	J	0.1	1
14249	Fluorene	86-73-7	0.9		0.1	1
14249	Naphthalene	91-20-3	9		0.1	1
14249	Phenanthrene	85-01-8	1		0.1	1
14249	Pyrene	129-00-0	0.7		0.1	1
Volatiles by Extraction	**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	0.29	J	0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 00:01	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 00:01	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 14:51	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: C-62-20170523 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012714
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/23/2017 13:30 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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PHL07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 03:00	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605001A	06/06/2017 03:08	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605001	06/01/2017 05:58	James L Mertz	1

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Analysis Report

Sample Description: N-99-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012715
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 08:24 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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Suite 140
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PHL08

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**	
14249	Anthracene	120-12-7	N.D.		0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	0.3	J	0.1	1
14249	Naphthalene	91-20-3	N.D.		0.1	1
14249	Phenanthrene	85-01-8	0.3	J	0.1	1
14249	Pyrene	129-00-0	N.D.		0.1	1
Volatiles by Extraction	**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.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 00:29	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 00:29	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17145WAF026	05/30/2017 15:21	Joseph M Gambler	1
07807	BNA Water Extraction	SW-846 3510C	1	17145WAF026	05/25/2017 19:15	Ryan J Dowdy	1

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Analysis Report

Sample Description: N-99-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012715
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 08:24 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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PHL08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 03:16	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605001A	06/06/2017 03:19	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605001	06/01/2017 05:58	James L Mertz	1

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Analysis Report

Sample Description: N-8-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012716
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 09:20 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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Suite 140
West Chester PA 19380

PHL09

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**	
14249	Anthracene	120-12-7	N.D.		0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	N.D.		0.1	1
14249	Naphthalene	91-20-3	N.D.		0.1	1
14249	Phenanthrene	85-01-8	0.1	J	0.1	1
14249	Pyrene	129-00-0	N.D.		0.1	1
Volatiles by Extraction	**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.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 00:53	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 00:53	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/01/2017 21:47	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1

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Analysis Report

Sample Description: N-8-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012716
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 09:20 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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Suite 140
West Chester PA 19380

PHL09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 03:32	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605001A	06/06/2017 03:21	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605001	06/01/2017 05:58	James L Mertz	1

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Analysis Report

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Sample Description: N-98-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012717
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:00 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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Suite 140
West Chester PA 19380

PHL10

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**	
14249	Anthracene	120-12-7	N.D.	0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
14249	Chrysene	218-01-9	N.D.	0.1	1
14249	Fluorene	86-73-7	N.D.	0.1	1
14249	Naphthalene	91-20-3	N.D.	0.1	1
14249	Phenanthrene	85-01-8	N.D.	0.1	1
14249	Pyrene	129-00-0	N.D.	0.1	1
Volatiles by Extraction	**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.	0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 01:17	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 01:17	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/01/2017 22:16	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1

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Analysis Report

Sample Description: N-98-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012717
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:00 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL10

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 03:48	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605001A	06/06/2017 03:26	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605001	06/01/2017 05:58	James L Mertz	1

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Analysis Report

Sample Description: N-85-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012718
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:48 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL11

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	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**	
14249	Anthracene	120-12-7	0.1	J	0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	0.3	J	0.1	1
14249	Naphthalene	91-20-3	0.1	J	0.1	1
14249	Phenanthrene	85-01-8	0.1	J	0.1	1
14249	Pyrene	129-00-0	0.2	J	0.1	1
Volatiles by Extraction	**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.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 01:41	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 01:41	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/01/2017 22:46	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1

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Analysis Report

Sample Description: N-85-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012718
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:48 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 04:03	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605001A	06/06/2017 03:28	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605001	06/01/2017 05:58	James L Mertz	1

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Analysis Report

Sample Description: N-156-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012719
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:00 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL12

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	8		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	2		0.5	1
10945	Isopropylbenzene	98-82-8	29		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	0.7	J	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	29		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	20		0.5	1
10945	Xylene (Total)	1330-20-7	10		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
14249	Anthracene	120-12-7	8		0.1	1
14249	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	0.3	J	0.1	1
14249	Fluorene	86-73-7	55		0.1	1
14249	Naphthalene	91-20-3	13		0.1	1
14249	Phenanthrene	85-01-8	54		0.1	1
14249	Pyrene	129-00-0	3		0.1	1
Volatiles by Extraction	**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	N.D.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 02:05	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 02:05	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/01/2017 23:16	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1

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Analysis Report

Sample Description: N-156-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012719
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:00 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL12

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 04:19	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605003A	06/06/2017 01:25	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605003	05/31/2017 21:30	Annamaria Kuhns	1

Sample Description: N-74-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012720
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:50 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL13

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	6		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**	
14249	Anthracene	120-12-7	0.5	J	0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	2		0.1	1
14249	Naphthalene	91-20-3	0.7		0.1	1
14249	Phenanthrene	85-01-8	0.4	J	0.1	1
14249	Pyrene	129-00-0	0.4	J	0.1	1
Volatiles by Extraction	**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	N.D.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 02:29	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 02:29	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/01/2017 23:46	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1

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Analysis Report

Sample Description: N-74-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012720
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 10:50 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 04:35	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605003A	06/06/2017 01:36	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605003	05/31/2017 21:30	Annamaria Kuhns	1

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Analysis Report

Sample Description: N-57-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012721
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 11:30 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL14

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.		5	10
10945	1,2-Dichloroethane	107-06-2	N.D.		5	10
10945	Ethylbenzene	100-41-4	N.D.		5	10
10945	Isopropylbenzene	98-82-8	N.D.		5	10
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		5	10
10945	Toluene	108-88-3	N.D.		5	10
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		5	10
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		5	10
10945	Xylene (Total)	1330-20-7	290		5	10
Reporting limits were raised due to sample foaming.						
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
14249	Anthracene	120-12-7	N.D.		0.1	1
14249	Benzo(a)anthracene	56-55-3	0.6		0.1	1
14249	Benzo(a)pyrene	50-32-8	1		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	0.7		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	2		0.1	1
14249	Chrysene	218-01-9	0.9		0.1	1
14249	Fluorene	86-73-7	0.4	J	0.1	1
14249	Naphthalene	91-20-3	0.1	J	0.1	1
14249	Phenanthrene	85-01-8	0.2	J	0.1	1
14249	Pyrene	129-00-0	1		0.1	1
Volatiles by Extraction	**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	0.091	J	0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 05:30	Hu Yang	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 05:30	Hu Yang	10
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/02/2017 00:15	Brandon H Smith	1

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Analysis Report

Sample Description: N-57-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012721
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 11:30 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 04:51	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605003A	06/06/2017 01:38	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605003	05/31/2017 21:30	Annamaria Kuhns	1

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Analysis Report

Sample Description: N-111-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012722
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 12:40 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL15

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	3		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**	
14249	Anthracene	120-12-7	0.3	J	0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
14249	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	0.3	J	0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	2		0.1	1
14249	Naphthalene	91-20-3	N.D.		0.1	1
14249	Phenanthrene	85-01-8	N.D.		0.1	1
14249	Pyrene	129-00-0	0.6		0.1	1
Volatiles by Extraction	**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	N.D.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 03:17	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 03:17	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/02/2017 00:45	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1

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Analysis Report

Sample Description: N-111-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012722
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 12:40 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 05:38	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605003A	06/06/2017 01:44	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605003	05/31/2017 21:30	Annamaria Kuhns	1

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Analysis Report

Sample Description: N-37-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012723
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 13:02 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL16

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**	
14249	Anthracene	120-12-7	N.D.		0.1	1
14249	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
14249	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
14249	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
14249	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
14249	Chrysene	218-01-9	N.D.		0.1	1
14249	Fluorene	86-73-7	N.D.		0.1	1
14249	Naphthalene	91-20-3	0.1	J	0.1	1
14249	Phenanthrene	85-01-8	N.D.		0.1	1
14249	Pyrene	129-00-0	N.D.		0.1	1
Volatiles by Extraction	**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	N.D.		0.090	1

Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/18.
This sample was filtered in the lab for dissolved metals..
Trip blank vials were not received by the laboratory for this sample group.

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	VOCs- 5ml Water by 8260B UST	SW-846 8260B	1	Z171503AA	05/31/2017 03:41	Hu Yang	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Z171503AA	05/31/2017 03:41	Hu Yang	1
14249	PAHs 8270C MINI	SW-846 8270C	1	17151WAE026	06/02/2017 01:15	Brandon H Smith	1
07807	BNA Water Extraction	SW-846 3510C	2	17151WAE026	05/31/2017 16:30	Christine Gleim	1

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Analysis Report

Sample Description: N-37-20170524 Grab Groundwater
PHL PES Refinery Annual GWS

LL Sample # WW 9012723
LL Group # 1805454
Account # 16657

Project Name: PES PHL Annual GWS

Collected: 05/24/2017 13:02 by JC

Submitted: 05/24/2017 18:40
Reported: 06/06/2017 23:08

Evergreen c/o Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL16

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	8011 Master Master	SW-846 8011	1	171460035A	05/30/2017 05:54	Heather M Miller	1
07786	EDB Extraction (8011)	SW-846 8011	1	171460035A	05/28/2017 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	171500605003A	06/06/2017 01:45	Sarah L Burt	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	171500605003	05/31/2017 21:30	Annamaria Kuhns	1

Quality Control Summary

Client Name: Evergreen c/o Stantec
Reported: 06/06/2017 23:08

Group Number: 1805454

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: Z171503AA	Sample number(s): 9012708-9012723	
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: 17145WAF026	Sample number(s): 9012708-9012715	
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: 17151WAE026	Sample number(s): 9012716-9012723	
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: 171460034A	Sample number(s): 9012708-9012709,9012711	
Ethylene dibromide	N.D.	0.010
Batch number: 171460035A	Sample number(s): 9012712-9012723	
Ethylene dibromide	N.D.	0.010
Batch number: 171520023A	Sample number(s): 9012710	
Ethylene dibromide	N.D.	0.010

*- 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: Evergreen c/o Stantec
Reported: 06/06/2017 23:08

Group Number: 1805454

Method Blank (continued)

Analysis Name	Result ug/l	MDL ug/l
Batch number: 171460605012A	Sample number(s): 9012708-9012713	
Lead	N.D.	0.090
Batch number: 171500605001A	Sample number(s): 9012714-9012718	
Lead	N.D.	0.090
Batch number: 171500605003A	Sample number(s): 9012719-9012723	
Lead	N.D.	0.090

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: Z171503AA	Sample number(s): 9012708-9012723								
Benzene	20	17.45			87		78-120		
1,2-Dichloroethane	20	18.46			92		66-128		
Ethylbenzene	20	17.44			87		78-120		
Isopropylbenzene	20	18.33			92		80-120		
Methyl Tertiary Butyl Ether	20	16.97			85		75-120		
Toluene	20	18.46			92		80-120		
1,2,4-Trimethylbenzene	20	17.44			87		75-120		
1,3,5-Trimethylbenzene	20	17.23			86		75-120		
Xylene (Total)	60	55.01			92		80-120		
	ug/l	ug/l	ug/l	ug/l					
Batch number: 17145WAF026	Sample number(s): 9012708-9012715								
Anthracene	50	44.47	50	49.69	89	99	72-120	11	30
Benzo(a)anthracene	50	48.67	50	51.98	97	104	74-124	7	30
Benzo(a)pyrene	50	45.01	50	49.27	90	99	71-119	9	30
Benzo(b)fluoranthene	50	45.85	50	49.06	92	98	72-124	7	30
Benzo(g,h,i)perylene	50	41.59	50	45.63	83	91	61-124	9	30
Chrysene	50	46.9	50	51.27	94	103	75-129	9	30
Fluorene	50	45.04	50	47.66	90	95	67-120	6	30
Naphthalene	50	38.12	50	40.29	76	81	54-109	6	30
Phenanthrene	50	44.18	50	48.77	88	98	72-117	10	30
Pyrene	50	42.85	50	48.73	86	97	69-119	13	30
Batch number: 17151WAE026	Sample number(s): 9012716-9012723								
Anthracene	50	44.41	50	45.37	89	91	72-120	2	30
Benzo(a)anthracene	50	48.65	50	50.41	97	101	74-124	4	30
Benzo(a)pyrene	50	44.67	50	45.68	89	91	71-119	2	30
Benzo(b)fluoranthene	50	45.42	50	46.23	91	92	72-124	2	30
Benzo(g,h,i)perylene	50	47.58	50	48.87	95	98	61-124	3	30
Chrysene	50	47.36	50	50.07	95	100	75-129	6	30
Fluorene	50	42.62	50	42.96	85	86	67-120	1	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: Evergreen c/o Stantec
Reported: 06/06/2017 23:08

Group Number: 1805454

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
Naphthalene	50	34.94	50	35.79	70	72	54-109	2	30
Phenanthrene	50	42.67	50	44.33	85	89	72-117	4	30
Pyrene	50	43.05	50	45.26	86	91	69-119	5	30
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460034A	Sample number(s): 9012708-9012709,9012711								
Ethylene dibromide	0.128	0.132	0.128	0.137	103	107	60-140	3	20
Batch number: 171460035A	Sample number(s): 9012712-9012723								
Ethylene dibromide	0.128	0.110	0.128	0.0931	86	73	60-140	17	20
Batch number: 171520023A	Sample number(s): 9012710								
Ethylene dibromide	0.128	0.0925	0.128	0.0973	72	76	60-140	5	20
	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460605012A	Sample number(s): 9012708-9012713								
Lead	15	14.88			99		80-120		
Batch number: 171500605001A	Sample number(s): 9012714-9012718								
Lead	15	15.21			101		80-120		
Batch number: 171500605003A	Sample number(s): 9012719-9012723								
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: Z171503AA	Sample number(s): 9012708-9012723 UNSPK: P011941									
Benzene	N.D.	20	17.46	20	17.57	87	88	78-120	1	30
1,2-Dichloroethane	N.D.	20	18.24	20	18.27	91	91	66-128	0	30
Ethylbenzene	N.D.	20	17.59	20	17.7	88	89	78-120	1	30
Isopropylbenzene	N.D.	20	18.36	20	18.6	92	93	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	20	15.92	20	16.22	80	81	75-120	2	30
Toluene	N.D.	20	18.71	20	18.61	94	93	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	20	17.15	20	17.59	86	88	75-120	3	30
1,3,5-Trimethylbenzene	N.D.	20	16.75	20	17.17	84	86	75-120	2	30
Xylene (Total)	N.D.	60	55.03	60	55.26	92	92	80-120	0	30
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460034A	Sample number(s): 9012708-9012709,9012711 UNSPK: P012219									
Ethylene dibromide	N.D.	0.122	0.126			103		60-140		

*- 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: Evergreen c/o Stantec
Reported: 06/06/2017 23:08

Group Number: 1805454

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: 171460035A	Sample number(s): 9012712-9012723 UNSPK: 9012712									
Ethylene dibromide	N.D.	0.122	0.136			111		60-140		
Batch number: 171520023A	Sample number(s): 9012710 UNSPK: P013937									
Ethylene dibromide	N.D.	0.123	0.108	0.122	0.0953	88	78	60-140	12	20
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 171460605012A	Sample number(s): 9012708-9012713 UNSPK: P010870									
Lead	N.D.	15	15.29	15	15.42	102	103	75-125	1	20
Batch number: 171500605001A	Sample number(s): 9012714-9012718 UNSPK: 9012714									
Lead	0.292	15	15.55	15	15.32	102	100	75-125	1	20
Batch number: 171500605003A	Sample number(s): 9012719-9012723 UNSPK: 9012719									
Lead	N.D.	15	15.49	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: 171460034A	Sample number(s): 9012708-9012709,9012711 BKG: P012220			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
Batch number: 171460035A	Sample number(s): 9012712-9012723 BKG: 9012713			
Ethylene dibromide	N.D.	N.D.	0 (1)	30
	ug/l	ug/l		
Batch number: 171460605012A	Sample number(s): 9012708-9012713 BKG: P010870			
Lead	N.D.	N.D.	0 (1)	20
Batch number: 171500605001A	Sample number(s): 9012714-9012718 BKG: 9012714			
Lead	0.292	0.315	8 (1)	20
Batch number: 171500605003A	Sample number(s): 9012719-9012723 BKG: 9012719			
Lead	N.D.	N.D.	0 (1)	20

*- 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: Evergreen c/o Stantec
Reported: 06/06/2017 23:08

Group Number: 1805454

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: VOCs- 5ml Water by 8260B UST
Batch number: Z171503AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9012708	100	100	100	95
9012709	98	97	99	97
9012710	100	100	99	95
9012711	100	99	98	97
9012712	101	101	99	99
9012713	101	100	99	95
9012714	101	98	99	96
9012715	101	101	99	94
9012716	101	99	99	93
9012717	101	100	99	94
9012718	99	97	99	99
9012719	101	98	99	99
9012720	100	99	98	98
9012721	101	100	99	97
9012722	100	98	99	96
9012723	102	100	98	94
Blank	100	100	99	93
LCS	99	100	99	98
MS	99	100	100	98
MSD	99	99	99	98
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs 8270C MINI
Batch number: 17145WAF026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9012708	60	62	45
9012709	58	56	52
9012710	57	59	53
9012711	60	55	51
9012712	71	66	52
9012713	59	58	49
9012714	55	57	54
9012715	54	59	38
Blank	77	75	78
LCS	73	71	73
LCSD	81	79	68
Limits:	29-119	41-112	38-125

Analysis Name: PAHs 8270C MINI
Batch number: 17151WAE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9012716	66	63	47
9012717	80	74	55

*- 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: Evergreen c/o Stantec
Reported: 06/06/2017 23:08

Group Number: 1805454

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.

Analysis Name: PAHs 8270C MINI
Batch number: 17151WAE026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
9012718	64	60	49
9012719	64	58	57
9012720	78	66	57
9012721	78	66	63
9012722	69	62	53
9012723	81	71	68
Blank	77	62	61
LCS	78	67	72
LCSD	80	71	74
Limits:	29-119	41-112	38-125

Analysis Name: 8011 Master Master
Batch number: 171460034A

	1,1,2,2-Tetrachloroethane
9012708	89
9012709	105
9012711	175*
Blank	104
DUP	102
LCS	101
LCSD	100
MS	101
Limits:	46-136

Analysis Name: 8011 Master Master
Batch number: 171460035A

	1,1,2,2-Tetrachloroethane
9012712	91
9012713	96
9012714	94
9012715	93
9012716	82
9012717	91
9012718	89
9012719	91
9012720	130
9012721	88
9012722	91
9012723	82
Blank	73
DUP	87
LCS	66
LCSD	86

*- 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: Evergreen c/o Stantec
Reported: 06/06/2017 23:08

Group Number: 1805454

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.

Analysis Name: 8011 Master Master
Batch number: 171460035A

	1,1,2,2-Tetrachloroethane
MS	95
Limits:	46-136

Analysis Name: 8011 Master Master
Batch number: 171520023A

	1,1,2,2-Tetrachloroethane
9012710	93
Blank	82
LCS	81
LCSD	79
MS	89
MSD	91
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. # 16657 Group # 1805454 Sample # 9012708-23

COC # 528389

Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: AHL PES Refinery Annual GWS	PWSID #:
Project Manager: Andy Bradley	P.O. #:
Sampler: J. Craft / C. Correll	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: A, O, O, O, H

For Lab Use Only
FSC:
SCR#: 206237

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

Remarks
* See attached analysis list *

Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Water	Other	Total # of Containers	VOCs 8260	SVOCs 8270	Lead dissolved	Naphthalene 8270	EDB 8011
N-1-20170523	5-23-17	1211	X			X		8	X	X	X	X	X
N-2-20170523	↓	1225	X			X		8	X	X	X	X	X
N-3-20170523	↓	1255	X			X		8	X	X	X	X	X
C-104-20170523	↓	0940	X			X		8	X	X	X	X	X
C-127-20170523	↓	1115	X			X		8	X	X	X	X	X
C-129-20170523	↓	1245	X			X		8	X	X	X	X	X
C-62-20170523	↓	1330	X			X		8	X	X	X	X	X
N-99-20170524	5-24-17	0824	X			X		8	X	X	X	X	X
N-8-20170524	↓	0920	X			X		8	X	X	X	X	X
N-98-20170524	↓	1000	X			X		8	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: andrew.bradley@stantec.com

Relinquished by	Date	Time	Received by	Date	Time
Bottlestorage	5/12/17	1240	[signature]		
Corey Correll	5/24/17	1405	[signature]	5-24-17	1408
[signature]	5-24-17	1848			
			[signature]	5-24-17	1840

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

EDD Required? Yes No
If yes, format: EQUIS

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 1.4-4.1 °C (3) 3.7°

[signature] 5-24-17

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The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client.
7044 0216
Page 42 of 47

Environmental Analysis Request/Chain of Custody

eurofins

Lancaster Laboratories Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 16657 Group # 1805454 Sample # 9012708-23

COC # 528390

Client Information

Client: Stantec

Acct. #: Evergreen

Project Name/#: PES PHL Refinery Annual GWS

PWSID #: ✓

Project Manager: Andy Bradley

P.O. #:

Sampler: J. Croft / C. Correll

Quote #:

State where samples were collected: PA

For Compliance: Yes ☐ No ☐

For Lab Use Only

FSC:

SCR#:

Matrix

Soil ☐ Sediment ☐ Tissue ☐

Water: Potable ☐ Ground ☒ NPDES ☐ Surface ☐

Other:

Analysis Requested

Preservation Codes: H, O, O, O, H

Sample Identification	Collected Date	Collected Time	Grab	Composite	Total # of Containers	VOC's 8260	SVOC's 8270	Lead dissolved	Naphthalene 8270	EDB 8011
N-85-20170524	5-24-17	1048	X		8	X	X	X	X	X
N-156-20170524		1000	X		8	X	X	X	X	X
N-74-20170524		1050	X		8	X	X	X	X	X
N-57-20170524		1130	X		8	X	X	X	X	X
N-111-20170524		1240	X		8	X	X	X	X	X
N-37-20170524		1302	X		8	X	X	X	X	X

Preservation Codes: H=HCl, T=Thiosulfate, N=HNO_3, B=NaOH, S=H_2SO_4, O=Other

Remarks: *See Attached Analysis list*

Turnaround Time (TAT) Requested (please circle)

Standard Rush

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

Date results are needed:

E-mail address: andrew.bradley@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
[signature]	5/24/17	1405	[signature]	5-24-17	1405
[signature]	5-24-17	1840			
			[signature]	5-24-17	1840

EDD Required? Yes No

If yes, format: EQUIS

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 1.4-4.1 °C

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3.7 5-24-17

7044 0216

16657/1805454/9012708-23

Table 1
Evergreen Petroleum Short List of Constituents of Concern

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(b)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 (EDB) should be analyzed by Method 8011 instead of 8260 in soil for tank investigations and in **all groundwater samples**. EDB in all trip blank samples should be analyzed by 8260 regardless of method used for primary 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).

Stantec

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Sample Administration Receipt Documentation Log

Doc Log ID: 184590

Group Number(s): 1805454

Client: Stantec

Delivery and Receipt Information

Delivery Method:	ELLE Courier	Arrival Timestamp:	05/24/2017 18:40
Number of Packages:	4	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:	No
Samples Chilled:	Yes	VOA Vial Headspace ≥ 6mm:	No
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Cory Jeremiah (10469) at 21:50 on 05/24/2017

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	DT146	1.4	DT	Wet	Y	Loose/Bag	N
2	DT146	1.4	DT	Wet	Y	Loose/Bag	N
3	32170023	3.7	IR	Wet	Y	Loose/Bag	N
4	DT146	1.5	DT	Wet	Y	Loose/Bag	N

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
N-37-20170524	5/24/2017 13:20	

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:

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

< 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:

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…
W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

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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Additional Data Qualifiers

Qualifier	Definition
B	Detection in the Blank
Q0	LCS/LCSD Low
Q1	LCS/LCSD High
Q4	MS/MSD Out of Range
Q7	LCS/LCSD RPD
Q8	DUP RPD
Q9	MS/MSD RPD