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

July 27, 2015

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

RE: Philadelphia Refinery Remediation Program
Groundwater Remediation Status Report, First Half 2015

Dear Mr. Brown:

Enclosed for your review is a semi-annual summary report for Operation & Maintenance (O&M) work completed at the Philadelphia Energy Solutions Refining & Marketing, LLC (PES) Philadelphia Refinery and the Sunoco Logistics Belmont Terminal between January 1 and June 30, 2015. Detailed information regarding O&M activity is included in the attached tables and figures for the Philadelphia Refinery as prepared by Stantec Consulting Services Inc. (Stantec). **Figure 1** is a site location map showing the facility location with respect to the surrounding area, and **Figure 2** is a site plan which identifies remediation system areas. This letter summarizes the information detailed in the tables plus additional activities under the Site Wide Approach such as investigations of the various Areas of Interest (AOIs).

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

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

figures, and tables on an annual basis coinciding with the annual groundwater gauging and monitoring. On the alternating six month interval, Evergreen will submit an abbreviated letter report detailing the O&M summary without figures and limited tables. This approach has been agreed to by the PADEP in a conversation between David Brown and Jim Oppenheim in July 2015.

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

Consent Order / Characterization Status

Sunoco submitted to the PADEP and the USEPA a Site Characterization Report (SCR) for AOI 1 dated June 30, 2005. Based on comments received by the PADEP with regard to the AOI 1 SCR, Sunoco prepared and submitted to the PADEP a revised SCR for AOI 1 dated July 17, 2006. The recommendations in the AOI 1 report were to supplement the existing remediation system along the northwestern portion of the Belmont Terminal and southeastern portion of the No. 2 Tank Farm. Sunoco has implemented these actions as detailed in previous quarterly reports. In addition, Sunoco provided the PADEP a Remedial Action Plan (RAP) for AOI 1 in January 2008. As a result of the 26th Street North recovery system study and the S-50 Area (26th Street South) investigation, an addendum to the RAP was considered necessary. In December 2008, a RAP Addendum for AOI 1 was submitted to address the 26th Street North recovery system data analysis and the 26th Street South investigation and subsequent remedial actions. Evergreen intends to submit a revised Remedial Investigation Report (RIR) for AOI 1 by the end of 2015.

Belmont Terminal – Operation During the First Half of 2015

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 11, 2015 and May 13, 2015, and no product was detected.

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

The Loading Rack system was restarted on April 3, 2015. The Loading Rack system was operational for the reporting period with the following exceptions:

- The groundwater recovery system was shut off from April 7 to May 7 as the benzene NESHAP sewer was obstructed.
- All product pumps were shut off on May 29 in order to replace the conductivity probes. The product pumps were restarted intermittently beginning on June 12.
- RW-21 and RW-25 were not operational for the reporting period.

A total of 1,374,409 gallons of groundwater and 41 gallons of LNAPL was recovered by the Loading Rack system during the first half of 2015. Recovery totals and details of minor maintenance can be found in **Appendix 1**.

Shunk Street Sewer Ventilation System and Biofilter – Operation During the First Half of 2015

The biofilter was operational for the reporting period. System data for the first half of 2015 can be found in **Appendix 1**.

26th Street Sewer Area – System Performance and Operation During the First Half of 2015

26th Street North:

Sunoco has conducted a performance assessment of the 26th Street North recovery system to better determine the effectiveness of remediation in this area. In general, Sunoco believes that the 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; however, LNAPL thickness appears to have decreased over time, indicating stability of LNAPL along the 26th Street North area.

On November 25, 2014, the 26th Street Sewer Area system was shut off in order to modify the system and increase its overall effectiveness. A two-inch lateral line will connect each recovery well (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, and RW-400) to a new four-inch high density polyethylene (HDPE) trunk line, which will transfer the total fluids to an onsite process sewer. Currently the Belmont Terminal Loading Rack system competes with the 26th Street North recovery system at the discharge point. This will enable both systems to pump more effectively.

The system remained off for the first half of 2015. All of the four-inch diameter recovery wells have been replaced with six-inch diameter recovery wells. Installation of the new piping will begin the week of July 27, 2015. Modifications to the system are expected to be completed by the fourth quarter of 2015.

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 oxygen injection was recommended for the area. A thirty-point oxygen injection system was installed in 2009 to accomplish this barrier.

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 2015. The conceptualization of a recovery system will be evaluated in the AOI 1 Cleanup Plan.

26th Street and Packer Avenue Sewer Biofilter System – Operation During the First Half of 2015

The biofilter was operational throughout the first half of 2015. The system operation is checked once per week and includes the collection of influent and effluent vapor concentrations utilizing a photoionization detector (PID). System data for the biofilter can be found in **Appendix 1**.

Upgrades to the biofilter, including replacing the compost beds, repairing the duct work and replacing two fans, are planned for the second half of 2015.

AOI 2 – Point Breeze Processing Area

Consent Order / Characterization Status

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

Pollock Street Sewer Area – Operation During the First Half of 2015

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. Groundwater and LNAPL are removed from select recovery wells using pneumatic submersible pumps. All liquids are processed through an oil/water separator. Water is discharged to a refinery process sewer (S-10 Sump), and LNAPL is recovered in a series of two 550-gallon tanks and then recycled by the refinery. A report describing the details of the investigation and remediation performed in response to the oil observed in the Pollock Street sewer outfall was submitted to the PADEP and the USEPA on June 29, 2012.

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

- On February 9, February 23 and March 16, the system shut down due to high oil/water separator alarm.
- The system was shut down on April 22 for annual maintenance to the discharge lines and manifolds. The system remained off for the rest of the reporting period due to low product recovery.

A total of 1,443,500 gallons of groundwater and 61 gallons of LNAPL was recovered by the Pollock Street West End system during the first half of 2015. Operational and performance data can be found in **Appendix 1**.

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

Horizontal wells HW-1, HW-2, and HW-3 were operational for the reporting period with the following exceptions:

- On January 20, HW-2 was inoperable. The pump was removed, rebuilt, and reinstalled.
- HW-1 was shut off on March 30 for well development and remained off until April 6 due to a blockage in the main discharge line.
- HW-2 was re-developed on April 1.
- On April 6, the HW-2 discharge line was flushed.
- The HW-1 flow meter was clogged on April 8, April 13, and April 20.

The flow rates for the Pollock Street Horizontal Well Recovery system for the first half of 2015 are estimated to be as follows:

- HW-1: 10.00 gallons per minute (gpm)
- HW-2: 3.73 gpm
- HW-3: 15.38 gpm

Beginning May 25, 2013, HW-1 flow rates are measured and reported by a totalizer. A total of 6,942,553 gallons of total fluids were recovered by the Pollock Street Horizontal Well Recovery system this reporting period. Details of minor maintenance and system recovery totals for the first half of 2015 can be found in **Appendix 1**.

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 was operational throughout the reporting period with the following exceptions:

- On January 8, the skimmer belt was replaced. The skimmer was not restarted until January 12.
- The skimmer was shut off on January 20 due to lack of recoverable oil in the outfall.
- The skimmer was restarted on March 13 after the control panel was replaced, and the skimmer system was re-wired.
- On April 20, the skimmer was shut off due to the lack of recoverable oil in the outfall. The skimmer remained off for the rest of the reporting period.

Short Pier – Operation During the First Half of 2015

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.

AOI 3 – Impoundment Area

There are no groundwater or LNAPL recovery systems active in this area. The AOI 3 SCR/RIR was submitted to the PADEP and the USEPA on September 27, 2010. The SCR/RIR stated that given the limited occurrence and mobility of LNAPL observed in RW-2, the recovery system will remain offline. The disposition of remediation systems in AOI 3 will be revisited in the Cleanup Plan. A revised RIR for AOI 3 will be completed by the end of 2015.

AOI 4 – No. 4 Tank Farm Area

Consent Order / Characterization Status

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

Penrose Avenue Remediation System – Operation During the First Half of 2015

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

- RW-701, RW-705, RW-706, RW-708, and RW-709 were removed for semi-annual maintenance on January 15.
- On February 27, the system was shut off for static groundwater gauging and sampling of the system recovery wells. The system was restarted on April 2.
- The system effluent was above the ten percent lower explosive limit (LEL) at the discharge point on April 9. The system was subsequently shut off and retrofitted in order to mitigate potential explosive vapors at the discharge point. The system was restarted on May 19.
- The flow meter was bypassed from June 2 to June 12.

A total of 1,558,170 gallons of groundwater and 54 gallons of LNAPL was recovered by the Penrose Avenue Remediation system during the reporting period. Details of minor maintenance as well as groundwater and LNAPL recovery totals for the first half of 2015 can be found in **Appendix 1**.

S-30 and S-36 LNAPL Recovery Systems – Operation During the First Half of 2015

Due to the absence of recoverable product in the recovery wells, Evergreen recommends that S-30, S-34, S-35, and S-36 remain offline.

AOI 5 – Girard Point South Tank Field

Consent Order / Characterization Status

In accordance with the Site Wide Approach, a repackaged Site Characterization Report/Remedial Investigation Report/Cleanup Plan (SCR/RIR/Cleanup Plan) was submitted to the PADEP and the USEPA on December 13, 2011. Sunoco received a Remedial Investigation Report/Cleanup Plan Disapproval from the PADEP on March 15, 2012. A revised RIR will be completed by the end of 2015.

9 Berth – Operation During the First Half of 2015

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

AOI 6 – Girard Point Chemicals Processing Area

Consent Order / Characterization Status

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

27 Pump House – Operation During the First Half of 2015

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

During the reporting period, wells were routinely gauged and the absorbent socks within wells B-124 and B-137 were replaced when necessary. LNAPL recovery volumes are recorded using a graduated beaker, and recovered product is transferred to the system holding tank. Based on limited recoverable LNAPL in the proximal wells, passive remediation was discontinued on January 26, 2015.

Approximately two gallons of LNAPL was recovered using the above referenced methods. Recovery totals for the first half of 2015 can be found in **Appendix 1**.

AOI 7 – Girard Point Fuels Processing Area

Consent Order / Characterization Status

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

No. 3 Separator / Bulkhead Area – Operation During the First Half of 2015

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.

On March 19, 2013, the remediation system was shut down due to high level of product in the recovery tank. The tank was evacuated, and the system was restarted. Due to an increase in product recovery, the tank was placed on a more frequent evacuation schedule. The system recovery wells and performance monitoring wells were gauged. Well gauging demonstrated an increased thickness of oil in the recovery wells and performance monitoring wells. No oil was observed in the Schuylkill River. A release was verbally communicated by PES to Andrew Sinclair of the PADEP on March 28, 2013. PES initiated an investigation of the adjacent process sewer line which revealed breaches in the sewer line adjacent to a junction box. The PES investigation/repair was completed in April 2013. Any questions regarding the investigation or repair of the sewer should be directed to Chuck Barksdale at charles.barksdale@pes-companies.com.

A new oil/water separator was installed on July 3, 2013, and the system was restarted. The system was operational for the first half of 2015 with the following exception:

- On February 5 and February 6, all ten pumps were removed for semi-annual maintenance.

A total of 1,992,900 gallons of groundwater and 22,782 gallons of LNAPL was recovered by the system during the first half of 2015. System operation details and performance data for the No. 3 Separator system can be found in **Appendix 1**.

AOI 8 – Point Breeze North Yard

Consent Order / Characterization Status

A SCR was submitted to the PADEP on September 30, 2008. A repackaged SCR/RIR incorporating the PADEP's comments on AOI 8 was submitted to the PADEP and the USEPA on January 31, 2012. Comments from the PADEP

on the SCR/RIR were received by email on July 7, 2012. A revised RIR will be completed by the end of second quarter 2017 based on the abovementioned PADEP comments.

PGW Border Recovery System – Operation During the First Half of 2015

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

Jackson Street Sewer Area – Operation During the First Half of 2015

The Jackson Street Sewer Total Fluids Recovery system is offline. Due to limited LNAPL presence in the area, the system will remain off unless there are significant increases in LNAPL in the proximal wells. The Jackson Street combined sewer overflow outfall ("CSO") is checked once per shift by PES refinery personnel for a sheen or the presence of LNAPL. There has been no evidence of sheening to the Schuylkill River throughout the first half of 2015.

Jackson Street Sewer Water Curtain – Operation During the First Half of 2015

The Jackson Street Sewer Water Curtain was operational during the first half of 2015. 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 2015 is included in **Appendix 1**.

Sunoco agreed at the July 30, 2009 meeting to sample the air in the sewer onsite and offsite following notification from the PADEP of a neighborhood (28th and McKean Streets) complaint. No complaints regarding sewer odors were received during the first half of 2015.

North Yard Bulkhead Area and No. 3 Tank Farm Separator – Operation During the First Half of 2015

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 the area. A SCR was submitted to the PADEP and the USEPA on October 30, 2009. A revised RIR will be submitted to the agencies by the end of 2015.

AOI 10 – West Yard

There are no groundwater or LNAPL recovery systems operational in the area. 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 will be completed in 2016.

AOI 11 – Deep Aquifer

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

Passyunk Avenue Sewer

The Passyunk Avenue Sewer CSO is checked by PES personnel once per shift at low tide and findings are recorded. LNAPL was not observed at the Schuylkill River outfall during the first half of 2015.

Groundwater Monitoring

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

Liquid level measurements collected during the first quarter of 2015 are provided in **Table 1**. The second quarter 2015 site-wide annual gauging liquid level measurements are provided in **Table 2** of this report. The second quarter 2015 groundwater gauging data was used to generate a product thickness map (**Figure 3**) and site-wide groundwater contour maps. **Figure 4** presents groundwater contour elevations for the shallow and intermediate monitoring wells, and a deep groundwater elevation map is included as **Figure 5**.

The purpose of the annual groundwater sampling event is to evaluate concentration trends at the perimeter of the refinery. The annual groundwater sampling program consists of sampling select wells throughout the Point Breeze and Girard Point Processing Areas and has historically been performed during the fourth quarter of each year. However, this year and in future years, annual perimeter groundwater sampling will be performed in the second quarter in conjunction with annual site-wide gauging. The annual perimeter groundwater sampling event was conducted in May 2015.

The annual perimeter groundwater samples are analyzed pursuant to Pennsylvania's Land Recycling Program for leaded and unleaded gasoline and No. 2, 4, 5, and 6 fuel oils. These parameters include benzene, cumene (isopropylbenzene), 1,2-dichloroethane (EDC), ethylbenzene, methyl tert butyl ether (MTBE), toluene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and total xylenes by EPA SW846 Method 8260B; 1,2-dibromoethane (EDB) by EPA SW 846 Method 8011; anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluorene, naphthalene, phenanthrene, and pyrene by EPA SW846 Method 8270D; dissolved lead by EPA SW846 Method 6010C. A summary of the annual perimeter sampling event conducted in May 2015 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 2015 annual perimeter groundwater sampling event are included electronically in **Appendix 2**.

Please contact me at (302) 477-0192 or jroppenheim@evergreenresmgt.com with any questions or comments.

Best Regards,

James Oppenheim, PE
Vice President

Enclosures : Figure 1 – Site Location Map
Figure 2 – Site Plan
Figure 3 – Product Thickness Map, May 2015
Figure 4 – Shallow and Intermediate Groundwater Elevation Map, May 2015
Figure 5 – Deep Groundwater Elevation Map, May 2015
Table 1 – First Quarter 2015 Gauging Data
Table 2 – Second Quarter 2015 Gauging Data
Table 3 – May 2015 Perimeter Groundwater Sampling Analytical Results
Table 4 – Historical Perimeter Groundwater Sampling Analytical Results
Appendix 1 – Remediation System Recovery Data
Appendix 2 (electronic) – Laboratory Analytical Data Reports

cc: Mr. Paul Gotthold
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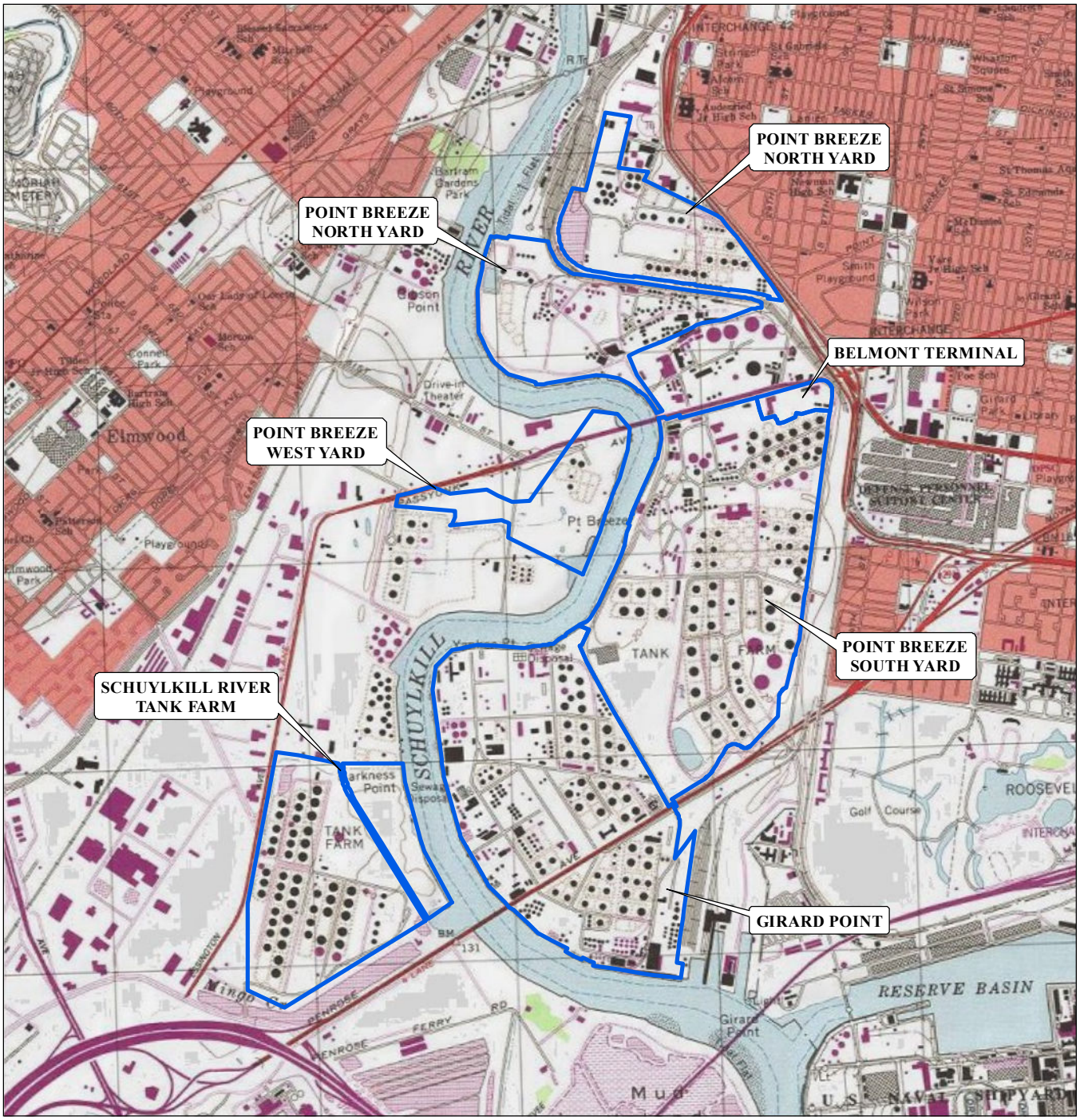
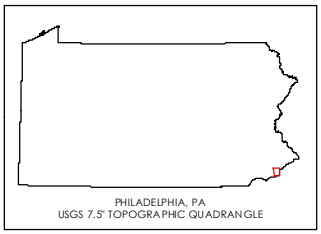
File: Philadelphia Refinery Remediation Program
Groundwater Remediation Status Report, First Half 2015

FIGURES





Notes

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

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

Stantec

Project Location
City of Philadelphia, Pennsylvania

213402429
Prepared by GWC on 7/14/2015
Technical Review by ADK on 7/14/2015
Independent Review by SLA on 7/14/2015

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

Figure No.
1

Title
SITE LOCATION MAP

INACTIVE JACKSON STREET SEWER SYSTEM

AOI 8

JACKSON STREET WATER CURTAIN

INACTIVE NORTH YARD BULKHEAD SYSTEM

INACTIVE PGW BORDER SYSTEM

LOADING RACK REMEDIATION SYSTEM

SHUNK STREET SEWER VENTILATION SYSTEM AND BIOFILTER

INACTIVE FRONTAGE ROAD REMEDIATION SYSTEM

BELMONT TERMINAL

26TH STREET NORTH

AOI 10

AOI 2

AOI 1

POLLOCK STREET AREA SEWER SYSTEMS

INACTIVE 26TH STREET SEWER AREA SYSTEM

26TH STREET SOUTH

INACTIVE 26TH STREET SOUTH O2 INJECTION SYSTEM

POLLOCK STREET WEST END RECOVERY SYSTEM

INACTIVE POLLOCK STREET VERTICAL RECOVERY SYSTEM

POLLOCK STREET HORIZONTAL RECOVERY SYSTEM

PACKER AVENUE AND 26TH STREET SEWERS (POINT BREEZE) VENTILATION SYSTEM AND BIOFILTER

SCHUYLKILL RIVER

INACTIVE RW-2 SYSTEM

INACTIVE S-36 SYSTEM

AOI 3

AOI 4

3 SEPARATOR SYSTEM

AOI 7

INACTIVE S-30 SYSTEM

PENROSE AVENUE REMEDIATION SYSTEM

AOI 6

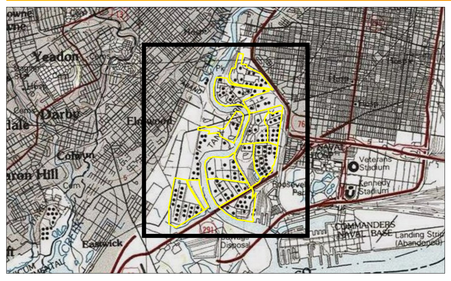
INACTIVE 27 PUMP HOUSE PASSIVE RECOVERY SYSTEM

AOI 9

AOI 5

INACTIVE 9 BERTH SYSTEM

INACTIVE SRTF SYSTEM



Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
2. Sources: Stantec
3. Aerial & Topo Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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Legend

- OTHER MONITORING WELL
- SHALLOW MONITORING WELL
- SHALLOW / INTERMEDIATE MONITORING WELL
- SHALLOW / INTERMEDIATE / DEEP MONITORING WELL
- INTERMEDIATE MONITORING WELL
- INTERMEDIATE / DEEP MONITORING WELL
- DEEP MONITORING WELL
- SHALLOW / INTERMEDIATE O2 MONITORING WELL
- DAMAGED MONITORING WELL
- DESTROYED MONITORING WELL
- UNABLE TO LOCATE WELL
- SHALLOW RECOVERY WELL
- SHALLOW / INTERMEDIATE RECOVERY WELL
- INTERMEDIATE RECOVERY WELL
- DAMAGED RECOVERY WELL
- STAFF GAUGE
- PIEZOMETER
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- REMEDIATION SYSTEMS DESIGNATED AS CURRENTLY ACTIVE
- REMEDIATION SYSTEMS DESIGNATED AS INACTIVE
- AREA OF INTEREST (AOI)

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N

Figure No.

2

Title

SITE PLAN

Client/Project

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

Project Location

City of Philadelphia, Pennsylvania

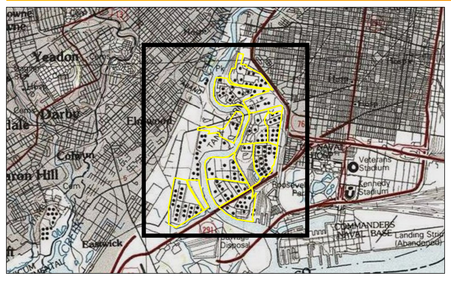
213402429

Prepared by GWC on 7/10/2015
Technical Review by ADK on 7/13/2015
Independent Review by SLA 7/13/2015

Stantec

EVERGREEN

INACTIVE JACKSON STREET SEWER SYSTEM
AOI 8
JACKSON STREET WATER CURTAIN
INACTIVE NORTH YARD BULKHEAD SYSTEM
INACTIVE PGW BORDER SYSTEM
LOADING RACK REMEDIATION SYSTEM
SHUNK STREET SEWER VENTILATION SYSTEM AND BIOFILTER
INACTIVE FRONTAGE ROAD REMEDIATION SYSTEM
BELMONT TERMINAL
26TH STREET NORTH
AOI 10
AOI 2
AOI 1
POLLOCK STREET AREA SEWER SYSTEMS
INACTIVE 26TH STREET SEWER AREA SYSTEM
26TH STREET SOUTH
INACTIVE 26TH STREET SOUTH O2 INJECTION SYSTEM
INACTIVE POLLOCK STREET VERTICAL RECOVERY SYSTEM
POLLOCK STREET HORIZONTAL RECOVERY SYSTEM
POLLOCK STREET WEST END RECOVERY SYSTEM
PACKER AVENUE AND 26TH STREET SEWERS (POINT BREEZE) VENTILATION SYSTEM AND BIOFILTER
SCHUYLKILL RIVER
INACTIVE RW-2 SYSTEM
INACTIVE S-36 SYSTEM
AOI 3
AOI 4
INACTIVE S-30 SYSTEM
3 SEPARATOR SYSTEM
AOI 7
PENROSE AVENUE REMEDIATION SYSTEM
AOI 6
INACTIVE 27 PUMP HOUSE PASSIVE RECOVERY SYSTEM
AOI 9
AOI 5
INACTIVE 9 BERTH SYSTEM
INACTIVE SRTF SYSTEM



Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
2. Sources: Stantec
3. Callouts denote product thickness measured in feet using an interface probe.
4. Monitoring wells S-402, S-405, S-417 and S-418, located in AOI 1, were installed in 2015 and have yet to be surveyed. The location of these wells on this figure denote the approximate installation locations.
5. Aerial & Topo Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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Legend

- OTHER MONITORING WELL
- SHALLOW MONITORING WELL
- SHALLOW / INTERMEDIATE MONITORING WELL
- SHALLOW / INTERMEDIATE / DEEP MONITORING WELL
- INTERMEDIATE MONITORING WELL
- INTERMEDIATE / DEEP MONITORING WELL
- DEEP MONITORING WELL
- SHALLOW / INTERMEDIATE O2 MONITORING WELL
- DAMAGED MONITORING WELL
- DESTROYED MONITORING WELL
- UNABLE TO LOCATE WELL
- SHALLOW RECOVERY WELL
- SHALLOW / INTERMEDIATE RECOVERY WELL
- INTERMEDIATE RECOVERY WELL
- DAMAGED RECOVERY WELL
- STAFF GAUGE
- PIEZOMETER

- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- REMEDIATION SYSTEMS DESIGNATED AS CURRENTLY ACTIVE
- REMEDIATION SYSTEMS DESIGNATED AS INACTIVE
- AREA OF INTEREST (AOI)
- NM NOT MEASURED
- DRY WELL WAS DRY AT TIME OF GAUGING
- 0.01 APPARENT LIGHT NON-AQUEOUS PHASE LIQUID THICKNESS

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N

Figure No.
3

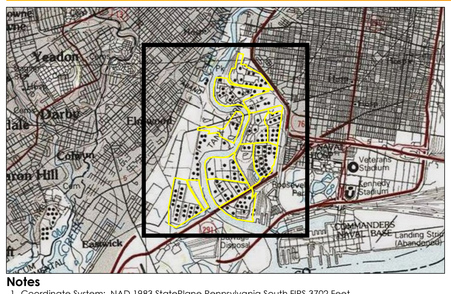
Title
PRODUCT THICKNESS MAP MAY 2015

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

Project Location
City of Philadelphia, Pennsylvania

213402429
Prepared by GWC on 6/25/2015
Technical Review by ADK on 6/26/2015
Independent Review by SLA 7/7/2015

Stantec



Notes

1. Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet
   North American Vertical Datum of 1988 (NAVD 88)
2. Sources: Stantec
3. Callouts denote 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. Shallow and intermediate groundwater elevation data has not been shown for AOI 9 and AOI 10 as no active remediation systems are present in those areas. A site characterization for AOI 9 is presently being performed by others.
5. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
6. Aerial & Topo Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community
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Legend

- OTHER MONITORING WELL
- SHALLOW MONITORING WELL
- SHALLOW / INTERMEDIATE MONITORING WELL
- INTERMEDIATE MONITORING WELL
- SHALLOW / INTERMEDIATE O2 MONITORING WELL
- DAMAGED MONITORING WELL
- DESTROYED MONITORING WELL
- UNABLE TO LOCATE WELL
- SHALLOW RECOVERY WELL
- SHALLOW / INTERMEDIATE RECOVERY WELL
- INTERMEDIATE RECOVERY WELL
- DAMAGED RECOVERY WELL
- STAFF GAUGE
- PIEZOMETER
- GROUNDWATER ELEVATION CONTOUR
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- REMEDIATION SYSTEMS DESIGNATED AS CURRENTLY ACTIVE
- REMEDIATION SYSTEMS DESIGNATED AS INACTIVE
- AREA OF INTEREST (AOI)
- NM NOT MEASURED
- DRY WELL WAS DRY AT TIME OF GAUGING
- PZ-2 5.28 WELLS NOT USED FOR GROUNDWATER CONTOURING
- 6.14 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

0 400 800 Feet

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

N

Figure No.

4

Title

SHALLOW AND INTERMEDIATE GROUNDWATER ELEVATION MAP MAY 2015

Client/Project

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

Project Location

City of Philadelphia, Pennsylvania

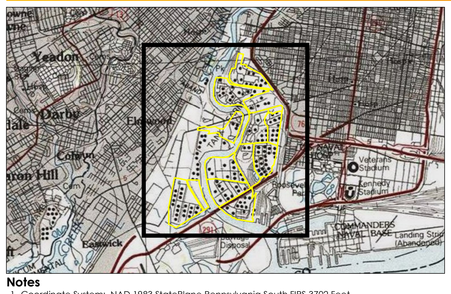
213402429

Prepared by GWC on 6/25/2015
Technical Review by ADK on 6/26/2015
Independent Review by SLA on 7/13/2015

Stantec

EVERGREEN

AOI 8
AOI 10
AOI 1
AOI 2
AOI 3
AOI 4
AOI 7
AOI 6
AOI 5
AOI 9
BELMONT TERMINAL
SCHUYLKILL RIVER
Passyunk Ave Sewer
Jackson Street Sewer
Rambo Creek Sewer
Penrose Street Sewer
Penrose Ave Sewer
Penrose Street Sewer



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 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. Deep groundwater elevation data has not been shown for AOI 9 and AOI 10 as no active remediation systems are present in those areas. A site characterization for AOI 9 is presently being performed by others.
5. Groundwater elevation data was interpolated using block kriging with a linear variogram model in Surfer.
6. Aerial & Topo Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- INTERMEDIATE / DEEP MONITORING WELL
- DEEP MONITORING WELL
- DESTROYED MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR
- POLLOCK STREET HORIZONTAL WELL
- SEWER LINE
- AREA OF INTEREST (AOI)
- WELL NOT USED FOR GROUNDWATER CONTOURING
- -3.26 GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)

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N

Figure No.
5

Title
DEEP GROUNDWATER ELEVATION MAP MAY 2015

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

Project Location
City of Philadelphia, Pennsylvania

213402429
Prepared by GWC on 6/25/2015
Technical Review by ADK on 6/26/2015
Independent Review by SLA on 7/8/2015

Stantec

TABLES

Table 1
First Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	ARCO-1	2/11/2015	---	26.88	---	Intermediate	No	Static	
AOI 1	ARCO-1D	2/11/2015	---	26.69	---	Deep	No	Static	
AOI 1	ARCO-2	2/11/2015	---	25.98	---	Intermediate	No	Static	
AOI 1	ARCO-3	2/11/2015	---	24.70	---	Intermediate	No	Static	
AOI 1	MW-26	2/11/2015	22.13	23.16	1.03	Shallow	No	Static	
AOI 1	MW-27	2/11/2015	24.34	24.36	0.02	Shallow	No	Static	
AOI 1	MW-28	2/11/2015	---	24.66	---	Intermediate	No	Static	
AOI 1	MW-29	2/11/2015	24.46	25.75	1.29	Intermediate	No	Static	
AOI 1	MW-30	2/11/2015	---	27.43	---	Shallow	No	Static	
AOI 1	MW-31	2/11/2015	---	25.83	---	Shallow	No	Static	
AOI 1	MW-32	2/11/2015	---	24.95	---	Intermediate	No	Static	
AOI 1	MW-33	2/11/2015	---	25.74	---	Shallow	No	Static	
AOI 1	MW-35	2/11/2015	---	26.67	---	Intermediate	No	Static	
AOI 1	MW-36	2/11/2015	---	27.98	---	Intermediate	No	Static	
AOI 1	MW-37	2/11/2015	---	27.17	---	Intermediate	No	Static	
AOI 1	MW-38	2/11/2015	---	23.27	---	Intermediate	No	Static	
AOI 1	MW-39	2/11/2015	---	23.20	---	Intermediate	No	Static	
AOI 1	MW-40	2/11/2015	23.42	23.79	0.37	Intermediate	No	Static	
AOI 1	MW-41	2/11/2015	---	22.91	---	Intermediate	No	Static	
AOI 1	MW-43	2/10/2015	---	26.31	---	Intermediate	No	Static	
AOI 1	MW-44	2/11/2015	25.54	25.54	<0.01	Intermediate	No	Static	
AOI 1	OW-2	2/11/2015	---	27.04	---	Shallow	No	Static	
AOI 1	OW-12	2/11/2015	---	25.72	---	Shallow	No	Static	
AOI 1	OW-13	2/11/2015	---	27.62	---	Shallow	No	Static	
AOI 1	OW-14	2/11/2015	---	27.78	---	Shallow	No	Static	
AOI 1	OW-16	2/11/2015	26.83	26.94	0.11	Shallow	No	Static	
AOI 1	OW-17	2/11/2015	---	25.93	---	Shallow	No	Static	
AOI 1	OW-18	2/11/2015	---	27.11	---	Intermediate	No	Static	
AOI 1	OW-19	2/11/2015	NA	NA	NA	Intermediate	No	Static	Not accessible - blocked by vehicle.
AOI 1	OW-20	2/11/2015	---	27.28	---	Shallow	No	Static	
AOI 1	PZ-400	2/11/2015	---	23.71	---	Shallow	No	Static	
AOI 1	PZ-401	2/10/2015	19.65	19.71	0.06	Shallow	No	Static	
AOI 1	PZ-402	2/10/2015	19.52	19.77	0.25	Shallow	No	Static	
AOI 1	PZ-403	2/11/2015	23.01	23.02	0.01	Shallow	No	Static	LNAPL is very viscous.
AOI 1	PZ-404	2/11/2015	26.53	26.74	0.21	Shallow	No	Static	
AOI 1	RW-1	2/11/2015	NA	NA	NA	Intermediate	Yes	Static	Not accessible - blocked by vehicle.
AOI 1	RW-4	2/11/2015	22.75	26.73	3.98	Intermediate	Yes	Static	
AOI 1	RW-6	2/11/2015	---	26.59	---	Intermediate	Yes	Static	
AOI 1	RW-7	2/11/2015	---	23.70	---	Intermediate	Yes	Static	
AOI 1	RW-15	2/11/2015	---	26.72	---	Intermediate	Yes	Static	
AOI 1	RW-21	2/11/2015	---	24.35	---	Shallow	Yes	Static	
AOI 1	RW-22	2/11/2015	---	22.47	---	Shallow	Yes	Static	
AOI 1	RW-23	2/11/2015	22.49	22.69	0.20	Intermediate	Yes	Static	
AOI 1	RW-24	2/11/2015	---	22.73	---	Intermediate	Yes	Static	
AOI 1	RW-25	2/11/2015	25.52	26.28	0.76	Intermediate	Yes	Static	
AOI 1	RW-26	2/11/2015	---	25.34	---	Intermediate	Yes	Static	
AOI 1	RW-27	2/11/2015	---	26.05	---	Intermediate	Yes	Static	
AOI 1	RW-28	2/11/2015	---	25.06	---	Intermediate	Yes	Static	
AOI 1	RW-29	2/11/2015	---	25.67	---	Intermediate	Yes	Static	
AOI 1	RW-30	2/11/2015	---	25.53	---	Intermediate	Yes	Static	
AOI 1	RW-31	2/11/2015	---	25.55	---	Intermediate	Yes	Static	
AOI 1	RW-32	2/11/2015	---	21.49	---	Intermediate	Yes	Static	

Table 1
First Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	RW-110	2/11/2015	---	16.35	---	Shallow	Yes	Static	
AOI 1	RW-111	2/11/2015	---	16.50	---	Shallow	Yes	Static	
AOI 1	RW-112	2/11/2015	---	16.41	---	Shallow	Yes	Static	
AOI 1	RW-400	2/11/2015	---	23.78	---	Intermediate	Yes	Static	
AOI 1	RW-401	2/10/2015	20.56	21.02	0.46	Intermediate	Yes	Static	
AOI 1	RW-402	2/10/2015	---	17.85	---	Intermediate	Yes	Static	
AOI 1	RW-403	2/10/2015	---	21.17	---	Intermediate	Yes	Static	
AOI 1	RW-404	2/10/2015	---	22.77	---	Intermediate	Yes	Static	
AOI 1	RW-405	2/11/2015	24.75	24.85	0.10	Intermediate	Yes	Static	
AOI 1	RW-406	2/10/2015	22.83	23.01	0.18	Intermediate	Yes	Static	
AOI 1	S-41	2/11/2015	---	25.76	---	Intermediate	No	Static	
AOI 1	S-42I	2/11/2015	---	25.13	---	Intermediate	No	Static	
AOI 1	S-43	2/11/2015	---	24.00	---	Intermediate	No	Static	
AOI 1	S-44	2/11/2015	---	25.49	---	Intermediate	No	Static	
AOI 1	S-45	2/11/2015	DRY	DRY	DRY	Intermediate	No	Static	Well is dry.
AOI 1	S-46	2/11/2015	---	21.30	---	Intermediate	No	Static	
AOI 1	S-46D	2/11/2015	---	14.60	---	Deep	No	Static	
AOI 1	S-47I	2/11/2015	---	20.93	---	Intermediate	No	Static	
AOI 1	S-50	2/11/2015	---	22.76	---	Shallow	No	Static	
AOI 1	S-51	2/11/2015	---	22.28	---	Shallow	No	Static	
AOI 1	S-52	2/11/2015	---	22.90	---	Intermediate	No	Static	
AOI 1	S-74	2/11/2015	---	25.71	---	Shallow	No	Static	
AOI 1	S-75	2/11/2015	---	26.84	---	Shallow	No	Static	
AOI 1	S-76	2/11/2015	26.56	27.44	0.88	Shallow	No	Static	
AOI 1	S-77	2/18/2015	12.68	13.40	0.72	Shallow	No	Static	
AOI 1	S-77P	2/10/2015	---	28.71	---	Shallow	No	Static	
AOI 1	S-78	2/11/2015	---	26.40	---	Intermediate	No	Static	
AOI 1	S-79	2/11/2015	23.74	24.10	0.36	Intermediate	No	Static	
AOI 1	S-79P	2/11/2015	---	26.30	---	Shallow	No	Static	
AOI 1	S-80	2/11/2015	---	27.85	---	Shallow	No	Static	
AOI 1	S-80D	2/11/2015	---	29.42	---	Deep	No	Static	
AOI 1	S-81	2/10/2015	---	21.22	---	Shallow	No	Static	
AOI 1	S-82	2/10/2015	---	22.89	---	Shallow	No	Static	
AOI 1	S-83	2/10/2015	19.33	20.05	0.72	Shallow	No	Static	
AOI 1	S-84P	2/10/2015	NA	NA	NA	Shallow	No	Static	Not accessible - covered with gravel.
AOI 1	S-85	2/10/2015	---	24.15	---	Shallow	No	Static	
AOI 1	S-86	2/18/2015	26.38	26.40	0.02	Intermediate	No	Static	
AOI 1	S-87I	2/10/2015	---	24.81	---	Intermediate	No	Static	
AOI 1	S-88	2/18/2015	---	25.17	---	Intermediate	No	Static	
AOI 1	S-88A	2/10/2015	---	23.85	---	Shallow	No	Static	
AOI 1	S-89	2/11/2015	26.58	26.60	0.02	Intermediate	No	Static	
AOI 1	S-95	2/11/2015	---	22.29	---	Intermediate	No	Static	
AOI 1	S-98	2/11/2015	---	22.97	---	Intermediate	No	Static	
AOI 1	S-99	2/11/2015	---	25.20	---	Intermediate	No	Static	
AOI 1	S-100	2/11/2015	22.97	24.26	1.29	Intermediate	No	Static	
AOI 1	S-101	2/11/2015	---	47.44	---	Intermediate	No	Static	
AOI 1	S-116	2/11/2015	---	13.30	---	Shallow	No	Static	
AOI 1	S-117	2/11/2015	---	16.98	---	Shallow	No	Static	
AOI 1	S-118	2/11/2015	---	17.47	---	Shallow	No	Static	
AOI 1	S-125	2/10/2015	21.96	22.05	0.09	Shallow	No	Static	
AOI 1	S-126	2/18/2015	13.22	13.46	0.24	Shallow	No	Static	
AOI 1	S-127	2/11/2015	---	16.38	---	Shallow	No	Static	

Table 1
First Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-162	2/11/2015	---	17.03	---	Shallow	No	Static	
AOI 1	S-164	2/11/2015	---	15.22	---	Shallow	No	Static	
AOI 1	S-179	2/10/2015	---	20.55	---	Intermediate	Yes	Static	
AOI 1	S-180	3/3/2015	---	20.18	---	Intermediate	Yes	Static	
AOI 1	S-181	3/3/2015	---	20.70	---	Intermediate	Yes	Static	
AOI 1	S-182	3/3/2015	---	20.82	---	Intermediate	Yes	Static	
AOI 1	S-183	3/3/2015	---	21.32	---	Intermediate	Yes	Static	
AOI 1	S-184	2/10/2015	---	17.22	---	Intermediate	Yes	Static	
AOI 1	S-185	2/10/2015	---	19.43	---	Intermediate	Yes	Static	
AOI 1	S-186	2/10/2015	---	21.65	---	Intermediate	Yes	Static	
AOI 1	S-187	2/10/2015	---	21.80	---	Intermediate	Yes	Static	
AOI 1	S-188	2/10/2015	---	22.01	---	Intermediate	Yes	Static	
AOI 1	S-189	2/10/2015	25.02	26.10	1.08	Intermediate	Yes	Static	
AOI 1	S-190	2/18/2015	25.05	25.05	<0.01	Intermediate	Yes	Static	
AOI 1	S-191	2/10/2015	24.65	24.66	0.01	Intermediate	Yes	Static	
AOI 1	S-192	2/10/2015	---	24.98	---	Intermediate	Yes	Static	
AOI 1	S-193	2/11/2015	---	23.79	---	Intermediate	Yes	Static	
AOI 1	S-194	2/11/2015	---	26.05	---	Shallow	No	Static	
AOI 1	S-196	2/11/2015	---	45.57	---	Shallow	No	Static	
AOI 1	S-197	2/11/2015	---	44.92	---	Shallow	No	Static	
AOI 1	S-198	2/10/2015	24.63	26.52	1.89	Intermediate	No	Static	
AOI 1	S-199	2/10/2015	24.70	25.81	1.11	Intermediate	No	Static	
AOI 1	S-200	2/10/2015	---	24.80	---	Intermediate	No	Static	
AOI 1	S-201	2/11/2015	23.50	24.27	0.77	Intermediate	No	Static	
AOI 1	S-202	2/11/2015	---	28.37	---	Intermediate	No	Static	
AOI 1	S-203	2/11/2015	NA	NA	NA	Intermediate	No	Static	Not accessible - road closed for crane operations.
AOI 1	S-205	2/10/2015	17.24	18.65	1.41	Intermediate	No	Static	
AOI 1	S-206	2/11/2015	---	27.47	---	Intermediate	No	Static	
AOI 1	S-207	2/11/2015	---	13.29	---	Intermediate	No	Static	
AOI 1	S-208	2/11/2015	---	19.03	---	Intermediate	No	Static	
AOI 1	S-209	2/11/2015	---	26.02	---	Intermediate	No	Static	
AOI 1	S-210	2/11/2015	23.76	23.99	0.23	Intermediate	No	Static	
AOI 1	S-211	2/11/2015	---	13.55	---	Intermediate	No	Static	
AOI 1	S-212	2/11/2015	---	17.11	---	Intermediate	No	Static	
AOI 1	S-213	2/11/2015	---	13.78	---	Intermediate	No	Static	
AOI 1	S-214	2/11/2015	---	19.04	---	Intermediate	No	Static	
AOI 1	S-215	2/11/2015	26.72	26.92	0.20	Intermediate	No	Static	
AOI 1	S-226	2/11/2015	---	21.81	---	Intermediate	No	Static	
AOI 1	S-227	2/11/2015	---	22.50	---	Intermediate	No	Static	
AOI 1	S-228	2/11/2015	---	21.81	---	Intermediate	No	Static	
AOI 1	S-230	2/11/2015	---	19.19	---	Intermediate	No	Static	
AOI 1	S-231	2/11/2015	---	20.15	---	Intermediate	No	Static	
AOI 1	S-232	2/11/2015	---	20.03	---	Intermediate	No	Static	
AOI 1	S-255	2/11/2015	---	21.86	---	Intermediate	No	Static	
AOI 1	S-256	2/11/2015	---	21.87	---	Intermediate	No	Static	
AOI 1	S-257	2/11/2015	---	23.55	---	Intermediate	No	Static	
AOI 1	S-258	2/11/2015	---	24.10	---	Intermediate	No	Static	
AOI 1	S-259	2/11/2015	---	24.95	---	Intermediate	No	Static	
AOI 1	S-260	2/11/2015	---	23.47	---	Intermediate	No	Static	
AOI 1	S-261	2/11/2015	---	23.36	---	Intermediate	No	Static	
AOI 1	S-262	2/11/2015	---	18.53	---	Intermediate	No	Static	
AOI 1	S-263	2/11/2015	---	16.09	---	Intermediate	No	Static	

Table 1
First Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-264D	2/11/2015	---	25.95	---	Deep	No	Static	
AOI 1	S-265	2/11/2015	13.90	13.92	0.02	Intermediate	Yes	Static	
AOI 1	S-267	2/11/2015	---	18.21	---	Intermediate	Yes	Static	
AOI 1	S-268	2/11/2015	---	26.96	---	Intermediate	Yes	Static	
AOI 1	S-269	2/11/2015	---	19.52	---	Intermediate	No	Static	
AOI 1	S-270	2/11/2015	---	21.39	---	Intermediate	No	Static	
AOI 1	S-271	2/10/2015	---	24.06	---	Intermediate	No	Static	
AOI 1	S-272	2/10/2015	---	23.35	---	Intermediate	No	Static	
AOI 1	S-273	2/10/2015	---	23.22	---	Intermediate	No	Static	
AOI 1	S-274	2/10/2015	22.88	23.00	0.12	Intermediate	No	Static	
AOI 1	S-275	2/10/2015	---	22.11	---	Intermediate	No	Static	
AOI 1	S-276	2/10/2015	22.21	22.97	0.76	Intermediate	No	Static	
AOI 1	S-277	2/10/2015	21.67	22.29	0.62	Intermediate	No	Static	
AOI 1	S-312	2/11/2015	---	5.92	---	Shallow/Intermediate	No	Static	
AOI 1	S-330	2/11/2015	---	25.52	---	Intermediate	No	Static	
AOI 1	S-331	2/11/2015	---	27.60	---	Intermediate	No	Static	
AOI 1	S-332	2/10/2015	---	26.20	---	Intermediate	No	Static	
AOI 1	S-388D	2/11/2015	---	25.31	---	Deep	No	Static	
AOI 1	S-389D	2/10/2015	---	25.26	---	Deep	No	Static	
AOI 1	S-390D	2/11/2015	---	25.45	---	Deep	No	Static	
AOI 1	S-391D	2/11/2015	---	26.12	---	Deep	No	Static	
AOI 1	S-392D	2/11/2015	---	19.22	---	Deep	No	Static	
AOI 1	S-393D	2/11/2015	---	29.54	---	Deep	No	Static	
AOI 1	S-394	2/11/2015	---	29.88	---	Deep	No	Static	
AOI 1	S-395	2/11/2015	---	27.61	---	Shallow	No	Static	
AOI 1	S-396	2/10/2015	---	24.97	---	Intermediate	No	Static	
AOI 1	S-397	2/11/2015	---	25.52	---	Intermediate	No	Static	
AOI 1	S-398	2/11/2015	---	24.75	---	Intermediate	No	Static	
AOI 1	S-399	2/11/2015	---	19.43	---	Intermediate	No	Static	
AOI 1	S-400	2/11/2015	---	26.30	---	Deep	No	Static	
AOI 1	S-401	2/11/2015	---	26.12	---	Intermediate	No	Static	
AOI 1	S-402	2/10/2015	29.09	29.19	0.10	Not Classified	No	Static	
AOI 1	S-403	2/11/2015	---	23.71	---	Not Classified	No	Static	
AOI 1	S-404	2/11/2015	---	11.83	---	Not Classified	No	Static	
AOI 1	S-405	2/11/2015	---	22.60	---	Not Classified	No	Static	
AOI 1	TW-3	2/11/2015	---	27.57	---	Shallow	No	Static	
AOI 1	TW-5	2/11/2015	---	27.46	---	Shallow	No	Static	
AOI 1	TW-8	2/11/2015	---	25.80	---	Shallow	No	Static	
AOI 1	TW-9	2/11/2015	---	27.63	---	Shallow	No	Static	
AOI 1	TW-10	2/11/2015	26.02	26.03	0.01	Shallow	No	Static	
AOI 1	TW-11	2/11/2015	---	28.05	---	Shallow	No	Static	
AOI 2	C-HEADER	2/12/2015	---	13.76	---	Shallow/Intermediate	No	Static	
AOI 2	PZ-100	2/12/2015	---	17.69	---	Shallow	No	Static	
AOI 2	PZ-101	2/12/2015	---	15.38	---	Shallow	No	Static	
AOI 2	River 1	2/12/2015	---	11.80	---	NA	No	Static	At 1300.
AOI 2	River 3	2/12/2015	---	8.45	---	NA	No	Static	
AOI 2	RW-100	2/12/2015	19.93	20.30	0.37	Shallow	No	Static	
AOI 2	RW-101	2/12/2015	18.49	19.30	0.81	Shallow	No	Static	
AOI 2	RW-102	2/12/2015	16.20	16.21	0.01	Shallow	No	Static	
AOI 2	RW-103	2/12/2015	18.29	19.50	1.21	Shallow	No	Static	
AOI 2	RW-104	2/12/2015	---	7.33	---	Shallow	No	Static	
AOI 2	RW-105	2/12/2015	---	9.17	---	Shallow	No	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	RW-106	2/12/2015	13.01	13.08	0.07	Shallow	No	Pumping	
AOI 2	RW-107	2/12/2015	---	10.34	---	Shallow	No	Static	
AOI 2	RW-108	2/12/2015	---	7.75	---	Shallow	No	Static	
AOI 2	RW-109	2/12/2015	---	8.29	---	Shallow	No	Static	
AOI 2	RW-113	2/12/2015	11.31	11.31	<0.01	Shallow	Yes	Static	
AOI 2	RW-114	2/12/2015	---	14.15	---	Shallow	Yes	Static	
AOI 2	RW-115	2/12/2015	---	11.70	---	Shallow	Yes	Static	
AOI 2	RW-116	2/12/2015	---	12.22	---	Shallow	Yes	Static	
AOI 2	RW-117	2/12/2015	16.87	16.91	0.04	Shallow	Yes	Pumping	
AOI 2	RW-118	2/12/2015	14.05	14.05	<0.01	Shallow	Yes	Pumping	
AOI 2	RW-119	2/12/2015	14.06	14.06	<0.01	Shallow	Yes	Pumping	
AOI 2	RW-120	2/12/2015	14.61	14.61	<0.01	Shallow	Yes	Static	
AOI 2	RW-121	2/12/2015	---	16.12	---	Shallow/Intermediate	Yes	Static	
AOI 2	RW-122	2/12/2015	11.97	11.97	<0.01	Shallow	Yes	Static	
AOI 2	RW-123	2/12/2015	---	12.03	---	Shallow	Yes	Static	
AOI 2	RW-124	2/12/2015	---	20.55	---	Shallow	Yes	Pumping	
AOI 2	RW-125	2/12/2015	---	14.39	---	Shallow	Yes	Static	
AOI 2	RW-126	2/12/2015	---	19.67	---	Shallow	Yes	Pumping	
AOI 2	RW-127	2/12/2015	---	14.87	---	Shallow	Yes	Static	
AOI 2	RW-128	2/12/2015	---	20.30	---	Shallow	Yes	Pumping	
AOI 2	RW-129	2/12/2015	---	20.90	---	Shallow	Yes	Pumping	
AOI 2	RW-600	2/12/2015	---	4.70	---	Shallow/Intermediate	No	Static	
AOI 2	RW-601	2/12/2015	---	7.15	---	Shallow/Intermediate	No	Static	
AOI 2	S-48	2/12/2015	18.99	19.40	0.41	Shallow/Intermediate	No	Static	
AOI 2	S-53	2/12/2015	18.49	18.75	0.26	Shallow	No	Static	
AOI 2	S-54	2/12/2015	21.18	21.19	0.01	Intermediate	No	Static	
AOI 2	S-61	2/12/2015	16.29	16.51	0.22	Shallow/Intermediate	No	Static	
AOI 2	S-62	2/12/2015	---	19.29	---	Intermediate	No	Static	
AOI 2	S-63	2/12/2015	---	21.09	---	Shallow	No	Static	
AOI 2	S-64	2/12/2015	NM	NM	NM	Shallow/Intermediate	No	Static	Unable to locate under gravel.
AOI 2	S-65	2/12/2015	8.66	8.79	0.13	Shallow/Intermediate	No	Static	
AOI 2	S-70	2/12/2015	NM	NM	NM	Shallow/Intermediate	No	Static	Well is filled with gravel.
AOI 2	S-71	2/18/2015	---	21.43	---	Shallow/Intermediate	No	Static	
AOI 2	S-72	2/12/2015	---	26.52	---	Intermediate	No	Static	
AOI 2	S-72D	2/12/2015	---	31.70	---	Deep	No	Static	
AOI 2	S-91	2/12/2015	18.78	18.79	0.01	Intermediate	No	Static	
AOI 2	S-92	2/12/2015	10.60	10.62	0.02	Intermediate	No	Static	
AOI 2	S-93	2/12/2015	---	17.98	---	Intermediate	No	Static	
AOI 2	S-105	2/12/2015	---	9.57	---	Shallow	No	Static	
AOI 2	S-107	2/18/2015	9.47	10.52	1.05	Shallow/Intermediate	No	Static	
AOI 2	S-108	2/12/2015	5.03	5.04	0.01	Shallow/Intermediate	No	Static	
AOI 2	S-110	2/12/2015	---	14.90	---	Shallow/Intermediate	No	Static	
AOI 2	S-130	2/12/2015	DRY	DRY	DRY	Shallow/Intermediate	No	Static	Well is dry at 19.70 ft btoc.
AOI 2	S-131	2/12/2015	15.79	17.20	1.41	Shallow	No	Static	
AOI 2	S-132	2/12/2015	---	18.97	---	Shallow/Intermediate	No	Static	
AOI 2	S-133	2/12/2015	---	18.88	---	Shallow/Intermediate	No	Static	
AOI 2	S-134	2/12/2015	---	19.30	---	Shallow/Intermediate	No	Static	
AOI 2	S-135	2/12/2015	21.00	24.05	3.05	Shallow	No	Static	
AOI 2	S-136	2/12/2015	---	18.21	---	Shallow/Intermediate	No	Static	
AOI 2	S-137	2/12/2015	---	18.12	---	Shallow/Intermediate	No	Static	
AOI 2	S-139	2/18/2015	---	19.84	---	Shallow/Intermediate	No	Static	
AOI 2	S-140	2/12/2015	---	20.66	---	Shallow/Intermediate	No	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	S-141	2/12/2015	20.95	20.99	0.04	Shallow/Intermediate	No	Static	
AOI 2	S-142	2/12/2015	20.62	20.72	0.10	Shallow	No	Static	
AOI 2	S-143	2/12/2015	NM	NM	NM	Shallow/Intermediate	No	Static	Well obstructed at 9.60 ft btoc.
AOI 2	S-150	2/12/2015	17.85	17.90	0.05	Shallow/Intermediate	No	Static	
AOI 2	S-152	3/3/2015	NM	NM	NM	Shallow/Intermediate	No	Static	Unable to locate under gravel.
AOI 2	S-153	2/12/2015	---	6.67	---	Shallow/Intermediate	No	Static	
AOI 2	S-154	2/12/2015	---	8.70	---	Shallow/Intermediate	No	Static	
AOI 2	S-156	2/12/2015	18.22	18.24	0.02	Shallow	No	Static	
AOI 2	S-157	2/12/2015	16.86	18.85	1.99	Shallow/Intermediate	No	Static	
AOI 2	S-159	2/12/2015	17.30	17.31	0.01	Shallow/Intermediate	No	Static	
AOI 2	S-165	2/12/2015	---	15.98	---	Shallow/Intermediate	No	Static	
AOI 2	S-166	2/12/2015	---	15.96	---	Shallow/Intermediate	No	Static	
AOI 2	S-174	2/12/2015	10.24	12.60	2.36	Shallow	No	Static	
AOI 2	S-175	2/12/2015	16.99	19.50	2.51	Shallow	No	Static	
AOI 2	S-177	2/12/2015	---	17.69	---	Shallow/Intermediate	No	Static	
AOI 2	S-178	2/12/2015	---	14.13	---	Shallow/Intermediate	No	Static	
AOI 2	S-246A	2/12/2015	---	9.93	---	Shallow/Intermediate	No	Static	
AOI 2	S-247	2/12/2015	---	10.56	---	Shallow/Intermediate	No	Static	
AOI 2	S-248	2/12/2015	---	9.35	---	Shallow/Intermediate	No	Static	
AOI 2	S-249	2/12/2015	---	9.35	---	Shallow/Intermediate	No	Static	
AOI 2	S-251	2/12/2015	---	18.88	---	Shallow/Intermediate	Yes	Static	
AOI 2	S-252	2/12/2015	---	19.07	---	Shallow/Intermediate	Yes	Static	
AOI 2	S-253	2/12/2015	---	19.88	---	Shallow/Intermediate	Yes	Static	
AOI 2	S-254	2/12/2015	---	20.31	---	Shallow/Intermediate	Yes	Static	
AOI 2	S-292	2/12/2015	DRY	DRY	DRY	Shallow/Intermediate	No	Static	Well is dry at 19.50 ft btoc.
AOI 2	S-294	2/12/2015	---	29.80	---	Intermediate	No	Static	
AOI 2	S-294D	2/12/2015	---	31.70	---	Deep	No	Static	
AOI 2	S-295	2/12/2015	---	23.51	---	Shallow/Intermediate	No	Static	
AOI 2	S-297	2/12/2015	26.16	27.17	1.01	Shallow/Intermediate	No	Static	
AOI 2	S-298	2/12/2015	15.25	15.55	0.30	Shallow/Intermediate	No	Static	
AOI 2	S-299	2/12/2015	---	21.38	---	Shallow/Intermediate	No	Static	
AOI 2	S-300	2/12/2015	---	21.29	---	Shallow/Intermediate	No	Static	
AOI 2	S-301	2/12/2015	---	16.95	---	Shallow/Intermediate	No	Static	
AOI 2	S-302	2/12/2015	22.47	22.88	0.41	Intermediate	No	Static	
AOI 2	S-302D	2/12/2015	---	24.00	---	Deep	No	Static	
AOI 2	S-303	2/12/2015	---	20.71	---	Shallow/Intermediate	No	Static	
AOI 2	S-304	2/12/2015	12.55	12.55	<0.01	Shallow/Intermediate	No	Static	
AOI 2	S-305	2/12/2015	---	17.50	---	Intermediate	No	Static	
AOI 2	S-305D	2/12/2015	---	19.42	---	Deep	No	Static	
AOI 2	S-306	2/12/2015	---	22.97	---	Intermediate	No	Static	
AOI 2	S-307	2/12/2015	---	16.60	---	Shallow/Intermediate	No	Static	
AOI 2	S-308	2/12/2015	---	24.38	---	Shallow/Intermediate	No	Static	
AOI 2	S-309	2/12/2015	---	18.09	---	Shallow/Intermediate	No	Static	
AOI 2	S-310	2/12/2015	---	8.44	---	Shallow/Intermediate	No	Static	Casing is bent.
AOI 2	S-311	2/18/2015	24.88	25.02	0.14	Intermediate	No	Static	
AOI 2	S-313	2/12/2015	NM	NM	NM	Shallow	No	Pumping	Top of pump at 21.50 ft btoc.
AOI 2	S-314	2/12/2015	---	19.94	---	Shallow	Yes	Static	
AOI 2	S-315	2/12/2015	20.27	20.27	<0.01	Shallow	No	Pumping	
AOI 2	S-316	2/12/2015	---	19.91	---	Shallow	No	Static	
AOI 2	S-317	2/12/2015	---	19.38	---	Shallow	Yes	Static	
AOI 2	S-318	2/12/2015	---	22.94	---	Shallow/Intermediate	No	Static	
AOI 2	S-328	2/12/2015	19.63	19.65	0.02	Shallow/Intermediate	No	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	S-333	2/12/2015	---	12.10	---	Shallow/Intermediate	No	Static	
AOI 2	S-335	2/12/2015	NM	NM	NM	Shallow/Intermediate	No	Static	Well is damaged, casing is bent.
AOI 2	S-336	2/12/2015	---	9.50	---	Shallow/Intermediate	No	Static	
AOI 2	S-337	2/12/2015	---	9.50	---	Shallow/Intermediate	No	Static	
AOI 2	S-338	2/12/2015	10.17	21.81	11.64	Shallow/Intermediate	No	Static	
AOI 2	S-346	2/18/2015	17.29	17.35	0.06	Shallow/Intermediate	No	Static	
AOI 2	S-347	2/12/2015	16.96	17.42	0.46	Shallow/Intermediate	No	Static	
AOI 2	S-348	2/12/2015	13.56	13.81	0.25	Shallow/Intermediate	No	Static	
AOI 2	S-349	2/12/2015	15.91	16.10	0.19	Shallow/Intermediate	No	Static	
AOI 2	S-350	2/12/2015	---	26.96	---	Shallow/Intermediate	No	Static	
AOI 2	S-351	2/12/2015	---	25.95	---	Shallow/Intermediate	No	Static	
AOI 2	S-354	2/12/2015	---	24.48	---	Shallow/Intermediate	No	Static	
AOI 2	S-355	2/12/2015	27.12	27.14	0.02	Shallow/Intermediate	No	Static	
AOI 2	S-357	2/12/2015	21.90	22.05	0.15	Shallow/Intermediate	No	Static	
AOI 2	S-359	2/12/2015	---	18.22	---	Shallow/Intermediate	No	Static	
AOI 2	S-360	2/12/2015	---	21.77	---	Shallow/Intermediate	No	Static	
AOI 2	S-361	2/12/2015	---	23.65	---	Shallow/Intermediate	No	Static	
AOI 2	S-362	2/12/2015	NM	NM	NM	Shallow/Intermediate	No	Static	Well is blocked at 4.10 ft btoc.
AOI 2	S-363	2/18/2015	24.67	24.67	<0.01	Shallow/Intermediate	No	Static	
AOI 2	S-406	2/12/2015	---	11.02	---	Shallow/Intermediate	No	Static	
AOI 2	S-420	2/12/2015	---	6.64	---	Shallow	No	Static	
AOI 2	SD-1	2/12/2015	---	7.30	---	Shallow	No	Static	
AOI 3	RW-2	2/10/2015	11.30	11.69	0.39	Intermediate	No	Static	
AOI 4	RW-700	2/10/2015	---	20.30	---	Intermediate	Yes	Pumping	
AOI 4	RW-701	2/10/2015	---	25.10	---	Intermediate	Yes	Pumping	
AOI 4	RW-702	2/10/2015	---	19.97	---	Intermediate	Yes	Static	
AOI 4	RW-703	2/10/2015	---	19.13	---	Intermediate	Yes	Static	
AOI 4	RW-704	2/10/2015	---	19.12	---	Intermediate	Yes	Static	
AOI 4	RW-705	2/10/2015	NM	NM	NM	Intermediate	Yes	Pumping	Top of pump at 21.10 ft btoc.
AOI 4	RW-706	2/10/2015	NM	NM	NM	Intermediate	Yes	Pumping	Top of pump at 14.80 ft btoc.
AOI 4	RW-707	2/10/2015	---	15.22	---	Intermediate	Yes	Static	
AOI 4	RW-708	2/10/2015	NM	NM	NM	Intermediate	Yes	Pumping	Top of pump at 13.30 ft btoc.
AOI 4	RW-709	2/10/2015	NM	NM	NM	Intermediate	Yes	Pumping	Top of pump at 13.90 ft btoc.
AOI 4	RW-710	2/10/2015	---	15.03	---	Intermediate	Yes	Static	
AOI 4	RW-711	2/10/2015	NM	NM	NM	Intermediate	Yes	Static	Top of pump at 13.50 ft btoc.
AOI 4	RW-712	2/10/2015	NM	NM	NM	Intermediate	Yes	Static	Top of pump at 13.45 ft btoc.
AOI 4	RW-713	2/10/2015	---	13.86	---	Intermediate	Yes	Static	
AOI 4	RW-714	2/10/2015	---	14.04	---	Intermediate	Yes	Static	
AOI 4	RW-715	2/10/2015	---	14.19	---	Intermediate	Yes	Static	
AOI 4	RW-716	2/10/2015	---	14.35	---	Intermediate	Yes	Static	
AOI 4	RW-717	2/10/2015	---	14.33	---	Intermediate	Yes	Static	
AOI 4	S-29	2/10/2015	20.24	23.12	2.88	Intermediate	No	Static	
AOI 4	S-30	2/10/2015	20.90	28.73	7.83	Intermediate	No	Static	
AOI 4	S-31	2/10/2015	18.71	19.41	0.70	Shallow	No	Static	
AOI 4	S-32	2/10/2015	23.25	23.32	0.07	Shallow	No	Static	
AOI 4	S-34	2/10/2015	---	20.00	---	Shallow	No	Static	
AOI 4	S-35	2/10/2015	---	20.38	---	Shallow	No	Static	
AOI 4	S-36	2/10/2015	---	23.49	---	Shallow	No	Static	
AOI 4	S-370	2/10/2015	---	11.43	---	Shallow/Intermediate	No	Static	
AOI 5	RWBH-1	2/18/2015	---	5.48	---	Shallow	No	Static	
AOI 5	RWBH-2	2/18/2015	4.45	4.46	0.01	Shallow	No	Static	
AOI 6	B-92	2/13/2015	---	5.50	---	Shallow	No	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 6	B-124	2/18/2015	6.08	6.74	0.66	Shallow	Yes	Static	
AOI 6	B-125	2/13/2015	---	5.33	---	Shallow	No	Static	
AOI 6	B-126	2/13/2015	---	5.38	---	Shallow	No	Static	
AOI 6	B-132	2/18/2015	5.15	5.22	0.07	Shallow	No	Static	
AOI 6	B-133	2/13/2015	---	5.30	---	Shallow	Yes	Static	
AOI 6	B-134	2/13/2015	---	5.00	---	Shallow	Yes	Static	
AOI 6	B-135	2/13/2015	---	5.15	---	Shallow	No	Static	
AOI 6	B-136	2/13/2015	4.57	4.60	0.03	Shallow	Yes	Static	
AOI 6	B-137	2/13/2015	---	4.51	---	Shallow	Yes	Static	
AOI 6	B-138	2/13/2015	---	4.53	---	Shallow	Yes	Static	
AOI 6	B-139	2/13/2015	5.85	5.88	0.03	Shallow	Yes	Static	
AOI 6	B-141	2/13/2015	---	3.40	---	Shallow	No	Static	
AOI 6	B-142	2/13/2015	7.25	7.53	0.28	Shallow	Yes	Static	
AOI 6	B-143	2/13/2015	5.43	5.98	0.55	Shallow	Yes	Static	
AOI 6	B-144	2/13/2015	5.05	5.19	0.14	Shallow	No	Static	
AOI 6	B-145	2/13/2015	---	4.56	---	Shallow	No	Static	
AOI 6	B-147	2/13/2015	6.20	6.26	0.06	Shallow	Yes	Static	
AOI 6	B-148	2/18/2015	5.75	6.35	0.60	Shallow	No	Static	
AOI 6	B-149	2/13/2015	3.12	3.88	0.76	Shallow	No	Static	
AOI 6	B-150	2/13/2015	3.05	5.90	2.85	Shallow	No	Static	
AOI 6	B-154	2/13/2015	---	3.33	---	Shallow	No	Static	
AOI 6	B-155	2/13/2015	---	4.85	---	Shallow	No	Static	
AOI 6	B-161	2/13/2015	4.70	5.24	0.54	Shallow	No	Static	
AOI 6	B-163	2/13/2015	---	1.14	---	Shallow	No	Static	
AOI 6	SUMP-1	2/18/2015	5.86	5.90	0.04	Shallow	Yes	Static	
AOI 6	WP9-3	2/13/2015	---	2.11	---	Shallow	No	Static	
AOI 7	RW-801	2/13/2015	18.90	18.90	<0.01	Shallow	Yes	Pumping	
AOI 7	RW-802	2/13/2015	13.80	13.80	<0.01	Shallow	Yes	Pumping	
AOI 7	RW-803	2/13/2015	21.24	21.24	<0.01	Shallow	Yes	Pumping	
AOI 7	RW-804	2/13/2015	21.13	21.13	<0.01	Shallow	Yes	Pumping	
AOI 7	RW-805	2/13/2015	17.50	17.50	<0.01	Shallow	Yes	Pumping	
AOI 7	RW-806	2/13/2015	---	20.25	---	Shallow	Yes	Pumping	
AOI 7	RW-807	2/13/2015	---	20.59	---	Shallow	Yes	Pumping	
AOI 7	RW-808	2/13/2015	18.71	18.71	<0.01	Shallow	Yes	Pumping	
AOI 7	RW-809	2/13/2015	19.85	19.85	<0.01	Shallow	Yes	Pumping	
AOI 7	RW-810	2/13/2015	17.56	17.56	<0.01	Shallow	Yes	Pumping	
AOI 8	RW-200	2/12/2015	---	5.98	---	Intermediate	No	Static	
AOI 8	RW-201	2/12/2015	22.77	23.25	0.48	Intermediate	No	Static	
AOI 8	RW-202	2/12/2015	---	20.36	---	Intermediate	No	Static	
AOI 8	RW-203	2/12/2015	22.38	22.53	0.15	Intermediate	No	Static	
AOI 8	RW-204	2/12/2015	18.91	20.44	1.53	Intermediate	No	Static	
AOI 8	RW-205	2/12/2015	18.75	21.60	2.85	Intermediate	No	Static	
AOI 8	RW-206	2/12/2015	20.88	22.60	1.72	Intermediate	No	Static	LNAPL extremely viscous.
AOI 8	RW-300	2/12/2015	14.70	14.95	0.25	Intermediate	No	Static	
AOI 8	RW-301	2/12/2015	---	12.39	---	Intermediate	No	Static	
AOI 8	RW-302	2/12/2015	---	13.70	---	Intermediate	No	Static	
AOI 8	RW-303	2/12/2015	---	14.42	---	Intermediate	No	Static	
AOI 8	RW-304	2/12/2015	---	15.23	---	Intermediate	No	Static	
AOI 8	RW-305	2/12/2015	---	15.16	---	Intermediate	No	Static	
AOI 8	RW-306	2/12/2015	13.20	13.21	0.01	Intermediate	No	Static	
AOI 8	RW-307	2/12/2015	---	14.74	---	Intermediate	No	Static	
AOI 8	RW-308	2/12/2015	---	16.81	---	Intermediate	No	Static	

Table 1
First Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 8	RW-309	2/12/2015	---	15.75	---	Intermediate	No	Static	
AOI 8	RW-500	2/12/2015	---	3.02	---	Intermediate	No	Static	
AOI 8	RW-501	2/12/2015	---	6.36	---	Intermediate	No	Static	
AOI 8	RW-502	2/12/2015	9.36	9.84	0.48	Intermediate	No	Static	

Notes:
Groundwater monitoring was performed under pumping conditions except where indicated.
LNAPL = Light non-aqueous phase liquid
ft btoc = feet below top of casing
--- = LNAPL not present
NM = Field reading not measured
NA = Not Accessible, Not Applicable, or Not Available
DRY = Well was dry at time of gauging
Not Classified = Well classification not available

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	ARCO-1	5/13/2015	---	26.31	---	0.64	Intermediate	No	Static	
AOI 1	ARCO-1D	5/13/2015	---	26.35	---	0.71	Deep	No	Static	
AOI 1	ARCO-2	5/13/2015	---	25.45	---	0.55	Intermediate	No	Static	
AOI 1	ARCO-3	5/13/2015	---	24.23	---	0.08	Intermediate	No	Static	
AOI 1	MW-26	5/13/2015	22.35	23.63	1.28	4.11	Shallow	No	Static	
AOI 1	MW-27	5/13/2015	24.40	24.44	0.04	4.24	Shallow	No	Static	
AOI 1	MW-28	5/13/2015	---	24.58	---	4.20	Intermediate	No	Static	
AOI 1	MW-29	5/13/2015	24.33	26.51	2.18	4.17	Intermediate	No	Static	
AOI 1	MW-30	5/13/2015	---	27.18	---	4.52	Shallow	No	Static	
AOI 1	MW-31	5/13/2015	---	25.73	---	4.83	Shallow	No	Static	
AOI 1	MW-32	5/13/2015	---	24.79	---	4.35	Intermediate	No	Static	
AOI 1	MW-33	5/13/2015	---	25.95	---	4.04	Shallow	No	Static	
AOI 1	MW-35	5/13/2015	---	26.74	---	3.91	Intermediate	No	Static	
AOI 1	MW-36	5/13/2015	---	27.95	---	4.62	Intermediate	No	Static	
AOI 1	MW-37	5/13/2015	---	27.02	---	4.90	Intermediate	No	Static	
AOI 1	MW-38	5/13/2015	---	23.27	---	4.35	Intermediate	No	Static	
AOI 1	MW-39	5/13/2015	---	23.12	---	4.43	Intermediate	No	Static	
AOI 1	MW-40	5/13/2015	23.43	23.80	0.37	4.38	Intermediate	No	Static	
AOI 1	MW-41	5/13/2015	---	23.05	---	4.30	Intermediate	No	Static	
AOI 1	MW-44	5/13/2015	---	25.36	---	3.94	Intermediate	No	Static	
AOI 1	OW-2	5/13/2015	---	26.76	---	4.91	Shallow	No	Static	
AOI 1	OW-12	5/13/2015	---	25.84	---	4.38	Shallow	No	Static	
AOI 1	OW-13	5/13/2015	---	27.63	---	4.57	Shallow	No	Static	
AOI 1	OW-14	5/13/2015	---	27.77	---	4.44	Shallow	No	Static	
AOI 1	OW-16	5/13/2015	NA	NA	NA	NA	Shallow	No	Static	Not accessible - vehicle parked on top of well.
AOI 1	OW-17	5/13/2015	---	25.95	---	4.04	Shallow	No	Static	
AOI 1	OW-18	5/13/2015	---	26.90	---	3.94	Intermediate	No	Static	
AOI 1	OW-19	5/13/2015	---	25.26	---	5.74	Intermediate	No	Static	
AOI 1	OW-20	5/13/2015	---	27.19	---	4.68	Shallow	No	Static	
AOI 1	PZ-400	5/13/2015	---	23.77	---	4.33	Shallow	No	Static	
AOI 1	PZ-401	5/13/2015	---	19.34	---	4.39	Shallow	No	Static	
AOI 1	PZ-402	5/18/2015	19.29	19.54	0.25	4.05	Shallow	No	Static	
AOI 1	PZ-403	5/13/2015	22.90	22.91	0.01	1.51	Shallow	No	Static	LNAPL is very viscous.
AOI 1	PZ-404	5/13/2015	26.18	26.75	0.57	-0.25	Shallow	No	Static	
AOI 1	RW-1	5/13/2015	---	25.20	---	4.35	Intermediate	Yes	Static	
AOI 1	RW-4	5/13/2015	25.95	25.97	0.02	4.50	Intermediate	Yes	Pumping	
AOI 1	RW-6	5/13/2015	---	26.38	---	4.68	Intermediate	Yes	Static	
AOI 1	RW-7	5/13/2015	---	23.80	---	4.41	Intermediate	Yes	Static	
AOI 1	RW-15	5/13/2015	---	26.61	---	3.44	Intermediate	Yes	Static	
AOI 1	RW-21	5/13/2015	---	24.48	---	4.38	Shallow	Yes	Static	
AOI 1	RW-22	5/13/2015	---	22.69	---	4.34	Shallow	Yes	Static	
AOI 1	RW-23	5/13/2015	24.62	28.13	3.51	1.66	Intermediate	Yes	Pumping	
AOI 1	RW-24	5/13/2015	28.11	28.11	<0.01	-0.93	Intermediate	Yes	Pumping	
AOI 1	RW-25	5/13/2015	25.58	26.31	0.73	4.40	Intermediate	Yes	Static	
AOI 1	RW-26	5/13/2015	---	25.25	---	3.96	Intermediate	Yes	Static	
AOI 1	RW-27	5/13/2015	---	25.84	---	3.87	Intermediate	Yes	Static	
AOI 1	RW-28	5/13/2015	---	25.34	---	4.40	Intermediate	Yes	Static	
AOI 1	RW-29	5/13/2015	---	25.54	---	3.90	Intermediate	Yes	Static	
AOI 1	RW-30	5/13/2015	---	25.38	---	4.01	Intermediate	Yes	Static	
AOI 1	RW-31	5/13/2015	---	25.32	---	4.06	Intermediate	Yes	Static	
AOI 1	RW-32	5/13/2015	---	23.40	---	5.65	Intermediate	Yes	Static	
AOI 1	RW-110	5/13/2015	---	16.10	---	1.57	Shallow	Yes	Static	
AOI 1	RW-111	5/13/2015	---	16.25	---	1.47	Shallow	Yes	Static	
AOI 1	RW-112	5/13/2015	---	16.13	---	1.48	Shallow	Yes	Static	
AOI 1	RW-400	5/13/2015	---	23.87	---	4.32	Intermediate	Yes	Static	
AOI 1	RW-401	5/13/2015	20.52	21.01	0.49	4.15	Intermediate	Yes	Static	
AOI 1	RW-402	5/13/2015	---	17.62	---	4.09	Intermediate	Yes	Static	
AOI 1	RW-403	5/13/2015	---	20.60	---	3.53	Intermediate	Yes	Static	
AOI 1	RW-404	5/13/2015	---	22.01	---	1.73	Intermediate	Yes	Static	
AOI 1	RW-405	5/13/2015	26.44	26.46	0.02	-2.33	Intermediate	Yes	Static	
AOI 1	RW-406	5/13/2015	22.73	23.19	0.46	5.77	Intermediate	Yes	Static	
AOI 1	S-41	5/13/2015	---	25.27	---	0.48	Intermediate	No	Static	
AOI 1	S-42I	5/13/2015	---	24.81	---	-1.25	Intermediate	No	Static	
AOI 1	S-43	5/13/2015	---	23.50	---	-0.28	Intermediate	No	Static	

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-44	5/13/2015	---	25.10	---	-1.76	Intermediate	No	Static	
AOI 1	S-45	5/13/2015	DRY	DRY	DRY	DRY	Intermediate	No	Static	Well is dry at 20.80 ft btoc.
AOI 1	S-46	5/13/2015	---	21.01	---	1.55	Intermediate	No	Static	
AOI 1	S-46D	5/13/2015	---	14.30	---	1.41	Deep	No	Static	
AOI 1	S-47I	5/13/2015	---	20.68	---	1.53	Intermediate	No	Static	
AOI 1	S-50	5/13/2015	---	22.32	---	0.16	Shallow	No	Static	
AOI 1	S-51	5/13/2015	---	21.99	---	0.55	Shallow	No	Static	
AOI 1	S-52	5/13/2015	---	22.60	---	0.94	Intermediate	No	Static	
AOI 1	S-74	5/13/2015	---	25.64	---	-13.29	Shallow	No	Static	
AOI 1	S-75	5/13/2015	---	26.86	---	4.37	Shallow	No	Static	
AOI 1	S-76	5/13/2015	26.65	27.68	1.03	4.17	Shallow	No	Static	
AOI 1	S-77	5/13/2015	12.66	13.47	0.81	20.64	Shallow	No	Static	
AOI 1	S-77P	5/13/2015	---	28.56	---	4.48	Shallow	No	Static	
AOI 1	S-78	5/13/2015	---	26.10	---	4.83	Intermediate	No	Static	
AOI 1	S-79	5/13/2015	23.36	23.72	0.36	7.55	Intermediate	No	Static	
AOI 1	S-79P	5/13/2015	---	26.11	---	4.31	Shallow	No	Static	
AOI 1	S-80	5/13/2015	---	27.79	---	4.34	Shallow	No	Static	
AOI 1	S-80D	5/13/2015	---	29.53	---	2.21	Deep	No	Static	
AOI 1	S-81	5/13/2015	21.26	21.26	<0.01	6.60	Shallow	No	Static	
AOI 1	S-82	5/13/2015	---	22.59	---	4.70	Shallow	No	Static	
AOI 1	S-83	5/18/2015	18.93	19.62	0.69	4.27	Shallow	No	Static	
AOI 1	S-84P	5/12/2015	NA	NA	NA	NA	Shallow	No	Static	Not accessible - covered with soil and gravel.
AOI 1	S-85	5/13/2015	---	23.36	---	1.77	Shallow	No	Static	
AOI 1	S-86	5/13/2015	26.00	26.01	0.01	1.05	Intermediate	No	Static	LNAPL is very viscous.
AOI 1	S-87I	5/13/2015	---	24.51	---	1.36	Intermediate	No	Static	
AOI 1	S-88	5/13/2015	---	24.96	---	-0.86	Intermediate	No	Static	
AOI 1	S-88A	5/13/2015	---	23.51	---	2.21	Shallow	No	Static	Casing broken at grade.
AOI 1	S-89	5/13/2015	26.23	26.23	<0.01	-0.23	Intermediate	No	Static	
AOI 1	S-95	5/13/2015	---	21.87	---	1.12	Intermediate	No	Static	
AOI 1	S-98	5/13/2015	---	22.92	---	5.88	Intermediate	No	Static	
AOI 1	S-99	5/13/2015	---	24.76	---	0.64	Intermediate	No	Static	
AOI 1	S-100	5/13/2015	22.64	23.90	1.26	4.05	Intermediate	No	Static	
AOI 1	S-101	5/13/2015	---	46.87	---	2.25	Intermediate	No	Static	
AOI 1	S-116	5/13/2015	NA	NA	NA	NA	Shallow	No	Static	Well is inaccessible.
AOI 1	S-117	5/13/2015	---	16.77	---	1.64	Shallow	No	Static	
AOI 1	S-118	5/13/2015	---	17.02	---	0.88	Shallow	No	Static	
AOI 1	S-125	5/13/2015	21.85	21.89	0.04	4.13	Shallow	No	Static	
AOI 1	S-126	5/13/2015	12.76	12.84	0.08	15.71	Shallow	No	Static	LNAPL is very viscous.
AOI 1	S-127	5/13/2015	---	16.07	---	1.03	Shallow	No	Static	
AOI 1	S-162	5/13/2015	---	16.64	---	1.42	Shallow	No	Static	
AOI 1	S-164	5/13/2015	---	14.81	---	1.89	Shallow	No	Static	
AOI 1	S-179	5/13/2015	---	18.79	---	5.78	Intermediate	Yes	Static	
AOI 1	S-180	5/13/2015	---	19.46	---	5.36	Intermediate	Yes	Static	
AOI 1	S-181	5/13/2015	---	20.27	---	6.04	Intermediate	Yes	Static	
AOI 1	S-182	5/13/2015	---	20.54	---	5.88	Intermediate	Yes	Static	
AOI 1	S-183	5/13/2015	21.00	21.00	<0.01	5.79	Intermediate	Yes	Static	
AOI 1	S-184	5/13/2015	17.11	17.11	<0.01	9.22	Intermediate	Yes	Static	
AOI 1	S-185	5/13/2015	---	19.56	---	7.90	Intermediate	Yes	Static	
AOI 1	S-186	5/13/2015	---	21.70	---	5.46	Intermediate	Yes	Static	
AOI 1	S-187	5/13/2015	---	21.89	---	6.17	Intermediate	Yes	Static	
AOI 1	S-188	5/13/2015	---	22.13	---	6.15	Intermediate	Yes	Static	
AOI 1	S-189	5/13/2015	23.39	23.65	0.26	6.19	Intermediate	Yes	Static	
AOI 1	S-190	5/13/2015	---	22.79	---	6.84	Intermediate	Yes	Static	
AOI 1	S-191	5/13/2015	---	22.80	---	6.33	Intermediate	Yes	Static	
AOI 1	S-192	5/13/2015	---	23.66	---	5.67	Intermediate	Yes	Static	
AOI 1	S-193	5/13/2015	---	23.75	---	4.35	Intermediate	Yes	Static	
AOI 1	S-194	5/13/2015	---	25.73	---	5.31	Shallow	No	Static	
AOI 1	S-196	5/13/2015	---	45.47	---	4.58	Shallow	No	Static	
AOI 1	S-197	5/13/2015	---	45.14	---	NM	Shallow	No	Static	
AOI 1	S-198	5/13/2015	24.85	26.53	1.68	4.13	Intermediate	No	Static	
AOI 1	S-199	5/13/2015	24.81	25.93	1.12	4.15	Intermediate	No	Static	
AOI 1	S-200	5/13/2015	---	24.77	---	4.29	Intermediate	No	Static	
AOI 1	S-201	5/13/2015	23.52	24.11	0.59	4.29	Intermediate	No	Static	
AOI 1	S-202	5/13/2015	---	28.11	---	4.50	Intermediate	No	Static	

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	S-203	5/18/2015	27.37	28.63	1.26	4.45	Intermediate	No	Static	
AOI 1	S-205	5/18/2015	17.29	18.74	1.45	10.67	Intermediate	No	Static	
AOI 1	S-206	5/13/2015	---	27.18	---	4.60	Intermediate	No	Static	
AOI 1	S-207	5/13/2015	---	13.22	---	13.98	Intermediate	No	Static	
AOI 1	S-208	5/13/2015	---	18.75	---	2.11	Intermediate	No	Static	
AOI 1	S-209	5/13/2015	---	25.68	---	1.30	Intermediate	No	Static	
AOI 1	S-210	5/13/2015	23.58	23.58	<0.01	0.12	Intermediate	No	Static	
AOI 1	S-211	5/13/2015	---	13.05	---	2.20	Intermediate	No	Static	
AOI 1	S-212	5/13/2015	---	16.89	---	1.48	Intermediate	No	Static	
AOI 1	S-213	5/13/2015	---	13.46	---	1.75	Intermediate	No	Static	
AOI 1	S-214	5/13/2015	---	18.64	---	1.20	Intermediate	No	Static	
AOI 1	S-215	5/18/2015	NM	NM	NM	NM	Intermediate	No	Static	Unable to locate under gravel and soil.
AOI 1	S-226	5/13/2015	---	21.54	---	0.54	Intermediate	No	Static	
AOI 1	S-227	5/13/2015	---	22.08	---	-0.29	Intermediate	No	Static	
AOI 1	S-228	5/13/2015	---	21.39	---	-0.21	Intermediate	No	Static	
AOI 1	S-230	5/13/2015	---	19.86	---	0.33	Intermediate	No	Static	
AOI 1	S-231	5/13/2015	---	19.80	---	0.14	Intermediate	No	Static	
AOI 1	S-232	5/13/2015	---	20.62	---	-0.31	Intermediate	No	Static	
AOI 1	S-255	5/13/2015	---	22.25	---	-0.34	Intermediate	No	Static	
AOI 1	S-256	5/13/2015	---	21.38	---	0.03	Intermediate	No	Static	
AOI 1	S-257	5/13/2015	---	22.97	---	0.30	Intermediate	No	Static	
AOI 1	S-258	5/13/2015	---	23.63	---	-0.83	Intermediate	No	Static	
AOI 1	S-259	5/13/2015	---	24.29	---	-1.73	Intermediate	No	Static	
AOI 1	S-260	5/13/2015	---	23.19	---	-1.49	Intermediate	No	Static	
AOI 1	S-261	5/13/2015	---	24.13	---	3.28	Intermediate	No	Static	
AOI 1	S-262	5/13/2015	---	18.27	---	1.17	Intermediate	No	Static	
AOI 1	S-263	5/13/2015	---	15.82	---	0.96	Intermediate	No	Static	
AOI 1	S-264D	5/13/2015	---	25.68	---	0.95	Deep	No	Static	
AOI 1	S-265	5/13/2015	13.62	13.62	<0.01	17.57	Intermediate	Yes	Static	
AOI 1	S-267	5/13/2015	---	16.75	---	16.12	Intermediate	Yes	Static	
AOI 1	S-268	5/13/2015	---	26.84	---	4.61	Intermediate	Yes	Static	
AOI 1	S-269	5/13/2015	---	19.64	---	2.92	Intermediate	No	Static	
AOI 1	S-270	5/13/2015	---	20.93	---	2.20	Intermediate	No	Static	
AOI 1	S-271	5/13/2015	---	24.15	---	4.33	Intermediate	No	Static	
AOI 1	S-272	5/18/2015	---	23.41	---	4.95	Intermediate	No	Static	
AOI 1	S-273	5/13/2015	---	23.32	---	4.43	Intermediate	No	Static	
AOI 1	S-274	5/13/2015	22.97	22.97	<0.01	4.41	Intermediate	No	Static	
AOI 1	S-275	5/13/2015	---	22.19	---	4.38	Intermediate	No	Static	
AOI 1	S-276	5/18/2015	22.02	22.80	0.78	4.41	Intermediate	No	Static	
AOI 1	S-277	5/18/2015	21.25	22.09	0.84	4.28	Intermediate	No	Static	
AOI 1	S-312	5/11/2015	---	6.79	---	11.09	Shallow/Intermediate	No	Static	
AOI 1	S-330	5/13/2015	---	25.36	---	4.49	Intermediate	No	Static	
AOI 1	S-331	5/13/2015	---	27.37	---	3.91	Intermediate	No	Static	
AOI 1	S-332	5/12/2015	---	25.99	---	4.26	Intermediate	No	Static	
AOI 1	S-388D	5/13/2015	---	24.98	---	1.21	Deep	No	Static	
AOI 1	S-389D	5/13/2015	---	24.95	---	1.35	Deep	No	Static	
AOI 1	S-390D	5/13/2015	---	25.24	---	1.24	Deep	No	Static	
AOI 1	S-391D	5/13/2015	NM	NM	NM	NM	Deep	No	Static	Well is destroyed.
AOI 1	S-392D	5/13/2015	---	18.98	---	0.99	Deep	No	Static	
AOI 1	S-393D	5/13/2015	---	29.67	---	2.39	Deep	No	Static	
AOI 1	S-394	5/13/2015	---	29.83	---	2.29	Deep	No	Static	
AOI 1	S-395	5/13/2015	---	27.46	---	4.76	Shallow	No	Static	
AOI 1	S-396	5/13/2015	---	24.66	---	1.53	Intermediate	No	Static	
AOI 1	S-397	5/13/2015	---	25.35	---	1.25	Intermediate	No	Static	
AOI 1	S-398	5/13/2015	---	24.43	---	1.13	Intermediate	No	Static	
AOI 1	S-399	5/13/2015	---	19.18	---	0.98	Intermediate	No	Static	
AOI 1	S-400	5/13/2015	NM	NM	NM	NM	Deep	No	Static	Well is destroyed.
AOI 1	S-401	5/13/2015	---	25.99	---	2.40	Intermediate	No	Static	
AOI 1	S-402	5/13/2015	28.89	28.89	<0.01	NM	Not Classified	No	Static	
AOI 1	S-403	5/13/2015	---	23.38	---	NM	Not Classified	No	Static	
AOI 1	S-404	5/18/2015	---	11.78	---	NM	Not Classified	No	Static	
AOI 1	S-405	5/13/2015	---	22.04	---	NM	Not Classified	No	Static	Well vault and lid are damaged.
AOI 1	S-417	5/13/2015	27.15	27.27	0.12	NM	Not Classified	No	Static	
AOI 1	S-418	5/18/2015	---	14.24	---	NM	Not Classified	No	Static	

Table 2
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Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 1	TW-3	5/13/2015	---	27.55	---	4.56	Shallow	No	Static	
AOI 1	TW-5	5/13/2015	---	27.24	---	4.83	Shallow	No	Static	
AOI 1	TW-8	5/13/2015	---	25.75	---	4.39	Shallow	No	Static	
AOI 1	TW-9	5/13/2015	---	27.50	---	4.60	Shallow	No	Static	
AOI 1	TW-10	5/13/2015	26.00	26.01	0.01	4.22	Shallow	No	Static	
AOI 1	TW-11	5/13/2015	---	27.96	---	4.44	Shallow	No	Static	
AOI 2	C-HEADER	5/11/2015	---	11.42	---	9.19	Shallow/Intermediate	No	Static	
AOI 2	PZ-100	5/11/2015	---	16.29	---	1.78	Shallow	No	Static	
AOI 2	PZ-101	5/11/2015	---	12.93	---	4.24	Shallow	No	Static	
AOI 2	River 1	5/11/2015	---	12.05	---	NA	NA	No	Static	At 1600.
AOI 2	River 3	5/11/2015	---	9.20	---	NA	NA	No	Static	At 1020.
AOI 2	RW-100	5/11/2015	18.44	18.89	0.45	2.23	Shallow	Yes	Static	
AOI 2	RW-101	5/11/2015	17.74	18.30	0.56	1.96	Shallow	Yes	Static	
AOI 2	RW-102	5/11/2015	14.96	15.03	0.07	2.50	Shallow	Yes	Static	
AOI 2	RW-103	5/11/2015	17.33	18.15	0.82	2.58	Shallow	Yes	Static	
AOI 2	RW-104	5/11/2015	---	11.68	---	-2.72	Shallow	Yes	Static	
AOI 2	RW-105	5/11/2015	---	8.60	---	0.08	Shallow	Yes	Static	
AOI 2	RW-106	5/11/2015	7.59	7.59	<0.01	1.72	Shallow	Yes	Static	
AOI 2	RW-107	5/11/2015	---	10.17	---	0.38	Shallow	Yes	Static	
AOI 2	RW-108	5/11/2015	---	7.92	---	1.98	Shallow	Yes	Static	
AOI 2	RW-109	5/11/2015	---	7.40	---	2.45	Shallow	Yes	Static	
AOI 2	RW-113	5/11/2015	---	8.97	---	1.26	Shallow	Yes	Static	
AOI 2	RW-114	5/11/2015	11.51	11.51	<0.01	1.51	Shallow	Yes	Static	
AOI 2	RW-115	5/11/2015	8.63	8.63	<0.01	1.58	Shallow	Yes	Static	
AOI 2	RW-116	5/11/2015	---	9.10	---	1.71	Shallow	Yes	Static	
AOI 2	RW-117	5/11/2015	8.13	8.13	<0.01	1.66	Shallow	Yes	Static	
AOI 2	RW-118	5/11/2015	---	10.06	---	1.76	Shallow	Yes	Static	
AOI 2	RW-119	5/11/2015	11.08	11.10	0.02	1.77	Shallow	Yes	Static	
AOI 2	RW-120	5/11/2015	---	11.89	---	1.69	Shallow	Yes	Static	
AOI 2	RW-121	5/11/2015	---	13.55	---	1.75	Shallow/Intermediate	Yes	Static	
AOI 2	RW-122	5/11/2015	---	8.54	---	1.70	Shallow	Yes	Static	
AOI 2	RW-123	5/11/2015	---	8.21	---	1.76	Shallow	Yes	Static	
AOI 2	RW-124	5/11/2015	---	7.36	---	1.80	Shallow	Yes	Static	
AOI 2	RW-125	5/11/2015	---	13.08	---	1.19	Shallow	Yes	Static	
AOI 2	RW-126	5/11/2015	---	7.70	---	1.53	Shallow	Yes	Static	
AOI 2	RW-127	5/11/2015	---	12.22	---	1.68	Shallow	Yes	Static	
AOI 2	RW-128	5/11/2015	8.83	8.83	<0.01	-0.39	Shallow	Yes	Static	
AOI 2	RW-129	5/11/2015	9.42	9.42	<0.01	0.42	Shallow	Yes	Static	
AOI 2	RW-600	5/11/2015	---	4.71	---	4.34	Shallow/Intermediate	Yes	Static	
AOI 2	RW-601	5/11/2015	---	8.80	---	2.88	Shallow/Intermediate	Yes	Static	
AOI 2	S-48	5/11/2015	18.55	18.97	0.42	2.64	Shallow/Intermediate	No	Static	
AOI 2	S-53	5/11/2015	17.38	17.70	0.32	4.26	Shallow	No	Static	
AOI 2	S-54	5/11/2015	20.48	20.51	0.03	2.49	Intermediate	No	Static	
AOI 2	S-61	5/11/2015	15.77	15.93	0.16	2.51	Shallow/Intermediate	No	Static	
AOI 2	S-62	5/11/2015	---	18.97	---	2.41	Intermediate	No	Static	
AOI 2	S-63	5/11/2015	---	19.51	---	1.76	Shallow	No	Static	
AOI 2	S-64	5/11/2015	NM	NM	NM	NM	Shallow/Intermediate	No	Static	Unable to locate.
AOI 2	S-65	5/11/2015	12.02	12.08	0.06	-1.41	Shallow/Intermediate	No	Static	
AOI 2	S-70	5/11/2015	NM	NM	NM	NM	Shallow/Intermediate	No	Static	Well is filled with stone at 14.40 ft btoc.
AOI 2	S-71	5/11/2015	---	20.73	---	3.31	Shallow/Intermediate	No	Static	
AOI 2	S-72	5/11/2015	26.61	26.61	<0.01	4.46	Intermediate	No	Static	
AOI 2	S-72D	5/11/2015	---	31.97	---	2.54	Deep	No	Static	
AOI 2	S-91	5/11/2015	18.11	18.11	<0.01	5.03	Intermediate	No	Static	
AOI 2	S-92	5/11/2015	10.42	10.53	0.11	9.63	Intermediate	No	Static	
AOI 2	S-93	5/11/2015	---	16.38	---	1.87	Intermediate	Yes	Static	
AOI 2	S-105	5/11/2015	---	10.17	---	2.36	Shallow	No	Static	
AOI 2	S-106	5/11/2015	NM	NM	NM	NM	Shallow/Intermediate	No	Static	Well is destroyed.
AOI 2	S-107	5/11/2015	8.20	8.68	0.48	4.00	Shallow/Intermediate	No	Static	
AOI 2	S-108	5/11/2015	5.09	5.09	<0.01	5.64	Shallow/Intermediate	No	Static	
AOI 2	S-110	5/11/2015	---	15.13	---	10.54	Shallow/Intermediate	No	Static	
AOI 2	S-130	5/11/2015	18.48	19.03	0.55	3.92	Shallow/Intermediate	No	Static	
AOI 2	S-131	5/11/2015	14.14	17.92	3.78	4.10	Shallow	No	Static	
AOI 2	S-132	5/11/2015	---	17.88	---	3.15	Shallow/Intermediate	No	Static	
AOI 2	S-133	5/11/2015	---	18.25	---	3.77	Shallow/Intermediate	No	Static	

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AOI 2	S-134	5/11/2015	---	18.70	---	3.33	Shallow/Intermediate	No	Static	
AOI 2	S-135	5/11/2015	18.98	20.81	1.83	3.96	Shallow	No	Static	
AOI 2	S-136	5/11/2015	---	17.29	---	3.30	Shallow/Intermediate	No	Static	
AOI 2	S-137	5/11/2015	---	17.08	---	2.96	Shallow/Intermediate	No	Static	
AOI 2	S-139	5/11/2015	---	19.28	---	2.18	Shallow/Intermediate	No	Static	
AOI 2	S-140	5/11/2015	---	19.93	---	2.10	Shallow/Intermediate	No	Static	
AOI 2	S-141	5/11/2015	20.07	20.51	0.44	1.80	Shallow/Intermediate	No	Static	
AOI 2	S-142	5/11/2015	19.01	19.37	0.36	0.79	Shallow	No	Static	
AOI 2	S-143	5/11/2015	NM	NM	NM	NM	Shallow/Intermediate	No	Static	Well obstructed at 9.90 ft btoc.
AOI 2	S-150	5/11/2015	---	17.56	---	3.27	Shallow/Intermediate	No	Static	
AOI 2	S-152	5/11/2015	---	7.50	---	3.21	Shallow/Intermediate	No	Static	
AOI 2	S-153	5/11/2015	---	7.32	---	2.49	Shallow/Intermediate	No	Static	
AOI 2	S-154	5/11/2015	---	9.18	---	1.44	Shallow/Intermediate	No	Static	
AOI 2	S-156	5/11/2015	16.97	17.51	0.54	3.80	Shallow	No	Static	
AOI 2	S-157	5/11/2015	15.23	20.70	5.47	3.96	Shallow/Intermediate	No	Static	
AOI 2	S-159	5/11/2015	---	16.25	---	2.62	Shallow/Intermediate	No	Static	
AOI 2	S-165	5/11/2015	---	15.36	---	2.75	Shallow/Intermediate	No	Static	
AOI 2	S-166	5/11/2015	---	15.53	---	2.70	Shallow/Intermediate	No	Static	
AOI 2	S-174	5/11/2015	9.83	10.22	0.39	9.74	Shallow	No	Static	
AOI 2	S-175	5/11/2015	16.35	19.06	2.71	3.31	Shallow	No	Static	
AOI 2	S-177	5/11/2015	---	16.78	---	2.78	Shallow/Intermediate	No	Static	
AOI 2	S-178	5/11/2015	NA	NA	NA	NA	Shallow/Intermediate	No	Static	Not accessible - area around well is flooded.
AOI 2	S-246A	5/11/2015	---	11.45	---	0.31	Shallow/Intermediate	No	Static	
AOI 2	S-247	5/11/2015	---	11.75	---	0.34	Shallow/Intermediate	No	Static	
AOI 2	S-248	5/11/2015	---	10.52	---	0.28	Shallow/Intermediate	No	Static	
AOI 2	S-249	5/11/2015	---	14.43	---	-1.82	Shallow/Intermediate	No	Static	
AOI 2	S-251	5/11/2015	---	17.36	---	1.91	Shallow/Intermediate	Yes	Static	
AOI 2	S-252	5/11/2015	---	17.47	---	1.82	Shallow/Intermediate	Yes	Static	
AOI 2	S-253	5/11/2015	---	18.84	---	1.99	Shallow/Intermediate	Yes	Static	
AOI 2	S-254	5/11/2015	---	19.38	---	1.50	Shallow/Intermediate	Yes	Static	
AOI 2	S-292	5/11/2015	DRY	DRY	DRY	DRY	Shallow/Intermediate	No	Static	Well is dry at 19.50 ft btoc.
AOI 2	S-294	5/11/2015	---	29.59	---	4.88	Intermediate	No	Static	
AOI 2	S-294D	5/11/2015	---	31.84	---	2.84	Deep	No	Static	
AOI 2	S-295	5/11/2015	---	23.46	---	9.28	Shallow/Intermediate	No	Static	
AOI 2	S-297	5/11/2015	25.95	27.08	1.13	3.86	Shallow/Intermediate	No	Static	
AOI 2	S-298	5/11/2015	15.89	16.14	0.25	11.05	Shallow/Intermediate	No	Static	
AOI 2	S-299	5/11/2015	---	20.90	---	3.10	Shallow/Intermediate	No	Static	
AOI 2	S-300	5/11/2015	---	20.74	---	4.54	Shallow/Intermediate	No	Static	
AOI 2	S-301	5/11/2015	---	16.02	---	4.39	Shallow/Intermediate	No	Static	
AOI 2	S-302	5/11/2015	21.83	22.22	0.39	2.07	Intermediate	No	Static	
AOI 2	S-302D	5/11/2015	---	23.57	---	1.03	Deep	No	Static	
AOI 2	S-303	5/11/2015	---	19.95	---	2.64	Shallow/Intermediate	No	Static	
AOI 2	S-304	5/11/2015	---	12.07	---	10.11	Shallow/Intermediate	No	Static	Well and casing are damaged.
AOI 2	S-305	5/11/2015	---	16.99	---	2.74	Intermediate	No	Static	
AOI 2	S-305D	5/11/2015	---	19.41	---	1.07	Deep	No	Static	
AOI 2	S-306	5/11/2015	---	20.73	---	1.74	Intermediate	No	Static	
AOI 2	S-307	5/11/2015	---	15.76	---	2.81	Shallow/Intermediate	No	Static	
AOI 2	S-308	5/11/2015	---	24.00	---	4.11	Shallow/Intermediate	No	Static	
AOI 2	S-309	5/11/2015	---	17.33	---	2.40	Shallow/Intermediate	No	Static	
AOI 2	S-310	5/11/2015	---	8.62	---	8.78	Shallow/Intermediate	No	Static	Casing is damaged.
AOI 2	S-311	5/20/2015	24.33	24.37	0.04	1.84	Intermediate	No	Static	
AOI 2	S-313	5/11/2015	---	18.81	---	2.09	Shallow	Yes	Static	
AOI 2	S-314	5/11/2015	---	18.97	---	1.73	Shallow	Yes	Static	
AOI 2	S-315	5/11/2015	---	19.12	---	1.35	Shallow	Yes	Static	
AOI 2	S-316	5/11/2015	---	18.24	---	2.66	Shallow	Yes	Static	
AOI 2	S-317	5/11/2015	---	18.42	---	1.77	Shallow	Yes	Static	
AOI 2	S-318	5/11/2015	---	22.26	---	1.49	Shallow/Intermediate	No	Static	
AOI 2	S-328	5/11/2015	18.91	18.92	0.01	3.05	Shallow/Intermediate	No	Static	
AOI 2	S-333	5/11/2015	---	13.57	---	0.16	Shallow/Intermediate	No	Static	
AOI 2	S-335	5/11/2015	---	9.68	---	3.21	Shallow/Intermediate	No	Static	Casing broken off at grade.
AOI 2	S-336	5/11/2015	---	9.39	---	2.13	Shallow/Intermediate	No	Static	
AOI 2	S-337	5/11/2015	---	10.39	---	1.82	Shallow/Intermediate	No	Static	
AOI 2	S-338	5/11/2015	10.11	21.55	11.44	2.77	Shallow/Intermediate	No	Static	
AOI 2	S-346	5/11/2015	16.79	16.94	0.15	2.67	Shallow/Intermediate	No	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 2	S-347	5/11/2015	16.44	17.08	0.64	2.56	Shallow/Intermediate	No	Static	
AOI 2	S-348	5/20/2015	12.85	13.12	0.27	6.70	Shallow/Intermediate	No	Static	
AOI 2	S-349	5/11/2015	14.99	15.18	0.19	3.60	Shallow/Intermediate	No	Static	
AOI 2	S-350	5/11/2015	---	26.73	---	4.75	Shallow/Intermediate	No	Static	
AOI 2	S-351	5/11/2015	---	30.48	---	4.76	Shallow/Intermediate	No	Static	
AOI 2	S-354	5/11/2015	---	24.90	---	3.13	Shallow/Intermediate	No	Static	
AOI 2	S-355	5/11/2015	27.05	27.20	0.15	3.75	Shallow/Intermediate	No	Static	
AOI 2	S-357	5/11/2015	20.82	20.96	0.14	7.25	Shallow/Intermediate	No	Static	
AOI 2	S-359	5/11/2015	---	17.22	---	3.06	Shallow/Intermediate	No	Static	
AOI 2	S-360	5/11/2015	---	21.07	---	2.73	Shallow/Intermediate	No	Static	
AOI 2	S-361	5/11/2015	---	23.05	---	3.32	Shallow/Intermediate	No	Static	
AOI 2	S-362	5/11/2015	NM	NM	NM	NM	Shallow/Intermediate	No	Static	Well is blocked at 4.15 ft btoc.
AOI 2	S-363	5/20/2015	---	24.06	---	1.80	Shallow/Intermediate	No	Static	
AOI 2	S-406	5/11/2015	---	10.35	---	1.85	Shallow/Intermediate	No	Static	
AOI 2	S-420	5/11/2015	---	6.57	---	NM	Shallow	No	Static	
AOI 2	SD-1	5/11/2015	---	8.03	---	11.47	Shallow	No	Static	
AOI 3	BF-88	5/12/2015	---	9.76	---	0.85	Shallow	No	Static	
AOI 3	BF-90	5/12/2015	---	1.94	---	5.55	Shallow	No	Static	
AOI 3	BF-90D	5/12/2015	---	9.68	---	0.09	Intermediate/Deep	No	Static	
AOI 3	BF-99	5/12/2015	---	10.29	---	0.67	Shallow/Intermediate	No	Static	
AOI 3	BF-100	5/12/2015	---	11.76	---	0.60	Shallow/Intermediate	No	Static	
AOI 3	BF-101	5/12/2015	NA	NA	NA	NA	Shallow	No	Static	Well is inaccessible.
AOI 3	BF-103R	5/12/2015	---	14.18	---	0.39	Shallow/Intermediate	No	Static	
AOI 3	BF-104	5/12/2015	---	5.90	---	5.84	Shallow/Intermediate	No	Static	
AOI 3	BF-105	5/12/2015	---	11.33	---	0.58	Shallow/Intermediate	No	Static	
AOI 3	BF-106	5/12/2015	---	13.02	---	0.60	Shallow/Intermediate	No	Static	
AOI 3	BF-107	5/12/2015	---	11.68	---	0.68	Shallow/Intermediate	No	Static	
AOI 3	BF-108	5/12/2015	---	10.81	---	0.17	Deep	No	Static	
AOI 3	RW-2	5/12/2015	10.84	11.21	0.37	0.38	Intermediate	Yes	Static	
AOI 3	S-1	5/12/2015	---	5.83	---	2.92	Shallow	No	Static	
AOI 3	S-2	5/12/2015	---	3.86	---	3.35	Shallow	No	Static	
AOI 3	S-3	5/12/2015	---	7.97	---	2.83	Shallow	No	Static	
AOI 3	S-5	5/12/2015	3.16	3.24	0.08	2.66	Shallow	No	Static	
AOI 3	S-8	5/12/2015	---	7.10	---	-0.68	Deep	No	Static	
AOI 3	S-9	5/12/2015	---	3.19	---	3.39	Shallow	No	Static	
AOI 3	S-10	5/12/2015	---	4.13	---	1.94	Shallow/Intermediate	No	Static	
AOI 3	S-11	5/12/2015	---	3.06	---	3.32	Shallow	No	Static	
AOI 3	S-12	5/12/2015	---	4.88	---	1.35	Shallow/Intermediate	No	Static	
AOI 3	S-13	5/12/2015	---	6.97	---	-0.61	Deep	No	Static	
AOI 3	S-14	5/12/2015	---	2.88	---	2.86	Shallow	No	Static	
AOI 3	S-16	5/12/2015	---	21.86	---	1.82	Shallow/Intermediate	No	Static	
AOI 3	S-17	5/12/2015	---	15.06	---	2.21	Shallow/Intermediate	No	Static	
AOI 3	S-18	5/12/2015	---	4.35	---	19.14	Shallow	No	Static	
AOI 3	S-19	5/12/2015	NM	NM	NM	NM	Shallow	No	Static	Casing damaged at 1.50 ft btoc.
AOI 3	S-20	5/12/2015	---	18.21	---	2.05	Shallow/Intermediate	No	Static	
AOI 3	S-21	5/12/2015	---	10.09	---	12.39	Shallow	No	Static	Casing broken off at grade.
AOI 3	S-22	5/12/2015	---	19.01	---	-0.35	Deep	No	Static	
AOI 3	S-23	5/12/2015	---	18.52	---	1.76	Intermediate	No	Static	
AOI 3	S-24	5/12/2015	NM	NM	NM	NM	Shallow	No	Static	Casing damaged at 1.34 ft btoc.
AOI 3	S-25	5/12/2015	---	10.41	---	1.70	Shallow/Intermediate	No	Static	
AOI 3	S-59	5/12/2015	8.99	9.00	0.01	3.49	Shallow/Intermediate	No	Static	
AOI 3	S-60	5/12/2015	11.10	11.54	0.44	1.06	Shallow/Intermediate	No	Static	
AOI 3	S-66	5/12/2015	DRY	DRY	DRY	DRY	Intermediate	No	Static	Well is dry at 26.00 ft btoc.
AOI 3	S-69	5/12/2015	NM	NM	NM	NM	Shallow/Intermediate	No	Static	Well obstruction at 1.10 ft btoc.
AOI 3	S-69D	5/12/2015	---	11.20	---	2.44	Deep	No	Static	
AOI 3	S-113	5/18/2015	11.74	12.43	0.69	0.80	Shallow/Intermediate	No	Static	
AOI 3	S-280	5/12/2015	---	24.81	---	1.71	Intermediate	No	Static	
AOI 3	S-280D	5/12/2015	---	24.93	---	0.95	Deep	No	Static	
AOI 3	S-281	5/12/2015	NA	NA	NA	NA	Intermediate	No	Static	Inaccessible - conex box over well.
AOI 3	S-283	5/12/2015	---	10.85	---	0.29	Intermediate	No	Static	
AOI 3	S-284	5/12/2015	---	8.68	---	0.83	Shallow/Intermediate	No	Static	
AOI 3	S-284D	5/12/2015	---	11.39	---	0.73	Deep	No	Static	
AOI 3	S-285	5/12/2015	13.31	15.20	1.89	1.70	Shallow/Intermediate	No	Static	
AOI 3	S-288	5/12/2015	---	13.45	---	5.64	Shallow/Intermediate	No	Static	

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 3	S-290	5/12/2015	---	9.58	---	2.11	Shallow/Intermediate	No	Static	
AOI 3	S-291	5/12/2015	---	8.05	---	3.94	Shallow	No	Static	
AOI 3	S-382	5/12/2015	---	17.33	---	2.99	Shallow	No	Static	
AOI 3	S-383	5/12/2015	---	11.66	---	1.09	Shallow	No	Static	
AOI 3	S-384	5/12/2015	---	15.84	---	0.67	Shallow	No	Static	
AOI 3	S-385	5/12/2015	---	11.58	---	1.33	Shallow	No	Static	
AOI 3	S-386	5/12/2015	---	12.84	---	0.91	Shallow	No	Static	
AOI 3	S-387	5/12/2015	---	4.41	---	2.70	Shallow	No	Static	
AOI 4	RW-700	5/12/2015	16.36	16.36	<0.01	1.66	Intermediate	Yes	Static	
AOI 4	RW-701	5/12/2015	16.61	16.61	<0.01	1.67	Intermediate	Yes	Static	
AOI 4	RW-702	5/12/2015	---	19.36	---	1.60	Intermediate	Yes	Static	
AOI 4	RW-703	5/12/2015	---	19.01	---	1.61	Intermediate	Yes	Static	
AOI 4	RW-704	5/12/2015	---	13.42	---	6.81	Intermediate	Yes	Static	
AOI 4	RW-705	5/12/2015	---	14.26	---	1.66	Intermediate	Yes	Static	
AOI 4	RW-706	5/18/2015	---	14.52	---	1.37	Intermediate	Yes	Static	
AOI 4	RW-707	5/12/2015	---	14.59	---	1.70	Intermediate	Yes	Static	
AOI 4	RW-708	5/12/2015	NM	NM	NM	NM	Intermediate	Yes	Static	Top of pump at 13.50 ft btoc.
AOI 4	RW-709	5/12/2015	---	13.67	---	1.63	Intermediate	Yes	Static	
AOI 4	RW-710	5/12/2015	---	14.42	---	1.46	Intermediate	Yes	Static	
AOI 4	RW-711	5/12/2015	---	13.79	---	1.70	Intermediate	Yes	Static	
AOI 4	RW-712	5/12/2015	---	13.92	---	1.64	Intermediate	Yes	Static	
AOI 4	RW-713	5/12/2015	---	13.36	---	1.66	Intermediate	Yes	Static	
AOI 4	RW-714	5/12/2015	---	13.21	---	2.00	Intermediate	Yes	Static	
AOI 4	RW-715	5/12/2015	---	13.64	---	1.73	Intermediate	Yes	Static	
AOI 4	RW-716	5/12/2015	---	13.52	---	2.03	Intermediate	Yes	Static	
AOI 4	RW-717	5/12/2015	---	13.81	---	1.80	Intermediate	Yes	Static	
AOI 4	S-26	5/12/2015	---	19.05	---	1.71	Intermediate	No	Static	
AOI 4	S-27	5/12/2015	---	23.02	---	1.59	Intermediate	No	Static	
AOI 4	S-28	5/12/2015	---	21.10	---	4.64	Shallow	No	Static	
AOI 4	S-29	5/12/2015	19.92	23.05	3.13	2.96	Intermediate	No	Static	
AOI 4	S-30	5/12/2015	20.39	28.60	8.21	1.66	Intermediate	Yes	Static	
AOI 4	S-31	5/12/2015	18.65	19.23	0.58	2.56	Shallow	No	Static	
AOI 4	S-32	5/12/2015	22.73	22.80	0.07	1.46	Shallow	No	Static	
AOI 4	S-34	5/12/2015	---	19.83	---	1.06	Shallow	No	Static	
AOI 4	S-35	5/12/2015	---	19.85	---	1.09	Shallow	No	Static	
AOI 4	S-36	5/12/2015	---	23.00	---	1.23	Shallow	No	Static	
AOI 4	S-38	5/12/2015	---	17.23	---	1.72	Shallow	No	Static	
AOI 4	S-38D	5/12/2015	---	17.71	---	-0.01	Deep	No	Static	
AOI 4	S-38D2	5/12/2015	---	18.20	---	-0.01	Deep	No	Static	
AOI 4	S-39	5/12/2015	---	21.04	---	1.84	Intermediate	No	Static	
AOI 4	S-40	5/12/2015	---	23.09	---	1.37	Shallow	No	Static	
AOI 4	S-56	5/12/2015	---	13.42	---	1.58	Shallow	No	Static	
AOI 4	S-57	5/12/2015	---	11.35	---	1.15	Shallow	No	Static	
AOI 4	S-59D	5/12/2015	---	15.73	---	1.40	Deep	No	Static	
AOI 4	S-96	5/12/2015	18.23	18.23	<0.01	1.55	Shallow	No	Static	
AOI 4	S-97	5/12/2015	---	26.02	---	1.93	Shallow	No	Static	
AOI 4	S-102	5/12/2015	---	16.75	---	1.47	Shallow	No	Static	
AOI 4	S-103	5/12/2015	---	24.19	---	1.92	Shallow	No	Static	
AOI 4	S-104	5/12/2015	15.53	16.78	1.25	2.88	Shallow	No	Static	
AOI 4	S-119	5/12/2015	---	25.27	---	1.33	Intermediate	No	Static	
AOI 4	S-119D	5/12/2015	---	23.97	---	1.13	Deep	No	Static	
AOI 4	S-120	5/12/2015	---	17.99	---	1.83	Intermediate	No	Static	
AOI 4	S-121	5/12/2015	---	19.52	---	1.60	Intermediate	No	Static	
AOI 4	S-122	5/12/2015	---	23.85	---	1.86	Intermediate	No	Static	
AOI 4	S-123	5/12/2015	---	20.43	---	1.70	Intermediate	No	Static	
AOI 4	S-124	5/12/2015	---	21.51	---	1.69	Intermediate	No	Static	
AOI 4	S-216	5/12/2015	---	14.13	---	1.63	Intermediate	No	Static	
AOI 4	S-218	5/12/2015	---	23.98	---	1.76	Intermediate	No	Static	
AOI 4	S-219	5/12/2015	---	21.29	---	1.80	Intermediate	No	Static	
AOI 4	S-220	5/12/2015	18.94	19.38	0.44	1.81	Intermediate	No	Static	
AOI 4	S-221	5/12/2015	21.08	21.81	0.73	1.79	Intermediate	No	Static	
AOI 4	S-222	5/12/2015	---	14.40	---	1.89	Intermediate	No	Static	
AOI 4	S-223	5/12/2015	---	14.10	---	1.78	Intermediate	No	Static	
AOI 4	S-224	5/12/2015	---	14.23	---	1.80	Intermediate	No	Static	

Table 2
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Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 4	S-225	5/12/2015	---	15.41	---	1.45	Intermediate	No	Static	
AOI 4	S-233	5/12/2015	19.49	19.92	0.43	4.78	Intermediate	No	Static	
AOI 4	S-234	5/12/2015	---	19.80	---	1.43	Intermediate	No	Static	
AOI 4	S-235	5/12/2015	21.39	21.41	0.02	1.73	Intermediate	No	Static	
AOI 4	S-236	5/12/2015	21.17	21.90	0.73	1.67	Intermediate	No	Static	
AOI 4	S-237	5/12/2015	21.02	21.54	0.52	1.70	Intermediate	No	Static	
AOI 4	S-238	5/12/2015	21.17	21.17	<0.01	1.75	Intermediate	No	Static	
AOI 4	S-239	5/12/2015	---	14.07	---	1.75	Intermediate	No	Static	
AOI 4	S-240	5/12/2015	22.17	22.67	0.50	1.61	Intermediate	No	Static	
AOI 4	S-241	5/12/2015	24.25	26.35	2.10	1.46	Intermediate	No	Static	
AOI 4	S-242	5/12/2015	---	20.00	---	1.89	Intermediate	No	Static	
AOI 4	S-243	5/12/2015	---	13.84	---	1.90	Intermediate	No	Static	
AOI 4	S-244	5/12/2015	---	20.06	---	1.88	Intermediate	No	Static	
AOI 4	S-245	5/12/2015	---	20.29	---	1.92	Intermediate	No	Static	
AOI 4	S-246	5/12/2015	---	18.24	---	3.32	Intermediate	No	Static	
AOI 4	S-278	5/12/2015	19.23	19.23	<0.01	1.81	Intermediate	No	Static	
AOI 4	S-279	5/12/2015	24.40	24.40	<0.01	2.06	Intermediate	No	Static	
AOI 4	S-282	5/12/2015	19.60	20.42	0.82	1.03	Shallow/Intermediate	No	Static	
AOI 4	S-329	5/12/2015	---	19.43	---	1.49	Intermediate	No	Static	
AOI 4	S-364	5/12/2015	---	20.35	---	0.98	Shallow/Intermediate	No	Static	
AOI 4	S-365	5/18/2015	20.00	20.02	0.02	0.75	Shallow/Intermediate	No	Static	
AOI 4	S-366	5/12/2015	---	20.63	---	1.63	Shallow/Intermediate	No	Static	
AOI 4	S-367	5/12/2015	---	14.38	---	1.64	Shallow/Intermediate	No	Static	
AOI 4	S-368	5/12/2015	---	16.24	---	1.78	Shallow/Intermediate	No	Static	
AOI 4	S-369	5/12/2015	---	28.89	---	0.53	Shallow/Intermediate	No	Static	
AOI 4	S-370	5/12/2015	---	10.94	---	1.12	Shallow/Intermediate	No	Static	
AOI 4	S-371	5/12/2015	---	19.28	---	2.77	Shallow/Intermediate	No	Static	
AOI 4	S-372	5/12/2015	---	18.07	---	1.66	Shallow/Intermediate	No	Static	
AOI 4	S-379	5/12/2015	NM	NM	NM	NM	Shallow/Intermediate	No	Static	Well is blocked at 16.40 ft btoc.
AOI 4	S-380	5/12/2015	---	19.67	---	1.65	Shallow/Intermediate	No	Static	
AOI 4	S-381	5/12/2015	---	24.40	---	1.46	Shallow/Intermediate	No	Static	
AOI 5	A-1	5/15/2015	---	5.85	---	1.00	Shallow	No	Static	
AOI 5	A-3	5/15/2015	---	6.00	---	2.24	Shallow	No	Static	
AOI 5	A-4	5/15/2015	---	4.81	---	1.23	Shallow	No	Static	
AOI 5	A-5	5/15/2015	4.69	4.70	0.01	0.32	Shallow	No	Static	
AOI 5	A-6	5/15/2015	---	3.90	---	2.84	Shallow	No	Static	
AOI 5	A-7	5/15/2015	4.33	4.96	0.63	2.51	Shallow	No	Static	
AOI 5	A-9	5/15/2015	---	3.89	---	1.91	Shallow	No	Static	
AOI 5	A-10	5/15/2015	---	4.20	---	4.08	Shallow	No	Static	
AOI 5	A-11	5/15/2015	---	5.75	---	2.02	Shallow	No	Static	
AOI 5	A-12	5/15/2015	---	5.72	---	1.85	Shallow	No	Static	
AOI 5	A-15	5/15/2015	---	1.58	---	3.53	Shallow	No	Static	
AOI 5	A-16	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 5	A-19D	5/15/2015	---	12.58	---	-1.94	Deep	No	Static	
AOI 5	A-21	5/15/2015	2.89	2.92	0.03	5.27	Shallow	No	Static	
AOI 5	A-21D	5/15/2015	---	17.11	---	-5.86	Deep	No	Static	
AOI 5	A-22	5/15/2015	---	6.71	---	1.24	Shallow	No	Static	
AOI 5	A-23	5/15/2015	---	4.47	---	1.84	Shallow	No	Static	
AOI 5	A-24	5/15/2015	---	2.84	---	2.69	Shallow	No	Static	
AOI 5	A-25	5/15/2015	---	4.97	---	3.83	Shallow	No	Static	Well damaged, manhole lid no longer fits.
AOI 5	A-26	5/15/2015	---	5.56	---	3.09	Shallow	No	Static	
AOI 5	A-27	5/15/2015	---	6.96	---	3.05	Shallow	No	Static	
AOI 5	A-39	5/15/2015	---	7.45	---	0.23	Shallow	No	Static	
AOI 5	A-40	5/15/2015	---	7.63	---	1.00	Shallow	No	Static	
AOI 5	A-41	5/15/2015	---	4.75	---	0.88	Shallow	No	Static	
AOI 5	A-44	5/15/2015	---	7.74	---	2.27	Shallow	No	Static	
AOI 5	A-45	5/15/2015	---	3.81	---	0.91	Shallow	No	Static	
AOI 5	A-46	5/15/2015	---	8.45	---	2.37	Shallow	No	Static	
AOI 5	A-47	5/15/2015	5.20	5.20	<0.01	2.23	Shallow	No	Static	
AOI 5	A-48	5/15/2015	---	4.47	---	1.98	Shallow	No	Static	
AOI 5	A-49	5/15/2015	---	3.56	---	3.64	Shallow	No	Static	
AOI 5	A-118	5/15/2015	---	3.23	---	5.07	Shallow	No	Static	
AOI 5	A-122	5/15/2015	---	5.45	---	1.99	Shallow	No	Static	
AOI 5	A-133	5/15/2015	---	9.80	---	3.22	Shallow	No	Static	

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 5	A-134	5/15/2015	---	7.21	---	1.93	Shallow	No	Static	
AOI 5	A-135	5/15/2015	---	7.81	---	2.95	Shallow	No	Static	
AOI 5	A-136	5/15/2015	6.68	6.69	0.01	2.02	Shallow	No	Static	
AOI 5	A-137	5/15/2015	---	7.66	---	0.97	Shallow	No	Static	
AOI 5	A-139	5/15/2015	---	6.20	---	2.92	Shallow	No	Static	
AOI 5	A-140	5/15/2015	---	7.29	---	2.60	Shallow	No	Static	
AOI 5	A-142	5/15/2015	---	7.07	---	1.49	Shallow	No	Static	
AOI 5	A-143	5/15/2015	---	7.12	---	2.38	Shallow	No	Static	
AOI 5	A-146	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Unable to locate.
AOI 5	A-147	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Unable to locate.
AOI 5	A-148	5/15/2015	---	2.64	---	5.37	Shallow	No	Static	
AOI 5	A-149	5/15/2015	---	4.76	---	3.73	Shallow	No	Static	
AOI 5	A-150	5/15/2015	---	5.82	---	3.82	Shallow	No	Static	
AOI 5	A-151	5/15/2015	---	4.67	---	2.82	Shallow	No	Static	
AOI 5	A-152	5/15/2015	---	4.13	---	0.72	Shallow	No	Static	
AOI 5	A-155	5/15/2015	5.72	5.95	0.23	2.64	Shallow	No	Static	
AOI 5	A-156	5/15/2015	---	5.19	---	3.69	Shallow	No	Static	
AOI 5	A-157	5/15/2015	---	5.67	---	2.95	Shallow	No	Static	
AOI 5	A-161	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 5	A-162	5/15/2015	NM	NM	NM	NM	Other	No	Static	Well is destroyed.
AOI 5	A-163	5/15/2015	---	7.02	---	3.47	Other	No	Static	
AOI 5	A-164	5/15/2015	---	5.79	---	3.12	Other	No	Static	
AOI 5	A-166	5/15/2015	8.17	8.18	0.01	3.10	Not Classified	No	Static	
AOI 5	A-167	5/15/2015	---	5.84	---	3.62	Not Classified	No	Static	
AOI 5	A-168	5/15/2015	---	7.62	---	3.07	Not Classified	No	Static	
AOI 5	A-169	5/15/2015	---	5.29	---	NM	Not Classified	No	Static	
AOI 5	A-174	5/15/2015	NM	NM	NM	NM	Not Classified	No	Static	Well is blocked at 4.50 ft btoc.
AOI 5	PZ-2	5/15/2015	---	5.59	---	5.29	Shallow	No	Static	
AOI 5	PZ-3	5/15/2015	---	7.82	---	2.71	Shallow	No	Static	
AOI 5	RW-6S	5/15/2015	---	5.43	---	2.79	Shallow	Yes	Static	
AOI 5	RWBH-1	5/15/2015	---	5.07	---	0.26	Shallow	Yes	Static	
AOI 5	RWBH-2	5/15/2015	2.93	2.94	0.01	1.20	Shallow	Yes	Static	
AOI 5	SW-1	5/15/2015	8.32	9.26	0.94	1.36	Shallow	No	Static	
AOI 5	SW-2	5/15/2015	---	7.62	---	2.32	Shallow	No	Static	
AOI 5	SW-3	5/15/2015	---	7.62	---	2.35	Shallow	No	Static	
AOI 5	SW-4	5/15/2015	4.69	4.70	0.01	2.46	Shallow	No	Static	
AOI 5	SW-5	5/15/2015	5.95	8.50	2.55	4.31	Shallow	No	Static	
AOI 5	SWR-1	5/15/2015	---	5.70	---	2.58	Shallow	Yes	Static	
AOI 5	SWR-2	5/15/2015	---	7.99	---	2.07	Shallow	Yes	Static	
AOI 5	SWR-3	5/15/2015	---	7.58	---	3.03	Shallow	Yes	Static	
AOI 5	WP-8	5/15/2015	---	5.26	---	1.73	Shallow	No	Static	
AOI 5	WP-9	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 5	WP-14	5/15/2015	---	7.13	---	1.99	Shallow	No	Static	
AOI 5	WP-A	5/15/2015	6.16	6.21	0.05	3.44	Shallow	No	Static	
AOI 5	WP-B	5/15/2015	7.43	7.45	0.02	2.65	Shallow	No	Static	
AOI 5	WP-C	5/15/2015	---	4.11	---	2.42	Shallow	No	Static	
AOI 5	WP-D	5/15/2015	---	5.68	---	2.58	Shallow	No	Static	
AOI 5	WP-E	5/15/2015	---	4.90	---	2.45	Shallow	No	Static	
AOI 5	WP9-8	5/20/2015	5.10	6.72	1.62	3.57	Shallow	No	Static	
AOI 5	WP16-3	5/15/2015	---	8.84	---	2.23	Shallow	No	Static	
AOI 6	B-39	5/15/2015	2.70	3.20	0.50	2.72	Shallow	No	Static	
AOI 6	B-43	5/20/2015	---	3.65	---	3.56	Shallow	No	Static	
AOI 6	B-45	5/15/2015	---	1.86	---	3.24	Shallow	No	Static	
AOI 6	B-46	5/15/2015	---	2.19	---	5.84	Shallow	No	Static	
AOI 6	B-47	5/15/2015	3.69	3.70	0.01	4.61	Shallow	No	Static	LNAPL is very viscous.
AOI 6	B-48	5/15/2015	---	0.81	---	5.69	Shallow	No	Static	
AOI 6	B-48D	5/15/2015	---	11.38	---	-1.96	Deep	No	Static	
AOI 6	B-92	5/15/2015	---	6.47	---	3.76	Shallow	No	Static	
AOI 6	B-94	5/15/2015	---	7.03	---	3.32	Shallow	No	Static	
AOI 6	B-95	5/15/2015	---	6.19	---	2.68	Shallow	No	Static	
AOI 6	B-115	5/15/2015	---	3.86	---	3.64	Shallow	No	Static	
AOI 6	B-116	5/15/2015	---	6.17	---	-1.10	Shallow	No	Static	
AOI 6	B-117	5/15/2015	---	8.02	---	-2.05	Shallow	No	Static	
AOI 6	B-123	5/15/2015	---	5.70	---	5.06	Shallow	No	Static	

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AOI 6	B-124	5/15/2015	5.54	6.71	1.17	3.21	Shallow	Yes	Static	
AOI 6	B-125	5/15/2015	---	5.29	---	3.22	Shallow	No	Static	
AOI 6	B-126	5/15/2015	---	5.51	---	3.00	Shallow	No	Static	
AOI 6	B-129	5/15/2015	5.99	10.56	4.57	1.41	Shallow	No	Static	
AOI 6	B-130	5/15/2015	5.69	5.75	0.06	4.00	Shallow	No	Static	
AOI 6	B-131	5/15/2015	---	6.31	---	2.41	Shallow	No	Static	
AOI 6	B-132	5/15/2015	4.93	4.98	0.05	1.93	Shallow	No	Static	
AOI 6	B-132D	5/15/2015	---	15.62	---	-5.31	Deep	No	Static	
AOI 6	B-133	5/15/2015	---	5.26	---	2.07	Shallow	Yes	Static	
AOI 6	B-133D	5/15/2015	---	10.43	---	-1.83	Deep	No	Static	
AOI 6	B-134	5/15/2015	4.89	4.90	0.01	1.63	Shallow	Yes	Static	
AOI 6	B-134D	5/15/2015	---	11.38	---	-3.26	Deep	No	Static	
AOI 6	B-135	5/15/2015	4.91	4.95	0.04	1.46	Shallow	No	Static	
AOI 6	B-136	5/15/2015	6.23	6.25	0.02	2.92	Shallow	Yes	Static	
AOI 6	B-137	5/15/2015	5.09	5.30	0.21	3.61	Shallow	Yes	Static	
AOI 6	B-138	5/15/2015	5.35	5.35	<0.01	3.99	Shallow	Yes	Static	
AOI 6	B-139	5/15/2015	NM	NM	NM	NM	Shallow	Yes	Static	Casing broken below grade.
AOI 6	B-141	5/15/2015	---	4.09	---	4.60	Shallow	No	Static	
AOI 6	B-142	5/15/2015	7.28	7.76	0.48	2.40	Shallow	Yes	Static	
AOI 6	B-143	5/15/2015	5.79	6.31	0.52	3.12	Shallow	Yes	Static	
AOI 6	B-144	5/15/2015	5.54	5.55	0.01	3.48	Shallow	No	Static	
AOI 6	B-145	5/15/2015	---	5.66	---	4.15	Shallow	No	Static	
AOI 6	B-147	5/15/2015	6.30	6.38	0.08	2.59	Shallow	Yes	Static	
AOI 6	B-148	5/15/2015	5.42	6.11	0.69	1.71	Shallow	No	Static	
AOI 6	B-149	5/15/2015	3.87	4.34	0.47	3.81	Shallow	No	Static	
AOI 6	B-150	5/15/2015	3.84	5.81	1.97	3.70	Shallow	No	Static	
AOI 6	B-151	5/15/2015	---	4.63	---	3.11	Shallow	No	Static	
AOI 6	B-152	5/15/2015	---	2.06	---	2.98	Shallow	No	Static	
AOI 6	B-153	5/15/2015	---	2.55	---	3.82	Shallow	No	Static	
AOI 6	B-154	5/15/2015	---	4.16	---	4.52	Shallow	No	Static	
AOI 6	B-155	5/15/2015	---	5.57	---	2.97	Shallow	No	Static	
AOI 6	B-156	5/15/2015	---	6.20	---	2.66	Shallow	No	Static	
AOI 6	B-158	5/15/2015	---	3.99	---	4.22	Shallow	No	Static	
AOI 6	B-160	5/15/2015	---	4.42	---	4.11	Shallow	No	Static	
AOI 6	B-161	5/15/2015	5.16	5.45	0.29	3.09	Shallow	No	Static	
AOI 6	B-162	5/15/2015	---	2.68	---	4.91	Shallow	No	Static	
AOI 6	B-163	5/15/2015	---	2.60	---	4.85	Shallow	No	Static	
AOI 6	B-164	5/15/2015	---	4.49	---	4.33	Shallow	No	Static	
AOI 6	B-165	5/15/2015	---	3.44	---	2.35	Shallow	No	Static	
AOI 6	B-166	5/15/2015	---	3.09	---	4.38	Shallow	No	Static	
AOI 6	B-167	5/15/2015	---	3.84	---	2.89	Shallow	No	Static	
AOI 6	B-168	5/15/2015	---	2.74	---	3.72	Shallow	No	Static	
AOI 6	B-169	5/15/2015	---	2.24	---	3.88	Shallow	No	Static	
AOI 6	B-170	5/15/2015	---	2.35	---	-2.31	Shallow	No	Static	
AOI 6	PZ-132A	5/15/2015	---	7.62	---	2.53	Shallow	No	Static	
AOI 6	PZ-135A	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 6	PZ-135B	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 6	RW-9	5/15/2015	5.50	6.11	0.61	3.14	Shallow	Yes	Static	
AOI 6	SUMP-1	5/20/2015	5.98	6.05	0.07	4.71	Shallow	Yes	Static	
AOI 6	U-1	5/15/2015	DRY	DRY	DRY	DRY	Shallow	No	Static	Well is dry at 7.94 ft btoc.
AOI 6	U-2	5/15/2015	---	7.28	---	2.11	Shallow	No	Static	
AOI 6	U-3	5/15/2015	6.55	6.99	0.44	3.17	Shallow	No	Static	
AOI 6	U-4	5/15/2015	---	6.49	---	2.73	Shallow	No	Static	
AOI 6	U-5	5/15/2015	---	8.61	---	1.18	Shallow	No	Static	
AOI 6	URS-1	5/15/2015	---	7.42	---	2.60	Shallow	No	Static	
AOI 6	URS-2	5/15/2015	---	4.61	---	3.28	Shallow	No	Static	
AOI 6	URS-3	5/15/2015	---	4.53	---	3.07	Shallow	No	Static	
AOI 6	URS-4	5/15/2015	---	7.74	---	2.20	Shallow	No	Static	
AOI 6	URS-5	5/15/2015	---	5.52	---	2.42	Shallow	No	Static	
AOI 6	WP9-3	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well is blocked at 2.37 ft btoc.
AOI 6	WP9-4	5/15/2015	---	5.82	---	3.05	Shallow	No	Static	
AOI 6	WPM-2	5/15/2015	NA	NA	NA	NA	Shallow	No	Static	Not accessible - vehicle parked on top of well.
AOI 6	WPM-3	5/15/2015	---	3.46	---	4.57	Shallow	No	Static	
AOI 6	WPM-11	5/15/2015	---	0.86	---	5.65	Shallow	No	Static	

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 7	C-49	5/15/2015	---	5.70	---	3.88	Shallow	No	Static	
AOI 7	C-50	5/15/2015	---	7.97	---	4.80	Shallow	No	Static	
AOI 7	C-50D	5/15/2015	---	11.49	---	0.00	Deep	No	Static	
AOI 7	C-51	5/15/2015	---	5.72	---	3.54	Shallow	No	Static	
AOI 7	C-52	5/15/2015	---	5.20	---	2.43	Shallow	No	Static	
AOI 7	C-53A	5/15/2015	---	4.10	---	5.37	Shallow	No	Static	
AOI 7	C-54	5/15/2015	---	0.83	---	5.78	Shallow	No	Static	
AOI 7	C-55	5/15/2015	---	5.31	---	4.10	Shallow	No	Static	
AOI 7	C-56	5/15/2015	---	2.35	---	8.37	Shallow	No	Static	
AOI 7	C-57	5/15/2015	---	3.06	---	5.44	Shallow	No	Static	
AOI 7	C-58	5/15/2015	---	2.88	---	4.54	Shallow	No	Static	
AOI 7	C-59	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 7	C-60	5/15/2015	---	3.86	---	3.58	Shallow	No	Static	
AOI 7	C-61	5/15/2015	---	3.68	---	4.25	Shallow	No	Static	
AOI 7	C-62	5/15/2015	---	4.67	---	6.73	Shallow	No	Static	
AOI 7	C-63	5/15/2015	---	6.58	---	0.83	Shallow	No	Static	
AOI 7	C-64	5/15/2015	9.49	9.85	0.36	-1.39	Shallow	No	Static	
AOI 7	C-65	5/15/2015	4.23	4.75	0.52	6.57	Shallow	No	Static	
AOI 7	C-65D	5/20/2015	---	2.11	---	7.51	Deep	No	Static	
AOI 7	C-95	5/15/2015	---	6.47	---	5.78	Shallow	No	Static	
AOI 7	C-96	5/15/2015	---	6.50	---	6.38	Shallow	No	Static	
AOI 7	C-97	5/15/2015	17.22	17.63	0.41	-6.76	Shallow	No	Static	
AOI 7	C-98	5/15/2015	---	6.32	---	4.23	Shallow	No	Static	
AOI 7	C-104	5/15/2015	---	7.05	---	2.48	Shallow	No	Static	
AOI 7	C-105	5/15/2015	---	4.83	---	4.34	Shallow	No	Static	
AOI 7	C-106	5/15/2015	8.93	10.73	1.80	2.49	Shallow	No	Static	LNAPL is very viscous.
AOI 7	C-108	5/15/2015	---	4.98	---	3.29	Shallow	No	Static	
AOI 7	C-109	5/15/2015	---	5.10	---	4.90	Shallow	No	Static	
AOI 7	C-110	5/15/2015	---	5.95	---	6.63	Shallow	No	Static	
AOI 7	C-111	5/15/2015	---	5.87	---	6.30	Shallow	No	Static	
AOI 7	C-112	5/15/2015	---	3.30	---	7.66	Shallow	No	Static	
AOI 7	C-113	5/15/2015	---	5.46	---	6.19	Shallow	No	Static	
AOI 7	C-114	5/15/2015	---	5.32	---	5.64	Shallow	No	Static	
AOI 7	C-127	5/15/2015	---	9.07	---	0.73	Shallow	No	Static	
AOI 7	C-129	5/15/2015	---	5.11	---	3.83	Shallow/Intermediate	No	Static	
AOI 7	C-129D	5/15/2015	---	9.83	---	-0.64	Deep	No	Static	
AOI 7	C-130	5/15/2015	---	7.04	---	4.94	Shallow	No	Static	
AOI 7	C-131	5/15/2015	---	4.00	---	6.14	Shallow	No	Static	
AOI 7	C-132	5/15/2015	---	5.17	---	4.80	Shallow	No	Static	
AOI 7	C-133	5/15/2015	---	2.51	---	5.22	Shallow	No	Static	
AOI 7	C-134D	5/15/2015	---	10.88	---	-1.48	Deep	No	Static	
AOI 7	C-136	5/15/2015	---	5.27	---	3.58	Shallow	No	Static	
AOI 7	C-137	5/15/2015	---	1.90	---	2.01	Shallow	No	Static	
AOI 7	C-138	5/15/2015	---	5.23	---	1.72	Shallow	No	Static	
AOI 7	C-139	5/15/2015	---	3.37	---	3.95	Shallow	No	Static	
AOI 7	C-140	5/15/2015	---	2.05	---	5.50	Shallow	No	Static	
AOI 7	C-142	5/15/2015	---	9.29	---	2.06	Shallow/Intermediate	No	Static	
AOI 7	C-143	5/15/2015	---	10.28	---	-3.83	Shallow/Intermediate	No	Static	
AOI 7	C-144D	5/15/2015	---	13.35	---	-4.39	Deep	No	Static	
AOI 7	C-145	5/15/2015	---	6.05	---	0.87	Shallow	No	Static	
AOI 7	C-146	5/15/2015	11.55	11.87	0.32	-4.86	Shallow	No	Static	
AOI 7	C-147	5/15/2015	11.23	12.00	0.77	-4.48	Shallow	No	Static	
AOI 7	C-148	5/15/2015	14.93	15.30	0.37	-5.64	Shallow	No	Static	
AOI 7	C-150	5/15/2015	14.73	15.06	0.33	-6.59	Shallow	No	Static	
AOI 7	C-151	5/15/2015	13.29	13.48	0.19	-5.41	Shallow	No	Static	
AOI 7	C-152	5/15/2015	11.14	11.38	0.24	-1.79	Shallow	No	Static	
AOI 7	C-153	5/15/2015	15.08	15.60	0.52	-6.88	Shallow	No	Static	
AOI 7	C-154	5/15/2015	12.02	12.06	0.04	-4.13	Shallow	No	Static	
AOI 7	C-155	5/15/2015	---	6.99	---	2.18	Shallow	No	Static	
AOI 7	C-156	5/15/2015	---	3.85	---	2.87	Shallow	No	Static	
AOI 7	C-157	5/15/2015	---	3.64	---	2.94	Shallow	No	Static	
AOI 7	C-158	5/15/2015	NM	NM	NM	NM	Shallow	No	Static	Well casing is seperated at 2.70 ft btoc.
AOI 7	C-159	5/15/2015	---	3.95	---	2.84	Shallow	No	Static	
AOI 7	C-160	5/15/2015	DRY	DRY	DRY	DRY	Shallow	No	Static	Well is dry at 9.90 ft btoc.

Table 2
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Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 7	C-161	5/15/2015	10.91	11.13	0.22	-1.87	Shallow	No	Static	
AOI 7	C-162	5/15/2015	---	10.99	---	-2.49	Shallow	No	Static	
AOI 7	C-163	5/15/2015	---	4.30	---	2.58	Shallow	No	Static	
AOI 7	C-164	5/15/2015	---	4.19	---	2.64	Shallow	No	Static	
AOI 7	C-165	5/15/2015	---	5.72	---	2.74	Shallow	No	Static	
AOI 7	C-166	5/15/2015	---	6.90	---	0.09	Shallow	No	Static	
AOI 7	C-167	5/15/2015	DRY	DRY	DRY	DRY	Shallow	No	Static	Well is dry at 12.15 ft btoc.
AOI 7	C-168	5/15/2015	3.63	4.01	0.38	6.39	Shallow	No	Static	Well damaged at grade.
AOI 7	C-169	5/15/2015	10.96	12.17	1.21	-4.14	Shallow	No	Static	
AOI 7	River 4	5/15/2015	---	8.10	---	NA	NA	No	Static	At 0845.
AOI 7	RW-801	5/15/2015	---	18.95	---	-12.68	Shallow	Yes	Pumping	
AOI 7	RW-802	5/15/2015	---	21.20	---	-15.50	Shallow	Yes	Pumping	
AOI 7	RW-803	5/15/2015	---	21.25	---	-15.47	Shallow	Yes	Pumping	
AOI 7	RW-804	5/15/2015	---	21.15	---	-15.37	Shallow	Yes	Pumping	
AOI 7	RW-805	5/15/2015	---	18.10	---	-12.35	Shallow	Yes	Pumping	
AOI 7	RW-806	5/15/2015	---	20.25	---	-14.84	Shallow	Yes	Pumping	
AOI 7	RW-807	5/15/2015	---	20.40	---	-13.56	Shallow	Yes	Pumping	
AOI 7	RW-808	5/15/2015	---	18.76	---	-12.68	Shallow	Yes	Pumping	
AOI 7	RW-809	5/15/2015	---	19.90	---	-13.35	Shallow	Yes	Pumping	
AOI 7	RW-810	5/15/2015	---	16.92	---	-10.48	Shallow	Yes	Pumping	
AOI 7	WP14-2	5/20/2015	DRY	DRY	DRY	DRY	Shallow	No	Static	Well is dry at 10.05 ft btoc.
AOI 8	N-1	5/14/2015	---	11.39	---	10.88	Shallow	No	Static	
AOI 8	N-2	5/14/2015	---	18.27	---	8.15	Shallow	No	Static	
AOI 8	N-3	5/14/2015	---	15.58	---	11.08	Shallow	No	Static	
AOI 8	N-4	5/14/2015	---	18.40	---	7.96	Deep	No	Static	
AOI 8	N-5	5/14/2015	---	9.15	---	16.81	Shallow	No	Static	
AOI 8	N-6	5/14/2015	---	11.55	---	19.50	Shallow	No	Static	
AOI 8	N-8	5/14/2015	---	25.71	---	11.90	Shallow	No	Static	
AOI 8	N-9	5/14/2015	---	32.61	---	5.60	Deep	No	Static	Casing broken at grade.
AOI 8	N-10	5/14/2015	---	4.74	---	15.22	Shallow	No	Static	
AOI 8	N-11	5/14/2015	---	18.22	---	11.52	Intermediate	No	Static	
AOI 8	N-12	5/14/2015	NM	NM	NM	NM	Intermediate	No	Static	Well is filled with gravel.
AOI 8	N-13	5/14/2015	---	20.15	---	6.62	Deep	No	Static	
AOI 8	N-14	5/14/2015	20.74	20.75	0.01	11.25	Intermediate	No	Static	
AOI 8	N-15	5/14/2015	---	20.32	---	9.03	Intermediate	No	Static	
AOI 8	N-16	5/14/2015	---	20.98	---	12.00	Intermediate	No	Static	
AOI 8	N-17	5/14/2015	---	22.44	---	11.98	Intermediate	No	Static	
AOI 8	N-18	5/14/2015	---	21.19	---	11.71	Intermediate	No	Static	
AOI 8	N-19	5/14/2015	---	29.76	---	3.02	Deep	No	Static	
AOI 8	N-20	5/14/2015	---	17.20	---	11.19	Shallow	No	Static	
AOI 8	N-21	5/14/2015	---	22.48	---	5.53	Deep	No	Static	
AOI 8	N-23	5/14/2015	11.65	11.66	0.01	9.23	Intermediate	No	Static	
AOI 8	N-24	5/14/2015	---	9.79	---	7.94	Shallow	No	Static	
AOI 8	N-25	5/14/2015	3.57	4.30	0.73	15.17	Shallow	No	Static	
AOI 8	N-26	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Casing damaged at 3.25 ft btoc.
AOI 8	N-27	5/14/2015	NM	NM	NM	NM	Deep	No	Static	Well is destroyed.
AOI 8	N-28	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 8	N-29	5/14/2015	---	25.83	---	10.58	Shallow	No	Static	
AOI 8	N-30	5/14/2015	---	33.58	---	3.15	Deep	No	Static	
AOI 8	N-34	5/14/2015	---	4.28	---	9.31	Intermediate	No	Static	
AOI 8	N-35	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 8	N-37	5/14/2015	---	12.62	---	5.60	Shallow	No	Static	
AOI 8	N-38	5/14/2015	---	7.71	---	2.38	Shallow	No	Static	
AOI 8	N-38D	5/14/2015	---	10.95	---	-0.52	Deep	No	Static	
AOI 8	N-39	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Unable to locate.
AOI 8	N-40	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 8	N-41	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Unable to locate.
AOI 8	N-42	5/14/2015	8.06	8.06	<0.01	6.85	Shallow	No	Static	
AOI 8	N-47	5/14/2015	19.43	19.71	0.28	12.46	Intermediate	No	Static	
AOI 8	N-48	5/14/2015	21.39	21.62	0.23	9.84	Intermediate	No	Static	
AOI 8	N-49	5/14/2015	24.28	26.13	1.85	9.23	Intermediate	No	Static	
AOI 8	N-50D	5/14/2015	NM	NM	NM	NM	Deep	No	Static	Well is destroyed.
AOI 8	N-51	5/14/2015	22.50	24.16	1.66	9.18	Intermediate	No	Static	
AOI 8	N-53	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.

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AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 8	N-55	5/14/2015	---	7.83	---	2.43	Shallow	No	Static	
AOI 8	N-56	5/14/2015	---	9.25	---	4.12	Shallow	No	Static	
AOI 8	N-57	5/14/2015	---	6.55	---	4.36	Shallow	No	Static	
AOI 8	N-58	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Well is blocked at 4.85 ft btoc.
AOI 8	N-59	5/14/2015	2.62	2.63	0.01	4.33	Shallow	No	Static	LNAPL is very viscous.
AOI 8	N-61	5/14/2015	4.76	4.76	<0.01	4.16	Shallow	No	Static	
AOI 8	N-64	5/14/2015	---	5.46	---	5.78	Shallow	No	Static	
AOI 8	N-67	5/14/2015	---	6.25	---	11.98	Shallow	No	Static	
AOI 8	N-68	5/14/2015	13.83	14.02	0.19	10.38	Shallow	No	Static	
AOI 8	N-69	5/14/2015	---	15.21	---	7.99	Intermediate	No	Static	
AOI 8	N-70	5/14/2015	---	14.84	---	7.33	Intermediate	No	Static	
AOI 8	N-72	5/14/2015	---	9.97	---	2.70	Shallow	No	Static	
AOI 8	N-73	5/14/2015	---	8.88	---	0.02	Intermediate	No	Static	
AOI 8	N-74	5/14/2015	---	7.84	---	0.04	Shallow	No	Static	
AOI 8	N-75	5/14/2015	6.58	6.70	0.12	1.60	Intermediate	No	Static	LNAPL is very viscous.
AOI 8	N-76	5/14/2015	20.03	25.12	5.09	9.88	Intermediate	Yes	Static	
AOI 8	N-77	5/14/2015	---	7.90	---	10.71	Shallow	No	Static	
AOI 8	N-78	5/14/2015	NM	NM	NM	NM	Intermediate	No	Static	Well is destroyed.
AOI 8	N-79	5/14/2015	---	11.23	---	10.64	Intermediate	No	Static	
AOI 8	N-82	5/14/2015	22.51	22.89	0.38	10.95	Shallow	No	Static	
AOI 8	N-83	5/14/2015	---	15.61	---	5.84	Intermediate	No	Static	
AOI 8	N-84	5/14/2015	---	14.45	---	11.43	Shallow	No	Static	
AOI 8	N-85	5/14/2015	---	13.74	---	11.55	Shallow	No	Static	
AOI 8	N-86	5/14/2015	---	14.97	---	10.87	Intermediate	No	Static	
AOI 8	N-87	5/14/2015	---	15.20	---	11.06	Shallow	No	Static	
AOI 8	N-89	5/14/2015	---	14.29	---	9.12	Intermediate	No	Static	
AOI 8	N-90	5/14/2015	---	14.89	---	10.82	Shallow	No	Static	
AOI 8	N-91	5/14/2015	8.44	9.61	1.17	12.40	Shallow	No	Static	
AOI 8	N-92	5/14/2015	---	7.47	---	13.39	Shallow	No	Static	
AOI 8	N-93	5/18/2015	---	14.85	---	10.24	Shallow	No	Static	
AOI 8	N-94	5/14/2015	---	6.02	---	14.34	Shallow	No	Static	
AOI 8	N-97	5/14/2015	---	13.69	---	9.27	Other	No	Static	
AOI 8	N-98	5/14/2015	---	23.34	---	11.19	Intermediate	No	Static	
AOI 8	N-99	5/14/2015	---	18.66	---	9.60	Intermediate	No	Static	
AOI 8	N-100	5/14/2015	---	17.77	---	9.24	Intermediate	No	Static	
AOI 8	N-101	5/14/2015	---	15.82	---	11.33	Intermediate	No	Static	
AOI 8	N-102	5/14/2015	21.82	21.83	0.01	11.39	Intermediate	No	Static	
AOI 8	N-103	5/14/2015	---	17.01	---	12.32	Intermediate	No	Static	
AOI 8	N-104	5/14/2015	---	16.53	---	11.11	Intermediate	No	Static	
AOI 8	N-105	5/14/2015	---	17.10	---	11.01	Intermediate	No	Static	
AOI 8	N-106	5/14/2015	---	9.56	---	13.47	Intermediate	No	Static	
AOI 8	N-107	5/14/2015	15.05	15.20	0.15	11.31	Intermediate	No	Static	
AOI 8	N-108	5/14/2015	11.13	11.49	0.36	11.24	Intermediate	No	Static	
AOI 8	N-109	5/14/2015	---	12.43	---	5.99	Intermediate	No	Static	
AOI 8	N-111	5/14/2015	---	7.51	---	3.25	Intermediate	No	Static	
AOI 8	N-112	5/14/2015	10.30	12.90	2.60	5.20	Intermediate	No	Static	
AOI 8	N-113	5/14/2015	9.27	11.41	2.14	4.70	Intermediate	No	Static	
AOI 8	N-114	5/14/2015	---	9.12	---	5.25	Intermediate	No	Static	
AOI 8	N-115	5/18/2015	8.03	8.29	0.26	7.28	Intermediate	No	Static	
AOI 8	N-116	5/14/2015	6.75	7.77	1.02	4.42	Intermediate	No	Static	
AOI 8	N-118	5/14/2015	---	14.39	---	8.79	Intermediate	No	Static	Casing damaged.
AOI 8	N-122	5/14/2015	---	10.60	---	6.45	Intermediate	No	Static	
AOI 8	N-123	5/14/2015	NM	NM	NM	NM	Intermediate	No	Static	Well is destroyed.
AOI 8	N-124	5/14/2015	NM	NM	NM	NM	Intermediate	No	Static	Unable to locate.
AOI 8	N-127	5/14/2015	24.23	25.10	0.87	9.11	Intermediate	No	Static	
AOI 8	N-129	5/14/2015	19.08	19.65	0.57	9.76	Intermediate	No	Static	
AOI 8	N-130	5/14/2015	20.52	21.11	0.59	10.95	Intermediate	No	Static	
AOI 8	N-131	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Well is destroyed.
AOI 8	N-132	5/14/2015	---	4.05	---	7.06	Shallow	No	Static	Casing broken at grade.
AOI 8	N-133	5/14/2015	NM	NM	NM	NM	Shallow	No	Static	Well is blocked at 4.37 ft btoc.
AOI 8	N-134	5/14/2015	---	16.99	---	10.50	Intermediate	No	Static	
AOI 8	N-137	5/14/2015	17.41	17.49	0.08	8.17	Intermediate	No	Static	
AOI 8	N-138	5/18/2015	27.03	27.43	0.40	8.17	Intermediate	No	Static	
AOI 8	N-139	5/14/2015	27.07	27.45	0.38	7.85	Intermediate	No	Static	

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 8	N-140	5/14/2015	---	16.93	---	9.81	Shallow	No	Static	
AOI 8	N-141	5/14/2015	---	13.66	---	10.73	Shallow	No	Static	
AOI 8	N-142	5/14/2015	26.50	26.93	0.43	7.99	Shallow	No	Static	
AOI 8	N-143	5/14/2015	22.39	22.40	0.01	10.63	Shallow	No	Static	
AOI 8	N-144	5/14/2015	---	25.86	---	8.42	Shallow	No	Static	
AOI 8	N-145	5/14/2015	18.02	18.24	0.22	7.93	Shallow	No	Static	
AOI 8	N-146	5/14/2015	17.61	18.59	0.98	8.63	Shallow	No	Static	
AOI 8	N-503	5/14/2015	9.16	9.64	0.48	3.20	Shallow	No	Static	
AOI 8	N-504	5/14/2015	9.79	9.79	<0.01	2.53	Intermediate	No	Static	
AOI 8	PGW-MW-5	5/14/2015	---	26.97	---	7.37	Shallow	No	Static	
AOI 8	PGW-MW-6	5/14/2015	NA	NA	NA	NA	Shallow	No	Static	Well inaccessible - located in restricted area.
AOI 8	PGW-MW-7	5/14/2015	14.90	14.90	<0.01	8.05	Shallow	No	Static	
AOI 8	PGW-MW-8	5/14/2015	---	24.45	---	5.80	Shallow	No	Static	
AOI 8	PGW-MW-9	5/14/2015	---	25.39	---	7.05	Shallow	No	Static	
AOI 8	PGW-MW-20	5/14/2015	NA	NA	NA	NA	Shallow	No	Static	Well inaccessible - located in restricted area.
AOI 8	PGW-MW-21	5/14/2015	---	4.91	---	8.18	Shallow	No	Static	
AOI 8	PGW-MW-30	5/14/2015	19.81	21.84	2.03	12.50	Shallow	No	Static	
AOI 8	PGW-MW-42	5/14/2015	---	12.74	---	20.42	Shallow	No	Static	
AOI 8	PGW-MW-44	5/14/2015	---	21.32	---	10.88	Shallow	No	Static	
AOI 8	PGW-MW-45	5/14/2015	22.80	22.89	0.09	10.73	Shallow	No	Static	
AOI 8	PGW-RW-3	5/14/2015	NA	NA	NA	NA	Shallow	No	Static	Well inaccessible - located in restricted area.
AOI 8	PZ-201	5/14/2015	21.38	21.60	0.22	10.87	Intermediate	No	Static	
AOI 8	PZ-202	5/14/2015	21.53	21.68	0.15	11.84	Intermediate	No	Static	
AOI 8	PZ-203	5/14/2015	DRY	DRY	DRY	DRY	Intermediate	No	Static	Well is dry at 20.60 ft btoc.
AOI 8	PZ-204	5/14/2015	20.08	21.52	1.44	8.66	Intermediate	No	Static	
AOI 8	PZ-300	5/14/2015	---	17.28	---	9.49	Intermediate	No	Static	
AOI 8	PZ-500	5/14/2015	---	3.23	---	4.32	Shallow	No	Static	
AOI 8	PZ-501	5/14/2015	---	4.92	---	4.08	Shallow	No	Static	
AOI 8	PZ-502	5/14/2015	3.52	5.43	1.91	4.24	Intermediate	No	Static	
AOI 8	PZ-503	5/14/2015	---	4.58	---	4.11	Shallow	No	Static	
AOI 8	PZ-504	5/14/2015	---	3.57	---	4.06	Shallow	No	Static	
AOI 8	PZ-505	5/14/2015	---	4.46	---	4.00	Shallow	No	Static	
AOI 8	PZ-507	5/14/2015	---	9.87	---	2.81	Shallow	No	Static	
AOI 8	River 2	5/14/2015	---	7.20	---	NA	NA	No	Static	At 0850.
AOI 8	RW-200	5/14/2015	---	6.40	---	5.62	Intermediate	Yes	Static	
AOI 8	RW-201	5/14/2015	22.90	23.35	0.45	9.03	Intermediate	Yes	Static	
AOI 8	RW-202	5/14/2015	---	20.32	---	9.19	Intermediate	Yes	Static	
AOI 8	RW-203	5/14/2015	22.41	22.56	0.15	8.67	Intermediate	Yes	Static	
AOI 8	RW-204	5/14/2015	18.94	20.65	1.71	9.46	Intermediate	Yes	Static	
AOI 8	RW-205	5/14/2015	19.80	21.67	1.87	9.70	Intermediate	Yes	Static	
AOI 8	RW-206	5/14/2015	20.82	22.31	1.49	9.96	Intermediate	Yes	Static	
AOI 8	RW-300	5/14/2015	14.37	14.59	0.22	7.23	Intermediate	Yes	Static	
AOI 8	RW-301	5/14/2015	---	12.10	---	10.31	Intermediate	Yes	Static	
AOI 8	RW-302	5/14/2015	---	13.30	---	10.79	Intermediate	Yes	Static	
AOI 8	RW-303	5/14/2015	---	14.04	---	10.94	Intermediate	Yes	Static	
AOI 8	RW-304	5/14/2015	---	14.87	---	10.41	Intermediate	Yes	Static	
AOI 8	RW-305	5/14/2015	---	14.81	---	10.46	Intermediate	Yes	Static	
AOI 8	RW-306	5/14/2015	12.89	12.90	0.01	10.69	Intermediate	Yes	Static	
AOI 8	RW-307	5/14/2015	---	14.78	---	8.48	Intermediate	Yes	Static	
AOI 8	RW-308	5/14/2015	---	16.81	---	8.80	Intermediate	Yes	Static	
AOI 8	RW-309	5/14/2015	---	15.65	---	9.58	Intermediate	Yes	Static	
AOI 8	RW-500	5/14/2015	---	3.29	---	4.27	Intermediate	Yes	Static	
AOI 8	RW-501	5/14/2015	---	7.30	---	2.49	Intermediate	Yes	Static	
AOI 8	RW-502	5/14/2015	9.15	9.68	0.53	3.27	Intermediate	Yes	Static	
AOI 9	MW-1SRTF	5/8/2015	2.99	3.30	0.31	4.50	Shallow/Intermediate	No	Static	
AOI 9	MW-2SRTF	5/8/2015	---	3.16	---	4.17	Shallow/Intermediate	No	Static	
AOI 9	MW-3SRTF	5/8/2015	---	2.73	---	4.26	Shallow/Intermediate	No	Static	
AOI 9	RW-A	5/8/2015	---	3.16	---	-5.03	Shallow/Intermediate	Yes	Static	
AOI 9	RW-B	5/8/2015	---	3.22	---	4.18	Shallow/Intermediate	Yes	Static	
AOI 9	RW-B5	5/8/2015	---	3.66	---	4.18	Shallow/Intermediate	Yes	Static	
AOI 9	S-74SRTF	5/8/2015	---	8.00	---	6.54	Shallow/Intermediate	No	Static	
AOI 9	S-74D1SRTF	5/8/2015	---	21.13	---	-8.39	Deep	No	Static	
AOI 9	S-74D2SRTF	5/8/2015	---	17.55	---	-4.47	Deep	No	Static	
AOI 9	S-75SRTF	5/8/2015	---	7.93	---	3.60	Shallow/Intermediate	No	Static	

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 9	S-76SRTF	5/8/2015	---	5.38	---	1.58	Shallow/Intermediate	No	Static	
AOI 9	S-76DSRTF	5/8/2015	---	16.76	---	-8.13	Deep	No	Static	
AOI 9	S-77SRTF	5/8/2015	---	12.17	---	-7.82	Shallow/Interm/Deep	No	Static	
AOI 9	S-78SRTF	5/8/2015	---	9.83	---	-8.33	Shallow/Interm/Deep	No	Static	
AOI 9	S-79SRTF	5/8/2015	---	7.79	---	-5.95	Shallow/Interm/Deep	No	Static	
AOI 9	S-80SRTF	5/8/2015	---	3.68	---	-1.11	Shallow/Interm/Deep	No	Static	
AOI 9	S-81SRTF	5/8/2015	---	9.72	---	-8.26	Shallow/Interm/Deep	No	Static	
AOI 9	S-82SRTF	5/8/2015	---	1.31	---	-0.20	Shallow/Interm/Deep	No	Static	
AOI 9	S-83SRTF	5/8/2015	---	2.95	---	-0.57	Shallow/Interm/Deep	No	Static	
AOI 9	S-105SRTF	5/8/2015	---	6.23	---	-4.28	Shallow/Intermediate	No	Static	
AOI 9	S-106SRTF	5/8/2015	---	5.84	---	4.18	Shallow/Intermediate	No	Static	
AOI 9	S-106DSRTF	5/8/2015	---	18.46	---	-9.00	Deep	No	Static	
AOI 9	S-108SRTF	5/8/2015	---	4.74	---	-0.43	Shallow/Intermediate	No	Static	
AOI 9	S-109SRTF	5/8/2015	---	2.45	---	-0.10	Shallow/Intermediate	No	Static	
AOI 9	S-110SRTF	5/8/2015	---	8.71	---	-5.22	Shallow/Interm/Deep	No	Static	
AOI 9	S-111SRTF	5/8/2015	---	8.72	---	-7.94	Shallow/Interm/Deep	No	Static	
AOI 9	S-112SRTF	5/8/2015	---	10.03	---	-8.52	Shallow/Interm/Deep	No	Static	
AOI 9	S-113SRTF	5/8/2015	---	11.53	---	-8.51	Shallow/Interm/Deep	No	Static	
AOI 9	S-114SRTF	5/8/2015	---	10.70	---	-8.54	Shallow/Interm/Deep	No	Static	
AOI 9	S-115SRTF	5/8/2015	---	11.44	---	-8.69	Shallow/Interm/Deep	No	Static	
AOI 9	S-116SRTF	5/8/2015	---	9.57	---	-8.70	Shallow/Interm/Deep	No	Static	
AOI 9	S-117SRTF	5/8/2015	---	9.23	---	-6.36	Shallow/Intermediate	No	Static	
AOI 9	S-118SRTF	5/8/2015	---	11.42	---	-7.79	Shallow/Intermediate	No	Static	
AOI 9	S-119SRTF	5/8/2015	---	3.91	---	-1.56	Shallow/Intermediate	No	Static	
AOI 9	S-120SRTF	5/8/2015	---	8.97	---	3.10	Shallow/Intermediate	No	Static	
AOI 9	S-120DSRTF	5/8/2015	---	21.27	---	-8.90	Deep	No	Static	
AOI 9	S-121SRTF	5/8/2015	---	8.31	---	-7.30	Shallow/Intermediate	No	Static	
AOI 9	S-122SRTF	5/8/2015	---	9.05	---	-6.63	Shallow/Interm/Deep	No	Static	
AOI 9	S-123SRTF	5/8/2015	---	10.62	---	-8.20	Shallow/Interm/Deep	No	Static	
AOI 9	S-124SRTF	5/8/2015	---	6.73	---	1.15	Shallow/Interm/Deep	No	Static	
AOI 9	S-125SRTF	5/8/2015	---	5.22	---	1.96	Shallow/Interm/Deep	No	Static	
AOI 9	S-126SRTF	5/8/2015	---	7.35	---	4.48	Shallow/Interm/Deep	No	Static	
AOI 9	S-127SRTF	5/8/2015	---	7.81	---	4.32	Shallow/Interm/Deep	No	Static	
AOI 9	S-128SRTF	5/8/2015	---	9.64	---	3.67	Shallow/Interm/Deep	No	Static	
AOI 9	S-129SRTF	5/8/2015	NA	NA	NA	NA	Shallow/Interm/Deep	No	Static	Not accessible - Colonial Pipeline gate is locked.
AOI 9	S-130SRTF	5/8/2015	---	8.65	---	2.76	Shallow/Interm/Deep	No	Static	
AOI 9	S-131SRTF	5/8/2015	---	4.65	---	4.16	Shallow/Interm/Deep	No	Static	
AOI 9	S-132SRTF	5/8/2015	---	7.46	---	1.24	Shallow/Interm/Deep	No	Static	
AOI 9	S-133SRTF	5/8/2015	---	3.92	---	0.76	Shallow/Interm/Deep	No	Static	
AOI 9	S-134SRTF	5/8/2015	---	7.40	---	2.94	Shallow/Interm/Deep	No	Static	
AOI 9	WPA-1	5/8/2015	---	7.92	---	-5.19	Shallow/Intermediate	No	Static	
AOI 9	WPA-2	5/8/2015	---	8.31	---	-5.62	Shallow/Intermediate	No	Static	
AOI 9	WPA-3	5/8/2015	DRY	DRY	DRY	DRY	Shallow/Intermediate	No	Static	Well is dry at 8.23 ft btoc.
AOI 9	WPA-5	5/8/2015	DRY	DRY	DRY	DRY	Shallow/Intermediate	No	Static	Well is dry at 7.69 ft btoc.
AOI 9	WPB-2	5/8/2015	---	7.12	---	4.18	Shallow/Intermediate	No	Static	
AOI 9	WPB-3	5/8/2015	---	2.94	---	4.22	Shallow	No	Static	
AOI 9	WPB-4	5/8/2015	---	3.98	---	4.06	Shallow/Intermediate	No	Static	
AOI 9	WPB-5	5/8/2015	---	8.48	---	3.84	Shallow/Intermediate	No	Static	
AOI 10	W-1	5/18/2015	6.17	6.17	<0.01	3.44	Shallow	No	Static	
AOI 10	W-1D	5/18/2015	---	12.44	---	-1.71	Intermediate	No	Static	
AOI 10	W-2	5/18/2015	---	14.91	---	4.54	Shallow	No	Static	
AOI 10	W-4	5/18/2015	NM	NM	NM	NM	Shallow	No	Static	Unable to locate.
AOI 10	W-5	5/18/2015	---	3.09	---	4.64	Shallow	No	Static	
AOI 10	W-6	5/18/2015	---	3.26	---	4.23	Shallow	No	Static	
AOI 10	W-8	5/18/2015	3.72	5.30	1.58	4.65	Shallow	No	Static	LNAPL is very viscous.
AOI 10	W-9	5/18/2015	---	10.53	---	-1.24	Intermediate	No	Static	
AOI 10	W-10	5/18/2015	---	3.92	---	3.80	Shallow	No	Static	
AOI 10	W-11	5/18/2015	---	4.79	---	3.27	Shallow	No	Static	
AOI 10	W-12	5/18/2015	---	3.70	---	3.40	Shallow	No	Static	
AOI 10	W-13	5/18/2015	---	8.67	---	-2.02	Intermediate	No	Static	
AOI 10	W-14	5/18/2015	3.24	3.24	<0.01	4.03	Shallow	No	Static	
AOI 10	W-15	5/18/2015	---	3.29	---	5.49	Shallow	No	Static	
AOI 10	W-16	5/18/2015	---	2.82	---	3.82	Shallow	No	Static	
AOI 10	W-17	5/18/2015	---	3.61	---	3.61	Shallow	No	Static	

Table 2
Second Quarter 2015 Gauging Data
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

AOI	Well ID	Date	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Apparent LNAPL Thickness (ft)	Corrected Groundwater Elevation (ft AMSL)	Well Classification	Recovery Well Yes or No	Static or Pumping	Comments
AOI 10	W-18	5/18/2015	NM	NM	NM	NM	Shallow	No	Static	Well is blocked at 3.54 ft btoc.
AOI 10	W-19	5/18/2015	---	11.98	---	-1.92	Intermediate	No	Static	
AOI 10	W-20	5/18/2015	---	4.40	---	5.71	Shallow	No	Static	
AOI 10	W-22	5/18/2015	---	1.42	---	5.02	Shallow	No	Static	
AOI 10	W-23	5/18/2015	---	2.47	---	5.08	Shallow	No	Static	
AOI 10	W-24	5/18/2015	NA	NA	NA	NA	Shallow	No	Static	Not accessible - area around the well is flooded.
AOI 10	W-25	5/18/2015	---	5.92	---	4.23	Shallow	No	Static	
AOI 10	W-26	5/18/2015	---	12.73	---	-2.75	Intermediate	No	Static	
AOI 10	W-27	5/18/2015	---	13.68	---	-2.82	Shallow	No	Static	
AOI 10	W-28	5/18/2015	---	3.72	---	4.89	Shallow	No	Static	
AOI 10	W-29	5/18/2015	---	7.16	---	4.66	Shallow	No	Static	
AOI 10	W-30	5/18/2015	---	3.95	---	4.70	Shallow	No	Static	
AOI 10	W-31	5/18/2015	4.16	4.28	0.12	4.11	Shallow	No	Static	
AOI 10	W-32	5/18/2015	9.98	9.98	<0.01	4.86	Shallow	No	Static	
AOI 10	W-32D	5/18/2015	---	15.57	---	-0.87	Intermediate	No	Static	
AOI 10	W-33	5/18/2015	---	11.75	---	5.32	Shallow	No	Static	
AOI 10	W-34	5/18/2015	---	8.23	---	5.91	Shallow	No	Static	

Notes:
Groundwater monitoring was performed under static conditions except where indicated.
For product thicknesses <0.01 ft, the corrected groundwater elevation was calculated using 0.01 foot.
LNAPL = Light non-aqueous phase liquid
ft btoc = feet below top of casing
ft AMSL = feet above mean sea level
--- = 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
DRY = Well was dry at time of gauging
Not Classified = Well classification not available

Table 3
May 2015 Perimeter Groundwater Sampling Analytical Results
Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC

Area of Interest	Sample Location	Sample Date	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 1	**MW-30**	**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
AOI 1	**MW-37**	**19-May-15**	90,000	1,400	ND (50)	91 J	91,491	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)
AOI 1	**S-41**	**18-May-15**	6	2	0.9 J	3	12	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
AOI 1	**S-43**	**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
AOI 1	**S-44**	**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
AOI 1	**S-50**	**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
AOI 1	**S-51**	**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
AOI 1	**S-74**	**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)
AOI 1	**S-193**	**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
AOI 1	**S-196**	**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)
AOI 1	**S-231**	**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
AOI 1	**S-232**	**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
AOI 1	**S-268**	**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)
AOI 1	**TW-8**	**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
AOI 2	**S-154**	**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
AOI 2	**S-249**	**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
AOI 2	**S-351**	**19-May-15**	2	ND (0.5)	0.6 J	0.6 J	3	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
AOI 2	**RW-109**	**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)
AOI 4	**S-38**	**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
AOI 4	**S-39**	**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)
AOI 4	**S-40**	**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
AOI 4	**S-120**	**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)
AOI 4	**S-122**	**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)
AOI 4	**S-222**	**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)
AOI 5	**A-133**	**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
AOI 5	**A-137**	**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
AOI 5	**A-139**	**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
AOI 5	**A-140**	**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)
AOI 5	**WP-14**	**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
AOI 6	**B-131**	**20-May-15**	2	0.9 J	ND (0.5)	0.6 J	4	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
AOI 6	**B-158**	**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
AOI 6	**B-165**	**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-104**	**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)
AOI 7	**C-127**	**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)
AOI 7	**C-129**	**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
AOI 8	**N-1**	**19-May-15**	0.9 J	ND (0.5)	0.7 J	2	4	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)
AOI 8	**N-2**	**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)
AOI 8	**N-3**	**19-May-15**	3	3	0.9 J	4	11	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
AOI 8	**N-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)	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)
AOI 8	**N-37**	**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)
AOI 8	**N-57**	**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
AOI 8	**N-64**	**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)
AOI 8	**N-74**	**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
AOI 8	**N-85**	**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
AOI 8	**N-98**	**20-May-15**	ND (0.5)	ND (0.5)	ND (0.5)	0.7 J	1	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
AOI 8	**N-99**	**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)
AOI 8	**N-100**	**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
AOI 8	**N-111**	**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)

Notes:

15	Concentration was detected.
ND (0.5)	Indicates concentration not detected above the method detection limit (in parentheses).
J	Indicates an estimated value above the method detection limit but below the laboratory reporting limit or limit of quantitation.
µg/L	Micrograms per liter

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

Area of Interest	Sample Location	Sample Date	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 1	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	119	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	41	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	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	23	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
	MW-32	28-May-14	7.6	0.79 J	34.2	89.1	132	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	199	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	20	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	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)	4	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	97,921	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	91,491	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)
	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	6,096	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	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-41	19-Oct-04	70	5.5	ND (1.8)	ND (3.2)	76	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	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	9.6	47.7	ND (0.10)	ND (2.0)	0.36 J	ND (1.0)	ND (0.020)	ND (0.10)	1.45	0.868	ND (0.10)	0.117	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (3.0)
		8-Dec-14	0.93	2.1	1.6	1.3	6	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	12	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

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 1	S-43	1-Jan-93	12,000	190	1,300	1,000	14,490	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	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	725	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	75	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	106	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
	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	489	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	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	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)	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

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

Area of Interest	Sample Location	Sample Date	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 1	S-50	**1-Jan-85**	23,000	ND	5,400	23,000	51,400	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	24,000	ND	2,300	1,520	27,820	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	24,000	ND	ND	ND	24,000	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	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	193	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	1	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	526	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)	2,420	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)	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
	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	-	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	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	15	36.0	62.5	ND (0.10)	ND (10)	ND (10)	ND (5.0)	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	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
	S-52	**19-Oct-04**	57	5.3	ND (5.0)	ND (10)	62	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	4	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	1	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

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 1	S-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	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)	1	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	7	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	1	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)
	S-82	8-Nov-05	19,900 D	91	248	850	-	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 J	81.0	24.0	ND (1.0)	-	-	ND (1.0)	ND (0.0099)	3.0 J	8.0	10.0	10.0	-	-	-	-	-	1.3
		14-Dec-07	5.0	2.0	1.0	ND (0.5)	8	-	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	20	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	27	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	422	34.6	ND (0.10)	0.28 J	ND (2.0)	ND (1.0)	ND (0.020)	0.164	2.13	1.73	0.350	0.366	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	2.7 J
	S-99	12-Oct-04	150	25	6.2	25	206	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	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	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

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	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 1	S-101	**12-Oct-04**	1,100	7.5	16	68	1,192	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	33	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	60	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	ND (1.0)	30.0	ND (0.10)	0.70 J	0.79 J	ND (1.0)	ND (0.037)	0.131	4.84	2.00	0.507	0.594	0.136	ND (0.10)	0.106	ND (0.10)	ND (3.0)
	S-193	**17-Mar-04**	170	ND (5)	51	68	289	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		7-Nov-05	404	ND (10)	13	28	445	ND (10)	28	ND (10)	-	-	10	ND (0.02)	ND (0.1)	ND (0.1)	ND (0.1)	ND (0.1)	-	-	-	-	-	ND (100)
		5-Dec-06	140	2.0 J	19.0	31.0	192	ND (0.5)	7.0	3.0 J	-	-	ND (1.0)	ND (0.0098)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.19 J
		19-Dec-07	270	4.0	7.0	13	294	-	16	2.0 J	-	-	ND (0.5)	ND (0.0095)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.38 J
		6-Nov-08	930	13	22	64	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	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	35.5	13.5	4.42	50.6	22.1	ND (5.0)	ND (0.020)	ND (0.10)	0.302	0.262	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	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
	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)

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	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 1	S-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)
	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	3,269	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	81	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	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
	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	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	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	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)	1	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

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 1	S-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	25	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)
	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	2,942	-	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	1,276	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	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
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)

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 2	S-72	1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	-	-	-	-	-
		1-Jan-94	ND (250)	ND (250)	ND (250)	ND (500)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	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	38	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	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)
	S-72D	5-Dec-06	ND (0.5)	ND (0.7)	ND (0.8)	ND (0.8)	ND	1.0 J	ND (1.0)	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	52	36	44	-	0.16 J
	S-73	1-Jan-93	520	9	27	18	574	-	-	-	-	-	-	-	55	-	-	-	-	110	59 J	68 J	-	-
		1-Jan-94	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	5.6	ND (0.3)	ND (0.4)	ND (0.6)	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	1.6	-	-	-	-	-	-	5.2	-	-	-	-	-	-	-	-	-
		21-Oct-04	100	ND (5.0)	11	14	125	ND (5.0)	99	ND (5.0)	-	-	ND (5.0)	ND (0.020)	3.7 J	56	80	12	-	-	-	-	-	ND (5.0)
	S-154	18-Dec-07	29	12	2.0	39	82	-	5.0	3.0 J	-	-	ND (0.5)	ND (0.0095)	ND (0.9)	1.0 J	1.0 J	ND (0.9)	-	-	-	-	-	0.17 J
		18-Nov-09	35	22	8	73	138	47	14	3 J	12	5	ND (0.5)	ND (0.0097)	ND (49)	-	2.9	ND (0.11)	-	-	-	-	-	0.084 J
		18-Nov-10	44	53	24	220	341	50	12	5.8	29	9	ND (0.5)	ND (0.0096)	ND (3.3)	2.2	1.3	ND (0.10)	-	-	-	-	-	ND (0.052)
		28-Nov-11	2	0.8 J	ND (0.5)	6	9	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	209	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	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
	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
	S-351	4-Jun-13	4.1	0.73 J	7.4	6.4	19	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	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
	PGW-MW-8S	8-Apr-13	2.4	1.9	0.78 J	8.4	13	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	4	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

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	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	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	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	4	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	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)	1	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
AOI 3		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
	S-3	1-Jan-85	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	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	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

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	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 3	S-25	**1-Jan-85**	ND	ND	ND	5	5	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-94	ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	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	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	5	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
	S-66	**1-Jan-85**	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-94	ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	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	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
		18-Nov-11	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
		2-Apr-13	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
		29-May-14	ND (0.50)	0.88 J	ND (1.0)	ND (1.0)	1	ND (1.0)	ND (1.0)	-	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	-	-	-	-	-	-	-	-	-	-
		30-May-14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND (3.0)

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 3	S-69	1-Jan-85	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	ND	ND	ND	1	1	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	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)	1	-	21	1.0 J	-	-	ND (0.5)	ND (0.0097)	ND (1.0)	10	16	1.0 J	-	-	-	-	-	-	0.11 J
AOI 4	S-38	1-Jan-85	1,200	ND	ND	ND	1,200	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	1,300	160	ND	210	1,670	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	930	260	240	280	1,710	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	310	120	60	94	584	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	9.3	5.5	3.9	4.4	23	-	-	-	-	-	-	-	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	19	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	110	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	39	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)	1	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

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	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
	S-39	**1-Jan-93**	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	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	5	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)
AOI 4	S-40	**1-Jan-85**	2,800	ND	1,200	6,100	10,100	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	600	ND	210	1,520	2,330	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	2,000	ND	2,900	4,100	9,000	-	-	-	-	-	-	-	ND	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-93	78	6	12	16	112	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	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	-	-	-	-	-	-	-	ND	-	-	-	-	1	ND (1)	1	-	-
		1-Jan-96	12	1.8	3.4	1.9	19	-	-	-	-	-	-	-	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	ND (5.0)	-	-	-	-	-	-	ND (2.0)	-	-	-	-	-	-	-	-	-
		6-Dec-06	220	9.0	8.0	5.0 J	242 J	ND (0.5)	17.0	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	ND (1.0)	3.0 J	5.0 J	ND (1.0)	-	-	-	-	-	0.18 J
		18-Dec-07	3.0	ND (0.5)	ND (0.5)	ND (0.5)	3	-	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	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

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	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 4	S-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)	1	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)	9	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)
	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)
	S-222	30-Nov-06	0.8 J	ND (0.7)	ND (0.8)	ND (0.8)	1	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	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	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	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)	37	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)
	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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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	BENZENE	TOLUENE	ETHYLBENZENE	XYLENES (TOTAL)	TOTAL BTEX	METHYL TERTIARY BUTYL ETHER	ISOPROPYLBENZENE (CUMENE)	NAPHTHALENE	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE	1,2-DICHLOROETHANE (EDC)	1,2-DIBROMOETHANE (EDB)	CHRYSENE	FLUORENE	PHENANTHRENE	PYRENE	ANTHRACENE	BENZO(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(G,H,I)PERYLENE	LEAD, DISSOLVED
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
AOI 4	S-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	428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		6-Jan-15	255	150	213	457	1,075	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		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	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		4-Apr-14	0.49 J	ND (1.0)	0.79	3.5	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		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	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		16-Apr-15	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.5)	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AOI 5	A-17	**1-Jan-96**	ND (1)	ND (1)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-00	ND (1)	ND (1)	ND (1)	ND (1)	ND	4	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	2	-	-	-	-	2	2	ND (3)	-	-
		1-Jan-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)	-	-
		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
	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-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
	A-136	**1-Jan-95**	ND	ND	ND	0.8 J	1	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-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	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	2	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	2	ND (1)	ND (1)	ND (1)	2	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	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	1	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)	ND (1.0)	ND (1.0)	1.1	1	ND (1.0)	19.5	ND (0.11)	0.48 J	ND (2.0)	ND (1.0)	ND (0.020)	1.53	2.79	1.24	7.00	1.28	1.39	1.07	1.52	0.900	1.4 J

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
	A-137	1-Jan-95	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	2	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-97	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	2	-	-	-	-	1	ND (1)	2	-	-
		1-Jan-98	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	2	-	-	-	-	2	2	2	-	-
		1-Jan-00	ND (1)	ND (1)	ND (1)	ND (1)	ND	250	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	ND (1)	ND (1)	ND (1)	ND (1)	ND	5	-	-	-	-	-	-	2	-	-	-	-	2	ND (2)	ND (3)	-	-
		1-Jan-02	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)
		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
AOI 5	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	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-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	1	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-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)
	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
		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
	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)	ND (1.0)	ND (1.0)	ND (1.0)	ND	ND (1.0)	ND (1.0)	ND (0.50)	ND (2.0)	ND (2.0)	ND (1.0)	ND (0.020)	23.4	2.34	1.83	65.2	6.75	9.79	18.5	18.2	23.8	3.9
	WP-C	6-Dec-07	ND (0.5)	ND (0.5)	ND (0.5)	2.0	2	-	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-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)

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 6	B-131	1-Jan-95	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-96	ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	-	-	-	-	-
		1-Jan-97	12	1	2	11	26	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	ND (1)	ND (1)	ND (1)	1	1	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	19	ND (1)	ND (1)	1	20	-	-	-	-	-	-	-	1	-	-	-	-	1	ND (1)	ND (1)	-	-
		1-Jan-00	ND (1)	ND (1)	ND (1)	ND (1)	ND	1.1	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	ND (1)	ND (1)	ND (1)	ND (1)	ND	2	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-02	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	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	1	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	3	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	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	4	ND (0.5)	11	ND (0.1)	ND (0.5)	ND (0.5)	ND (0.5)	ND (0.0096)	0.4 J	2	0.4 J	3	0.7	0.4 J	0.2 J	0.2 J	ND (0.1)	0.13 J
	B-153	9-Jun-06	ND (5)	ND (5)	ND (5)	ND (5)	ND	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	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)

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 7	C-104	1-Jan-95	ND	ND	ND	1.3 J	1	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-96	ND (0.3)	ND (0.3)	3.8	ND (0.6)	4	-	-	-	-	-	-	-	4	-	-	-	-	2	ND (1)	ND (1)	-	-
		1-Jan-97	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	6	-	-	-	-	4	2	3	-	-
		1-Jan-98	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	ND (1)	ND (1)	ND (1)	1	1	-	-	-	-	-	-	-	2	-	-	-	-	1	ND (1)	ND (1)	-	-
		1-Jan-00	ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	ND (1)	ND (1)	ND (1)	ND (1)	ND	ND (1)	-	-	-	-	-	-	20	-	-	-	-	17	12	9	-	-
		1-Jan-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)	-	-
		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	1	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)
	C-127	1-Jan-95	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-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	ND (1)	1	ND (1)	ND (1)	1	-	-	-	-	-	-	-	11	-	-	-	-	6	3	4	-	-
		1-Jan-98	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-99	ND (1)	ND (1)	ND (1)	1	1	-	-	-	-	-	-	-	4	-	-	-	-	3	2	2	-	-
		1-Jan-00	ND (1)	ND (1)	ND (1)	ND (1)	ND	10	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (2)	ND (3)	-	-
		1-Jan-01	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	1	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	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)
	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

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 8	N-1	1-Jan-85	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	ND (0.3)	ND (0.3)	ND (0.4)	ND (0.6)	ND	-	-	-	-	-	-	-	ND (2)	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	ND	ND	0.5 J	ND	1	-	-	-	-	-	-	-	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	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	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	1	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	4	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)
	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)
	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	11	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
	N-7	1-Jan-93	ND	ND	ND	8	8	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	ND (250)	ND (250)	480	ND (500)	480	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	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	1	3	4	3	11	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	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)	2	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)

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 8	N-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)
	N-28	**1-Jan-85**	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	11	15	-	-
		1-Jan-94	ND (5)	ND (5)	ND (5)	ND (10)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	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	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	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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Area of Interest	Sample Location	Sample Date	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
	N-37	1-Jan-85	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	62	-	-	-	-	55	49	32	-	-
		1-Jan-86	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	21	-	-	-	-	28	ND	ND	-	-
		1-Jan-93	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	ND (50)	ND (50)	ND (50)	ND (100)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	2 J	1 J	ND (10)	-	-
		1-Jan-95	ND	ND	ND	0.9 J	1	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96	ND (0.3)	ND (0.3)	7.8	ND (0.6)	8	-	-	-	-	-	-	-	7	-	-	-	-	8	6	4	-	-
		1-Jan-97	ND (1)	1	ND	2	3	-	-	-	-	-	-	-	5	-	-	-	-	8	4	2	-	-
		1-Jan-98	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)
AOI 8																								
	N-57	1-Jan-85	330	ND	2,100	17,100	19,530	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	300	ND	1,300	10,900	12,500	-	-	-	-	-	-	-	21	-	-	-	-	14	16	16	-	-
		1-Jan-88	ND	ND	ND	1,600	1,600	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	20	2	4	567	593	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	110 J	ND (250)	720	4,140	4,970	-	-	-	-	-	-	-	5 J	-	-	-	-	ND (10)	2 J	ND (10)	-	-
		1-Jan-95	89	ND	ND	3,040	3,129	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		4-Jan-96	190	2.8	13	2,000	2,206	-	-	-	-	-	-	-	1	-	-	-	-	1	2	ND (1)	-	-
		1-Jan-97	180	ND (100)	ND (100)	1,900	2,080	-	-	-	-	-	-	-	2	-	-	-	-	2	2	1	-	-
		1-Jan-98	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	59	ND (1.0)	-	-	-	-	-	-	0.63 J	-	-	-	-	ND (2.0)	0.70 J	0.58 J	-	-
		19-Oct-04	38	ND (5.0)	ND (5.0)	140	178	ND (5.0)	ND (5.0)	ND (5.0)	-	-	ND (5.0)	ND (0.020)	ND (0.14)	ND (9.8)	ND (9.8)	ND (9.8)	-	-	-	-	-	ND (5.0)
		1-Dec-06	ND (0.5)	ND (0.7)	ND (0.8)	24	24	ND (0.5)	2.0 J	ND (1.0)	-	-	ND (1.0)	ND (0.0097)	1.0 J	ND (1.0)	ND (1.0)	1.0 J	-	-	-	-	-	0.14 J
		5-Dec-07	ND (0.5)	ND (0.5)	0.5 J	19	19.5 J	-	1.0 J	ND (1.0)	-	-	ND (0.5)	ND (0.0096)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	-	-	-	-	-	0.21 J
		4-Nov-08	ND (0.5)	0.6 J	0.6 J	93	94.2 J	ND (0.5)	3	ND (1)	3	0.5 J	ND (0.5)	ND (0.0097)	1 J	-	ND (0.9)	ND (0.9)	-	-	-	-	-	0.11 J
		11-Nov-09	ND (0.5)	0.7 J	ND (0.5)	230	231	ND (0.5)	2	ND (1)	8.0	1 J	ND (0.5)	ND (0.0098)	ND (0.20)	-	ND (0.20)	ND (0.50)	-	-	-	-	-	0.090 J
		8-Nov-10	0.5 J	1	0.7 J	600	602.2 J	ND (0.5)	4	2 J	13	4	ND (0.5)	ND (0.0099)	ND (1)	1 J	ND (1)	ND (1)	-	-	-	-	-	0.070 J
		17-Nov-11	ND (0.5)	ND (0.5)	ND (0.5)	280	280	ND (0.5)	1 J	ND (4.8)	3	1 J	ND (0.5)	ND (0.0096)	ND (0.38)	ND (0.48)	ND (0.38)	ND (0.48)	-	-	-	-	-	ND (0.080)
		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	268	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

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
		1-Jan-85	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-86	6	ND	ND	ND	6	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-88	96	ND	ND	ND	96	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-93	13	ND	ND	ND	13	-	-	-	-	-	-	-	13	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	ND (250)	ND (250)	ND (250)	ND (500)	ND	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	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	7	5	ND (1)	ND (1)	12	-	-	-	-	-	-	-	6	-	-	-	-	3	2	2	-	-
		1-Jan-98	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)	-	-
	N-60	**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)	1	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)	1	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)	1	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
AOI 8		**1-Jan-93**	ND	ND	ND	ND	ND	-	-	-	-	-	-	-	ND	-	-	-	-	ND	ND	ND	-	-
		1-Jan-94	ND (250)	ND (250)	90 J	ND (500)	90	-	-	-	-	-	-	-	ND (10)	-	-	-	-	ND (10)	ND (10)	ND (10)	-	-
		1-Jan-95	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	ND (1)	ND (1)	ND (1)	ND (1)	ND	-	-	-	-	-	-	-	ND (1)	-	-	-	-	ND (1)	ND (1)	ND (1)	-	-
		1-Jan-98	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)	-	-
	N-64	**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)
		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)
	N-74	**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

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	BENZENE µg/L	TOLUENE µg/L	ETHYLBENZENE µg/L	XYLENES (TOTAL) µg/L	TOTAL BTEX µg/L	METHYL TERTIARY BUTYL ETHER µg/L	ISOPROPYLBENZENE (CUMENE) µg/L	NAPHTHALENE µg/L	1,2,4-TRIMETHYLBENZENE µg/L	1,3,5-TRIMETHYLBENZENE µg/L	1,2-DICHLOROETHANE (EDC) µg/L	1,2-DIBROMOETHANE (EDB) µg/L	CHRYSENE µg/L	FLUORENE µg/L	PHENANTHRENE µg/L	PYRENE µg/L	ANTHRACENE µg/L	BENZO(A)ANTHRACENE µg/L	BENZO(A)PYRENE µg/L	BENZO(B)FLUORANTHENE µg/L	BENZO(G,H,I)PERYLENE µg/L	LEAD, DISSOLVED µg/L
AOI 8	N-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
	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	1	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
	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 (0.96)	ND (0.5)	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)
	N-100	4-Apr-13	ND (1.0)	0.79 J	ND (1.0)	ND (1.0)	1	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
	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	1	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	1	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)
	N-133	4-Jun-14	7100	ND (25)	11.5 J	23.6 J	7,135	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

Notes:

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

APPENDIX 1
Remediation System Recovery Data

Philadelphia Refinery Operations, a Series of Evergreen Resources Group, LLC
Groundwater and LNAPL Recovery Systems Operational Data
AOI 1: Belmont Terminal

First and Second Quarters 2015

Date	Total Flow (gallons)	Period Total Flow (gallons)	Average Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
9-Jan-15	81,629,472	0	0.00	0	246,853
14-Jan-15	81,629,472	0	0.00	0	246,853
22-Jan-15	81,629,472	0	0.00	0	246,853
30-Jan-15	81,629,472	0	0.00	0	246,853
4-Feb-15	81,629,472	0	0.00	0	246,853
11-Feb-15	81,629,472	0	0.00	0	246,853
19-Feb-15	81,629,472	0	0.00	0	246,853
25-Feb-15	81,629,472	0	0.00	0	246,853
3-Mar-15	81,629,472	0	0.00	0	246,853
12-Mar-15	81,629,472	0	0.00	0	246,853
17-Mar-15	81,629,472	0	0.00	0	246,853
23-Mar-15	81,629,472	0	0.00	0	246,853
3-Apr-15	81,629,472	0	0.00	0	246,853
7-Apr-15	81,707,774	78,302	3.63	0	246,853
10-Apr-15	81,707,774	0	0.00	0	246,853
21-Apr-15	81,707,774	0	0.00	0	246,853
29-Apr-15	81,707,774	0	0.00	0	246,853
7-May-15	81,707,774	0	0.00	0	246,853
13-May-15	81,847,303	139,529	16.15	0	246,853
20-May-15	81,994,714	147,411	14.62	0	246,853
29-May-15	82,160,692	165,978	12.81	0	246,853
4-Jun-15	82,264,000	103,308	12.47	0	246,853
12-Jun-15	82,539,853	275,853	18.81	0	246,853
17-Jun-15	82,674,573	134,720	21.93	0	246,853
24-Jun-15	82,832,820	158,247	16.95	16.5	246,869
2-Jul-15	83,003,881	171,061	15.25	24.8	246,894

NOTES:

LNAPL: Light Non-Aqueous Phase Liquid

gpm: gallons per minute

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

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

The Loading Rack system [RW-4 (product pump), RW-21 (water pump), and RW-23 (water pump)] was restarted on April 3. The RW-21 and RW-23 water pumps were shut off on April 7 as the process sewer was backed up. The RW-4 product floats were hung up on April 10; therefore, the product pump was shut off. The RW-4 product pump was restarted on April 30. The RW-23 and RW-24 water pumps were restarted on May 7. The RW-23 product pump was restarted on May 13, and the RW-24 product pump was restarted on May 20. All product pumps were shut off on May 29. The RW-22 power cord was replaced on June 4, and the water pump was restarted. The RW-4 and RW-23 product pumps were restarted on June 12. The RW-24 product pump was restarted on June 17, and the RW-22 water pump was inoperable due to a damaged power cord.

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

First and Second Quarters 2015

Date	Flow Rate (CFM)	Sewer Air (ppm)	Total Flow (ppm)	Treatment Cell Effluent (ppm)			Treatment Cell Media Temperature (°F)		
				Cell #1	Cell #2	Cell #3	Cell #1	Cell #2	Cell #3
9-Jan-15	4,500	0	0	0	0	0	58	58	58
14-Jan-15	4,500	1	1	0	0	0	52	52	52
22-Jan-15	4,500	1	1	0	0	0	54	54	52
30-Jan-15	4,500	2	2	0	0	0	54	54	52
4-Feb-15	4,500	2	2	0	0	0	52	52	50
11-Feb-15	4,500	1	1	0	0	0	54	54	53
19-Feb-15	4,500	5	5	0	0	0	52	52	52
25-Feb-15	4,500	2	2	0	0	0	54	56	54
3-Mar-15	4,500	3	3	0	0	0	50	51	50
12-Mar-15	4,500	0	0	0	0	0	54	54	52
17-Mar-15	4,500	21	21	0	0	0	54	54	52
23-Mar-15	4,500	6	6	0	0	0	58	58	58
2-Apr-15	4,500	4	4	0	0	0	58	58	58
7-Apr-15	4,500	3	3	0	0	0	64	64	64
13-Apr-15	4,500	4	4	0	0	0	68	68	68
21-Apr-15	4,500	2	2	0	0	0	67	67	67
29-Apr-15	4,500	0	0	0	0	0	68	68	68
4-May-15	4,500	0	0	0	0	0	70	70	70
13-May-15	4,500	2	2	0	0	0	68	68	68
20-May-15	4,500	2	2	0	0	0	68	68	68
29-May-15	4,500	1	1	0	0	0	68	68	68
4-Jun-15	4,500	1	1	0	0	0	66	66	66
12-Jun-15	4,500	2	2	0	0	0	76	76	76
17-Jun-15	4,500	1	1	0	0	0	78	78	78
24-Jun-15	4,500	2	2	0	0	0	78	78	78
2-Jul-15	4,500	1	1	0	0	0	74	74	74

NOTES:

CFM: cubic feet per minute

ppm: parts per million

°F: Degrees Fahrenheit

Vapor concentrations are collected using a MultiRAE Lite Photoionization Detector.

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

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

The system was operational for the first half of 2015.

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

First and Second Quarters 2015

Date	Leachate pH	Biofilter Treatment Cell - Soil pH		
		Cell 1	Cell 2	Cell 3
30-Jan-15	5.62	---	---	---
25-Feb-15	5.48	---	---	---
23-Mar-15	6.11	5.59	5.52	5.21
29-Apr-15	6.19	---	---	---
29-May-15	5.96	---	---	---
24-Jun-15	NA	5.62	5.71	5.28

NOTES:

Leachate pH readings are collected on a monthly basis.

Media pH readings are collected on a quarterly basis.

NA = No leachate available for which to record pH.

The system was operational for the first half of 2015.

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

First and Second Quarters 2015

Date	Biofilter Influent			Biofilter Effluent							
	Packer Ave. (ppm)	26th Street (ppm)	ST-1 (Combined Influent) (ppm)	Cell-1N	Cell-1S	Cell-2N	Cell-2S	Cell-3N	Cell-3S	Cell-4N	Cell-4S
08-Jan-15	0	39	11	0.0	0.0	0.0	0.0	NA	NA	NA	NA
13-Jan-15	35	68	40	0.0	0.0	0.0	0.0	NA	NA	NA	NA
22-Jan-15	23	82	35	0.0	0.0	0.0	0.0	NA	NA	NA	NA
30-Jan-15	25	97	44	0.0	0.0	0.0	0.0	NA	NA	NA	NA
04-Feb-15	1	91	63	0.0	0.0	0.0	0.0	NA	NA	NA	NA
10-Feb-15	91	249	107	0.0	0.0	0.0	0.0	NA	NA	NA	NA
19-Feb-15	48	144	54	0.0	0.0	0.0	0.0	NA	NA	NA	NA
25-Feb-15	26	81	30	0.0	0.0	0.0	0.0	NA	NA	NA	NA
02-Mar-15	18	63	30	0.0	0.0	0.0	0.0	NA	NA	NA	NA
12-Mar-15	29	69	32	0.0	0.0	0.0	0.0	NA	NA	NA	NA
17-Mar-15	45	89	49	0.0	0.0	0.0	0.0	NA	NA	NA	NA
23-Mar-15	79	163	75	0.0	0.0	0.0	0.0	NA	NA	NA	NA
03-Apr-15	2	129	62	0.0	0.0	0.0	0.0	NA	NA	NA	NA
07-Apr-15	3	134	48	0.0	0.0	0.0	0.0	NA	NA	NA	NA
13-Apr-15	0	134	41	0.0	0.0	0.0	0.0	NA	NA	NA	NA
21-Apr-15	3	15	4	0.0	0.0	0.0	0.0	NA	NA	NA	NA
29-Apr-15	68	204	72	0.0	0.0	0.0	0.0	NA	NA	NA	NA
04-May-15	60	137	62	0.0	0.0	0.0	0.0	NA	NA	NA	NA
13-May-15	43	108	46	0.0	0.0	0.0	0.0	NA	NA	NA	NA
20-May-15	26	132	35	0.0	0.0	0.0	0.0	NA	NA	NA	NA
29-May-15	0	37	19	0.0	0.0	0.0	0.0	NA	NA	NA	NA
02-Jun-15	1	67	33	0.0	0.0	0.0	0.0	NA	NA	NA	NA
09-Jun-15	0	39	16	0.0	0.0	0.0	0.0	NA	NA	NA	NA
16-Jun-15	2	24	17	0.0	0.0	0.0	0.0	NA	NA	NA	NA
23-Jun-15	0	37	18	0.0	0.0	0.0	0.0	NA	NA	NA	NA
30-Jun-15	0	6	5	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 2015. 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
AOI 1: 26th Street & Packer Avenue Sewers Biofilter System
pH Data

First and Second Quarters 2015

Date	Leachate pH	Biofilter Bed - Soil pH			
		Cell 1	Cell 2	Cell 3	Cell 4
30-Jan-15	6.48	---	---	---	---
25-Feb-15	6.77	---	---	---	---
23-Mar-15	6.89	6.63	6.18	6.04	6.17
29-Apr-15	6.77	---	---	---	---
29-May-15	6.83	---	---	---	---
23-Jun-15	6.55	6.11	6.06	5.98	6.04

NOTES:

Leachate pH readings are collected on a monthly basis.

Media pH readings are collected on a quarterly basis.

The system was operational for the first half of 2015. 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
Groundwater and LNAPL Recovery System Operational Data
AOI 2: Pollock Street West End System

First and Second Quarters 2015

Date	Period Total Flow (gallons)	Total Flow (gallons)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
5-Jan-15	139,000	26,112,705	9.0	58,973
12-Jan-15	119,600	26,232,305	3.0	58,976
20-Jan-15	118,900	26,351,205	46.8	59,023
26-Jan-15	71,500	26,422,705	1.5	59,024
2-Feb-15	83,700	26,506,405	0.0	59,024
9-Feb-15	56,600	26,563,005	0.0	59,024
17-Feb-15	155,800	26,718,805	0.0	59,024
23-Feb-15	49,800	26,768,605	0.0	59,024
2-Mar-15	81,700	26,850,305	0.4	59,024
9-Mar-15	83,800	26,934,105	0.0	59,024
16-Mar-15	81,600	27,015,705	0.0	59,024
23-Mar-15	121,700	27,137,405	0.0	59,024
30-Mar-15	74,900	27,212,305	0.0	59,024
6-Apr-15	22,200	27,234,505	0.0	59,024
13-Apr-15	88,400	27,322,905	0.0	59,024
20-Apr-15	94,300	27,417,205	0.0	59,024
27-Apr-15	0	27,417,205	0.0	59,024
4-May-15	0	27,417,205	0.0	59,024
11-May-15	0	27,417,205	0.0	59,024
19-May-15	0	27,417,205	0.0	59,024
26-May-15	0	27,417,205	0.0	59,024
1-Jun-15	0	27,417,205	0.0	59,024
8-Jun-15	0	27,417,205	0.0	59,024
18-Jun-15	0	27,417,205	0.0	59,024
22-Jun-15	0	27,417,205	0.0	59,024
29-Jun-15	0	27,417,205	0.0	59,024

NOTES:

LNAPL: Light Non-Aqueous Phase Liquid

The Pollock Street West End system was started on February 23, 2012. RW-117, RW-118, RW-119, RW-124, RW-128, RW-129, S-313, and S-315 were operational at the beginning of the reporting period. Recovery wells RW-106 and RW-126 were restarted on February 2. The groundwater and LNAPL recovery totals do not include historical totals from the former Pollock Street Vertical system recovery wells.

The system was operational for the reporting period with the following exceptions: On February 9, the system was down on high oil/water separator (OWS) alarm due to excessive iron build-up in the sump. The OWS was vac'd out, and the system was restarted. The system was down on high OWS alarm on February 23 and March 16. The probes were cleaned, and the system was restarted. RW-118 and RW-126 were inoperable on March 24, and the RW-106 discharge line was clogged. On April 10, RW-106, RW-118, and RW-126 were repaired and restarted. RW-106 and RW-118 were inoperable on April 13. The system was shut down April 22 to April 24 for annual maintenance to the discharge lines and manifolds. The system remained off for the rest of the reporting period due to limited product recovery.

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

First and Second Quarters 2015

Reporting Period	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)
12/20/2014 - 1/23/2015	35	Totalizer	367,960	34	182,621	35	775,152	1,325,733	56,112,180	NA
1/24/2015 - 2/20/2015	28	Totalizer	238,920	28	150,394	28	620,122	1,009,435	56,362,682	NA
2/21/2015 - 3/20/2015	28	Totalizer	164,700	28	150,394	28	620,122	935,215	56,492,915	NA
3/21/2015 - 3/31/2015	11	Totalizer	42,350	11	59,083	11	243,619	345,052	56,837,967	NA
3/21/2015 - 4/24/2015	35	Totalizer	65,120	33	177,250	35	775,152	1,017,522	57,044,792	NA
4/25/2015 - 5/22/2015	28	Totalizer	375,440	25	134,280	28	620,122	1,129,842	57,242,022	NA
5/23/2015 - 6/26/2015	35	Totalizer	374,330	35	187,992	35	775,152	1,337,474	57,700,156	NA
6/26/2015 - 6/30/2015	5	Totalizer	49,740	5	26,856	5	110,736	187,332	57,887,488	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-1 was shut off on March 30 for well development. HW-1 remained off until April 6 due to a blockage in the main discharge line. On April 8, April 13, and April 20, the flow meter was inoperable. The flow meter was removed, repaired, and reinstalled on each separate occasion.

HW-2 was inoperable on January 20. The pump was removed, rebuilt, and restarted. HW-2 was re-developed on April 1, and the discharge line was cleared on April 6. On May 4, the HW-2 diaphragms were removed. The diaphragms were replaced on May 6, and the system was restarted.

HW-3 was operational for the first half of 2015.

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

First and Second Quarters 2015

Date	Period Total Flow (gallons)	Total Flow (gallons)	Average Daily Flow (gpd)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
09-Jan-15	118,100	9,348,880	10,736	0	273.3
13-Jan-15	37,000	9,385,880	9,250	0	273.3
22-Jan-15	101,000	9,486,880	11,222	0	273.3
28-Jan-15	138,800	9,625,680	23,133	0	273.3
03-Feb-15	129,800	9,755,480	21,633	1.5	274.8
10-Feb-15	149,200	9,904,680	21,314	13.9	288.7
19-Feb-15	210,300	10,114,980	23,367	17.8	306.5
25-Feb-15	97,100	10,212,080	16,183	0	306.5
03-Mar-15	0	10,212,080	0	0	306.5
11-Mar-15	0	10,212,080	0	0	306.5
17-Mar-15	0	10,212,080	0	0	306.5
23-Mar-15	0	10,212,080	0	0	306.5
02-Apr-15	0	10,212,080	0	0	306.5
09-Apr-15	106,400	10,318,480	15,200	8.3	314.8
13-Apr-15	0	10,318,480	0	0	314.8
21-Apr-15	0	10,318,480	0	0	314.8
28-Apr-15	0	10,318,480	0	0	314.8
04-May-15	0	10,318,480	0	0	314.8
12-May-15	0	10,318,480	0	0	314.8
19-May-15	0	10,318,480	0	0	314.8
27-May-15	169,500	10,487,980	21,188	0	314.8
02-Jun-15	88,500	10,576,480	14,750	0	314.8
09-Jun-15	0	10,576,480	0	0	314.8
16-Jun-15	21,087	10,597,567	3,012	7.5	322.3
23-Jun-15	99,013	10,696,580	14,145	4	326.3
30-Jun-15	92,370	10,788,950	13,196	0.9	327.2

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.

Recovery wells RW-701, RW-705, RW-706, RW-708, RW-709, RW-711, RW-712 and RW-716 were operational at the beginning of the reporting period. On January 13, RW-705 and RW-708 were frozen and inoperable. RW-701, RW-705, RW-706, RW-708, and RW-709 were removed, cleaned, and restarted on January 15. RW-700 was started on January 22. On February 27, the system was shut off for static groundwater gauging and sampling of the recovery wells. The system was restarted on March 18; however, the transfer pump was clogged. The transfer pump was repaired on April 1, and RW-700, RW-701, RW-702, RW-703, and RW-704 were restarted on April 2. On April 3, the flow meter was inoperable. The flow meter was removed, cleared, and reinstalled. The system was shut off on April 9 due to high lower explosive limit (LEL) readings (above the PWD permitted limit). RW-700, RW-701, RW-702, RW-703, and RW-704 were restarted on May 19. RW-706 was restarted on May 27, and RW-708 was restarted on May 29. On June 2, the flow meter was inoperable. The flow meter was temporarily bypassed until a new flow meter was installed on June 12. RW-706 was hung up on June 16. RW-706 was inoperable on June 23 and June 30. The pump was removed, cleared, and restarted.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Biofiltration Operational Data
AOI-4: Penrose Avenue Remediation System
First and Second Quarters 2015

Date/Time	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)
1/9/15 8:30	0.0218	0.0218	62	40	91.6	52.3	187	0	0	0
1/13/15 8:30	0.0218	0.0218	68	46	94.3	56.7	318	0	0	0
1/22/15 8:30	0.0218	0.0218	72	50	95.3	58.9	476	0	0	0
1/28/15 8:30	0.0218	0.0218	64	46	94.9	58.7	318	0	0	0
2/3/15 8:30	0.0218	0.0218	58	42	91.1	50.3	88	0	0	0
2/10/15 8:30	0.0218	0.0218	68	48	95	56.7	547	0	0	0
2/19/15 8:30	0.0218	0.0218	52	34	91.6	44.5	765	0	0	0
2/25/15 8:30	0.0218	0.0218	62	38	92.5	52	766	0	0	0
3/3/15 8:30	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/11/15 8:30	0.0218	0.0218	66	42	91.7	52	698	0	0	0
3/17/15 8:30	0.0218	0.0218	84	62	93.3	59.6	718	80	0	0
3/23/15 8:30	0.0218	0.0218	78	56	93.4	66.4	829	76	76	0
4/2/15 8:30	0.0218	0.0218	78	58	92.1	66.1	999	1	1	0
4/9/15 8:30	31.5	1.18	66	64	93.2	70.9	554	96	96	0
4/13/15 8:30	0.0218	0.0218	92	70	93.7	77.9	999	5	5	0
4/21/15 8:30	0.0218	0.0218	90	80	96.3	94.4	95	0	0	0
4/28/15 8:30	0.0218	0.0218	90	70	95.8	93.7	102	0	0	0
5/4/15 8:30	0.0218	0.0218	64	60	90.1	63.4	190	0	0	0
5/12/15 8:00	0.0218	0.0218	80	70	92.4	63.9	220	0	0	0
5/19/15 8:00	12.6	12.6	70	66	91.8	70.6	72	0	0	0
5/27/15 8:00	302	302	88	74	92.9	77.8	100	0	0	0
6/2/15 8:00	21.9	0.0436	68	72	95.5	74.6	115	0	0	0
6/9/15 8:00	29.9	0.0436	80	72	93.1	75.7	158	0	0	0
6/16/15 8:00	28.1	0.458	88	82	95.1	85	128	0	0	0
6/23/15 8:00	29.8	0.0436	84	78	95.3	84	123	0	0	0
6/30/15 8:00	29.1	0.0436	80	70	93.5	74.6	136	0	0	0

NOTES:

GAC = Granular activated carbon

CFM = Cubic feet per minute

°F = Degrees Fahrenheit

ppm = Parts per million

NM = Not measured

Vapor concentrations are collected using a MultiRAE Lite Photoionization Detector.

Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC
Groundwater and LNAPL Recovery System Operational Data
AOI 6: 27 Pump House

First and Second Quarters 2015

Date	Period Total Flow (gallons)	Total Flow (gallons)	Average Flow Rate (gpm)	LNAPL Recovered In Period (gallons)	Total LNAPL Recovered (gallons)
05-Jan-15	0	11,134,675	0.00	0.25	12,934.82
12-Jan-15	0	11,134,675	0.00	0.50	12,935.32
21-Jan-15	0	11,134,675	0.00	0.625	12,935.95
26-Jan-15	0	11,134,675	0.00	0.25	12,936.20

NOTES:

LNAPL: Light Non-Aqueous Phase Liquid

gpm: gallons per minute

The groundwater recovery system was turned off on September 20, 2010 due to the absence of recoverable product. Recovery wells B-124, B-132, B-137, B-139, B-142, B-143, and B-147 contained absorbent socks. On April 10, 2013, the absorbent socks were removed from recovery wells B-132, B-137, B-139, and B-147 due to lack of product. Absorbent socks remain in recovery wells B-124, B-142, and B-143. On February 4, 2014, absorbent socks were placed in B-137 and B-139. On February 19, 2014, the absorbent socks were removed from recovery wells B-137 and B-139. Absorbent socks were placed in B-137, B-139, B-142, and B-143 on June 3, 2014. On June 18, 2014, the absorbent socks were removed from B-137, B-139, and B-143. The absorbent sock in B-142 was removed on July 28, 2014. On December 9, 2014, an absorbent sock was placed in B-137. The absorbent socks were removed from B-124 and B-137 on January 26, 2015.

During the reporting period, wells were routinely gauged and the socks were replaced when necessary. LNAPL recovery volumes are recorded using a graduated beaker and recovered product is transferred to the system holding tank. Passive remediation will continue until no measurable product is observed or until recoverable thicknesses of LNAPL return to the recovery wells. Based on limited recoverable LNAPL in the proximal wells, passive remediation was discontinued on January 26.

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

First and Second Quarters 2015

Date	Total Flow (gallons)	Period Total Flow (gallons)	Calculated System Flow Rate (gpm)	LNAPL Recovered in Period (gallons)	Total LNAPL Recovered (gallons)
7-Jan-15	11,077,185	87,700	121.81	933.1	81,940.2
12-Jan-15	11,118,685	41,500	57.64	551.2	82,491.4
21-Jan-15	11,189,085	70,400	97.78	1,231.3	83,722.7
26-Jan-15	11,260,485	71,400	99.17	164.8	83,887.5
3-Feb-15	11,366,685	106,200	147.50	120.8	84,008.3
9-Feb-15	11,439,085	72,400	100.56	467.8	84,476.1
18-Feb-15	11,532,485	93,400	129.72	1,169.6	85,645.6
24-Feb-15	11,588,385	55,900	77.64	2,007.1	87,652.7
3-Mar-15	11,636,685	48,300	67.08	935.9	88,588.6
11-Mar-15	11,709,785	73,100	101.53	1,006.8	89,595.4
16-Mar-15	11,763,785	54,000	75.00	120.0	89,715.4
24-Mar-15	11,894,685	130,900	181.81	285.0	90,000.4
31-Mar-15	11,994,585	99,900	138.75	202.4	90,202.8
8-Apr-15	12,095,285	100,700	139.86	1,041.2	91,244.0
14-Apr-15	12,162,585	67,300	93.47	2,012.0	93,255.9
21-Apr-15	12,242,185	79,600	110.56	4,176.8	97,432.7
28-Apr-15	12,338,485	96,300	133.75	1,434.3	98,867.0
5-May-15	12,425,785	87,300	121.25	966.8	99,833.8
15-May-15	12,529,285	103,500	143.75	1,161.8	100,995.6
19-May-15	12,568,785	39,500	54.86	430.2	101,425.8
26-May-15	12,632,285	63,500	88.19	615.6	102,041.3
27-May-15	12,642,385	10,100	14.03	113.5	102,154.9
1-Jun-15	12,688,685	46,300	64.31	330.9	102,485.8
8-Jun-15	12,768,585	79,900	110.97	334.0	102,819.7
15-Jun-15	12,849,085	80,500	111.81	346.6	103,166.3
22-Jun-15	12,923,485	74,400	103.33	296.8	103,463.1
29-Jun-15	12,975,185	51,700	71.81	279.5	103,742.6
30-Jun-15	12,982,385	7,200	10.00	46.2	103,788.8

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 facility. Groundwater and LNAPL recovery totals include system startup through the end of this reporting period.

The system was operational for the reporting period with the following exception: On January 21, RW-810 was inoperable. The pump was pulled, repaired, and restarted. The pumps were removed for semi-annual maintenance on February 5 and February 6. RW-802 was inoperable on April 8 and April 14. The pump was removed, repaired and restarted on each occasion.

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

First and Second Quarters 2015

Date	PID readings (ppm)			Comments
	Blower	Water Curtain	Interceptor Chamber	
08-Jan-15	NA	0.0	0.0	
14-Jan-15	NA	0.0	0.0	
22-Jan-15	NA	0.0	0.0	
28-Jan-15	NA	0.0	0.0	
02-Feb-15	NA	0.0	0.0	
09-Feb-15	NA	0.0	0.0	
20-Feb-15	NA	0.0	0.0	
24-Feb-15	NA	0.0	0.0	
02-Mar-15	NA	0.0	0.0	
12-Mar-15	NA	0.0	0.0	
17-Mar-15	NA	0.0	0.0	
24-Mar-15	NA	0.0	0.0	
31-Mar-15	NA	0.0	0.0	
07-Apr-15	NA	0.0	0.0	
14-Apr-15	NA	0.0	0.0	
20-Apr-15	NA	0.0	0.0	
29-Apr-15	NA	0.0	0.0	
05-May-15	NA	0.0	0.0	
14-May-15	NA	0.0	0.0	
20-May-15	NA	0.0	0.0	
27-May-15	NA	0.0	0.0	
02-Jun-15	NA	0.0	0.0	
09-Jun-15	NA	0.0	0.0	
16-Jun-15	NA	0.0	0.0	
23-Jun-15	NA	0.0	0.0	
30-Jun-15	NA	0.0	0.0	

NOTES:

PID: Photoionization detector

ppm: parts per million

Vapor concentrations are collected using a MultiRAE Lite PID.

NA: Not Available (PID readings are not collected at the blower.)

The totalizer was removed on December 11, 2009.

The system was operational for the first half of 2015.

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

REVISED

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

June 03, 2015

Project: PHL Perimeter Groundwater Sampling

Submittal Date: 05/19/2015
Group Number: 1562471
PO Number: PHL PERIMETER
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
S-40_20150518 Grab Groundwater	7894632
S-120_20150518 Grab Groundwater	7894633
S-122_20150518 Grab Groundwater	7894634
S-39_20150518 Grab Groundwater	7894635
S-38_20150518 Grab Groundwater	7894636
S-222_20150518 Grab Groundwater	7894637
S-41_20150518 Grab Groundwater	7894638
S-50_20150518 Grab Groundwater	7894639
S-43_20150518 Grab Groundwater	7894640
S-231_20150518 Grab Groundwater	7894641
S-44_20150518 Grab Groundwater	7894642
S-232_20150518 Grab Groundwater	7894643
TB-1 Water	7894644

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

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

ELECTRONIC COPY TO	Stantec	Attn: Stephanie Andrews
ELECTRONIC COPY TO	Sunoco c/o Stantec	Attn: Jennifer Menges

REVISED

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

REVISED

Sample Description: S-40_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894632
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 09:20 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL40

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	10		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	6		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	2		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.4	J	0.1	1
07805	Naphthalene	91-20-3	0.6		0.1	1
07805	Phenanthrene	85-01-8	0.6		0.1	1
07805	Pyrene	129-00-0	0.2	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.19	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 15:20	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 15:20	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 13:36	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 06:29	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 05:35	Choon Y Tian	1

REVISED

Sample Description: S-40_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894632
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 09:20 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL40

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-120_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894633
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 10:00 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH120

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 15:42	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 15:42	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 14:06	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 07:00	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 05:45	Choon Y Tian	1

REVISED

Sample Description: S-120_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894633
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 10:00 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-122_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894634
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 10:30 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH122

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	0.2	J	0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 16:04	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 16:04	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 14:35	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 08:03	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 05:47	Choon Y Tian	1

REVISED

Sample Description: S-122_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894634
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 10:30 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-39_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894635
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 11:05 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL39

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 16:26	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 16:26	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 15:05	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 08:18	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 05:55	Choon Y Tian	1

REVISED

Sample Description: S-39_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894635
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 11:05 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL39

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-38_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894636
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 11:15 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL38

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	160	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	79	0.5	1
10945	Isopropylbenzene	98-82-8	16	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	64	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	33	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	11	0.5	1
10945	Xylene (Total)	1330-20-7	88	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	20	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	0.095 J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 16:48	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 16:48	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 15:34	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 08:34	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 05:57	Choon Y Tian	1

REVISED

Sample Description: S-38_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894636
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 11:15 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-222_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894637
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 12:05 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH222

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 17:10	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 17:10	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 16:04	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 08:49	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 05:58	Choon Y Tian	1

REVISED

Sample Description: S-222_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894637
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 12:05 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-41_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894638
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 12:35 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL41

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	0.9	J	0.5	1
10945	Isopropylbenzene	98-82-8	20		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	5		0.5	1
10945	Toluene	108-88-3	2		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	3		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.1	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	2		0.1	1
07805	Naphthalene	91-20-3	1		0.1	1
07805	Phenanthrene	85-01-8	1		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.50	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 17:32	Brett W Kenyon	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 17:32	Brett W Kenyon	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 16:33	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 09:05	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 06:00	Choon Y Tian	1

REVISED

Sample Description: S-41_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894638
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 12:35 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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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
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-50_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894639
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 13:20 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL50

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	2,000		25	50
10945	1,2-Dichloroethane	107-06-2	N.D.		3	5
10945	Ethylbenzene	100-41-4	34		3	5
10945	Isopropylbenzene	98-82-8	9	J	3	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	3	J	3	5
10945	Toluene	108-88-3	8		3	5
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		3	5
10945	1,3,5-Trimethylbenzene	108-67-8	5	J	3	5
10945	Xylene (Total)	1330-20-7	N.D.		3	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.1	J	0.1	1
07805	Naphthalene	91-20-3	16		0.1	1
07805	Phenanthrene	85-01-8	0.1	J	0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.092	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151442AA	05/24/2015 17:53	Brett W Kenyon	5
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151461AA	05/26/2015 17:27	Anita M Dale	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151442AA	05/24/2015 17:53	Brett W Kenyon	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	F151461AA	05/26/2015 17:27	Anita M Dale	50
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 17:02	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1

REVISED

Sample Description: S-50_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894639
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 13:20 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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PHL50

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 09:21	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 06:02	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-43_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894640
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 13:30 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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PHL43

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	50		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	52		0.5	1
10945	Isopropylbenzene	98-82-8	68		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	5		0.5	1
10945	Toluene	108-88-3	21		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	19		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	14		0.5	1
10945	Xylene (Total)	1330-20-7	34		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.3	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.3	J	0.1	1
07805	Chrysene	218-01-9	0.4	J	0.1	1
07805	Fluorene	86-73-7	5		0.1	1
07805	Naphthalene	91-20-3	29		0.1	1
07805	Phenanthrene	85-01-8	5		0.1	1
07805	Pyrene	129-00-0	0.6		0.1	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the acceptance limits.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.11	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151461AA	05/26/2015 17:49	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151461AA	05/26/2015 17:49	Anita M Dale	1

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Analysis Report

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Sample Description: S-43_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894640
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 13:30 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL43

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/24/2015 12:53	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 22:25	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 06:03	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-231_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894641
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 14:05 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH231

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	25		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	15		0.5	1
10945	Isopropylbenzene	98-82-8	22		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	2		0.5	1
10945	Toluene	108-88-3	8		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	15		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	10		0.5	1
10945	Xylene (Total)	1330-20-7	10		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.3	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	1
07805	Chrysene	218-01-9	0.4	J	0.1	1
07805	Fluorene	86-73-7	0.3	J	0.1	1
07805	Naphthalene	91-20-3	3		0.1	1
07805	Phenanthrene	85-01-8	0.6		0.1	1
07805	Pyrene	129-00-0	0.5		0.1	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the acceptance limits.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.11	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151461AA	05/26/2015 15:16	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151461AA	05/26/2015 15:16	Anita M Dale	1

REVISED

Sample Description: S-231_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894641
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 14:05 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH231

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/24/2015 13:22	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 09:52	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 06:05	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-44_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894642
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 14:30 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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West Chester PA 19380

PHL44

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	340		5	10
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	5		0.5	1
10945	Isopropylbenzene	98-82-8	34		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	110		0.5	1
10945	Toluene	108-88-3	16		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	0.6	J	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	2		0.5	1
10945	Xylene (Total)	1330-20-7	20		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.6		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.2	J	0.1	1
07805	Fluorene	86-73-7	4		0.1	1
07805	Naphthalene	91-20-3	3		0.1	1
07805	Phenanthrene	85-01-8	4		0.1	1
07805	Pyrene	129-00-0	0.3	J	0.1	1
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted and the QC is again outside of the acceptance limits.					
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.26	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151461AA	05/26/2015 15:38	Anita M Dale	1
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151481AA	05/28/2015 10:07	Anita M Dale	10

REVISED

Sample Description: S-44_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894642
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 14:30 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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West Chester PA 19380

PHL44

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	F151461AA	05/26/2015 15:38	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	F151481AA	05/28/2015 10:07	Anita M Dale	10
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/24/2015 13:52	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 10:07	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 06:07	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: S-232_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894643
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 14:45 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

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West Chester PA 19380

PH232

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

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the acceptance limits.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.17	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151461AA	05/26/2015 16:00	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151461AA	05/26/2015 16:00	Anita M Dale	1

REVISED

Sample Description: S-232_20150518 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894643
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/18/2015 14:45 by DH

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH232

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/24/2015 14:21	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	2	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 22:40	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050008A	05/27/2015 05:52	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3020A	1	151416050008	05/24/2015 08:35	Christopher M Klumpp	1

REVISED

Sample Description: TB-1 Water
PHL Perimeter Groundwater Sampling

LL Sample # WW 7894644
LL Group # 1562471
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/07/2015

Submitted: 05/19/2015 14:30
Reported: 06/03/2015 10:02

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLTB

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
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	F151461AA	05/26/2015 16:22	Anita M Dale	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	F151461AA	05/26/2015 16:22	Anita M Dale	1
10398	EDB in Wastewater	SW-846 8011	1	151400024A	05/22/2015 01:56	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151400024A	05/21/2015 15:00	Edwin Ortiz	1

REVISED

Quality Control Summary

Client Name: Stantec Group Number: 1562471
Reported: 06/03/2015 10:02

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: F151442AA	Sample number(s): 7894632-7894639							
Benzene	N.D.	0.5	ug/l	98	99	78-120	2	30
1,2-Dichloroethane	N.D.	0.5	ug/l	94	92	72-127	2	30
Ethylbenzene	N.D.	0.5	ug/l	94	93	80-120	1	30
Isopropylbenzene	N.D.	0.5	ug/l	92	93	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	93	92	75-120	1	30
Toluene	N.D.	0.5	ug/l	97	97	80-120	0	30
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	92	90	80-120	2	30
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	93	90	80-120	4	30
Xylene (Total)	N.D.	0.5	ug/l	93	94	80-120	1	30
Batch number: F151461AA	Sample number(s): 7894639-7894644							
Benzene	N.D.	0.5	ug/l	96	94	78-120	2	30
1,2-Dichloroethane	N.D.	0.5	ug/l	89	89	72-127	0	30
Ethylbenzene	N.D.	0.5	ug/l	92	91	80-120	0	30
Isopropylbenzene	N.D.	0.5	ug/l	90	89	80-120	1	30
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	93	92	75-120	1	30
Toluene	N.D.	0.5	ug/l	93	95	80-120	2	30
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	90	90	80-120	1	30
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	92	89	80-120	3	30
Xylene (Total)	N.D.	0.5	ug/l	92	91	80-120	1	30
Batch number: F151481AA	Sample number(s): 7894642							
Benzene	N.D.	0.5	ug/l	94		78-120		
Batch number: 15142WAB026	Sample number(s): 7894632-7894643							
Anthracene	N.D.	0.1	ug/l	100	102	82-116	2	30
Benzo(a)anthracene	N.D.	0.1	ug/l	121	120	76-122	0	30
Benzo(a)pyrene	N.D.	0.1	ug/l	99	102	73-120	3	30
Benzo(b)fluoranthene	N.D.	0.1	ug/l	101	107	75-123	5	30
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	80	78	70-126	2	30
Chrysene	N.D.	0.1	ug/l	122*	123*	81-120	1	30
Fluorene	N.D.	0.1	ug/l	100	100	80-117	0	30
Naphthalene	N.D.	0.1	ug/l	86	84	75-108	2	30
Phenanthrene	N.D.	0.1	ug/l	96	97	81-114	1	30
Pyrene	N.D.	0.1	ug/l	95	95	76-111	0	30
Batch number: 151400024A	Sample number(s): 7894644							
Ethylene dibromide	N.D.	0.010	ug/l	103	98	60-140	5	20
Batch number: 151460004A	Sample number(s): 7894632-7894643							
Ethylene dibromide	N.D.	0.010	ug/l	92	92	60-140	0	20
Batch number: 151416050008A	Sample number(s): 7894632-7894643							

*- 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.

REVISED

Quality Control Summary

Client Name: Stantec Group Number: 1562471
Reported: 06/03/2015 10:02

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Lead	0.18 J	0.082	ug/l	100		80-120		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: F151481AA	Sample number(s): 7894642 UNSPK: P898108								
Benzene	99	97	72-134	3	30				
Batch number: 151400024A	Sample number(s): 7894644 UNSPK: P886674 BKG: P886675								
Ethylene dibromide	103		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151460004A	Sample number(s): 7894632-7894643 UNSPK: 7894632 BKG: 7894633								
Ethylene dibromide	98		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151416050008A	Sample number(s): 7894632-7894643 UNSPK: 7894632 BKG: 7894632								
Lead	101	104	75-125	3	20	0.19 J	0.16 J	13 (1)	20

Surrogate Quality Control

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

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: F151442AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7894632	96	98	99	96
7894633	98	105	98	92
7894634	98	102	98	91
7894635	98	106	97	91
7894636	96	104	99	96
7894637	98	103	96	89
7894638	98	100	99	98
7894639	95	100	99	91
Blank	97	101	97	91
LCS	96	103	97	95
LCSD	96	107	98	93
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: F151461AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7894640	95	99	101	94
7894641	96	99	101	97
7894642	94	99	101	97
7894643	96	100	100	92
7894644	98	94	99	90

*- 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.

REVISED

Quality Control Summary

Client Name: Stantec Group Number: 1562471
Reported: 06/03/2015 10:02

Surrogate Quality Control

Blank	98	100	97	92
LCS	95	99	98	93
LCSD	97	100	97	94
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270
Batch number: 15142WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7894632	102	79	83
7894633	102	86	99
7894634	105	90	97
7894635	103	89	95
7894636	103	83	87
7894637	100	87	80
7894638	105	82	88
7894639	107	86	98
7894640	110	80	93
7894641	99	75	90
7894642	103	85	72
7894643	99	75	89
Blank	105	89	90
LCS	107	88	95
LCSD	109	86	98
Limits:	60-123	61-112	35-144

Analysis Name: EDB in Wastewater
Batch number: 151400024A

	1,1,2,2-Tetrachloroethane
7894644	117
Blank	111
DUP	114
LCS	113
LCSD	107
MS	111
Limits:	46-136

Analysis Name: EDB in Wastewater
Batch number: 151460004A

	1,1,2,2-Tetrachloroethane
7894632	120
7894633	118
7894634	125
7894635	111
7894636	151*
7894637	118
7894638	125
7894639	130
7894640	136
7894641	139*
7894642	142*
7894643	119
Blank	118
DUP	117

*- 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.

REVISED

Quality Control Summary

Client Name: Stantec Group Number: 1562471
Reported: 06/03/2015 10:02

Surrogate Quality Control

LCS	103
LCSD	100
MS	113
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.

Environmental Analysis Request/Chain of Custody

377301

eurofins | Lancaster Laboratories Environmental

Acct. # 1665 For Eurofins Lancaster Laboratories Environmental use only Group # 1562471 Sample # 7594632-114
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Penmeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews / Jennifer Menges	P.O. #:
Sampler: DH / KM / CC	Quote #:
Name of state where samples were collected: PA	

4 Matrix

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

5 Analysis Requested

Preservation Codes

For Lab Use Only
FSC:
SCR#: 171732

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

6 Remarks

★- Lead (dissolved) to be filtered at the lab.

Constituents of Concern for Groundwater is attached.

2 Sample Identification / 3 Collected

Sample Identification	Date	Time	Grab	Composite	Total # of Containers
S-40_20150518	5/18/15	0920	X		8
S-120_20150518	5/18/15	1000	X		8
S-122_20150518	5/18/15	1030	X		8
S-39_20150518	5/18/15	1105	X		8
S-38_20150518	5/18/15	1115	X		8
S-222_20150518	5/18/15	1205	X		8
S-41_20150518	5/18/15	1235	X		8
S-50_20150518	5/18/15	1320	X		8
S-43_20150518	5/18/15	1330	X		8
S-231_20150518	5/18/15	1405	X		8

Analysis columns: Lead (dissolved)*-SW846 6010; SW846 8260B: 1,2-Dichloroethane, 1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, Benzene, Cumene, Ethylbenzene, MTBE, Toluene, Xylenes; SW846 8011: Ethylene Dibromide; SW846 8270D: Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Fluorene, Phenanthrene, Naphthalene

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: Stephanie.andrews@stantec.com
jennifer.menges@stantec.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/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]	5.8.15	750	[signature]	5-8-15	750
[signature]	5-8-15	1110	[signature]	5-14-15	1110
[signature]	5-14-15	1430			
			[signature]	5/14/15	1430

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 1.7-2.4 °C

Environmental Analysis Request/Chain of Custody

377303

eurofins | Lancaster Laboratories Environmental

Acct. # 16657 For Eurofins Lancaster Laboratories Environmental use only Group # 1562471 Sample # 749632-44
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Perimeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews/ Jennifer Menges	P.O. #:
Sampler: DH/KM/CC	Quote #:

Name of state where samples were collected: PA

4 Matrix: Soil ☐ Sediment ☐ | 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

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Soil	Water	Other	Total # of Containers	Lead (dissolved)*-SW846 6010	SW846 8260B: 1,2-Dichloroethane	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Cumene	Ethylbenzene	MTBE	Toluene	Xylenes	Ethylene Dibromide-SW846 8011	SW846 8270D: Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Phenanthrene	Fluorene	Pyrene	Naphthalene	6 Remarks
S-44_20150518	5/18/15	1430	X			X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	★-Lead (dissolved) to be filtered at the lab.
S-232_20150518	5/18/15	1445	X			X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
TB-1	5/7/15	—						4		X	X	X	X	X	X	X	X	X										
																												Constituents of Concern for Groundwater is attached.

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: Stephanie.andrews@stantec.com
jennifer.menges@stantec.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/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
Dave	5/19/15	11:10		5-19-15	1110
	5/19/15	1430			
				Date 5/19/15	Time 1430

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 1.7-2.4 °C

16657 1522471 7894632-44

Constituents of Concern for Groundwater
Sunoco Philadelphia Refinery
Philadelphia, Pennsylvania

METALS	CAS No.	Method
Lead (dissolved)	7439-92-1	SW846 6010B/C-LD

VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
1,2-Dichloroethane	107-06-2	SW846 8260B/C-LD
1,2,4-Trimethylbenzene	95-63-6	
1,3,5-Trimethylbenzene	108-67-8	
Benzene	71-43-2	
Cumene	98-82-8	
Ethylbenzene	100-41-4	
Methyl tertiary butyl ether	1634-04-4	
Toluene	108-88-3	
Xylenes (total)	1330-20-7	
Ethylene dibromide	106-93-4	SW846 8011-LD

SEMI-VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
Anthracene	120-12-7	SW846 8270C/D-LD
Benzo(a)anthracene	56-55-3	
Benzo(g,h,i)perylene	191-24-2	
Benzo(a)pyrene	50-32-8	
Benzo(b)fluoranthene	205-99-2	
Chrysene	218-01-9	
Fluorene	86-73-7	
Naphthalene**	91-20-3	
Phenanthrene	85-01-8	
Pyrene	129-00-0	

**For tank investigations, Naphthalene is to be run using analytical method SW846 8260 and should be appropriately marked on the chain of custody.

Explanation of Symbols and Abbreviations

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

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

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

Laboratory Data Qualifiers:

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

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

June 06, 2015

Project: PHL Perimeter Groundwater Sampling

Submittal Date: 05/20/2015
Group Number: 1562821
PO Number: PHL PERIMETER
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
S-74_20150519 Grab Groundwater	7896230
S-193_20150519 Grab Groundwater	7896231
S-196_20150519 Grab Groundwater	7896232
S-268_20150519 Grab Groundwater	7896233
MW-30_20150519 Grab Groundwater	7896234
TW-8_20150519 Grab Groundwater	7896235
MW-37_20150519 Grab Groundwater	7896236
Field Blank_20150519 Grab Water	7896237
Trip Blank Water	7896238
S-51_20150519 Grab Groundwater	7896239
S-403_20150519 Grab Groundwater	7896240
S-404_20150519 Grab Groundwater	7896241
S-405_20150519 Grab Groundwater	7896242
N-100_20150519 Grab Groundwater	7896243
N-1_20150519 Grab Groundwater	7896244
N-2_20150519 Grab Groundwater	7896245
S-249_20150519 Grab Groundwater	7896246
RW-109_20150519 Grab Groundwater	7896247
S-351_20150519 Grab Groundwater	7896248
S-154_20150519 Grab Groundwater	7896249
N-3_20150519 Grab Groundwater	7896250
B-158_20150520 Grab Groundwater	7896251
B-165_20150520 Grab Groundwater	7896252
B-131_20150520 Grab Groundwater	7896253
N-99_20150520 Grab Groundwater	7896254
N-8_20150520 Grab Groundwater	7896255

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

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

ELECTRONIC COPY TO	Sunoco c/o Stantec	Attn: Jennifer Menges
ELECTRONIC COPY TO	Stantec	Attn: Stephanie Andrews

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: S-74_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896230
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:07 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL74

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	2		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.8		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.8		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5		0.1	1
07805	Chrysene	218-01-9	0.5		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.3	J	0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 16:22	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151491AA	05/29/2015 16:22	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 09:19	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 22:56	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050005A	05/26/2015 07:16	Choon Y Tian	1

Sample Description: S-74_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896230
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:07 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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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
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151416050005	05/25/2015 22:15	Annamaria Kuhns	1

Sample Description: S-193_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896231
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 07:38 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH193

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	1,000		25	50
10945	1,2-Dichloroethane	107-06-2	N.D.		3	5
10945	Ethylbenzene	100-41-4	34		3	5
10945	Isopropylbenzene	98-82-8	10		3	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	15		3	5
10945	Toluene	108-88-3	8		3	5
10945	1,2,4-Trimethylbenzene	95-63-6	46		3	5
10945	1,3,5-Trimethylbenzene	108-67-8	20		3	5
10945	Xylene (Total)	1330-20-7	140		3	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.1	J	0.1	1
07805	Naphthalene	91-20-3	6		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.090	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 19:15	Amanda K Richards	5
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 16:45	Daniel H Heller	50
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 19:15	Amanda K Richards	5
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D151491AA	05/29/2015 16:45	Daniel H Heller	50
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 09:49	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 23:11	James H Place	1

Sample Description: S-193_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896231
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 07:38 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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West Chester PA 19380

PH193

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050005A	05/26/2015 07:06	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151416050005	05/25/2015 22:15	Annamaria Kuhns	1

Sample Description: S-196_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896232
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 08:16 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH196

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 16:34	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 16:34	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 11:34	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 23:27	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151416050005A	05/26/2015 07:18	Choon Y Tian	1

Sample Description: S-196_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896232
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 08:16 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH196

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151416050005	05/25/2015 22:15	Annamaria Kuhns	1

Sample Description: S-268_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896233
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:26 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH268

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	2	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 16:57	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 16:57	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 12:04	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 23:42	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 11:36	Choon Y Tian	1

Sample Description: S-268_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896233
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:26 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH268

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: MW-30_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896234
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:44 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL30

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	27		1	2
10945	1,2-Dichloroethane	107-06-2	N.D.		1	2
10945	Ethylbenzene	100-41-4	N.D.		1	2
10945	Isopropylbenzene	98-82-8	3	J	1	2
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		1	2
10945	Toluene	108-88-3	2		1	2
10945	1,2,4-Trimethylbenzene	95-63-6	2	J	1	2
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		1	2
10945	Xylene (Total)	1330-20-7	5		1	2
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.9		0.1	1
07805	Benzo(a)anthracene	56-55-3	10		0.1	1
07805	Benzo(a)pyrene	50-32-8	17		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	31		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	16		0.1	1
07805	Chrysene	218-01-9	30		0.1	1
07805	Fluorene	86-73-7	2		0.1	1
07805	Naphthalene	91-20-3	11		0.1	1
07805	Phenanthrene	85-01-8	17		0.1	1
07805	Pyrene	129-00-0	32		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.095	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 18:52	Amanda K Richards	2
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 18:52	Amanda K Richards	2
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 12:33	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/28/2015 23:58	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 11:47	Choon Y Tian	1

Sample Description: MW-30_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896234
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:44 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PHL30

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: TW-8_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896235
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:33 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PHLT8

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	63		3	5
10945	1,2-Dichloroethane	107-06-2	5		3	5
10945	Ethylbenzene	100-41-4	670		3	5
10945	Isopropylbenzene	98-82-8	180		3	5
10945	Methyl Tertiary Butyl Ether	1634-04-4	4	J	3	5
10945	Toluene	108-88-3	N.D.		3	5
10945	1,2,4-Trimethylbenzene	95-63-6	880		3	5
10945	1,3,5-Trimethylbenzene	108-67-8	48		3	5
10945	Xylene (Total)	1330-20-7	68		3	5
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	12		0.1	1
07805	Benzo(a)anthracene	56-55-3	4		0.1	1
07805	Benzo(a)pyrene	50-32-8	3		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	3		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	1		0.1	1
07805	Chrysene	218-01-9	5		0.1	1
07805	Fluorene	86-73-7	56		0.1	1
07805	Naphthalene	91-20-3	7,300		10	100
07805	Phenanthrene	85-01-8	57		0.1	1
07805	Pyrene	129-00-0	11		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.089	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 19:38	Amanda K Richards	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 19:38	Amanda K Richards	5
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 13:02	Holly B Ziegler	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 16:29	Holly B Ziegler	100
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/29/2015 00:44	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 11:48	Choon Y Tian	1

Sample Description: TW-8_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896235
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:33 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PHLT8

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: MW-37_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896236
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 11:07 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PHL37

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	90,000		500	1000
10945	1,2-Dichloroethane	107-06-2	N.D.		50	100
10945	Ethylbenzene	100-41-4	N.D.		50	100
10945	Isopropylbenzene	98-82-8	N.D.		50	100
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		50	100
10945	Toluene	108-88-3	1,400		50	100
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		50	100
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		50	100
10945	Xylene (Total)	1330-20-7	91	J	50	100
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.1	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.3	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	1
07805	Chrysene	218-01-9	0.3	J	0.1	1
07805	Fluorene	86-73-7	0.4	J	0.1	1
07805	Naphthalene	91-20-3	6		0.1	1
07805	Phenanthrene	85-01-8	0.6		0.1	1
07805	Pyrene	129-00-0	0.6		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 20:24	Amanda K Richards	100
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 17:08	Daniel H Heller	1000
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 20:24	Amanda K Richards	100
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D151491AA	05/29/2015 17:08	Daniel H Heller	1000
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 13:32	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/29/2015 01:00	James H Place	1

Sample Description: MW-37_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896236
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 11:07 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 11:54	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: Field Blank_20150519 Grab Water
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896237
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:00 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PHLFB

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.010	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151452AA	05/25/2015 13:57	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151452AA	05/25/2015 13:57	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 14:01	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460004A	05/29/2015 01:15	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151460004A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 11:55	Choon Y Tian	1

Sample Description: Field Blank_20150519 Grab Water
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896237
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:00 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PHLFB

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: Trip Blank Water
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896238
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHTB2

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
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 12:21	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 12:21	Amanda K Richards	1
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 02:18	Jessica L Miller	1
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1

Sample Description: S-51_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896239
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 08:25 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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West Chester PA 19380

PHL51

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	5		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	1		0.5	1
10945	Isopropylbenzene	98-82-8	79		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	39		0.5	1
10945	Toluene	108-88-3	3		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	4		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.1	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	3		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	1		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.099	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 12:44	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 12:44	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 14:31	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 02:49	Jessica L Miller	1
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 11:57	Choon Y Tian	1

Sample Description: S-51_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896239
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 08:25 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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West Chester PA 19380

PHL51

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: S-403_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896240
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:20 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH403

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	160		5	10
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	52		0.5	1
10945	Isopropylbenzene	98-82-8	57		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	17		0.5	1
10945	Toluene	108-88-3	14		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	60		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	21		0.5	1
10945	Xylene (Total)	1330-20-7	140		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	3		0.1	1
07805	Naphthalene	91-20-3	19		0.1	1
07805	Phenanthrene	85-01-8	2		0.1	1
07805	Pyrene	129-00-0	0.1	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	1.0		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 17:20	Amanda K Richards	1
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 17:31	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 17:20	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D151491AA	05/29/2015 17:31	Daniel H Heller	10
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 15:00	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 03:04	Jessica L Miller	1

Sample Description: S-403_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896240
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:20 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH403

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 11:59	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: S-404_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896241
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:15 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH404

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	13		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	5		0.5	1
10945	Isopropylbenzene	98-82-8	2		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	0.6	J	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	5		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	2	J	0.5	1
10945	Xylene (Total)	1330-20-7	24		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.1	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.1	J	0.1	1
07805	Chrysene	218-01-9	0.6		0.1	1
07805	Fluorene	86-73-7	0.4	J	0.1	1
07805	Naphthalene	91-20-3	0.2	J	0.1	1
07805	Phenanthrene	85-01-8	0.1	J	0.1	1
07805	Pyrene	129-00-0	0.6		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.44	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 17:43	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 17:43	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 15:30	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 04:06	Jessica L Miller	1
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:01	Choon Y Tian	1

Sample Description: S-404_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896241
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:15 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PH404

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: S-405_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896242
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:55 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH405

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	5,700		100	200
10945	1,2-Dichloroethane	107-06-2	N.D.		10	20
10945	Ethylbenzene	100-41-4	1,800		10	20
10945	Isopropylbenzene	98-82-8	190		10	20
10945	Methyl Tertiary Butyl Ether	1634-04-4	16	J	10	20
10945	Toluene	108-88-3	N.D.		10	20
10945	1,2,4-Trimethylbenzene	95-63-6	2,000		10	20
10945	1,3,5-Trimethylbenzene	108-67-8	640		10	20
10945	Xylene (Total)	1330-20-7	4,200		10	20
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	2		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.1	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.5	J	0.1	1
07805	Fluorene	86-73-7	12		0.1	1
07805	Naphthalene	91-20-3	270		1	10
07805	Phenanthrene	85-01-8	17		0.1	1
07805	Pyrene	129-00-0	0.8		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	5.3		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 20:01	Amanda K Richards	20
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 17:54	Daniel H Heller	200
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 20:01	Amanda K Richards	20
01163	GC/MS VOA Water Prep	SW-846 5030B	2	D151491AA	05/29/2015 17:54	Daniel H Heller	200
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 15:59	Holly B Ziegler	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/22/2015 16:58	Holly B Ziegler	10
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1

Sample Description: S-405_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896242
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:55 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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PH405

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 04:21	Jessica L Miller	1
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:03	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: N-100_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896243
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 12:30 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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Suite 140
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PH100

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	5		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	4		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	4		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	1	J	0.5	1
10945	Xylene (Total)	1330-20-7	11		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.2	J	0.1	1
07805	Naphthalene	91-20-3	0.7		0.1	1
07805	Phenanthrene	85-01-8	0.3	J	0.1	1
07805	Pyrene	129-00-0	0.2	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.46	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 18:06	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 18:06	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/23/2015 02:22	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 04:37	Jessica L Miller	1
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:04	Choon Y Tian	1

Sample Description: N-100_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896243
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 12:30 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH100

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: N-1_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896244
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:10 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLN1

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	0.9	J	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	0.7	J	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	0.5	J	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	2		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	0.2	J	0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151482AA	05/28/2015 18:29	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151482AA	05/28/2015 18:29	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/23/2015 02:52	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 04:52	Jessica L Miller	1
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:06	Choon Y Tian	1

Sample Description: N-1_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896244
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:10 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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West Chester PA 19380

PHLN1

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: N-2_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896245
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:45 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLN2

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.3	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.6		0.1	1
07805	Benzo(a)pyrene	50-32-8	0.8		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.8		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.9		0.1	1
07805	Chrysene	218-01-9	0.7		0.1	1
07805	Fluorene	86-73-7	0.2	J	0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.2	J	0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 12:10	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 12:10	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/23/2015 03:21	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151460005A	05/29/2015 05:08	Jessica L Miller	1
07786	EDB Extraction	SW-846 8011	1	151460005A	05/26/2015 15:30	Kelli M Barto	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:08	Choon Y Tian	1

Sample Description: N-2_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896245
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:45 by DH

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLN2

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: S-249_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896246
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 08:35 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH249

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	0.1	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2	J	0.1	1
07805	Chrysene	218-01-9	0.1	J	0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	0.1	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.098	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 12:33	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 12:33	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/23/2015 03:51	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 19:05	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:10	Choon Y Tian	1

Sample Description: S-249_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896246
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 08:35 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
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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
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: RW-109_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896247
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:30 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH109

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.1	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.7		0.1	1
07805	Naphthalene	91-20-3	0.2	J	0.1	1
07805	Phenanthrene	85-01-8	0.8		0.1	1
07805	Pyrene	129-00-0	0.2	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 13:42	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 13:42	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/23/2015 04:20	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 19:36	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:15	Choon Y Tian	1

Sample Description: RW-109_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896247
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 09:30 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH109

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: S-351_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896248
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 12:35 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH351

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	2		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	0.6	J	0.5	1
10945	Isopropylbenzene	98-82-8	8		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	0.6	J	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	1		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.3	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.1	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.1	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.3	J	0.1	1
07805	Fluorene	86-73-7	2		0.1	1
07805	Naphthalene	91-20-3	1		0.1	1
07805	Phenanthrene	85-01-8	3		0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.31	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 14:05	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 14:05	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15141WAB026	05/23/2015 04:50	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15141WAB026	05/21/2015 16:00	Seth A Farrier	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 20:38	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:17	Choon Y Tian	1

Sample Description: S-351_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896248
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 12:35 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: S-154_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896249
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:45 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH154

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	2		0.5	1
10945	Isopropylbenzene	98-82-8	6		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	120		0.5	1
10945	Toluene	108-88-3	4		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	3		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	1	J	0.5	1
10945	Xylene (Total)	1330-20-7	20		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.1	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	1		0.1	1
07805	Naphthalene	91-20-3	1		0.1	1
07805	Phenanthrene	85-01-8	0.9		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.098	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 14:28	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 14:28	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/23/2015 12:38	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 20:54	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:28	Choon Y Tian	1

Sample Description: S-154_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896249
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 10:45 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

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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
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: N-3_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896250
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:35 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLN3

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	3		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	0.9	J	0.5	1
10945	Isopropylbenzene	98-82-8	0.6	J	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	3		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	4		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	5		0.1	1
07805	Benzo(a)anthracene	56-55-3	7		0.1	1
07805	Benzo(a)pyrene	50-32-8	6		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	6		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	2		0.1	1
07805	Chrysene	218-01-9	10		0.1	1
07805	Fluorene	86-73-7	1		0.1	1
07805	Naphthalene	91-20-3	5		0.1	1
07805	Phenanthrene	85-01-8	2		0.1	1
07805	Pyrene	129-00-0	13		0.1	1

The recovery for a target analyte(s) in the Laboratory Control Spike(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:
target compounds were detected at a lower concentration in the re-extraction.

Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	2.4		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

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

Sample Description: N-3_20150519 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896250
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/19/2015 13:35 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLN3

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 14:51	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 14:51	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAB026	05/24/2015 14:51	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAB026	05/22/2015 15:15	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 21:09	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:20	Choon Y Tian	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: B-158_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896251
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 08:27 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH158

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	0.2	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.14	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 15:14	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 15:14	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 17:50	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 21:25	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:22	Choon Y Tian	1

Sample Description: B-158_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896251
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 08:27 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH158

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: B-165_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896252
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 09:11 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH165

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	6		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	0.6	J	0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.6		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.1	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.2	J	0.1	1
07805	Fluorene	86-73-7	2		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.1	J	0.1	1
07805	Pyrene	129-00-0	2		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.11	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 15:37	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 15:37	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 18:18	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 21:41	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:24	Choon Y Tian	1

Sample Description: B-165_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896252
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 09:11 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH165

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: B-131_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896253
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 09:42 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH131

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	2		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	11		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	0.9	J	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	0.6	J	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.7		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.4	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.2	J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.4	J	0.1	1
07805	Fluorene	86-73-7	2		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.4	J	0.1	1
07805	Pyrene	129-00-0	3		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.13	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 15:59	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 15:59	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 18:46	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 21:56	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050005A	05/28/2015 12:26	Choon Y Tian	1

Sample Description: B-131_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896253
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 09:42 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH131

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050005	05/27/2015 08:58	Christopher M Klumpp	1

Sample Description: N-99_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896254
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 10:40 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL99

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 16:22	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 16:22	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 19:14	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 22:12	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050006A	05/27/2015 21:28	Deborah A Krady	1

Sample Description: N-99_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896254
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 10:40 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL99

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050006	05/27/2015 09:29	Christopher M Klumpp	1

Sample Description: N-8_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896255
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 12:00 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLN8

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 16:45	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 16:45	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 19:42	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 22:27	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151466050006A	05/27/2015 21:29	Deborah A Krady	1

Sample Description: N-8_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7896255
LL Group # 1562821
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 12:00 by CC

Submitted: 05/20/2015 17:00
Reported: 06/06/2015 08:49

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHLN8

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050006	05/27/2015 09:29	Christopher M Klumpp	1

Quality Control Summary

Client Name: Stantec Group Number: 1562821
Reported: 06/06/2015 08:49

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D151452AA	Sample number(s): 7896237							
Benzene	N.D.	0.5	ug/l	90	102	78-120	12	30
1,2-Dichloroethane	N.D.	0.5	ug/l	86	96	72-127	11	30
Ethylbenzene	N.D.	0.5	ug/l	88	97	80-120	10	30
Isopropylbenzene	N.D.	0.5	ug/l	90	98	80-120	9	30
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	78	88	75-120	13	30
Toluene	N.D.	0.5	ug/l	92	103	80-120	11	30
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	88	94	80-120	7	30
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	87	94	80-120	8	30
Xylene (Total)	N.D.	0.5	ug/l	93	102	80-120	9	30
Batch number: D151481AA	Sample number(s): 7896245-7896255							
Benzene	N.D.	0.5	ug/l	99		78-120		
1,2-Dichloroethane	N.D.	0.5	ug/l	93		72-127		
Ethylbenzene	N.D.	0.5	ug/l	98		80-120		
Isopropylbenzene	N.D.	0.5	ug/l	100		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	92		75-120		
Toluene	N.D.	0.5	ug/l	104		80-120		
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	97		80-120		
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	97		80-120		
Xylene (Total)	N.D.	0.5	ug/l	102		80-120		
Batch number: D151482AA	Sample number(s): 7896231-7896236,7896238-7896244							
Benzene	N.D.	0.5	ug/l	99		78-120		
1,2-Dichloroethane	N.D.	0.5	ug/l	92		72-127		
Ethylbenzene	N.D.	0.5	ug/l	95		80-120		
Isopropylbenzene	N.D.	0.5	ug/l	97		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	88		75-120		
Toluene	N.D.	0.5	ug/l	101		80-120		
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	92		80-120		
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	93		80-120		
Xylene (Total)	N.D.	0.5	ug/l	100		80-120		
Batch number: D151491AA	Sample number(s): 7896230-7896231,7896236,7896240,7896242							
Benzene	N.D.	0.5	ug/l	103		78-120		
1,2-Dichloroethane	N.D.	0.5	ug/l	93		72-127		
Ethylbenzene	N.D.	0.5	ug/l	98		80-120		
Isopropylbenzene	N.D.	0.5	ug/l	100		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	92		75-120		
Toluene	N.D.	0.5	ug/l	105		80-120		
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	99		80-120		
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	99		80-120		
Xylene (Total)	N.D.	0.5	ug/l	104		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Stantec Group Number: 1562821
Reported: 06/06/2015 08:49

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 15141WAB026	Sample number(s): 7896230-7896237,7896239-7896248							
Anthracene	N.D.	0.1	ug/l	98	100	82-116	2	30
Benzo(a)anthracene	N.D.	0.1	ug/l	111	111	76-122	0	30
Benzo(a)pyrene	N.D.	0.1	ug/l	96	98	73-120	2	30
Benzo(b)fluoranthene	N.D.	0.1	ug/l	102	105	75-123	3	30
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	97	99	70-126	3	30
Chrysene	N.D.	0.1	ug/l	115	116	81-120	1	30
Fluorene	N.D.	0.1	ug/l	98	102	80-117	3	30
Naphthalene	N.D.	0.1	ug/l	87	89	75-108	2	30
Phenanthrene	N.D.	0.1	ug/l	95	96	81-114	1	30
Pyrene	N.D.	0.1	ug/l	94	94	76-111	0	30
Batch number: 15142WAB026	Sample number(s): 7896249-7896250							
Anthracene	N.D.	0.1	ug/l	100	102	82-116	2	30
Benzo(a)anthracene	N.D.	0.1	ug/l	121	120	76-122	0	30
Benzo(a)pyrene	N.D.	0.1	ug/l	99	102	73-120	3	30
Benzo(b)fluoranthene	N.D.	0.1	ug/l	101	107	75-123	5	30
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	80	78	70-126	2	30
Chrysene	N.D.	0.1	ug/l	122*	123*	81-120	1	30
Fluorene	N.D.	0.1	ug/l	100	100	80-117	0	30
Naphthalene	N.D.	0.1	ug/l	86	84	75-108	2	30
Phenanthrene	N.D.	0.1	ug/l	96	97	81-114	1	30
Pyrene	N.D.	0.1	ug/l	95	95	76-111	0	30
Batch number: 15142WAK026	Sample number(s): 7896251-7896255							
Anthracene	N.D.	0.1	ug/l	96	93	82-116	3	30
Benzo(a)anthracene	N.D.	0.1	ug/l	97	96	76-122	1	30
Benzo(a)pyrene	N.D.	0.1	ug/l	94	91	73-120	3	30
Benzo(b)fluoranthene	N.D.	0.1	ug/l	97	96	75-123	1	30
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	103	99	70-126	3	30
Chrysene	N.D.	0.1	ug/l	103	102	81-120	1	30
Fluorene	N.D.	0.1	ug/l	97	94	80-117	2	30
Naphthalene	N.D.	0.1	ug/l	84	86	75-108	2	30
Phenanthrene	N.D.	0.1	ug/l	93	91	81-114	2	30
Pyrene	N.D.	0.1	ug/l	94	93	76-111	2	30
Batch number: 151460004A	Sample number(s): 7896230-7896237							
Ethylene dibromide	N.D.	0.010	ug/l	92	92	60-140	0	20
Batch number: 151460005A	Sample number(s): 7896238-7896245							
Ethylene dibromide	N.D.	0.010	ug/l	97	93	60-140	5	20
Batch number: 151470031A	Sample number(s): 7896246-7896255							
Ethylene dibromide	N.D.	0.010	ug/l	88	84	60-140	4	20
Batch number: 151416050005A	Sample number(s): 7896230-7896232							
Lead	N.D.	0.082	ug/l	102		80-120		
Batch number: 151466050005A	Sample number(s): 7896233-7896237,7896239-7896253							
Lead	N.D.	0.082	ug/l	102		80-120		
Batch number: 151466050006A	Sample number(s): 7896254-7896255							
Lead	N.D.	0.082	ug/l	101		80-120		

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: Stantec Group Number: 1562821
Reported: 06/06/2015 08:49

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: D151481AA	Sample number(s): 7896245-7896255 UNSPK: 7896246								
Benzene	108	102	72-134	5	30				
1,2-Dichloroethane	96	90	63-142	7	30				
Ethylbenzene	106	101	71-134	5	30				
Isopropylbenzene	107	101	75-128	6	30				
Methyl Tertiary Butyl Ether	94	91	72-126	4	30				
Toluene	110	104	80-125	6	30				
1,2,4-Trimethylbenzene	104	99	72-130	5	30				
1,3,5-Trimethylbenzene	106	99	65-132	7	30				
Xylene (Total)	108	102	79-125	6	30				
Batch number: D151482AA	Sample number(s): 7896231-7896236,7896238-7896244 UNSPK: 7896239								
Benzene	98	103	72-134	4	30				
1,2-Dichloroethane	89	91	63-142	2	30				
Ethylbenzene	100	105	71-134	4	30				
Isopropylbenzene	117	101	75-128	3	30				
Methyl Tertiary Butyl Ether	101	102	72-126	0	30				
Toluene	105	107	80-125	1	30				
1,2,4-Trimethylbenzene	101	104	72-130	3	30				
1,3,5-Trimethylbenzene	104	106	65-132	3	30				
Xylene (Total)	104	106	79-125	2	30				
Batch number: D151491AA	Sample number(s): 7896230-7896231,7896236,7896240,7896242 UNSPK: P900552								
Benzene	107	111	72-134	3	30				
1,2-Dichloroethane	94	98	63-142	4	30				
Ethylbenzene	104	108	71-134	3	30				
Isopropylbenzene	105	109	75-128	3	30				
Methyl Tertiary Butyl Ether	103	105	72-126	3	30				
Toluene	110	114	80-125	4	30				
1,2,4-Trimethylbenzene	101	103	72-130	2	30				
1,3,5-Trimethylbenzene	101	105	65-132	4	30				
Xylene (Total)	107	112	79-125	4	30				
Batch number: 151460004A	Sample number(s): 7896230-7896237 UNSPK: P894632 BKG: P894633								
Ethylene dibromide	98		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151460005A	Sample number(s): 7896238-7896245 UNSPK: 7896240 BKG: 7896239								
Ethylene dibromide	104		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151470031A	Sample number(s): 7896246-7896255 UNSPK: 7896246 BKG: 7896247								
Ethylene dibromide	91		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151416050005A	Sample number(s): 7896230-7896232 UNSPK: 7896231 BKG: 7896231								
Lead	102	103	75-125	1	20	0.090 J	0.091 J	2 (1)	20
Batch number: 151466050005A	Sample number(s): 7896233-7896237,7896239-7896253 UNSPK: 7896233 BKG: 7896233								
Lead	106	108	75-125	1	20	N.D.	N.D.	0 (1)	20
Batch number: 151466050006A	Sample number(s): 7896254-7896255 UNSPK: P895956 BKG: P895956								
Lead	103	103	75-125	0	20	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.

Quality Control Summary

Client Name: Stantec Group Number: 1562821
Reported: 06/06/2015 08:49

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	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: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: D151452AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7896237	93	97	99	92
Blank	93	98	99	94
LCS	94	99	99	96
LCSD	93	100	98	95
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: D151481AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7896245	91	96	97	95
7896246	95	99	96	91
7896247	91	96	97	95
7896248	90	98	98	96
7896249	92	97	98	99
7896250	92	98	98	95
7896251	93	99	97	93
7896252	92	97	98	98
7896253	91	96	99	98
7896254	93	97	97	91
7896255	93	101	97	91
Blank	95	100	96	90
LCS	92	99	98	96
MS	92	101	94	95
MSD	91	100	96	95
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: D151482AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7896231	90	94	98	95
7896232	92	97	97	92
7896233	94	100	97	92
7896234	92	99	97	93
7896235	92	99	97	96
7896236	89	94	98	92
7896238	95	99	96	91
7896239	92	96	98	97
7896240	92	95	98	99
7896241	91	97	97	96

*- 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.

Quality Control Summary

Client Name: Stantec Group Number: 1562821
Reported: 06/06/2015 08:49

Surrogate Quality Control

7896242	91	96	98	96
7896243	91	95	99	95
7896244	94	99	97	93
Blank	94	100	97	90
LCS	93	100	96	96
MS	90	97	97	95
MSD	91	99	98	97
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: D151491AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7896230	95	101	96	91
Blank	94	98	97	92
LCS	93	102	96	95
MS	93	100	96	96
MSD	98	101	96	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270
Batch number: 15141WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7896230	97	82	83
7896231	99	87	90
7896232	96	82	89
7896233	98	84	94
7896234	67	55*	49
7896235	115	84	95
7896236	100	84	86
7896237	104	87	79
7896239	100	82	69
7896240	100	81	74
7896241	100	84	82
7896242	117	85	68
7896243	91	79	96
7896244	97	80	73
7896245	102	80	88
7896246	104	88	90
7896247	102	82	86
7896248	102	78	49
Blank	99	84	91
LCS	102	86	95
LCSD	102	87	97
Limits:	60-123	61-112	35-144

Analysis Name: PAHs by 8270
Batch number: 15142WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7896249	95	80	97
7896250	90	77	70
Blank	105	89	90
LCS	107	88	95
LCSD	109	86	98
Limits:	60-123	61-112	35-144

Analysis Name: PAHs by 8270

*- 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.

Quality Control Summary

Client Name: Stantec Group Number: 1562821
Reported: 06/06/2015 08:49

Surrogate Quality Control

Batch number: 15142WAK026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7896251	84	82	71
7896252	89	84	82
7896253	88	86	78
7896254	84	84	70
7896255	83	82	56
Blank	84	73	86
LCS	91	85	94
LCSD	86	84	92
Limits:	60-123	61-112	35-144

Analysis Name: EDB in Wastewater
Batch number: 151460004A

	1,1,2,2-Tetrachloroethane
7896230	117
7896231	132
7896232	115
7896233	115
7896234	122
7896235	120
7896236	117
7896237	117
Blank	118
DUP	117
LCS	103
LCSD	100
MS	113
Limits:	46-136

Analysis Name: EDB in Wastewater
Batch number: 151460005A

	1,1,2,2-Tetrachloroethane
7896238	112
7896239	132
7896240	140*
7896241	117
7896242	141*
7896243	118
7896244	115
7896245	110
Blank	116
DUP	130
LCS	105
LCSD	107
MS	130
Limits:	46-136

Analysis Name: EDB in Wastewater
Batch number: 151470031A

	1,1,2,2-Tetrachloroethane
7896246	107

*- 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.

Quality Control Summary

Client Name: Stantec Group Number: 1562821
Reported: 06/06/2015 08:49

Surrogate Quality Control

7896247	106
7896248	109
7896249	120
7896250	120
7896251	115
7896252	111
7896253	115
7896254	127
7896255	115
Blank	104
DUP	113
LCS	108
LCSD	107
MS	116
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.

Environmental Analysis Request/Chain of Custody

377304

eurofins | Lancaster Laboratories Environmental

Acct. # 16657 — For Eurofins Lancaster Laboratories Environmental use only — Group # 152821 Sample # 7896230-55

Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Perimeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews/Jennifer Menges	P.O. #:
Sampler: DH, KM, CC	Quote #:
Name of state where samples were collected: PA	

4 Matrix

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

5 Analysis Requested

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

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers
S-403_20150519	5/19/15	0920	X		8
S-404_20150519	5/19/15	1015	X		8
S-405_20150519	5/19/15	1055	X		8
N-100_20150519	5/19/15	1230	X		8
N-1_20150519	5/19/15	1310	X		8
N-2_20150519	5/19/15	1345	X		8

Analytes: Lead (Dissolved) SW846 6010; SW8468260B: 1,2 Dichloroethane, 1,2,4 Trimethylbenzene, 1,3,5 Trimethylbenzene, Benzene, Cumene, Ethylbenzene, MTBE, Toluene, Xylenes; Ethylene Dibromide SW846 8011; SW846 8270: Anthracene, Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Phenanthrene, Fluorene, Pyrene, Naphthalene

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

* Lead (Dissolved) to be lab filtered

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: Stephanie.Andrews@Stantec.com
Jennifer.Menges@Stantec.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/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
Corey Crane	5/20/15	1335		5/20/15	1335
	5/20/15	1500			
				5/20/15	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 0.5-5.7 °C

Environmental Analysis Request/Chain of Custody

377302

eurofins | Lancaster Laboratories Environmental

Acct. # 16657 For Eurofins Lancaster Laboratories Environmental use only Group # 1562621 Sample # 7896230-55
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Permeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews/Jennifer Menges	P.O. #:
Sampler: CC, DH, KM	Quote #:
Name of state where samples were collected: PA	

2 Sample Identification

3

Sample Identification	Collected Date	Collected Time	Grab	Composite
S-74_20150519	5-19-15	1007	X	
S-193_20150519	5-19-15	0738	X	
S-196_20150519	5-19-15	0816	X	
S-268_20150519	5-19-15	0926	X	
MW-30_20150519	5-19-15	0944	X	
TW-8_20150519	5-19-15	1033	X	
MW-37_20150519	5-19-15	1107	X	
Field Blank_20150519	5-19-15	1300	X	
Trip Blank				
S-5L_20150519	5/19/15	0825	X	

4 Matrix

Sediment	Soil	Ground Water	Potable Water	Surface Water	NPDES	Other:	Total # of Containers
		X					8
		X					8
		X					8
		X					8
		X					8
		X					8
		X					8
						X	8
						X	4
		X					8

5 Analysis Requested

Preservation Codes

Lead (dissolved) - SW846-6010	1,2 Dichloroethane SW846 8260B	1,3,5 Trimethylbenzene	Benzene	Cumene	Ethylbenzene	MTBE	Toluene	Xylenes	Ethylene Dibromide - SW846 8011	Anthracene SW846 8270D	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Fluorene	Naphthalene	Pyrene
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X								
X	X	X	X	X	X	X	X	X	X	X	X	X	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

* Lead (dissolved) to be lab filtered

Constituents of Concern for Groundwater is Attached

7 Turnaround Time (TAT) Requested (please circle)

Standard Rush

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

0825 DH

Date results are needed:

E-mail address: stephanie.andrews@stantec.com
jennifer.menges@stantec.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/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
	5-20-15	1335		5/20/15	1335
	5/20/15	1730			
				5/20/15	1700

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 0.5-5.7 °C

Environmental Analysis Request/Chain of Custody

377305

eurofins | Lancaster Laboratories Environmental

Acct. # 16657

For Eurofins Lancaster Laboratories Environmental use only
Group # 1562821 Sample # 7896230-55
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Perimeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews/Jennifer Menges	P.O. #:
Sampler: CC, DH, KM	Quote #:
Name of state where samples were collected: PA	

4 Matrix

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

5 Analysis Requested

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

2 Sample Identification	Collected Date	Collected Time	3 Grab	3 Composite	Total # of Containers	Lead (Dissolved) SW846-6020	SW846 8260B: 1,2 Dichloroethane; 1,2,4 Trimethylbenzene; 1,3,5 Trimethylbenzene; Benzene; Cumene; Ethyl benzene; MTBE; Toluene; Xylenes	SW846 8011: Ethylene Dibromide	SW846 8270D: Anthracene; Benzo(a)anthracene; Benzo(a)Pyrene; Benzo(b)Fluoranthene; Benzo(g,h,i)Perylene; Chrysene; Fluorene; Phenanthrene; Pyrene; Naphthalene	6 Remarks
S-249_20150519	5.19.15	835	X		8	X	X	X	X	
RW-109_20150519	5.19.15	930	X		8	X	X	X	X	
S-351_20150519	5.19.15	1235	X		8	X	X	X	X	
S-154-20150519	5.19.15	1045	X		8	X	X	X	X	
N-3_20150519	5.19.15	1335	X		8	X	X	X	X	Heavy Sheen in Samples
B-158-20150520	5.20.15	0827	X		8	X	X	X	X	
B-165_20150520	5-20-15	0911	X		8	X	X	X	X	
B-131_20150520	5-20-15	0942	X		8	X	X	X	X	

Preservation Codes: H=HCl; T=Thiosulfate; N=HNO_3; B=NaOH; S=H_2SO_4; O=Other

6 Remarks: * Lead (dissolved) to be lab filtered

For Lab Use Only
FSC:
SCR#:

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: stephanie.andrews@stantec.com; Jennifer.menges@stantec.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/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]	5-20-15	1335	[signature]	5/20/15	1330
[signature]	5/20/15	1700			
			[signature]	5/20/15	1700

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 0.5-5.7 °C

Environmental Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 16657 For Eurofins Lancaster Laboratories Environmental use only Group # 1562621 Sample # 7996730-55
Instructions on reverse side correspond with circled numbers.

368675

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Perimeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews/Jennifer Menges	P.O. #:
Sampler: CL, DH	Quote #:
Name of state where samples were collected:	

4 Matrix

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

5 Analysis Requested

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

SW8468260B | SW8468270D

Lead (dissolved) SW846-6020 | 1,2 Dichloroethane | 1,2,4 Trimethylbenzene | 1,3,5 Trimethylbenzene | Benzene | Cumene | Ethylbenzene | MTBE | Toluene | Xylenes | Ethylene Dibromide SW846 8011 | Anthracene | Benzo(a)anthracene | Benzo(a) Pyrene | Benzo(b) Fluoranthene | Benzo (g,h,i) Perylene | Chrysene | Fluorene | Phenanthrene | Pyrene | Naphthalene

For Lab Use Only

FSC: ____

SCR#: 166541

Preservation Codes

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

6 Remarks

* Lead (dissolved) to be lab filtered

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers
N-99_20150520	5-20-15	1040	X		8
N-8_20150520	5-20-15	1200	X		8

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: stephanie.andrews@stantec.com Jennifer.Menges@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
Bottle Storage					
Cory Coyne	5-20-15	1335		5/20/15	1335
	5/20/15	1700			
				5/20/15	1700

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 0.5-3.7 °C

16657 1562821 7896230-55

Constituents of Concern for Groundwater
Sunoco Philadelphia Refinery
Philadelphia, Pennsylvania

METALS	CAS No.	Method
Lead (dissolved)	7439-92-1	SW846 6010B/C-LD

VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
1,2-Dichloroethane	107-06-2	SW846 8260B/C-LD
1,2,4-Trimethylbenzene	95-63-6	
1,3,5-Trimethylbenzene	108-67-8	
Benzene	71-43-2	
Cumene	98-82-8	
Ethylbenzene	100-41-4	
Methyl tertiary butyl ether	1634-04-4	
Toluene	108-88-3	
Xylenes (total)	1330-20-7	
Ethylene dibromide	106-93-4	SW846 8011-LD

SEMI-VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
Anthracene	120-12-7	SW846 8270C/D-LD
Benzo(a)anthracene	56-55-3	
Benzo(g,h,i)perylene	191-24-2	
Benzo(a)pyrene	50-32-8	
Benzo(b)fluoranthene	205-99-2	
Chrysene	218-01-9	
Fluorene	86-73-7	
Naphthalene**	91-20-3	
Phenanthrene	85-01-8	
Pyrene	129-00-0	

**For tank investigations, Naphthalene is to be run using analytical method SW846 8260 and should be appropriately marked on the chain of custody.

Explanation of Symbols and Abbreviations

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

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

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

Laboratory Data Qualifiers:

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

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

June 04, 2015

Project: PHL Perimeter Groundwater Sampling

Submittal Date: 05/21/2015
Group Number: 1563168
PO Number: PHL PERIMETER
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
N-98_20150520 Grab Groundwater	7897985
N-85_20150520 Grab Groundwater	7897986
N-37_20150520 Grab Groundwater	7897987
N-64_20150520 Grab Groundwater	7897988
N-57_20150520 Grab Groundwater	7897989
N-111_20150520 Grab Groundwater	7897990
WP-14_20150521 Grab Groundwater	7897991
A-137_20150521 Grab Groundwater	7897992
A-140_20150521 Grab Groundwater	7897993
A-139_20150521 Grab Groundwater	7897994
A-133_20150521 Grab Groundwater	7897995
Trip Blank Water	7897996

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

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

ELECTRONIC COPY TO	Sunoco c/o Stantec	Attn: Jennifer Menges
ELECTRONIC COPY TO	Stantec	Attn: Stephanie Andrews

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: N-98_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897985
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 08:35 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL98

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	0.7	J	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.32	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 17:08	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 17:08	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 20:10	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 22:43	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:02	Deborah A Krady	1

Sample Description: N-98_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897985
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 08:35 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL98

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: N-85_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897986
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 10:00 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL85

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.4	J	0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.2	J	0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.13	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 17:31	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 17:31	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 20:38	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/31/2015 22:58	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:04	Deborah A Krady	1

Sample Description: N-85_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897986
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 10:00 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL85

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: N-37_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897987
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 10:25 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHN37

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	0.2	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 17:54	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 17:54	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 21:06	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 05:31	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:09	Deborah A Krady	1

Sample Description: N-37_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897987
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 10:25 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHN37

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: N-64_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897988
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 11:30 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHL64

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.8		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	3		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.8		0.1	1
07805	Pyrene	129-00-0	0.3	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 18:17	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 18:17	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 21:34	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 05:46	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:11	Deborah A Krady	1

Sample Description: N-64_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897988
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 11:30 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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PHL64

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: N-57_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897989
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 12:40 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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Suite 140
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PHL57

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	250		5	10
Reporting limits were raised due to sample foaming.						
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.6		0.1	1
07805	Benzo(a)pyrene	50-32-8	2		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	1		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	2		0.1	1
07805	Chrysene	218-01-9	1		0.1	1
07805	Fluorene	86-73-7	0.4	J	0.1	1
07805	Naphthalene	91-20-3	0.2	J	0.1	1
07805	Phenanthrene	85-01-8	0.3	J	0.1	1
07805	Pyrene	129-00-0	0.9		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.30	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 18:17	Daniel H Heller	10
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151491AA	05/29/2015 18:17	Daniel H Heller	10
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 22:02	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 06:02	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:12	Deborah A Krady	1

Sample Description: N-57_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897989
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 12:40 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: N-111_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897990
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 13:20 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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West Chester PA 19380

PH111

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	4		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.4	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.1	J	0.1	1
07805	Fluorene	86-73-7	4		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.2	J	0.1	1
07805	Pyrene	129-00-0	0.4	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 19:03	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 19:03	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 22:30	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 06:17	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:14	Deborah A Krady	1

Sample Description: N-111_20150520 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897990
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015 13:20 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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PH111

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: WP-14_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897991
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 08:09 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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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.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.2	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.6		0.1	1
07805	Benzo(a)pyrene	50-32-8	0.7		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.7		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.5		0.1	1
07805	Chrysene	218-01-9	0.7		0.1	1
07805	Fluorene	86-73-7	0.1	J	0.1	1
07805	Naphthalene	91-20-3	0.2	J	0.1	1
07805	Phenanthrene	85-01-8	0.5	J	0.1	1
07805	Pyrene	129-00-0	0.8		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.97	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 19:26	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 19:26	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 22:58	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 06:33	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:16	Deborah A Krady	1

Sample Description: WP-14_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897991
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 08:09 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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PHL14

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: A-137_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897992
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 09:20 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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West Chester PA 19380

PH137

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	0.7	J	0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	0.1	J	0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.3	J	0.1	1
07805	Pyrene	129-00-0	0.3	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.30	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 19:49	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 19:49	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 23:26	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 06:49	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:17	Deborah A Krady	1

Sample Description: A-137_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897992
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 09:20 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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PH137

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: A-140_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897993
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 09:46 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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1060 Andrew Drive
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PH140

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	N.D.	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151481AA	05/28/2015 20:12	Amanda K Richards	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151481AA	05/28/2015 20:12	Amanda K Richards	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAK026	05/24/2015 23:54	Holly B Ziegler	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAK026	05/23/2015 18:43	Kailah L Ortiz	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 07:04	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:19	Deborah A Krady	1

Sample Description: A-140_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897993
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 09:46 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH140

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: A-139_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897994
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 10:16 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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1060 Andrew Drive
Suite 140
West Chester PA 19380

PH139

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**	**ug/l**	
10945	Benzene	71-43-2	N.D.	0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.	0.5	1
10945	Ethylbenzene	100-41-4	N.D.	0.5	1
10945	Isopropylbenzene	98-82-8	N.D.	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10945	Toluene	108-88-3	N.D.	0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.5	1
10945	Xylene (Total)	1330-20-7	N.D.	0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**	**ug/l**	
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**	**ug/l**	
06035	Lead	7439-92-1	94.6	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 18:40	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151491AA	05/29/2015 18:40	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAO026	05/25/2015 14:11	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAO026	05/24/2015 06:30	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	151470031A	05/30/2015 07:20	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470031A	05/28/2015 11:00	Kerrie A Freeburn	1

Sample Description: A-139_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897994
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 10:16 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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West Chester PA 19380

PH139

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:21	Deborah A Krady	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: A-133_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897995
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 07:45 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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Suite 140
West Chester PA 19380

PH133

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.5		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.8		0.1	1
07805	Benzo(a)pyrene	50-32-8	1		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.7		0.1	1
07805	Chrysene	218-01-9	3		0.1	1
07805	Fluorene	86-73-7	2		0.1	1
07805	Naphthalene	91-20-3	0.1	J	0.1	1
07805	Phenanthrene	85-01-8	0.6		0.1	1
07805	Pyrene	129-00-0	3		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0095	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.10	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 19:03	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151491AA	05/29/2015 19:03	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	15142WAO026	05/25/2015 14:40	Linda M Hartenstine	1
07807	BNA Water Extraction	SW-846 3510C	1	15142WAO026	05/24/2015 06:30	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	151470032A	06/01/2015 00:19	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470032A	05/28/2015 11:00	Kerrie A Freeburn	1

Sample Description: A-133_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897995
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 07:45 by CC

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

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1060 Andrew Drive
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West Chester PA 19380

PH133

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06035	Lead	SW-846 6020	1	151496050002A	06/01/2015 15:23	Deborah A Krady	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151466050009	05/28/2015 10:49	James L Mertz	1
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	2	151496050002	06/01/2015 08:10	Christopher M Klumpp	1

Sample Description: Trip Blank Water
PHL Perimeter Groundwater Sampling

LL Sample # WW 7897996
LL Group # 1563168
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/20/2015

Submitted: 05/21/2015 15:45
Reported: 06/04/2015 16:37

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

TB521

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
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151491AA	05/29/2015 19:26	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151491AA	05/29/2015 19:26	Daniel H Heller	1
10398	EDB in Wastewater	SW-846 8011	1	151470032A	06/01/2015 00:50	James H Place	1
07786	EDB Extraction	SW-846 8011	1	151470032A	05/28/2015 11:00	Kerrie A Freeburn	1

Quality Control Summary

Client Name: Stantec Group Number: 1563168
Reported: 06/04/2015 16:37

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D151481AA	Sample number(s): 7897985-7897988,7897990-7897993							
Benzene	N.D.	0.5	ug/l	99		78-120		
1,2-Dichloroethane	N.D.	0.5	ug/l	93		72-127		
Ethylbenzene	N.D.	0.5	ug/l	98		80-120		
Isopropylbenzene	N.D.	0.5	ug/l	100		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	92		75-120		
Toluene	N.D.	0.5	ug/l	104		80-120		
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	97		80-120		
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	97		80-120		
Xylene (Total)	N.D.	0.5	ug/l	102		80-120		
Batch number: D151491AA	Sample number(s): 7897989,7897994-7897996							
Benzene	N.D.	0.5	ug/l	103		78-120		
1,2-Dichloroethane	N.D.	0.5	ug/l	93		72-127		
Ethylbenzene	N.D.	0.5	ug/l	98		80-120		
Isopropylbenzene	N.D.	0.5	ug/l	100		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	92		75-120		
Toluene	N.D.	0.5	ug/l	105		80-120		
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	99		80-120		
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	99		80-120		
Xylene (Total)	N.D.	0.5	ug/l	104		80-120		
Batch number: 15142WAK026	Sample number(s): 7897985-7897993							
Anthracene	N.D.	0.1	ug/l	96	93	82-116	3	30
Benzo(a)anthracene	N.D.	0.1	ug/l	97	96	76-122	1	30
Benzo(a)pyrene	N.D.	0.1	ug/l	94	91	73-120	3	30
Benzo(b)fluoranthene	N.D.	0.1	ug/l	97	96	75-123	1	30
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	103	99	70-126	3	30
Chrysene	N.D.	0.1	ug/l	103	102	81-120	1	30
Fluorene	N.D.	0.1	ug/l	97	94	80-117	2	30
Naphthalene	N.D.	0.1	ug/l	84	86	75-108	2	30
Phenanthrene	N.D.	0.1	ug/l	93	91	81-114	2	30
Pyrene	N.D.	0.1	ug/l	94	93	76-111	2	30
Batch number: 15142WAO026	Sample number(s): 7897994-7897995							
Anthracene	N.D.	0.1	ug/l	99	107	82-116	8	30
Benzo(a)anthracene	N.D.	0.1	ug/l	107	107	76-122	0	30
Benzo(a)pyrene	N.D.	0.1	ug/l	96	95	73-120	0	30
Benzo(b)fluoranthene	N.D.	0.1	ug/l	103	97	75-123	5	30
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	105	99	70-126	5	30
Chrysene	N.D.	0.1	ug/l	116	115	81-120	0	30
Fluorene	N.D.	0.1	ug/l	97	98	80-117	2	30
Naphthalene	N.D.	0.1	ug/l	90	92	75-108	2	30
Phenanthrene	N.D.	0.1	ug/l	95	101	81-114	6	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.

Quality Control Summary

Client Name: Stantec Group Number: 1563168
Reported: 06/04/2015 16:37

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Pyrene	N.D.	0.1	ug/l	96	99	76-111	3	30
Batch number: 151470031A	Sample number(s): 7897985-7897994							
Ethylene dibromide	N.D.	0.010	ug/l	88	84	60-140	4	20
Batch number: 151470032A	Sample number(s): 7897995-7897996							
Ethylene dibromide	N.D.	0.010	ug/l	90	90	60-140	1	20
Batch number: 151496050002A	Sample number(s): 7897985-7897995							
Lead	N.D.	0.082	ug/l	101		80-120		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: D151481AA	Sample number(s): 7897985-7897988,7897990-7897993 UNSPK: P896246								
Benzene	108	102	72-134	5	30				
1,2-Dichloroethane	96	90	63-142	7	30				
Ethylbenzene	106	101	71-134	5	30				
Isopropylbenzene	107	101	75-128	6	30				
Methyl Tertiary Butyl Ether	94	91	72-126	4	30				
Toluene	110	104	80-125	6	30				
1,2,4-Trimethylbenzene	104	99	72-130	5	30				
1,3,5-Trimethylbenzene	106	99	65-132	7	30				
Xylene (Total)	108	102	79-125	6	30				
Batch number: D151491AA	Sample number(s): 7897989,7897994-7897996 UNSPK: P900552								
Benzene	107	111	72-134	3	30				
1,2-Dichloroethane	94	98	63-142	4	30				
Ethylbenzene	104	108	71-134	3	30				
Isopropylbenzene	105	109	75-128	3	30				
Methyl Tertiary Butyl Ether	103	105	72-126	3	30				
Toluene	110	114	80-125	4	30				
1,2,4-Trimethylbenzene	101	103	72-130	2	30				
1,3,5-Trimethylbenzene	101	105	65-132	4	30				
Xylene (Total)	107	112	79-125	4	30				
Batch number: 151470031A	Sample number(s): 7897985-7897994 UNSPK: P896246 BKG: P896247								
Ethylene dibromide	91		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151470032A	Sample number(s): 7897995-7897996 UNSPK: 7897995 BKG: P898028								
Ethylene dibromide	94		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151496050002A	Sample number(s): 7897985-7897995 UNSPK: P898034 BKG: P898034								
Lead	99	101	75-125	2	20	0.13 J	0.096 J	31* (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.

Quality Control Summary

Client Name: Stantec Group Number: 1563168
Reported: 06/04/2015 16:37

Surrogate Quality Control

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

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: D151481AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7897985	93	100	97	92
7897986	91	97	96	94
7897987	92	98	97	95
7897988	92	95	97	95
7897990	93	99	97	95
7897991	94	100	98	92
7897992	92	97	97	92
7897993	92	99	97	93
Blank	95	100	96	90
LCS	92	99	98	96
MS	92	101	94	95
MSD	91	100	96	95
Limits:	80-116	77-113	80-113	78-113

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: D151491AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7897989	95	100	96	92
7897994	95	100	95	90
7897995	95	99	96	93
7897996	120*	102	96	89
Blank	94	98	97	92
LCS	93	102	96	95
MS	93	100	96	96
MSD	98	101	96	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270
Batch number: 15142WAK026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7897985	88	85	84
7897986	86	85	84
7897987	87	85	88
7897988	85	82	77
7897989	90	82	52
7897990	87	83	88
7897991	87	83	84
7897992	87	85	85
7897993	88	87	89
Blank	84	73	86
LCS	91	85	94
LCSD	86	84	92
Limits:	60-123	61-112	35-144

Analysis Name: PAHs by 8270
Batch number: 15142WAO026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7897994	105	88	74
7897995	101	85	66

*- 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.

Quality Control Summary

Client Name: Stantec Group Number: 1563168
Reported: 06/04/2015 16:37

Surrogate Quality Control

Blank	101	92	90
LCS	103	91	85
LCSD	106	89	80
Limits:	60-123	61-112	35-144

Analysis Name: EDB in Wastewater
Batch number: 151470031A

	1,1,2,2-Tetrachloroethane
7897985	111
7897986	111
7897987	114
7897988	118
7897989	120
7897990	124
7897991	120
7897992	122
7897993	121
7897994	119
Blank	104
DUP	113
LCS	108
LCSD	107
MS	116
Limits:	46-136

Analysis Name: EDB in Wastewater
Batch number: 151470032A

	1,1,2,2-Tetrachloroethane
7897995	115
7897996	116
Blank	119
DUP	117
LCS	110
LCSD	109
MS	115
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.

Environmental Analysis Request/Chain of Custody

377306

eurofins | Lancaster Laboratories Environmental

Acct. # 16057 For Eurofins Lancaster Laboratories Environmental use only Group # 1SC3168 Sample # 7497985-96
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Perimeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews / Jennifer Menges	P.O. #:
Sampler: CC / DH	Quote #:

Name of state where samples were collected: PA

4 Matrix: Soil ☐ Sediment ☐ | Water: Potable ☐ Ground ☒ 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: Lead (dissolved) to be lab filtered

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	Lead (dissolved) SW846-6010D	SW8260B: 1,2 Dichloroethene	1,2,4 Trimethylbenzene	1,3,5 Trimethylbenzene	Benzene	Cumene	Ethylbenzene	MTBE	Toluene	Xylenes	SW8011: Ethylene Dibromide	SW8270D: Anthracene	Benzo(a)anthracene	Benzo(a) Pyrene	Benzo(b)fluoranthene	Benzo(g,h,i) Perylene	Chrysene	Phenanthrene	Fluorene	Pyrene	Naphthalene
N-98_20150520	5/20/15	8:35	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N-85_20150520	5/20/15	1000	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N-37_20150520	5/20/15	1025	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N-64_20150520	5/20/15	1130	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N-57_20150520	5/20/15	1240	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
N-111_20150520	5/20/15	1320	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
WP-14_2015 0521	5-21-15	0809	X		8																					
A-137_20150521	5-21-15	0920	X		8																					
A-140_20150521	5-21-15	0946	X		8																					
A-139_20150521	5-21-15	1016	X		8																					

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: Stephanie.andrews@stantec.com
Jennifer.Menges@stantec.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/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]	5/21/15	1050	[signature]	5/21/15	1235
[signature]	5-21-15	1545			
			Received by [signature]	5/21/15	1545

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 0.6-2.6 °C

Environmental Analysis Request/Chain of Custody

377307

eurofins | Lancaster Laboratories Environmental

Acct. # 16657 For Eurofins Lancaster Laboratories Environmental use only Group # 1563168 Sample # 7897985-96
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Perimeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews / Jennifer Menges	P.O. #:
Sampler: CC	Quote #:

Name of state where samples were collected: PA

4 Matrix

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

5 Analysis Requested

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

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	Lead (dissolved) SW846-6010	SW8260B: 1,2 Dichloroethane	1,2,4 Trimethylbenzene	1,3,5 Trimethylbenzene	Cumene	Ethylbenzene	MTBE	Toluene	Xylenes	Ethylene Dibromide SW846 8011	SW8270D: Anthracene	Benzo(a)anthracene	Benzo(a)Pyrene	Benzo(b)Fluoranthene	Benzo(g,h,i)Perylene	Chrysene	Phenanthrene	Fluorene	Naphthalene	Pyrene
A-133-20150521	5-21-15	0745	X		8	X	X		X	X			X	X	X	X	X	X	X		X	X	X	X	X
TRIP Blank							X		X	X			X	X	X										

6 Remarks

Lead (dissolved) TO be lab filtered

Constituents of concern for Groundwater is attached

For Lab Use Only

FSC: _____

SCR#: _____

Preservation Codes

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

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: stephanie.andrews@stantec.com, jennifer.menges@stantec.com

8 Data Package Options (circle if required)

Type I (EPA Level 3 Equivalent/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
Casey Cowne	5-21-15	1052		5-21-15	1052
	5-21-15	1545			
				5/21/15	1545

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 0.6-2.6 °C

Explanation of Symbols and Abbreviations

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

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

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

Laboratory Data Qualifiers:

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

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) unless otherwise noted under the individual analysis.

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

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

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

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

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

June 04, 2015

Project: PHL Perimeter Groundwater Sampling

Submittal Date: 05/22/2015
Group Number: 1563553
PO Number: PHL PERIMETER
State of Sample Origin: PA

Client Sample Description	Lancaster Labs (LL) #
C-129_20150521 Grab Groundwater	7900308
C-127_20150521 Grab Groundwater	7900309
C-104_20150521 Grab Groundwater	7900310
N-74_20150522 Grab Groundwater	7900311
Trip Blank Water	7900312

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

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

ELECTRONIC COPY TO	Sunoco c/o Stantec	Attn: Jennifer Menges
ELECTRONIC COPY TO	Stantec	Attn: Stephanie Andrews

Respectfully Submitted,

Amek Carter
Specialist

(717) 556-7252

Sample Description: C-129_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900308
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 11:44 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH129

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	N.D.		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	N.D.		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	N.D.		0.1	1
07805	Pyrene	129-00-0	N.D.		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.13	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151512AA	05/31/2015 13:19	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151512AA	05/31/2015 13:19	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	15143WAB026	05/25/2015 18:25	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15143WAB026	05/25/2015 07:15	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	151470032A	06/02/2015 17:34	James H Place	1
07786	EDB Extraction (8011)	SW-846 8011	1	151470032A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151486050004A	05/29/2015 23:05	Deborah A Krady	1

Sample Description: C-129_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900308
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 11:44 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH129

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151486050004	05/28/2015 23:00	Annamaria Kuhns	1

Sample Description: C-127_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900309
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 12:28 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH127

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	2		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	6		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.5	J	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.1	J	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	0.2	J	0.1	1
07805	Fluorene	86-73-7	4		0.1	1
07805	Naphthalene	91-20-3	N.D.		0.1	1
07805	Phenanthrene	85-01-8	0.1	J	0.1	1
07805	Pyrene	129-00-0	1		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0097	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151512AA	05/31/2015 14:28	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151512AA	05/31/2015 14:28	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	15143WAB026	05/25/2015 18:54	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15143WAB026	05/25/2015 07:15	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	151470032A	06/02/2015 17:50	James H Place	1
07786	EDB Extraction (8011)	SW-846 8011	1	151470032A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151486050004A	05/29/2015 23:07	Deborah A Krady	1

Sample Description: C-127_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900309
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 12:28 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH127

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151486050004	05/28/2015 23:00	Annamaria Kuhns	1

Sample Description: C-104_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900310
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 12:56 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH104

CAT No.	Analysis Name	CAS Number	Result		Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**ug/l**		**ug/l**	
10945	Benzene	71-43-2	N.D.		0.5	1
10945	1,2-Dichloroethane	107-06-2	N.D.		0.5	1
10945	Ethylbenzene	100-41-4	N.D.		0.5	1
10945	Isopropylbenzene	98-82-8	N.D.		0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	1		0.1	1
07805	Benzo(a)anthracene	56-55-3	0.8		0.1	1
07805	Benzo(a)pyrene	50-32-8	0.6		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.5	J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.3	J	0.1	1
07805	Chrysene	218-01-9	1		0.1	1
07805	Fluorene	86-73-7	7		0.1	1
07805	Naphthalene	91-20-3	0.2	J	0.1	1
07805	Phenanthrene	85-01-8	3		0.1	1
07805	Pyrene	129-00-0	3		0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	N.D.		0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151512AA	05/31/2015 14:51	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151512AA	05/31/2015 14:51	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	15143WAB026	05/25/2015 19:23	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15143WAB026	05/25/2015 07:15	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	151470032A	06/02/2015 18:36	James H Place	1
07786	EDB Extraction (8011)	SW-846 8011	1	151470032A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151486050004A	05/29/2015 23:09	Deborah A Krady	1

Sample Description: C-104_20150521 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900310
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015 12:56 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PH104

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151486050004	05/28/2015 23:00	Annamaria Kuhns	1

Sample Description: N-74_20150522 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900311
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/22/2015 10:20 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHN74

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	10		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	0.5	J	0.5	1
10945	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.5	1
10945	Toluene	108-88-3	N.D.		0.5	1
10945	1,2,4-Trimethylbenzene	95-63-6	N.D.		0.5	1
10945	1,3,5-Trimethylbenzene	108-67-8	N.D.		0.5	1
10945	Xylene (Total)	1330-20-7	N.D.		0.5	1
GC/MS Semivolatiles	**SW-846 8270C**		**ug/l**		**ug/l**	
07805	Anthracene	120-12-7	0.6		0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		0.1	1
07805	Chrysene	218-01-9	N.D.		0.1	1
07805	Fluorene	86-73-7	2		0.1	1
07805	Naphthalene	91-20-3	2		0.1	1
07805	Phenanthrene	85-01-8	1		0.1	1
07805	Pyrene	129-00-0	0.4	J	0.1	1
Pesticides/PCBs	**SW-846 8011**		**ug/l**		**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.		0.0096	1
Metals Dissolved	**SW-846 6020**		**ug/l**		**ug/l**	
06035	Lead	7439-92-1	0.085	J	0.082	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.
This sample was filtered in the lab for dissolved metals.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151512AA	05/31/2015 15:14	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151512AA	05/31/2015 15:14	Daniel H Heller	1
07805	PAHs by 8270	SW-846 8270C	1	15143WAB026	05/25/2015 19:52	William H Saadeh	1
07807	BNA Water Extraction	SW-846 3510C	1	15143WAB026	05/25/2015 07:15	Nicholas W Shroyer	1
10398	EDB in Wastewater	SW-846 8011	1	151470032A	06/02/2015 18:52	James H Place	1
07786	EDB Extraction (8011)	SW-846 8011	1	151470032A	05/28/2015 11:00	Kerrie A Freeburn	1
06035	Lead	SW-846 6020	1	151486050004A	05/29/2015 23:10	Deborah A Krady	1

Sample Description: N-74_20150522 Grab Groundwater
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900311
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/22/2015 10:20 by CC

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHN74

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06050	ICPMS-Water, 3020A - U3	SW-846 3010A modified	1	151486050004	05/28/2015 23:00	Annamaria Kuhns	1

Sample Description: Trip Blank Water
PHL Perimeter Groundwater Sampling

LL Sample # WW 7900312
LL Group # 1563553
Account # 16657

Project Name: PHL Perimeter Groundwater Sampling

Collected: 05/21/2015

Submitted: 05/22/2015 17:00
Reported: 06/04/2015 16:41

Stantec
1060 Andrew Drive
Suite 140
West Chester PA 19380

PHTB3

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
Pesticides/PCBs	**SW-846 8011**		**ug/l**	**ug/l**	
10398	Ethylene dibromide	106-93-4	N.D.	0.0097	1

General Sample Comments

PA DEP Lab Certification ID 36-00037, Expiration Date: 1/31/16.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10945	BTEX/MTBE/Cumene/EDC/TMBs	SW-846 8260B	1	D151512AA	05/31/2015 12:56	Daniel H Heller	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	D151512AA	05/31/2015 12:56	Daniel H Heller	1
10398	EDB in Wastewater	SW-846 8011	1	151470032A	06/02/2015 19:08	James H Place	1
07786	EDB Extraction (8011)	SW-846 8011	1	151470032A	05/28/2015 11:00	Kerrie A Freeburn	1

Quality Control Summary

Client Name: Stantec Group Number: 1563553
Reported: 06/04/2015 16:41

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: D151512AA	Sample number(s): 7900308-7900312							
Benzene	N.D.	0.5	ug/l	103		78-120		
1,2-Dichloroethane	N.D.	0.5	ug/l	95		72-127		
Ethylbenzene	N.D.	0.5	ug/l	101		80-120		
Isopropylbenzene	N.D.	0.5	ug/l	103		80-120		
Methyl Tertiary Butyl Ether	N.D.	0.5	ug/l	91		75-120		
Toluene	N.D.	0.5	ug/l	105		80-120		
1,2,4-Trimethylbenzene	N.D.	0.5	ug/l	98		80-120		
1,3,5-Trimethylbenzene	N.D.	0.5	ug/l	98		80-120		
Xylene (Total)	N.D.	0.5	ug/l	105		80-120		
Batch number: 15143WAB026	Sample number(s): 7900308-7900311							
Anthracene	N.D.	0.1	ug/l	100	99	82-116	1	30
Benzo(a)anthracene	N.D.	0.1	ug/l	107	105	76-122	2	30
Benzo(a)pyrene	N.D.	0.1	ug/l	96	95	73-120	2	30
Benzo(b)fluoranthene	N.D.	0.1	ug/l	99	97	75-123	2	30
Benzo(g,h,i)perylene	N.D.	0.1	ug/l	105	102	70-126	3	30
Chrysene	N.D.	0.1	ug/l	113	111	81-120	2	30
Fluorene	N.D.	0.1	ug/l	98	98	80-117	0	30
Naphthalene	N.D.	0.1	ug/l	89	87	75-108	1	30
Phenanthrene	N.D.	0.1	ug/l	96	94	81-114	3	30
Pyrene	N.D.	0.1	ug/l	95	93	76-111	1	30
Batch number: 151470032A	Sample number(s): 7900308-7900312							
Ethylene dibromide	N.D.	0.010	ug/l	90	90	60-140	1	20
Batch number: 151486050004A	Sample number(s): 7900308-7900311							
Lead	N.D.	0.082	ug/l	104		80-120		

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: D151512AA	Sample number(s): 7900308-7900312 UNSPK: 7900308								
Benzene	106	96	72-134	10	30				
1,2-Dichloroethane	96	88	63-142	8	30				
Ethylbenzene	102	96	71-134	7	30				
Isopropylbenzene	105	99	75-128	6	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.

Quality Control Summary

Client Name: Stantec Group Number: 1563553
Reported: 06/04/2015 16:41

Sample Matrix Quality Control

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

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Methyl Tertiary Butyl Ether	95	85	72-126	11	30				
Toluene	109	100	80-125	8	30				
1,2,4-Trimethylbenzene	99	94	72-130	5	30				
1,3,5-Trimethylbenzene	100	95	65-132	5	30				
Xylene (Total)	107	100	79-125	7	30				
Batch number: 151470032A	Sample number(s): 7900308-7900312 UNSPK: P897995 BKG: P898028								
Ethylene dibromide	94		60-140			N.D.	N.D.	0 (1)	30
Batch number: 151486050004A	Sample number(s): 7900308-7900311 UNSPK: P901325 BKG: P901325								
Lead	102	100	75-125	2	20	0.18 J	0.18 J	3 (1)	20

Surrogate Quality Control

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

Analysis Name: BTEX/MTBE/Cumene/EDC/TMBs
Batch number: D151512AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
7900308	95	97	97	92
7900309	95	99	96	95
7900310	96	100	95	95
7900311	116	99	96	95
7900312	95	99	96	91
Blank	95	98	96	92
LCS	92	99	97	96
MS	93	101	96	96
MSD	93	101	96	96
Limits:	80-116	77-113	80-113	78-113

Analysis Name: PAHs by 8270
Batch number: 15143WAB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
7900308	102	84	71
7900309	100	78	80
7900310	102	79	81
7900311	104	79	84
Blank	102	83	95
LCS	108	90	94
LCSD	106	87	92
Limits:	60-123	61-112	35-144

Analysis Name: EDB in Wastewater
Batch number: 151470032A

	1,1,2,2-Tetrachloroethane
7900308	98

*- 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.

Quality Control Summary

Client Name: Stantec
Group Number: 1563553
Reported: 06/04/2015 16:41

Surrogate Quality Control

7900309	123
7900310	114
7900311	135
7900312	112
Blank	119
DUP	117
LCS	110
LCSD	109
MS	115
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.

Environmental Analysis Request/Chain of Custody

377308

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Acct. # 16657 For Eurofins Lancaster Laboratories Environmental use only Group # 1563553 Sample # 7900308-12
Instructions on reverse side correspond with circled numbers.

1 Client Information

Client: Stantec	Acct. #: Evergreen
Project Name/#: PHL Perimeter Groundwater Sampling	PWSID #:
Project Manager: Stephanie Andrews/Jennifer Menges	P.O. #:
Sampler: CC	Quote #:

Name of state where samples were collected: PA

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

5 Analysis Requested

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

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Total # of Containers	Lead (dissolved) SW846 6010	SW8260B: 1,2 Dichloroethane	1,3,5 Trimethylbenzene	Benzene	Cumene	Ethyl benzene	MTBE	Xylenes	Toluene	Ethylene Dibromide SW846 8011	SW8270D: Anthracene	Benzo(a) anthracene	Benzo(a) pyrene	Benzo(b) fluoranthene	Benzo(g,h,i) perylene	Chrysene	Fluoranthene	Pyrene	Naphthalene	6 Remarks
C-129_20150521	5-21-15	1144	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Constituents of
C-127_20150521	5-21-15	1228	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	Concern for Groundwater
C-104_20150521	5-21-15	1256	X		8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	is attached
N-74_20150522	5-22-15	1020	X		~~8~~ cc	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Trip Blank					4		X	X	X	X	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: Lead (dissolved) to be lab filtered.

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: Stephanie.andrews@Stantec.com
Jennifer.menges@Stantec.com

8 Data Package Options (circle if required)
Type I (EPA Level 3 Equivalent/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
Cam Cancell	5-22-15	1045	Bill DeTerry	5-22-15	10:45
Bill DeTerry	5-22-15	17:00			
			Received by	5/22/15	1700

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 1.3 °C

16657 1563553 7900308-12

Constituents of Concern for Groundwater
Sunoco Philadelphia Refinery
Philadelphia, Pennsylvania

METALS	CAS No.	Method
Lead (dissolved)	7439-92-1	SW846 6010B/C-LD

VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
1,2-Dichloroethane	107-06-2	SW846 8260B/C-LD
1,2,4-Trimethylbenzene	95-63-6	
1,3,5-Trimethylbenzene	108-67-8	
Benzene	71-43-2	
Cumene	98-82-8	
Ethylbenzene	100-41-4	
Methyl tertiary butyl ether	1634-04-4	
Toluene	108-88-3	
Xylenes (total)	1330-20-7	
Ethylene dibromide	106-93-4	SW846 8011-LD

SEMI-VOLATILE ORGANIC COMPOUNDS	CAS No.	Method
Anthracene	120-12-7	SW846 8270C/D-LD
Benzo(a)anthracene	56-55-3	
Benzo(g,h,i)perylene	191-24-2	
Benzo(a)pyrene	50-32-8	
Benzo(b)fluoranthene	205-99-2	
Chrysene	218-01-9	
Fluorene	86-73-7	
Naphthalene**	91-20-3	
Phenanthrene	85-01-8	
Pyrene	129-00-0	

**For tank investigations, Naphthalene is to be run using analytical method SW846 8260 and should be appropriately marked on the chain of custody.

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Explanation of Symbols and Abbreviations

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

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

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

Laboratory Data Qualifiers:

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

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

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, ISO17025) 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.

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